# SC101 HOV Traffic Study

## Existing Conditions Operations Analysis

**EA 05-0N7000**
**Contract Number 05A1141 T01**

**Prepared for:**

**Caltrans District 5**

**State of California**
**Department of Transportation**

**SUBMITTED BY**

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*[Amended December 9, 2011]*

This final report reflects several weave analysis corrections to the SC101 HOV Traffic Study Existing Conditions Report (Dowling Associates, December 15, 2008 [Amended December 9, 2011]. In June, 2011, the manual Leisch Nomograph method results were rechecked using recently acquired software. Although generally identical, several weave sections LOS grades were modified – none significantly.

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# Executive Summary

The purpose of this traffic study is to provide requisite technical traffic support information for the PS&E and environmental phases of the Highway 101 Widening Project (EA 05-0N7000). This portion of the traffic analysis examines the existing operating characteristics of Highway 101 and the interface between its interchanges and local service streets.

The proposed project will widen Highway 101 to provide an HOV lane in each direction from 0.4 miles south of Carpinteria Creek Bridge (Post Mile 2.0) in Carpinteria to Sycamore Creek Bridge (Post Mile 12.30) in Santa Barbara. Although the project area spans 10.3 miles of Highway 101, the study area encompasses 27.5 miles of freeway mainline. The southern limit of the traffic study begins at Post Mile 0.0 (south of the Rincon Point/Bates Road Interchange) while the northern limit concludes at Post Mile 27.5 (north of the Hollister Avenue Interchange).

Data collection for this study was performed in April 2008. The data collected included: freeway mainline counts; ramp counts; intersection turning movement counts; classification counts; vehicle occupancy counts; and, speed surveys. The data collection period was characterized by fair weather with no observed vehicle incidents. These data establish the technical parameters utilized for operational analyses.

Level of service (LOS) was computed for freeway mainline segments, ramp merge-diverge and weave areas and intersections within the study area. Methodologies for determining LOS vary by each of these facility types. Given that there are multiple jurisdictions within the study area (i.e., Caltrans, the County of Santa Barbara, the cities of Carpinteria, Santa Barbara and Goleta) a unified traffic operations methodology was desired. For State owned facilities, operational performance was based on Caltrans District-5 LOS performance criteria as represented by LOS D or worse. At locally controlled signalized intersections, the applicable local agency's LOS criterion was applied in conjunction with the adopted Congestion Management Program LOS criteria. Consistent with countywide CMP standards, local agency intersection LOS was based on the Intersection Capacity Utilization (ICU) method for signalized intersections and the Highway Capacity Manual method for non-signalized intersections.

Highway 101 (Post Mile 0.0 to Post Mile 27.5) baseline peak hour LOS results that exceed state criteria are presented in **Figure 1 A–D** (AM) and **Figure 2 A-D** (PM) respectively. These operational results reflect both "ground truth" deficient conditions based on observed speed survey data and analytically based LOS calculations.

A total of 30 intersections exceed the Caltrans LOS criteria, while 2 locally-operated intersections exceed the agency's threshold. At 42 intersections, estimated queues exceed available storage capacities for one or more left-turn lanes during one or both peak hours.

AM Peak Hour

Based on capacity/LOS analysis of freeway segments, AM peak hour operating conditions exceed Caltrans LOS criteria along northbound Highway 101 between North Padaro Lane to Milpas Street and Carrillo Street to Patterson Avenue. Consecutive northbound freeway weave sections between Milpas Street and Pueblo Street and several northbound off-ramp diverge sections between Santa Ynez Avenue and Los Carneros Road also exceed Caltrans LOS criteria. Northbound on-ramps between Linden Avenue and Patterson Avenue are shown to exceed performance criteria during the AM peak hour. Based on floating car surveys, northbound Highway 101 between Rincon Road and Salinas Street was observed to operate below 55 mph during the AM peak hour, which denotes LOS F.

Freeway segments from Patterson Avenue to Garden Street in the southbound direction do not meet Caltrans LOS criteria during the AM peak hour. Several merge-diverge areas reflect unacceptable operations e.g., between Turnpike Road and Sheffield Drive. Southbound weave sections located

between San Marcos Pass Road and Garden Street also exceed Caltrans performance criteria during the AM peak hour. However, southbound AM peak hour speed surveys did not reveal unstable traffic flow conditions along these capacity deficient sections of Highway 101.

PM Peak Hour

Capacity analysis in the PM peak hour reveals northbound segments between Castillo Street and Patterson Avenue operating as deficient (LOS D or worse). Northbound weave sections between Milpas Street and Glenn Annie Road also reflect congested conditions.

Based on the floating car survey results, northbound sections from Arrellaga Street to Mission Street and Las Positas Road to Hope Avenue operate at LOS F conditions during the PM peak hour. Overall, Highway 101 northbound traffic produces greater delays/degraded LOS and lower speeds during the AM peak hour versus the PM peak hour.

Poor southbound PM peak hour freeway segment and ramp operations are reflected by speed surveys (between Cabrillo Boulevard and Garden Street). Conversely, southbound merge-diverge and weaving LOS results show more freeway sections exceeding Caltrans operating performance criteria than were revealed through speed surveys. In general, southbound traffic operates with higher delays and lower speeds during the PM peak hour.

As shown in **Figure 1** and **Figure 2**, the analytical technique based on HCM and HDM can show different results than floating car surveys. Although capacity and potential geometric deficiencies are reflected in the static LOS analysis, floating car surveys reflect the additional effect of disruption in traffic flow on overall operations. Hence, observed speed surveys are considered the "ground truth" relative to that estimated by static analytical techniques. Capacity deficient locations based on the analytical techniques do represent potential trigger points where any minor or major disruption in the traffic flow is likely to occur.

Overall operations along Highway 101 for the AM northbound and PM southbound peak travel directions are summarized below.

- During the AM peak hour, travel demand is greatest from south to north with the dominant destinations being the City of Santa Barbara and Goleta. As a result, northbound on-ramp junctures between the cities of Carpinteria and Santa Barbara add higher traffic volumes than can be adequately served by a 2-lane freeway section. Conflicts between merging and diverging traffic occurs due to several weave sections along this 2-lane portion of Highway 101 resulting in slow operating speeds, where shock wave effects are triggered. In the 3-lane section north of Milpas, conflicts between merging and diverging ramp traffic also occurs due to high volume non-metered ramp operations and consecutive weave sections. This tends to aggravate northbound operating conditions that propagate unstable conditions further upstream towards the south. Limited discharge capacities south of Milpas Street result in declined average speeds which are identified in floating car surveys. Unstable flow conditions based on floating car surveys are found to last for the entire AM peak period.

- Even though the PM peak hour traffic flow conditions in the southbound direction were not observed to be as severe as the AM peak hour in the northbound direction, these conditions reflects similar patterns but in the opposite direction of travel. Traffic is more dispersed in the PM peak period than the AM peak period. A lane drop at Milpas Street is characterized as a bottleneck location, where there is a sudden loss of discharge capacity. The bottleneck effect advances to the north of Milpas Street as demand increases and queue dissipation decreases. These deficient conditions extend outside the peak hour and to the entire PM peak period (3:00 PM to 6:00 PM).

All reported LOS results reflect mainline traffic conditions as measured by data collected in April 2008.

**Figure 1 (A). Existing Conditions Study Area Deficiencies during AM Peak Hour**

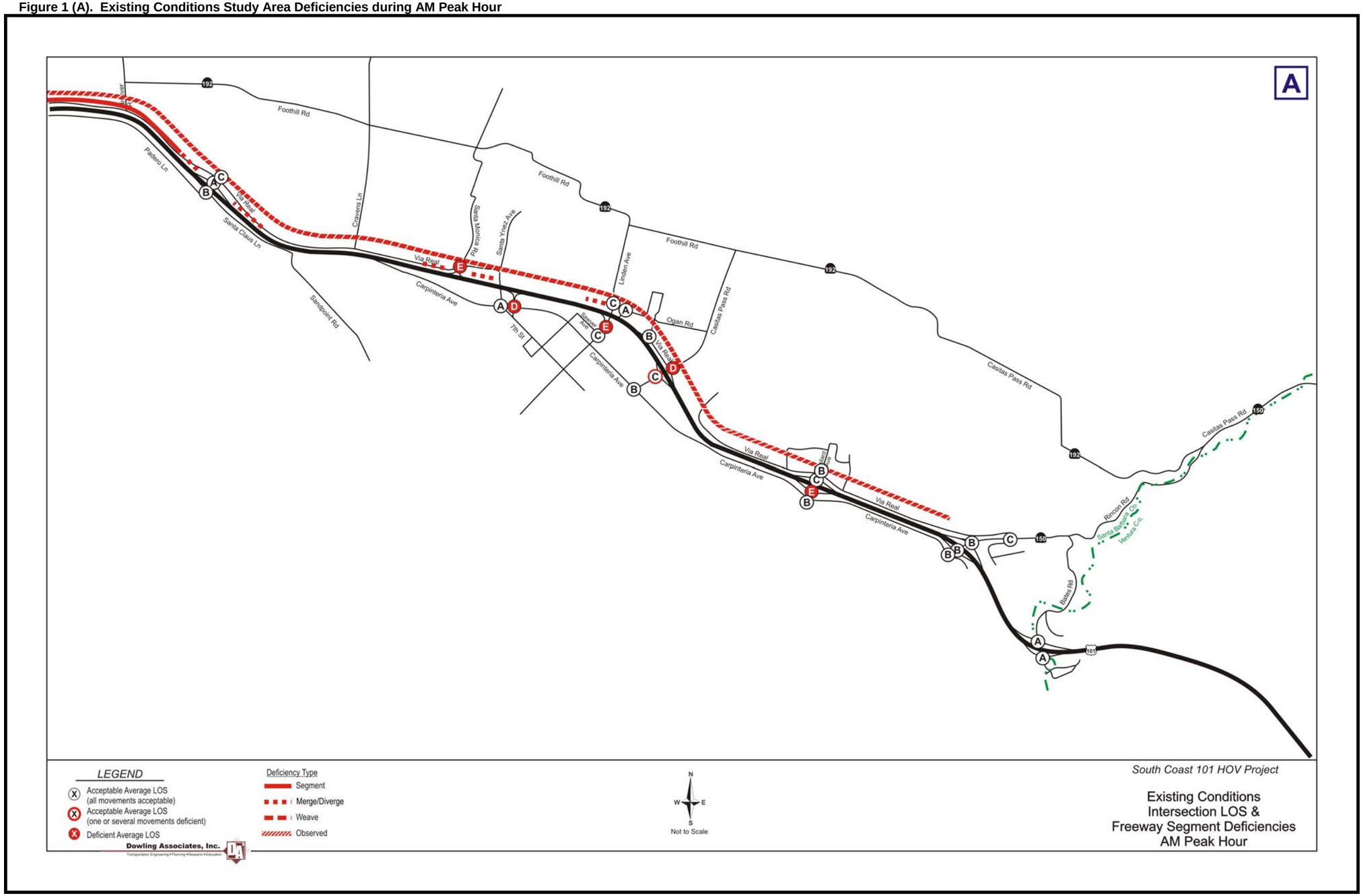


**Figure 1 (B). Existing Conditions Study Area Deficiencies during AM Peak Hour (cont.)**

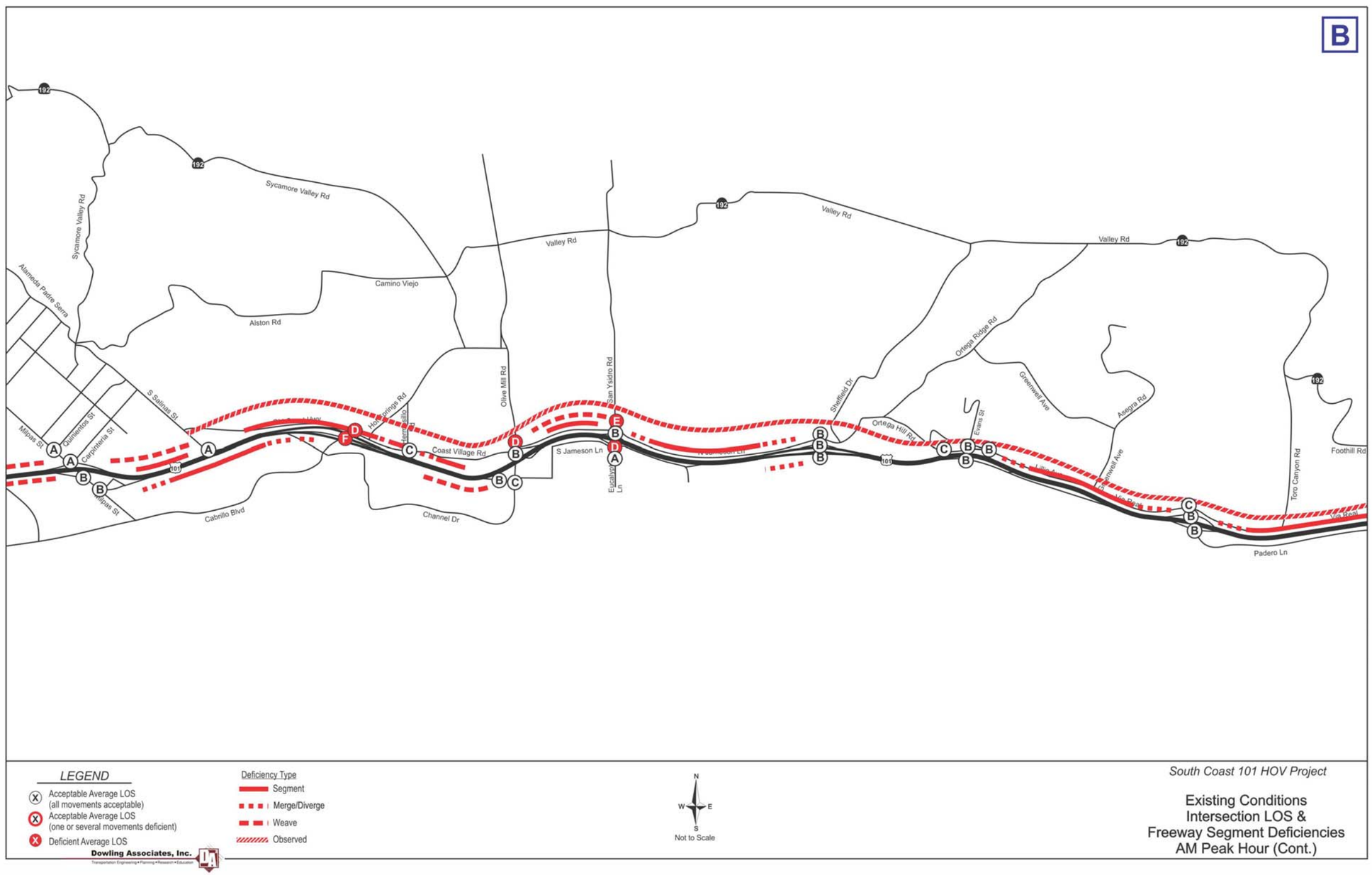


**Figure 1 (C). Existing Conditions Study Area Deficiencies during AM Peak Hour (cont.)**

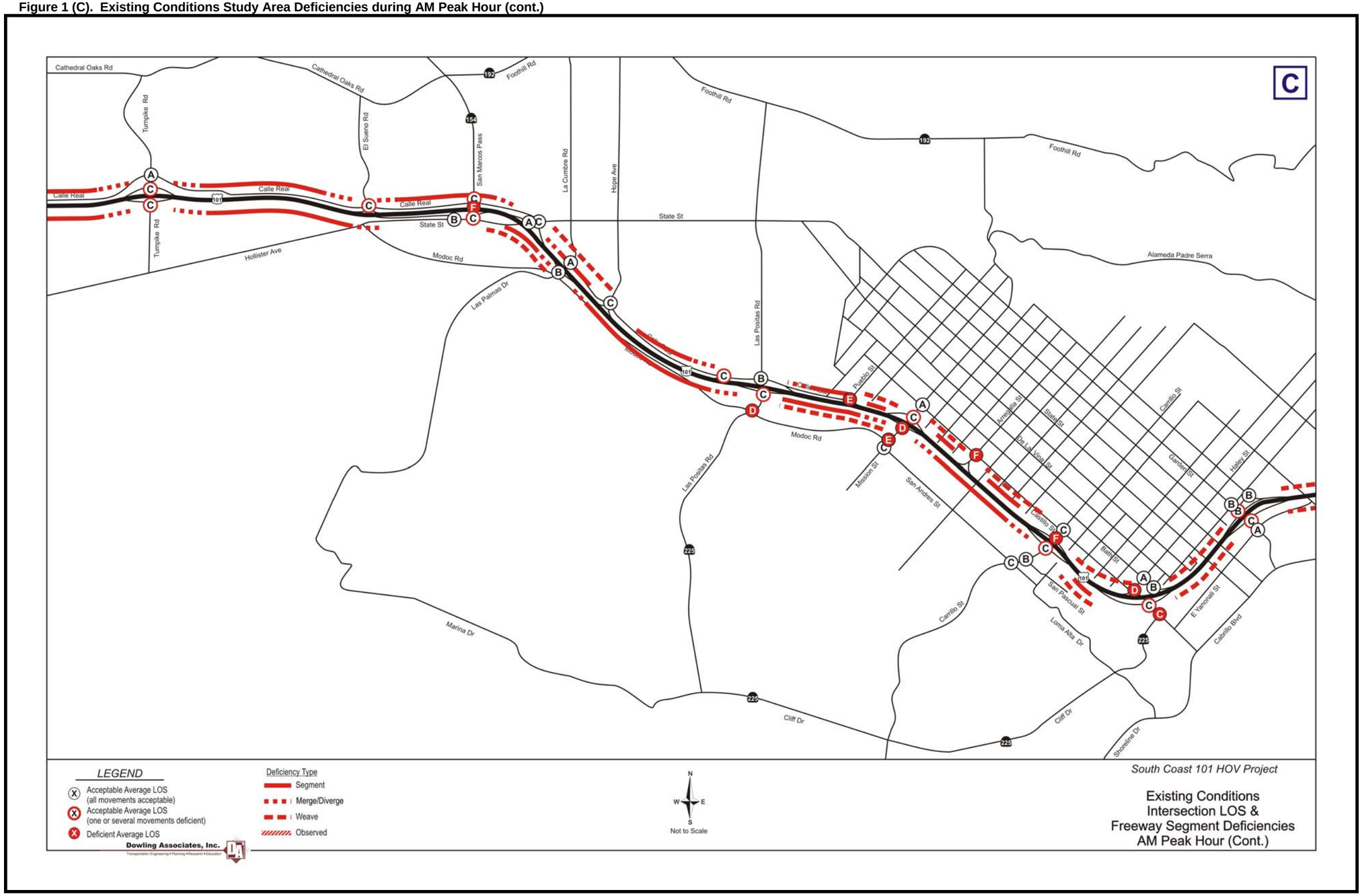


**Figure 1 (D). Existing Conditions Study Area Deficiencies during AM Peak Hour (cont.)**

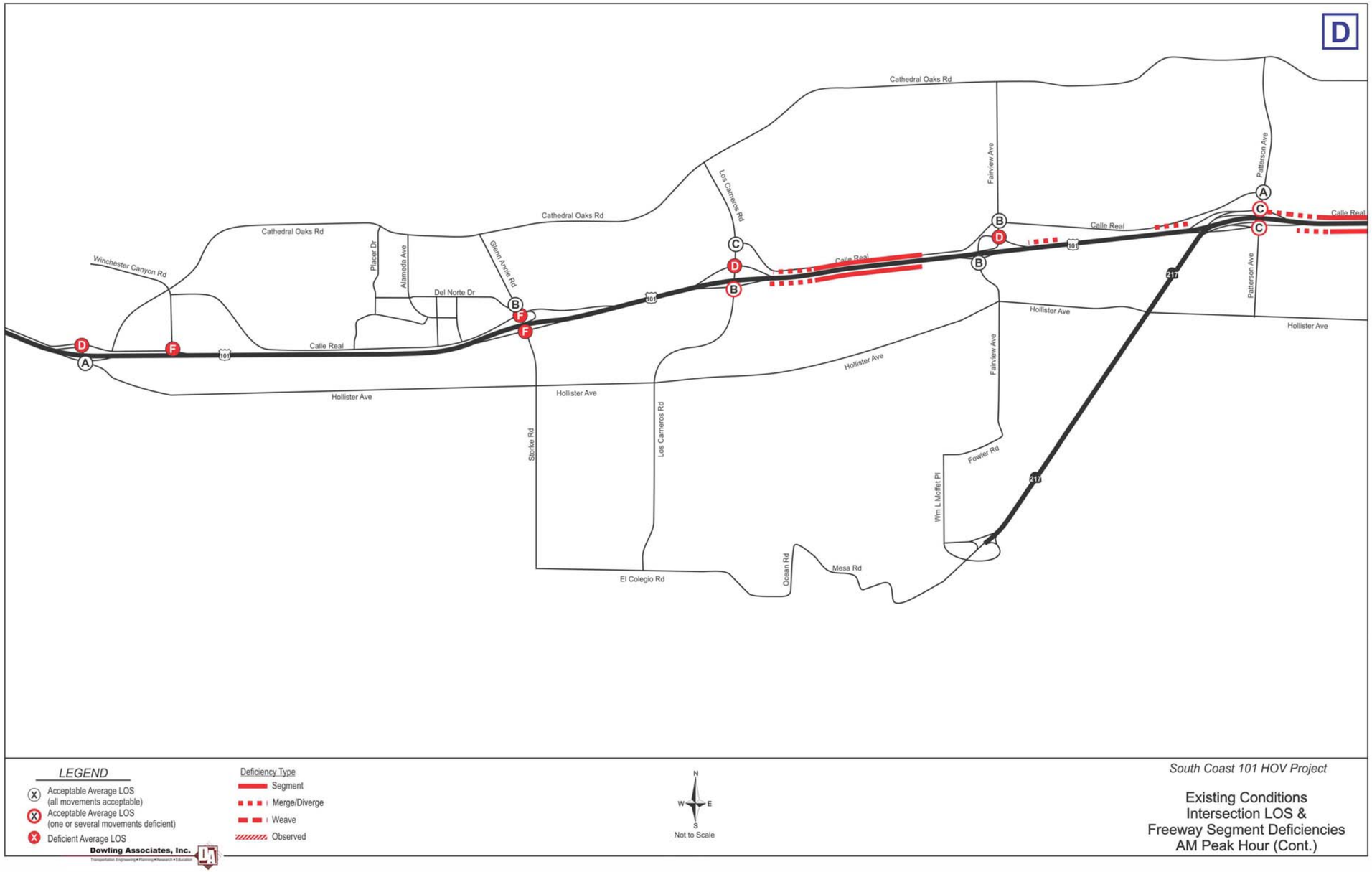


**Figure 2 (A). Existing Conditions Study Area Deficiencies during PM Peak Hour**

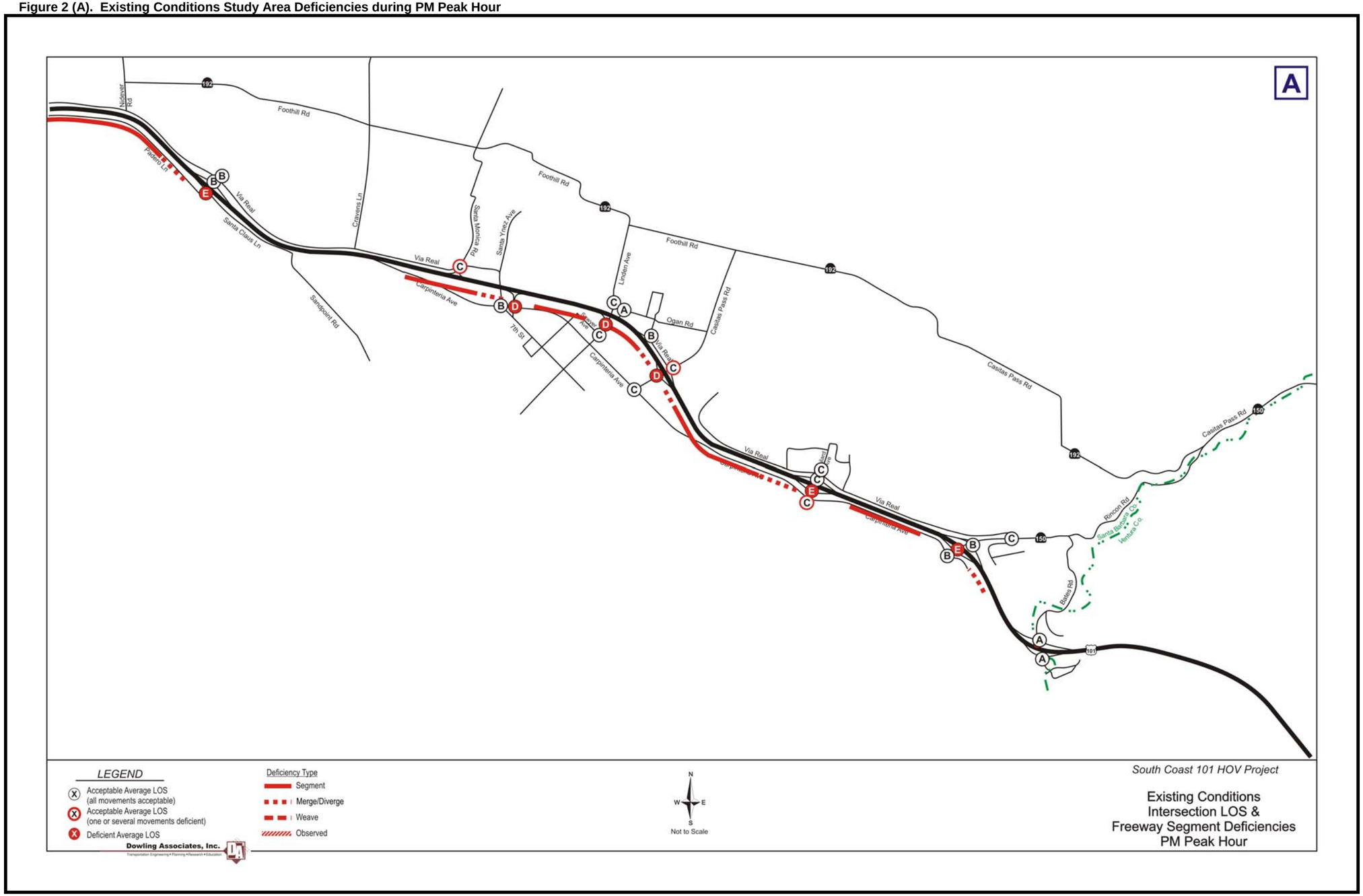


**Figure 2 (B). Existing Conditions Study Area Deficiencies during PM Peak Hour (cont.)**

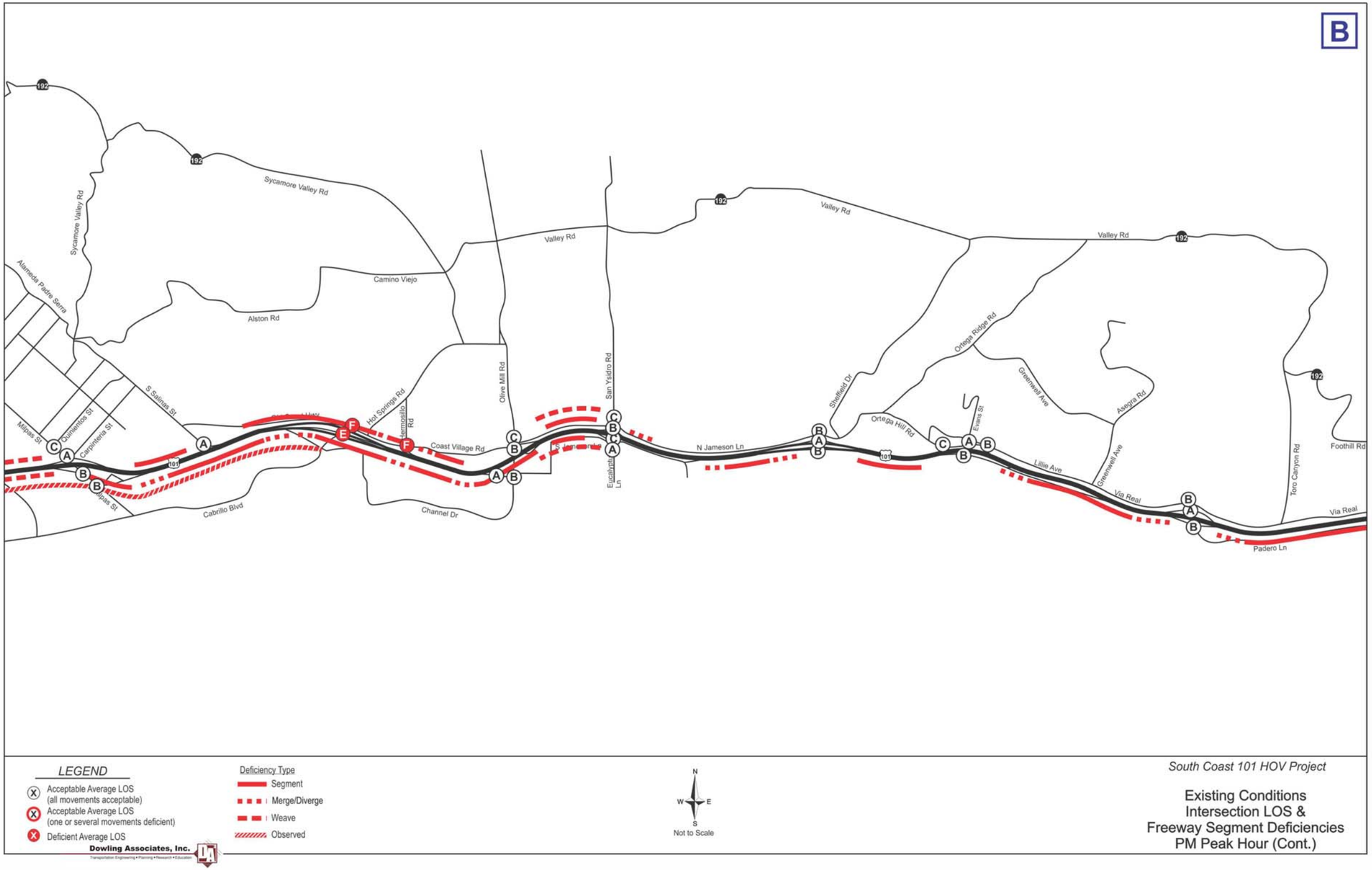


**Figure 2 (C). Existing Conditions Study Area Deficiencies during PM Peak Hour (cont.)**

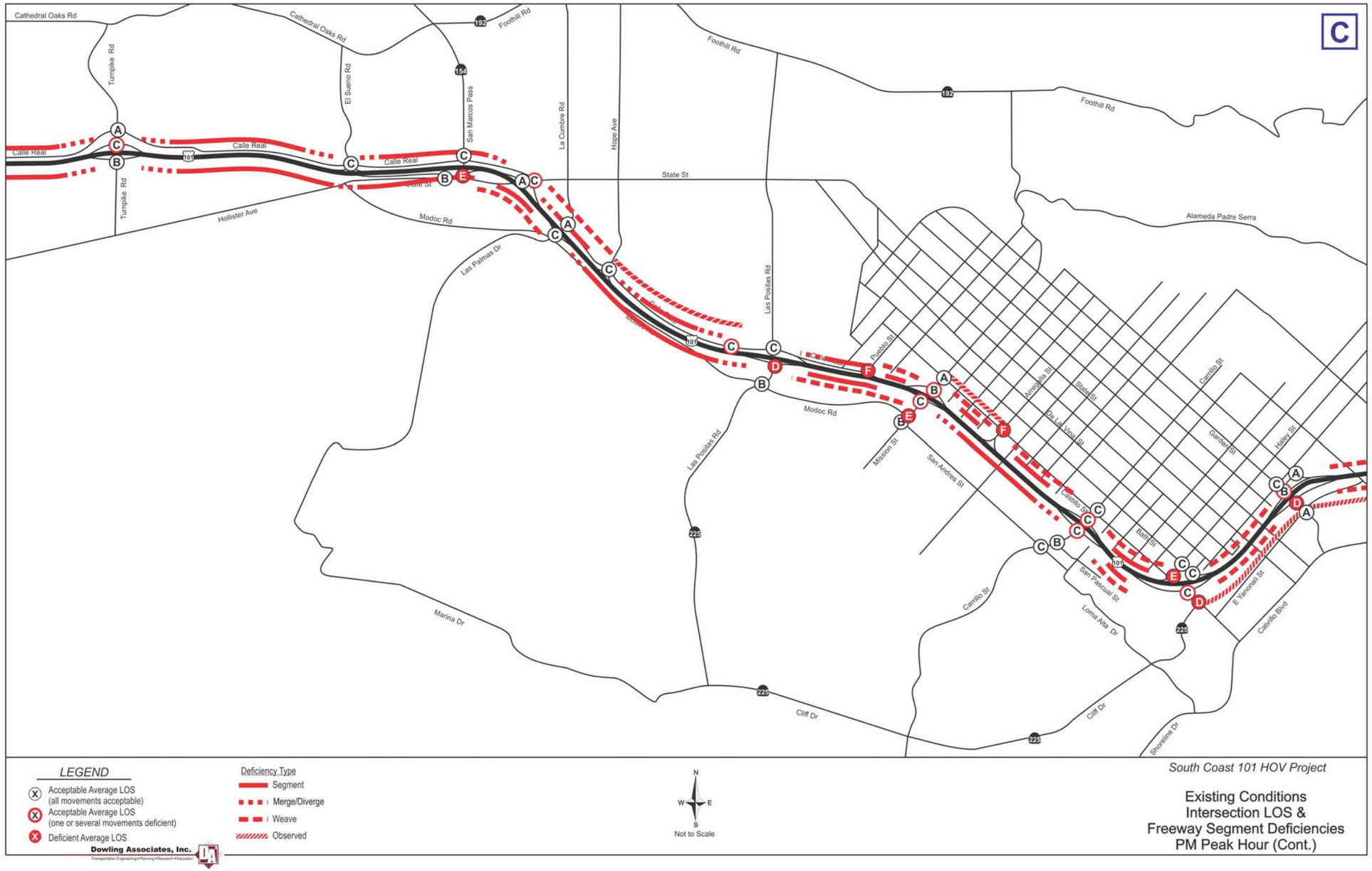
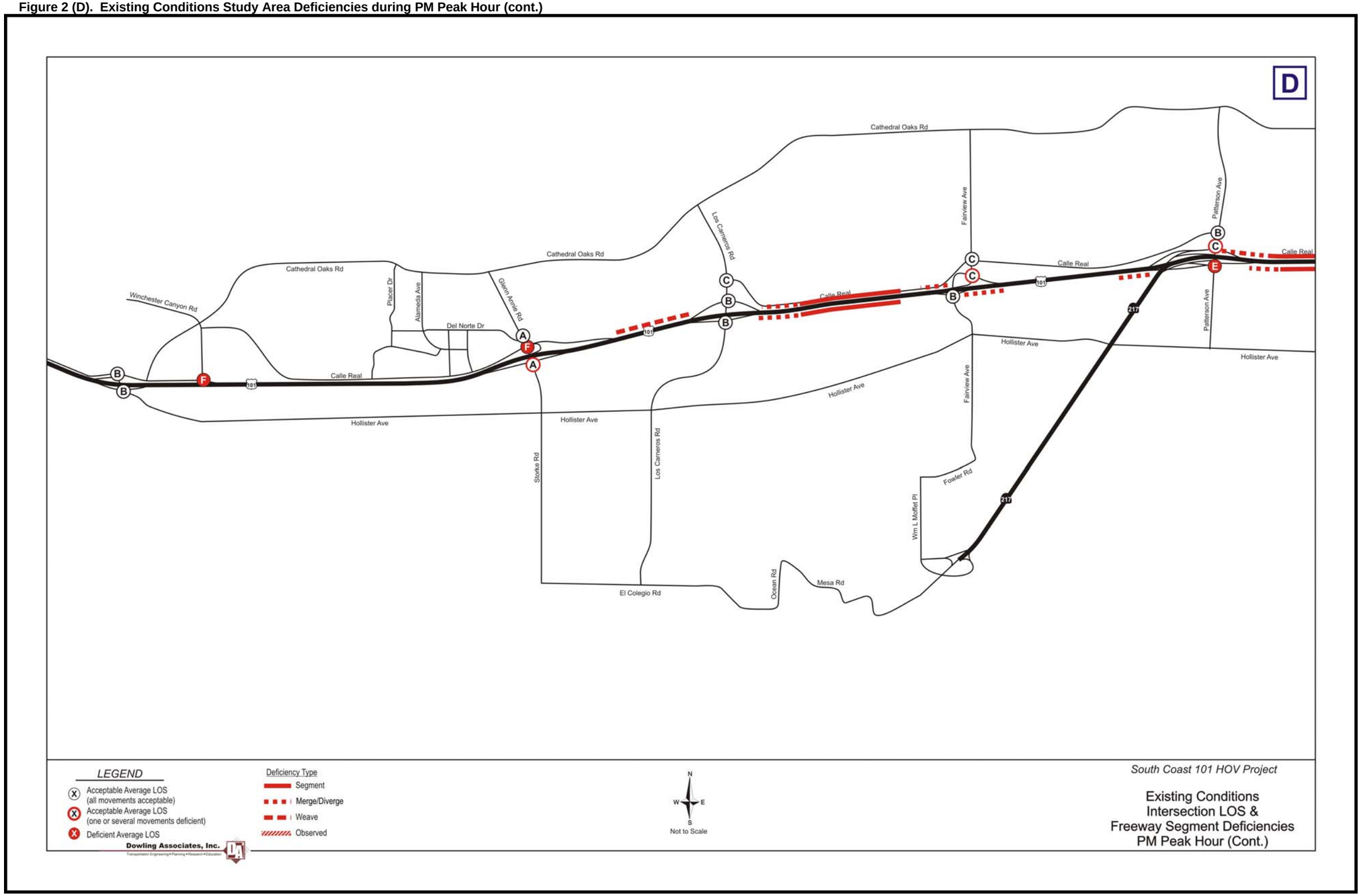


**Figure 2 (D). Existing Conditions Study Area Deficiencies during PM Peak Hour (cont.)**



# Introduction

The purpose of this traffic study is to provide requisite technical traffic support information for the PS&E and environmental phases of the Highway 101 Widening Project (EA 05-0N7000). This portion of the traffic analysis examines the existing operating characteristics of Highway 101 and the interface between its interchanges and local service streets.

The project limits of the proposed widening of Highway 101 are from Post Mile 2.0 to Post Mile 12.30. The project proposes to construct improvements to Highway 101 in Santa Barbara County from 0.4 miles south of Carpinteria Creek Bridge (Post Mile 2.0) in Carpinteria to Sycamore Creek Bridge (Post Mile 12.30) in Santa Barbara. The project proposes to add a High Occupancy Vehicle (HOV) lane within the existing median (inside and outside medians are to be evaluated) in both the northbound and southbound directions. The project limits of the HOV lane will mesh with the following three Highway 101 improvement projects currently under development:

- The southern limit of the project will connect to the adjacent SB/VEN 101 HOV capacity improvement project (EA 07-26070/05-0P980). This project will construct an HOV lane in each direction from Mussel Shoals in Ventura County to Post Mile 2.0 within Santa Barbara County.

- The Highway 101/Linden Avenue (Post Mile 3.04-3.17) and Highway 101/Casitas Pass Road Interchange (Post Mile 2.52-2.94) Improvement Project will reconfigure the ramps at both these interchanges and construct a new local/frontage roadway extension north of Highway 101 (Via Real Extension between Vallecito Road and Linden Avenue).

- The northern limit of the project will connect to the adjacent Route 101/Milpas Street to Hot Springs Road operational improvement project (EA 05-44780). This project extends the southbound 3-lane section from the Highway 101 interchange with Milpas Street to Cabrillo Hot Springs (Post Mile 12.30) and constructs one northbound auxiliary lane from the Cabrillo on-ramp to the Salinas off-ramp and a 3rd lane from Salinas on-ramp to Milpas Street. Other project components include reconstruction of the Cabrillo Hot Springs interchange, an under-crossing at Casique Street, construction of three sound-walls and a multi-purpose path.

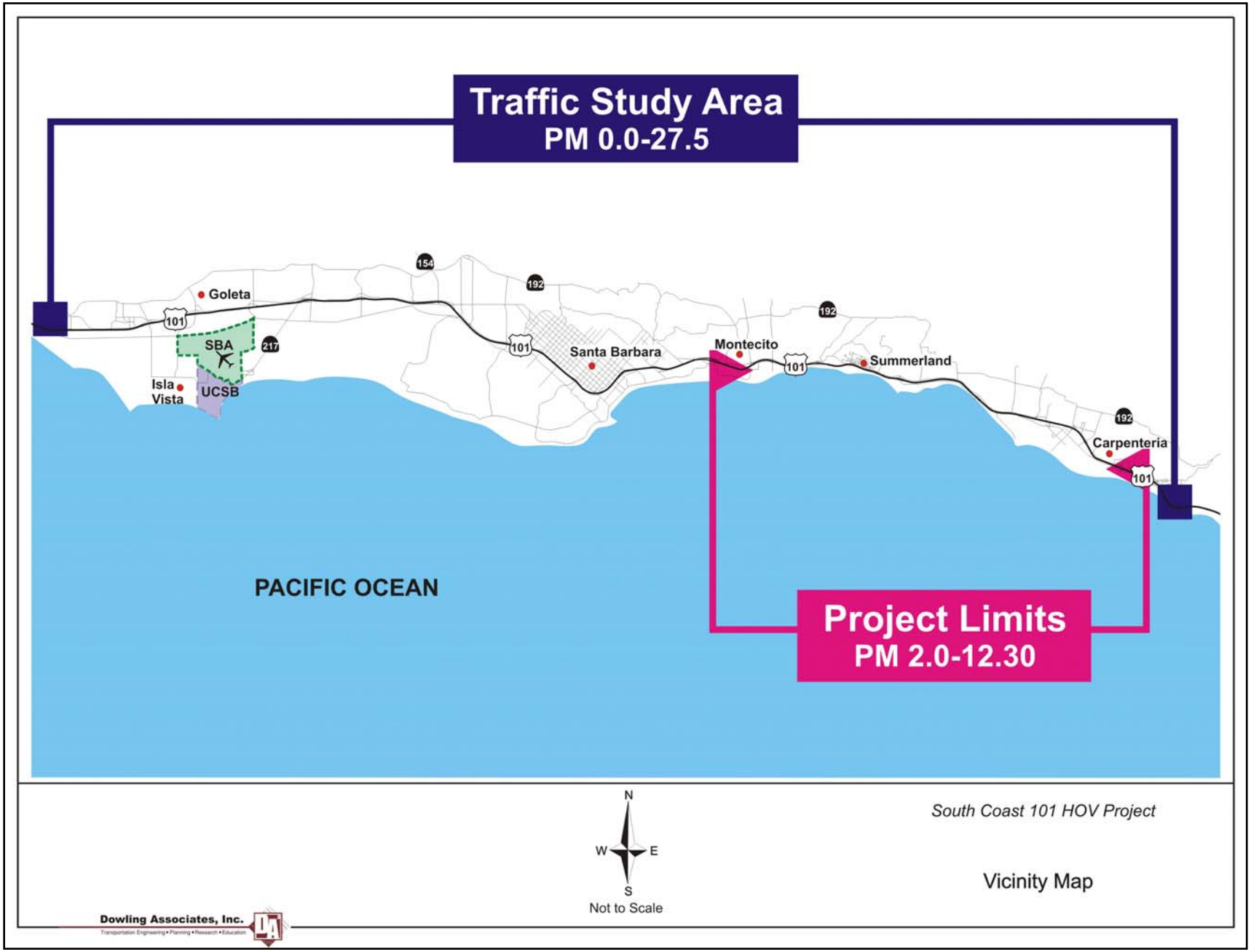
The Highway 101 HOV widening project spans 10.3 miles of freeway. The study area will encompass 27.5 miles of Highway 101. The southern limit of the traffic study begins at Post Mile 0.0 (South of the Rincon Point/Bates Road Interchange) while the northern limit concludes at Post Mile 27.5 (North of the Hollister Avenue Interchange). **Figure 3** shows the study area and project limits.

For purposes of this analysis, the following topics will be addressed as part of this Existing Conditions Report:

- 2008 Baseline Data Collection and Analysis;
- 2008 Baseline Operations Analysis Methodology; and,
- 2008 Baseline Operational Analysis Results.

In addition to this existing condition analysis, four future year traffic assessments will be performed as part of this study. These forecasts along with future year operational analyses will be documented as part of subsequent Highway 101 Widening Project (EA 05-0N7000) traffic study deliverables.

**Figure 3. Vicinity Map**



### *Highway 101 Key Physical Features: Northbound Direction*

In the northbound direction, Highway 101 maintains 2-3 travel lanes for the entire study area.

Sections with 3 lanes include:

- From Milpas Street on-ramp (SB, PM 12.9) to Fairview Avenue on-ramp (PM 22.5)
- From the Ventura County Line (PM 0.0) to Carpinteria Creek Bridge (PM 2.0)

Sections with 2 lanes include:

- From Carpinteria Creek Bridge (PM 2.0) to Milpas Street on-ramp (PM 12.9)
- From N Fairview Avenue on-ramp (PM 22.5) to Hollister Avenue interchange (PM 27.0)

Lane Drop Feature

A location with a lane drop of a travel lane is typically identified as a potential bottleneck. In the northbound direction, the following 3 to 2 lane drop on mainline Highway 101 occurs at:

- Fairview Avenue on-ramp (PM 22.5)

Weaving Feature

The Highway 101 sections consist of all freeway segment types including basic, merging, diverging, and weaving. Most of the weaving sections less than 2,500 feet do not have an auxiliary lane between on-ramp and off-ramp. These sections are identified as potential deficiency area based on Highway Capacity Manual (HCM) 2000. These potential sections are:

- From Bates Road on-ramp (PM 0.1) to Rincon Road off-ramp (PM 0.5)
- From Rincon Road on-ramp (PM 0.75) to Bailard Road off-ramp (PM 1.48)
- From Ortega Hill Rd/Evans St on-ramp (PM 8.4) to N Jameson Ln/Sheffield Dr. off-ramp (PM 8.9)
- From San Ysidro Road on-ramp (PM 10.2) to Olive Mill Road off-ramp (PM 10.4)
- From Cabrillo Boulevard on-ramp (PM 11.5) to S Salinas Street off-ramp (PM 12)
- From Salinas Street on-ramp (PM 12.1) to S Milpas Street off-ramp (SB, PM 12.6)
- From S Milpas Street on-ramp (PM 12.9) to Laguna Street / Garden Street off-ramp (PM 13.4)
- From Garden Street on-ramp (PM 13.6) to Castillo Street / Bath Street off-ramp (PM 14.0)
- From Castillo Street on-ramp (PM 14.3) to W Carrillo Street off-ramp (PM 14.6)
- From W Carrillo Street on-ramp (PM 14.9) to W Arrellaga Street off-ramp (PM 15.3)
- From W Arrellaga Street on-ramp (PM 15.4) to W Mission Street off-ramp (PM 15.7)
- From Mission Street on-ramp (PM 15.8) to Pueblo Street off-ramp (PM 16)
- From Hope Avenue on-ramp (PM 17.5) to State Street (SR 154) off-ramp (PM 17.9)
- From Los Carneros Road on-ramp (PM 23.9) to Storke Road off-ramp (PM 24.7)

At-Grade Intersection Feature

There are no at-grade intersections with northbound Highway 101 in the study area.

Other Key Physical Features

- Access to Cabrillo Boulevard from Highway 101 is provided via a left-hand off-ramp in the northbound direction (PM 11.24).

### *Highway 101 Key Physical Features Southbound Direction*

In the southbound direction, Highway 101 maintains 2-3 travel lanes for the entire study.

Sections with 3 travel lanes include:

- From Fairview Avenue on-ramp (PM 22.4) to Milpas Street off-ramp (PM 12.9)

Sections with 2 lanes include:

- From Hollister Avenue interchange (PM 26.7) to N Fairview Avenue on-ramp (PM 22.4)
- From Milpas Street off-ramp (PM 12.9) to Ventura County Line (PM 0.0)

Lane Drop Feature

A lane drop from 3 to 2 lanes occurs in the southbound direction at following location:

- At Milpas Street off-ramp (SB, PM 12.9)

Weaving Feature

The southbound sections also consist of basic, merging, diverging, and weaving segment types. The following locations meet the CA HDM criteria for auxiliary lanes:

- From Rincon Road on-ramp (PM 0.48) to Bates Pt off-ramp (PM 0.1)
- From Bailard Road on-ramp (PM 1.5) to SR 150 off-ramp (PM 0.79)
- From Reynolds on-ramp (PM 3.56) to Linden Ave off-ramp (PM 3.2)
- From S Padaro Ln on-ramp (PM 4.7) to Santa Ynez Ave / Carpinteria Ave off-ramp (PM 4.3)
- From Sheffield on-ramp (PM 8.9) to Evans St off-ramp (PM 8.6)
- From Olive Mill on-ramp (PM 10.3) to San Ysidro off-ramp (PM 10.1)
- From Garden Street on-ramp (PM 13.4) to Milpas Street off-ramp (PM 12.9)
- From Castillo Street on-ramp (PM 14.1) to Garden Street off-ramp (PM 13.6)
- From Carrillo Street on-ramp (PM 14.6) to Castilo Street off-ramp (PM 14.3)
- From Las Positas Road on-ramp (PM 16.3) to Mission Street off-ramp (PM 15.9)
- From San Marcos / Route 154 off-ramp (PM 18) to La Cumbre Road off-ramp (PM 17.9)

At-Grade Intersection Feature

There are no at-grade intersections with southbound Highway 101 in the study area.

Other Key Physical Features

- Access on to Highway 101 occurs from the left-hand side at Cabrillo Boulevard and North Jameson Lane.

- A freeway-to-freeway system interchange merges northbound traffic on SR-217 with southbound Highway 101.

# Data Collection Overview

Data collection for this study was performed in April 2008. These data establish the technical parameters to be utilized for operational studies using Highway Capacity Software (HCS), High Design Manual (HDM), SYNCHRO-7 LOS methodologies as well as macro- micro-simulation analyses. This section briefly summarizes the data collection and subsequent evaluation.

The following data was collected in the weeks of April 21, 2008 and April 28, 2008:

- Manual turning movement counts at 103 study intersections during the weekday morning peak period (7:00 AM to 9:00 AM) and afternoon peak period (4:00 PM to 6:00 PM). These counts include classification and pedestrian counts at 52 intersections. Right-turn-on-red (RTOR) counts were also performed at all signalized intersections.

- Seven (7) day Average Daily Traffic (ADT) hose (tube) counts at 60 ramp locations along Highway 101 and three (3) day ADT hose counts at 55 ramp locations. All hose counts were also set up to collect classification counts.

- Mainline counts were performed for three consecutive weekdays (Tuesday, Wednesday and Thursday) during the weekday morning and afternoon peak periods at the following three locations: Hollister Avenue; Junipero Street; and, SR-150. These counts included vehicle classification. Systematic sampling of vehicle occupancy was also conducted at SR-150 only. Caltrans count data for Highway 101 at Cabrillo Boulevard, Sheffield Avenue, SR 150 and Seacliff Drive (Ventura County) was also obtained to supplement and to validate study counts.

- Floating car surveys were performed along the entire 27.5 miles of Highway 101 during the AM and PM peak periods. Seven to ten runs were made to evaluate travel time, stops, delays and average speed. These data will be utilized to determine "ground truth" operating conditions on Highway 101 and to calibrate the FREQ model for macro-simulation. Historical Caltrans floating car survey data and speed survey information published in State Highway Congestion Monitoring Program (HICOMP) reports was also obtained.

- As stated above, vehicle occupancy surveys were performed on the Highway 101 mainline at SR-150. Vehicle occupancy surveys were also performed at the northbound and southbound on- and off-ramps at locations along Highway 101 (Carrillo I/C, Turnpike I/C and Storke/Glen Annie I/C).

The data collection period was characterized by fair weather (clear and sunny) with no observed incidents to any surrounding roadways.

Two roadway closures to the north of Highway 101 were in effect during data collection effort. These closures and their potential impact to study area circulation patterns are described below.

<u>SR-192 Closure (Stanwood Drive near Parma Park)</u>
A small section of Stanwood Drive (SR-192) at Parma Park was fully closed to traffic from April 21 until the end of June 2008. Since any traffic traveling through on SR-192 was anticipated to divert to Alameda Padre Serra, this closure was not considered significant to the study area.

<u>SR-192 Closure (btw Linden Avenue and Casitas Pass Road)</u>
A second full closure of a small section of SR-192 between Linden Avenue and Casitas Road was in effect during the data collection effort. Due to the configuration of freeway ramps at Linden Avenue and Casitas Road and types of land uses between SR-192 and Highway 101, this closure may have minimally affected traffic operations during the AM peak hour at Santa Monica interchange and major intersections along Linden Avenue and Casitas Road.

# Data Collection Results

Operational analyses performed for the South Coast 101 HOV Traffic Study were based on an average weekday. Although weekend operations are not addressed as part of this study, available weekend data is reported for informational purposes. No seasonal adjustments were performed. Travel conditions reflect operations during springtime (April-May) 2008.

No adjustments to normalize the impact of the 2008 fuel price surge and housing economy bubble collapse on vehicular travel were performed. At this time it is unclear how sensitive the South Coast of Santa Barbara County is to these market trends. Although traffic counts collected as part of this study indicate 0% to 12% lower volumes than 2000 – 2007 historical data (depending on location and year), adjustments to inflate the count data was not considered prudent.

An initial analysis objective is to determine the true peak hours by facility type (e.g. intersections, ramps and mainline segments). Although it is uncommon for different facility types to operate at varying peak hours within a given study area, peak hours may vary depending upon area type e.g., urbanized, urban transitional. Hence, it is critical to recognize if the data reveals a stable "locked in" peak hour or a "floating" peak hour.

### *Intersection Turning Movement Counts*

**Figure 4** depicts variation of the AM and PM peak hours summing over all study intersections. Based on the review, no predominant intersection peak hour was revealed. However, the data indicates that the peak at 36 intersections occurs from 7:30 AM to 8:30 AM during the morning peak period, which represents 37 percent of the total. Similarly, 29 intersection peak hours (30 percent) fall between 4:45 PM to 5:45 PM, closely followed by 4:00 PM to 5:00 which consists of 25 intersections. The distributions reveal the extent of peak spreading that is occurring as a result of congested conditions and/or more long distance commuting which affect departure times.

Peak Hour Factors (PHFs) were computed from the true peak hour turning movement counts. Measured PHF will be used as part of the existing conditions analysis and were found to range from 0.25 to 0.99. For future year analyses, it is assumed that travel will increase to more uniformly spread over the analysis hour. As such, a PHF of 0.92 will be utilized for all intersection for forecast analyses.

Vehicle classification counts and pedestrian counts were gathered at 52 of the 103 intersections surveyed. These data will be applied directly for both existing and future year operational analyses. Averages of these data will be developed and applied as appropriate to the remaining study area intersections for existing and future year operational analyses.

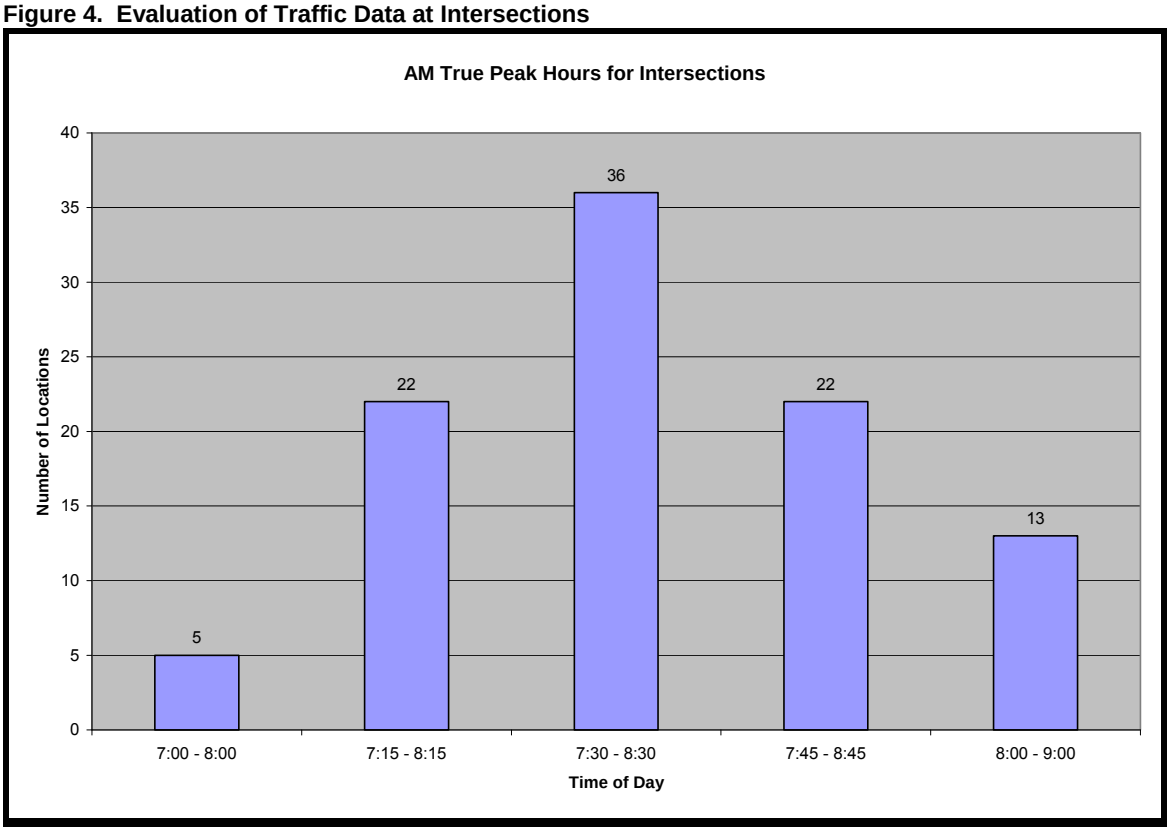
### *Intersection Signal Timing Sheets*

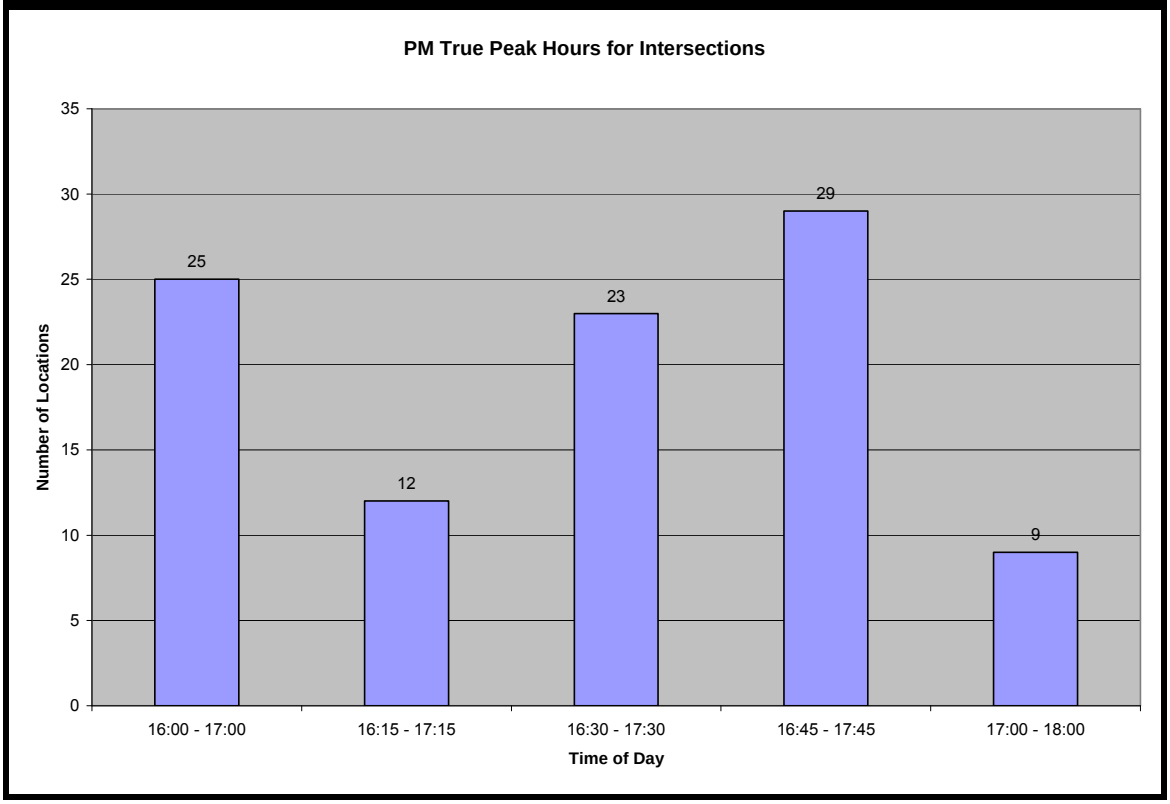
Signal timing sheets submitted by state and local agencies were used to code signal timing and phasing information for operational analysis. **Table 1** lists intersections for which data was not received. For these intersections, signal timings were based on coordinating with the adjacent signal (if indicated by the adjacent signal timing sheet) or estimated using the SYNCHRO-7 software.

**Table 1. Study Intersections with Estimated Signal Timing Plans**

| Int ID | Intersection | Jurisdiction |
|---|---|---|
| 20 | Santa Ynez Ave / 7th St & Carpinteria Ave | City of Carpinteria |
| 48 | SB off-ramp & Milpas St | Caltrans/City of Santa Barbara |
| 49 | SB on-ramp & Milpas St | Caltrans/City of Santa Barbara |
| 65 | Mission St & Castillo St | City of Santa Barbara |
| 79 | SB on-ramp & State St & Rte 154 | Caltrans/County of Santa Barbara |
| 88 | Calle Real & Fairview Ave | City of Goleta |

**Figure 4. Evaluation of Traffic Data at Intersections**



### *Freeway Ramp Counts*

Highway 101 ramp counts (including classification) were conducted on seven consecutive days at 60 ramps and for three consecutive weekdays (Tuesday to Thursday) at additional 55 ramps.

Data processing reveals that most ramps experience greater traffic volumes during weekdays (Tuesday, Wednesday and Thursday) than on weekends. Peak hour volume comparisons also indicate traffic being higher on weekdays than weekends. Approximately 16% ramp locations show higher average daily and peak hour volumes on weekend than weekdays.

Average weekday and weekend classification data for northbound and southbound ramp locations are shown in **Table 2**. Data is stratified into percent of 3+axle trucks and buses as well as average weekday versus average weekend characteristics. The percentage of heavy vehicle varies from 0% to 15% depending on location. Greater truck and bus volumes are experienced during average weekday conditions than average weekend conditions.

**Figure 5** and **Figure 6** illustrate the variation in true AM and PM peak hours (by number of location days) for Highway 101 northbound and southbound ramps respectively. Each location was counted for at least three weekdays (Tuesday, Wednesday and Thursday). For a given peak hour, the number of locations multiplied by the number of days yields the number of peak hour location days. For an example, if the peak hour at 20 locations falls between 7:30 and 8:30 AM for two weekdays, then location days for that particular peak hour would be computed as 20 x 2 = 40.

Based on this measurement, the predominant peak hour for both northbound and southbound ramps is 7:30 to 8:30 AM. As anticipated, the afternoon peak hour distribution is spread more evenly across the two hour period than the morning peak hour distribution. This can be attributed to:

- Greater proportion of non-commute trip types (shopping, errands, etc) that occur in the afternoon peak period relative to the morning peak period; and,
- Greater flexibility afforded to the evening commute relative to the morning commute which is typically subject to a tighter time constraint.

For northbound ramps, the afternoon peak primarily occurs between 4:30 to 5:30 PM (48 location days). Surprisingly, the southbound peak falls between 3:00 PM to 4:00 PM - which is outside the conventional peak period (4:00 – 6:00 PM). This data was double checked for errors and verified. Ramp locations experiencing this earlier than expected PM peak span the entire study area – precluding geographical or area type inferences. This information may imply that a potentially significant amount of latent demand exists for traditional PM peak hour travel.

It should be noted that the peak period definition was expanded by one additional hour – adding to the conventional AM and PM peak periods in recognition of these data findings. Should these data/hours be discounted, the peak hours would likely fall within the traditional peak hours of 7:30 to 8:30 AM and 4:30 to 5:30 PM in both directions.

Based on freeway ramp counts alone, it was determined that 7:30 to 8:30 AM and 4:30 to 5:30 PM will be used as “system-wide” peak hours for all ramps.

The ratio of the peak hour traffic volumes to the average daily traffic is expressed by the K-factor. The average K-factors for all northbound ramps were 9.3% and 8.8% during the AM and PM true peak hours respectively. Similarly, average K-factors for the southbound ramps are 8.6% and 9.6% during the AM and PM true peak hours respectively.

**Table 2. Classification Data at Highway 101 Ramp Locations**

| NB Ramp | Average Weekday [1] | | Average Weekend [2] | |
|---|---|---|---|---|
| | % Trucks (3+ Axle) | % Buses | % Trucks (3+ Axle) | % Buses |
| Bates/Rincon Off-Ramp | 2.90% | 0.88% | 0.23% | 0.58% |
| Bates/Rincon On-Ramp | 1.32% | 0.54% | 0.31% | 0.10% |
| Jct. 150/101 Sep Off-Ramp | 3.67% | 0.57% | 3.92% | 0.00% |
| Jct. 150/101 Sep On-Ramp | 15.93% | 2.65% | 7.51% | 1.88% |
| Bailard Ave Off-Ramp | 2.33% | 0.64% | 1.08% | 0.54% |
| Bailard Ave On-Ramp | 0.67% | 0.45% | 0.44% | 0.15% |
| Casitas Pass Rd (224/101) Off-Ramp | 1.87% | 0.27% | 0.56% | 0.35% |
| Casitas Pass (224/101) On-Ramp | 1.65% | 0.30% | 0.69% | 0.34% |
| Linden Ave On-Ramp | 1.20% | 0.62% | 0.64% | 0.47% |
| Santa Monica Rd Off-Ramp | 1.88% | 0.21% | 0.96% | 0.15% |
| Santa Monica Rd On-Ramp | 0.83% | 0.53% | 0.59% | 0.12% |
| S. Padaro Ln Off-Ramp | 2.16% | 1.50% | 1.07% | 0.57% |
| S. Padaro Ln On-Ramp | 2.53% | 1.50% | 0.75% | 0.62% |
| N. Padaro Ln Off-Ramp | 1.62% | 0.43% | 0.38% | 0.19% |
| N. Padaro Ln On-Ramp | 1.49% | 0.11% | 0.31% | 0.03% |
| Evans Ave Off-Ramp | 1.41% | 0.85% | 0.44% | 0.50% |
| Evans Ave On-Ramp | 1.05% | 1.32% | 0.65% | 0.90% |
| Sheffield Dr Off-Ramp | 1.08% | 0.00% | 0.26% | 0.00% |
| Sheffield Dr On-Ramp | 1.18% | 0.13% | 0.41% | 0.08% |
| San Ysidro Rd Off-Ramp | 0.77% | 0.00% | 0.22% | 0.26% |
| San Ysidro Rd On-Ramp | 1.03% | 0.22% | 0.24% | 0.07% |
| Olive Mill Rd Off-Ramp | 1.46% | 1.76% | 0.40% | 0.89% |
| Hermosilla Dr Off-Ramp | 0.50% | 0.07% | 0.47% | 0.00% |
| Cabrillo Blvd (Rte 225) Off-Ramp | 1.32% | 1.17% | 0.42% | 0.79% |
| Cabrillo Blvd (Rte 225) On-Ramp | 0.84% | 0.95% | 0.47% | 0.71% |
| Salinas St Off-Ramp | 0.51% | 0.15% | 0.19% | 0.03% |
| Salinas St On-Ramp | 1.09% | 0.23% | 0.52% | 0.07% |
| Milpas St (Rte 144) Off-Ramp | 2.24% | 1.94% | 0.63% | 1.09% |
| Milpas St (Rte 144) On-Ramp | 6.04% | 0.42% | 2.12% | 0.38% |
| Garden St Off-Ramp | 1.09% | 0.43% | NA | NA |
| Garden St On-Ramp | 1.40% | 1.08% | NA | NA |
| Castillo St Off-Ramp | 0.42% | 0.15% | NA | NA |
| Castillo St. On-Ramp | 0.31% | 0.13% | NA | NA |
| Carrillo St. Off-Ramp | 0.90% | 0.39% | NA | NA |
| Carrillo St. On-Ramp | 0.31% | 0.56% | NA | NA |
| Arrellaga St Off-Ramp | 0.15% | 0.24% | NA | NA |
| Arrellaga St On-Ramp | 0.23% | 0.13% | NA | NA |
| Mission St Off-Ramp | 0.73% | 0.12% | NA | NA |
| Mission St On-Ramp | 0.36% | 0.13% | NA | NA |
| Pueblo St Off-Ramp | 0.69% | 0.27% | NA | NA |
| Las Positas (Calle Real) Off-Ramp | 0.69% | 0.10% | NA | NA |
| Las Positas Ave (Calle Real) On-Ramp | 0.76% | 0.09% | NA | NA |
| Hope Ave Off-Ramp | 0.63% | 0.08% | NA | NA |
| Hope Ave On-Ramp | 1.32% | 0.23% | NA | NA |
| State St/Rte 154 Off-Ramp | 1.33% | 0.40% | NA | NA |
| State St/Rte 154 On-Ramp | 0.47% | 0.38% | NA | NA |
| El Sueno Rd Off-Ramp | 1.44% | 0.50% | NA | NA |
| El Sueno Rd On-Ramp | 0.60% | 0.07% | NA | NA |
| Turnpike Rd Off-Ramp | 0.44% | 0.05% | NA | NA |
| Turnpike Rd On-Ramp | 0.90% | 0.39% | NA | NA |
| Patterson Ave Off-Ramp | 0.65% | 0.18% | NA | NA |
| Patterson Ave On-Ramp | 1.32% | 0.40% | NA | NA |
| Fairview Ave Off-Ramp | 0.76% | 0.08% | NA | NA |
| Fairview Ave On-Ramp | 1.62% | 0.16% | NA | NA |
| Los Carneros Rd Off-Ramp | 0.38% | 0.02% | NA | NA |
| Los Carneros Rd On-Ramp | 1.01% | 0.54% | NA | NA |
| Glen Annie Rd Off-Ramp | 1.14% | 0.41% | NA | NA |
| Glen Annie Rd On-Ramp | 0.86% | 1.09% | NA | NA |
| Hollister Ave Off-Ramp | 1.86% | 0.78% | NA | NA |
| Hollister Ave On-Ramp | 3.22% | 0.53% | NA | NA |

| SB Ramp | Average Weekday [1] | | Average Weekend [2] | |
|---|---|---|---|---|
| | % Trucks (3+ Axle) | % Buses | % Trucks (3+ Axle) | % Buses |
| Bates/Rincon On-Ramp | 1.77% | 0.00% | 0.32% | 0.00% |
| Bates/Rincon Off-Ramp | 0.28% | 0.28% | 0.00% | 0.56% |
| Jct. 150/101 Sep On-Ramp | 4.11% | 0.35% | 2.34% | 0.50% |
| Jct. 150/101 Sep Off-Ramp | 3.90% | 0.51% | 1.54% | 0.54% |
| Bailard Ave (El Rincons) On-Ramp | 1.03% | 0.65% | 0.57% | 0.52% |
| Bailard Ave (El Rincons) Off-Ramp | 0.39% | 0.11% | 0.06% | 0.03% |
| Casitas Pass (224/101) On-Ramp | 1.65% | 0.41% | 0.76% | 0.39% |
| Casitas Pass (224/101) Off-Ramp | 0.95% | 0.26% | 0.67% | 0.37% |
| Linden Ave Off-Ramp | 0.46% | 0.35% | 0.15% | 0.34% |
| Reynolds Ave On-Ramp | 1.60% | 0.03% | 0.76% | 0.00% |
| Reynolds Ave Off-Ramp | 0.50% | 0.11% | 0.28% | 0.05% |
| Carpenteria Ave Off-Ramp | 0.81% | 0.21% | 0.25% | 0.22% |
| S. Padaro Ln On-Ramp | 4.27% | 0.05% | 1.75% | 0.20% |
| S. Padaro Ln Off-Ramp | 2.66% | 0.24% | 0.98% | 0.17% |
| N. Padaro Ln On-Ramp | 0.72% | 0.04% | 0.12% | 0.00% |
| N. Padaro Ln Off-Ramp | 0.71% | 0.11% | 0.38% | 0.00% |
| Evans Ave. On-Ramp | 0.74% | 0.00% | 0.20% | 0.07% |
| Evans Ave Off-Ramp | 0.51% | 0.85% | 0.13% | 0.53% |
| Sheffield Dr On-Ramp | 0.60% | 0.00% | 0.10% | 0.00% |
| Sheffield Dr Off-Ramp | 0.69% | 0.03% | 0.11% | 0.00% |
| San Ysidro Rd On-Ramp | 0.88% | 0.02% | 0.65% | 0.00% |
| San Ysidro Rd Off-Ramp | 0.38% | 0.11% | 0.18% | 0.04% |
| Olive Mill Rd On-Ramp | 0.45% | 0.49% | 0.32% | 0.00% |
| Olive Mill Rd Off-Ramp | 0.58% | 0.05% | 0.13% | 0.55% |
| Cabrillo Blvd On-Ramp | 0.64% | 0.49% | 0.23% | 0.34% |
| Cabrillo Blvd Off-Ramp Lt | 0.34% | 0.37% | 0.05% | 0.31% |
| Cabrillo Blvd Off-Ramp Rt | 0.41% | 0.00% | 0.13% | 0.00% |
| Milpas St (Rte. 144) On-Ramp | 1.16% | 0.34% | 0.47% | 0.42% |
| Milpas St (Rte. 144) Off-Ramp | 0.62% | 0.13% | 0.26% | 0.16% |
| Garden St. On-Ramp | 0.69% | 0.23% | NA | NA |
| Garden St. Off-Ramp | 1.08% | 0.38% | NA | NA |
| Castillo St. On-Ramp | 0.33% | 0.04% | NA | NA |
| Castillo St. Off-Ramp | 0.26% | 0.15% | NA | NA |
| Carrillo St On-Ramp | 2.07% | 0.42% | NA | NA |
| Carrillo St Off-Ramp | 0.25% | 0.22% | NA | NA |
| Mission St On-Ramp | 0.35% | 0.03% | NA | NA |
| Mission St Off-Ramp | 0.32% | 0.05% | NA | NA |
| Los Positas Rd On-Ramp | 0.44% | 0.05% | NA | NA |
| Los Positas Rd Off-Ramp | 0.47% | 0.07% | NA | NA |
| La Cumbre On-Ramp | 0.50% | 0.04% | NA | NA |
| La Cumbre Off-Ramp | 0.20% | 0.06% | NA | NA |
| Hollister Ave/Rte 154 On-Ramp | 1.13% | 0.14% | NA | NA |
| Hollister Ave/Rte 154 Off-Ramp | 0.42% | 0.02% | NA | NA |
| Turnpike On-Ramp | 0.30% | 0.07% | NA | NA |
| Turnpike Off-Ramp | 0.30% | 0.32% | NA | NA |
| Patterson On-Ramp | 0.80% | 0.11% | NA | NA |
| Patterson Off-Ramp | 0.88% | 0.05% | NA | NA |
| Fairview On-Ramp | 0.73% | 0.04% | NA | NA |
| Fairview Off-Ramp | 0.88% | 0.07% | NA | NA |
| Los Carneros On-Ramp | 0.33% | 0.08% | NA | NA |
| Los Carneros Off-Ramp | 0.83% | 0.07% | NA | NA |
| Glen Annie On-Ramp | 0.65% | 0.11% | NA | NA |
| Glen Annie Off-Ramp | 2.81% | 0.38% | NA | NA |
| Hollister On-Ramp | 2.07% | 0.57% | NA | NA |
| Hollister Off-Ramp | 1.51% | 0.80% | NA | NA |

[1] indicates average of Tuesday, Wednesday and Thursday
[2] indicates average of Saturday and Sunday
NA indicates that data is not available

**Figure 5. Evaluation of AM Peak Period Traffic Data at Freeway Ramps**

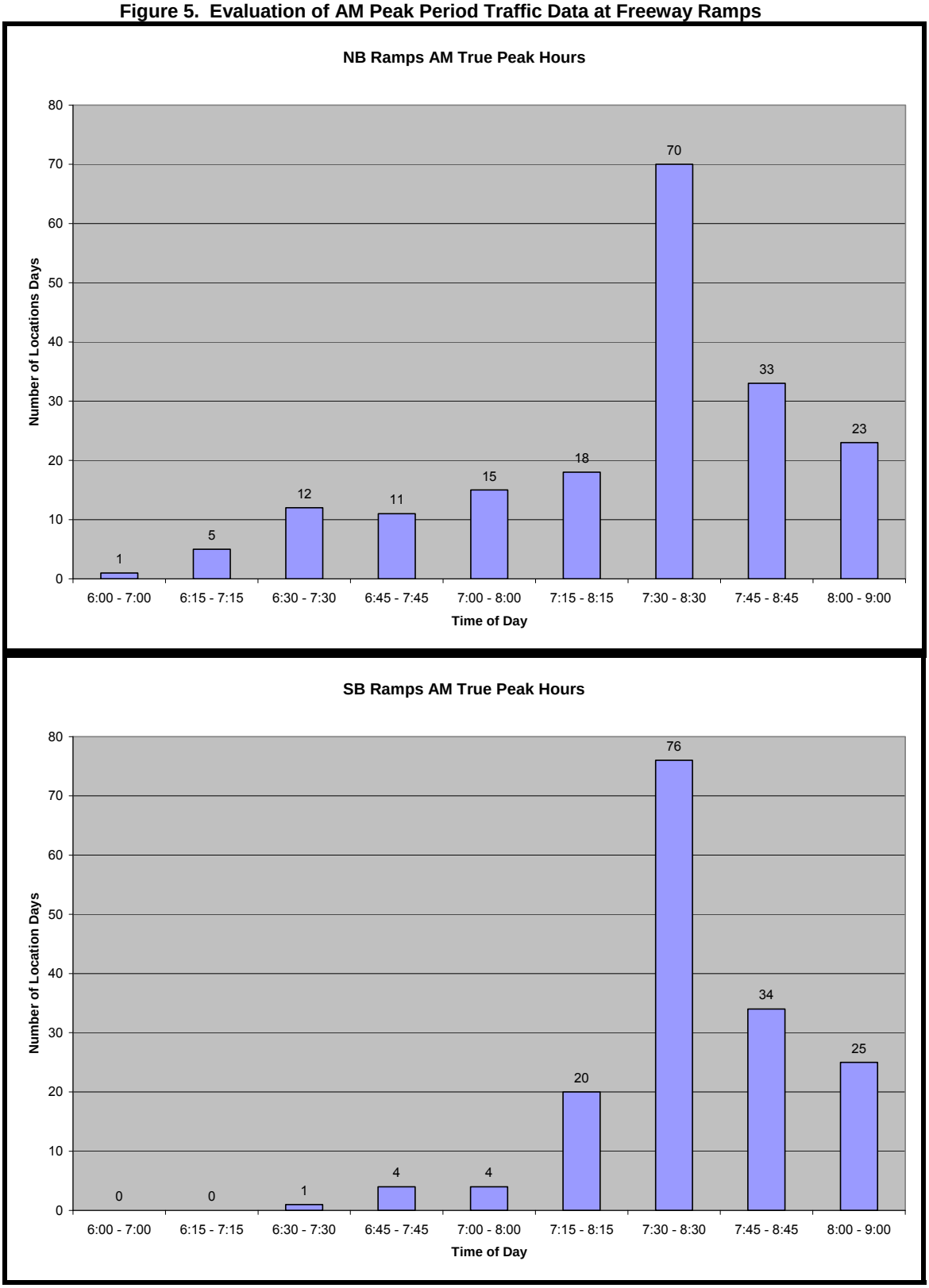
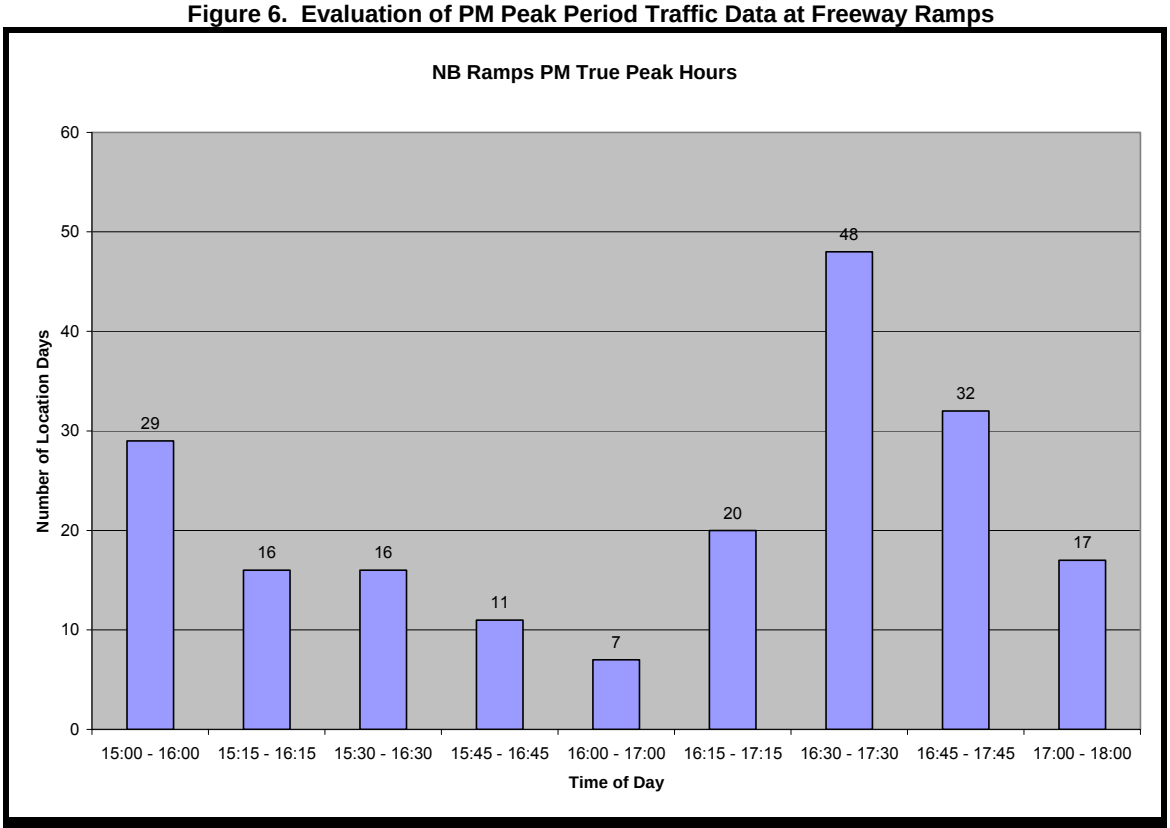
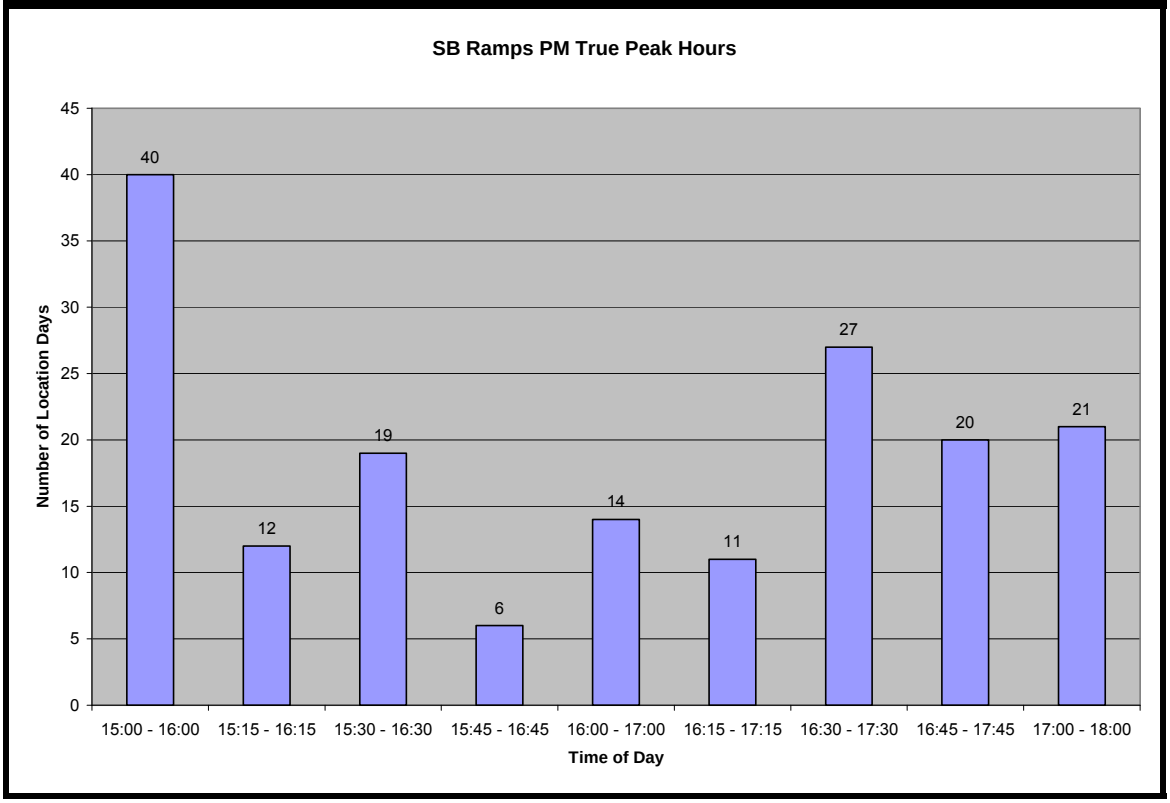


**Figure 6. Evaluation of PM Peak Period Traffic Data at Freeway Ramps**



### *Freeway Mainline Segment Counts*

Peak hour traffic counts were conducted near Hollister Avenue (Post Mile 27.500) Junipero Street (Post Mile 16.226) and SR-150 (Post Mile 0.634) on typical weekdays (Tuesday, Wednesday and Thursday) in the week of April 21, 2008. Weekend peak hour counts were also collected near SR-150. All counts were performed per freeway lane to evaluate lane utilization. Vehicle classification counts and sample counts of vehicle occupancies were also performed.

Peak Hour Counts

The purpose of collecting peak hour mainline counts was to supplement Caltrans data and evaluate traffic patterns during the AM and PM peak periods. Percent of peak hour to daily traffic volume (K-Factor), peak hour factor (PHF) and predominant direction of travel (D-Factor) were identified. These data reveal the following directional characteristics:

- At Hollister Avenue – peak direction of travel during the AM peak period occurs in the southbound direction and it occurs in the northbound direction during the PM peak period.
- At Junipero Street – direction of travel is evenly distributed in both directions during the AM and PM peak periods.
- At SR 150 – peak direction of travel during the AM peak period occurs in the northbound direction and it occurs in the southbound direction during the PM peak period.
- Average PHF varies from 0.73 to 0.95 with the system average being 0.88.

Average peak hour traffic volumes, factors and directional split are depicted in **Table 3**.

**Table 3. Highway 101 3-Day Average Peak Hour Traffic**

| Location | AM Peak Hour | | | | | | PM Peak Hour | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Volume | | Peak Hour Factor | | D Factor | | Volume | | Peak Hour Factor | | D Factor | |
| | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB |
| Hollister Avenue | 448 | 1,450 | 0.80 | 0.73 | 0.24 | 0.76 | 1,234 | 720 | 0.81 | 0.90 | 0.63 | 0.37 |
| Junipero Street | 4,933 | 5,755 | 0.92 | 0.88 | 0.46 | 0.54 | 5,309 | 5,512 | 0.94 | 0.95 | 0.49 | 0.51 |
| SR 150 | 2,579 | 1,344 | 0.90 | 0.88 | 0.66 | 0.34 | 1,625 | 2,991 | 0.94 | 0.94 | 0.35 | 0.65 |

Classification counts were conducted along Highway 101 at SR 150 during the AM and PM peak period. **Table 4** shows percent of trucks, buses and recreational vehicles (RVs) during the AM and PM peak hours of an average weekday. These data reveal that a higher proportion of heavy vehicles are present during the AM peak hour relative to the PM peak hour.

**Table 4. Highway 101 Classification Data at SR 150**

| Time of Weekday | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| | Truck % | Bus % | RV % | Truck % | Bus % | RV % |
| AM Peak Hour | 7.60% | 0.24% | 0.21% | 7.91% | 0.57% | 0.20% |
| PM Peak Hour | 5.03% | 0.30% | 0.83% | 3.30% | 0.30% | 0.07% |

Caltrans Count Data

Caltrans traffic data collected at three alternative locations on Highway 101 during the same data collection period (April 21-27, 2008) was used to supplement the peak hour traffic counts above. 24-hour traffic volume data collected at a federal continuous count station located near Seacliff Drive (Ventura County) was also provided by Caltrans. Weekday and weekend traffic data is **Table 5** and **Table 6** respectively.

**Table 5. Highway 101 Weekday Traffic Data**

| Location | 3-Day Average Traffic Volumes | | AM Peak Hour | | | | | | PM Peak Hour | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volume | | K Factor | | D Factor | | Volume | | K Factor | | D Factor | |
| | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB |
| Cabrillo Blvd and Salinas Rd | 46,660 | 45,980 | 3,511 | 3,373 | 0.075 | 0.073 | 0.51 | 0.49 | 3,305 | 3,557 | 0.071 | 0.077 | 0.48 | 0.52 |
| Sheffield Ave On and Off Ramps | 39,090 | 38,900 | 3,756 | 2,103 | 0.096 | 0.054 | 0.64 | 0.36 | 2,470 | 3,685 | 0.063 | 0.095 | 0.40 | 0.60 |
| SR 150 to Bailard Ave | 30,620 | 29,180 | 2,680 | 1,336 | 0.088 | 0.046 | 0.67 | 0.33 | 1,694 | 2,968 | 0.055 | 0.102 | 0.36 | 0.64 |
| Seacliff Drive (Ventura County) | 30,510 | 30,430 | 2,790 | 1,354 | 0.091 | 0.044 | 0.67 | 0.33 | 1,580 | 3,236 | 0.052 | 0.106 | 0.33 | 0.67 |

**Table 6. Highway 101 Weekend Traffic Data**

| Location | Weekend Traffic Volumes | | Midday Peak Hour | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Volume | | K Factor | | D Factor | |
| | NB | SB | NB | SB | NB | SB | NB | SB |
| Cabrillo Blvd and Salinas Rd | 42,529 | 42,212 | 3,208 | 3,104 | 0.075 | 0.074 | 0.51 | 0.49 |
| Sheffield Ave On and Off Ramps | 38,756 | 40,443 | 2,978 | 2,936 | 0.077 | 0.073 | 0.50 | 0.50 |
| SR 150 to Bailard Ave | 33,950 | 34,634 | 2,608 | 2,443 | 0.077 | 0.071 | 0.52 | 0.48 |
| Seacliff Drive (Ventura County) | 33,312 | 35,294 | 2,577 | 2,449 | 0.077 | 0.069 | 0.51 | 0.49 |

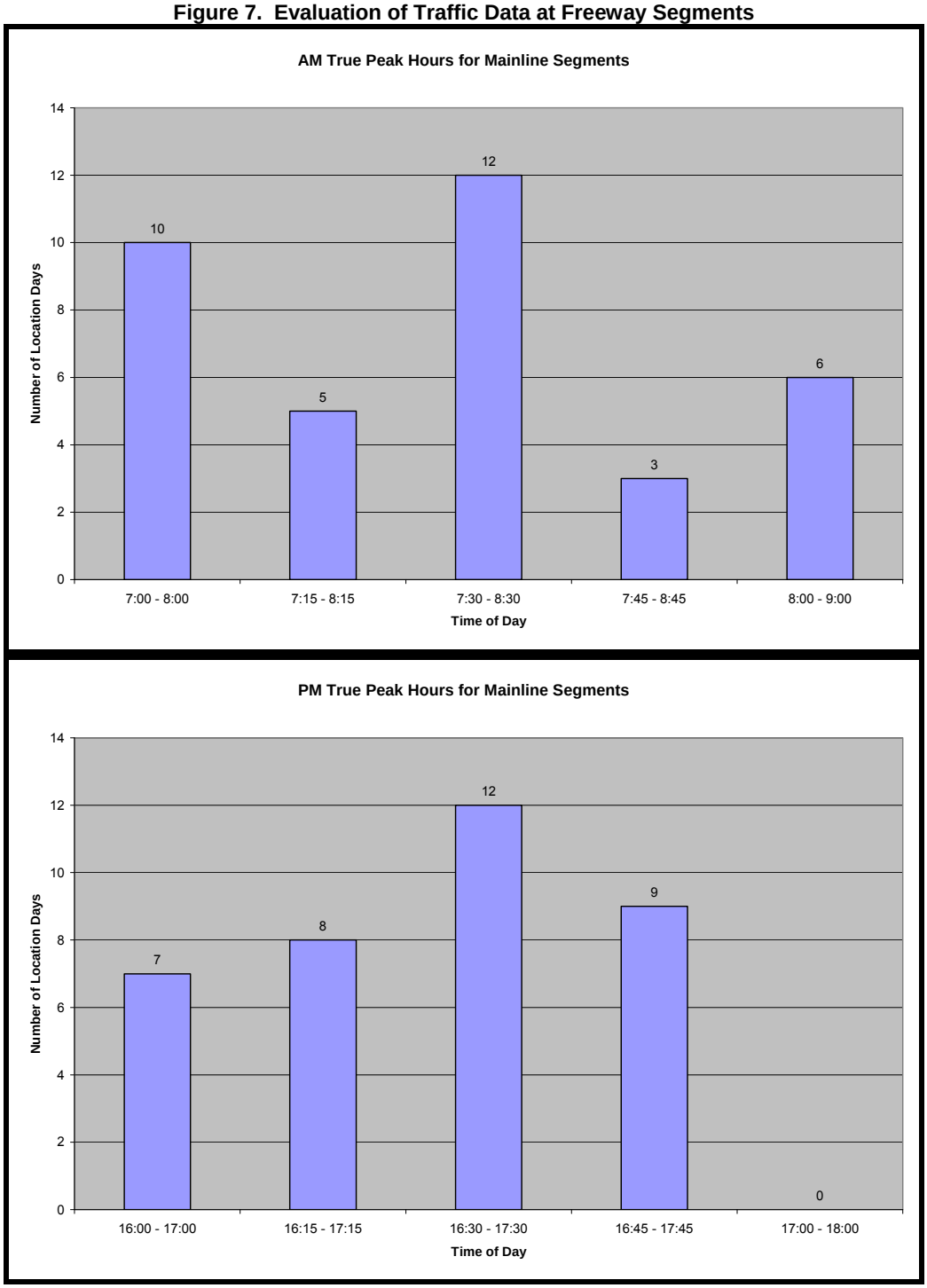
Based on **Table 5** and **Table 6**, the following general observations can be made:

- Weekend traffic is more dispersed throughout the day than the weekday.
- Highway 101 between Cabrillo and Salinas experience higher daily and peak hour traffic volumes over the average weekday compared to the average weekend.
- Average weekday and weekend traffic volumes at Sheffield are similar with the latter being slightly greater than the former. At Sheffield, weekday peak hour traffic volumes are slightly higher than the weekend peak hour.
- At Highway 101 between SR 150 and Bailard and at Seacliff Drive, weekend daily and peak hour traffic volumes are higher than the corresponding average weekday volumes. However, the northbound and southbound directional traffic volumes are highest during the weekday AM and PM peak hours respectively. As such, worse case directional peak hour operating conditions occur on weekdays rather than weekends during typical springtime traffic conditions.

**Figure 7** shows true peak hours for each location days of the freeway segments. The hour of 7:30 to 8:30 AM was determined to be the predominant peak hour during the morning peak period, closely followed by 7:00 to 8:00 AM. The predominant peak hour during the afternoon peak period was 4:30 to 5:30 PM.

Overall, the observed peak hour of 7:30 to 8:30 AM within the AM peak period and 4:30 and 5:30 PM within the PM peak period occurred most frequently; and therefore, shall be used as “locked in” peak hours for this study.

**Figure 7. Evaluation of Traffic Data at Freeway Segments**



### *Floating Car Surveys*

Floating car surveys were performed on Highway 101 on April 22 using GPS devices during the AM and PM peak periods. Up to ten survey runs were made in both directions of travel. These data are the basis for determining "ground truth" operating conditions on Highway 101. They will also be used to calibrate the macro-simulation FREQ model for purposes of forecasting future freeway operations.

**Figure 8** and **Figure 9** shows two samples of Highway 101 floating car survey results. **Figure 8** illustrates a speed profile between Bailard Road and North Padaro Lane for a northbound 7:30 AM start time survey run. **Figure 9** shows the same graphics from Castillo Street to Cabrillo Boulevard, but for the southbound direction of travel starting at 4:30 PM. Three speed bins are presented in these figures: above 55 mph; between 55 and 35 mph; and, below 35 mph.

According to the Transportation Research Board's Special Report 209, Highway Capacity Manual, 2000 Chapter 20 Basic Freeway Segments, a particular freeway segment reaches its capacity when minimum speeds of 52.2 mph and 53.3 are experienced on freeway facilities characterized by free flow speeds of 65 mph and 70 mph respectively. This allows for the following LOS translation:

- Traffic traveling at or above 55 mph reflects at or under capacity conditions: LOS A - LOS E.
- Traffic traveling between 55 and 35 mph reflects over-capacity unstable flow conditions: LOS F.
- Traffic traveling below 35 mph denotes extreme forced flow conditions: LOS F

Highway 101 AM/PM peak hour floating car survey results for both directions of travel are presented in **Table 7** through **Table 10**. Highway 101 AM/PM peak period floating car survey results for both directions are shown **Table 11** through **Table 14**. Key statistics (i.e., travel time and speed of lower than 35 and 55 mph) were developed for individual segments/locations along Highway 101. Locations experiencing average operating speeds of 55 mph or less are shaded.

Northbound Highway 101 survey results indicate that average operating speeds between SR-150 and Salinas Street drop below 55 mph during the AM peak hour - reflecting congested conditions (LOS F). Between Arrellaga Street/Mission Street and Las Positas Road/Hope Avenue, average northbound speeds drop below 55 mph during the PM peak hour which reflects congested conditions (LOS F).

During the PM peak hour, the average operating speed for the southbound Highway 101 between Castillo Street/Cabrillo Boulevard experiences unstable flow (LOS F) conditions with average speeds dropping below 55 mph.

When the peak hours are expanded to the peak period, the number of locations operating below 55 mph speed decreased. This is logical given the greater averaging time involved (delay is averaged over the entire peak period versus just one hour). In the northbound direction, SR-150 to Santa Monica Road, South Padaro Lane to North Padaro Lane and Evans Street to Salinas Street experience unstable flow conditions during the AM peak period. During PM peak hour, results indicate that only Arrellaga Street to Mission Street get congested in the northbound direction. Floating car survey results for the southbound Highway 101 during the entire peak period emulate those of corresponding peak hours. These peak period results indicate that congested conditions on Highway 101 span longer than a single hour in both the AM and PM peak period.

It should be also noted that segments showing acceptable operating conditions with speeds of 55 mph or greater may indeed experience delays and sudden drops in speed within a sub-segment.

Results of floating car surveys for segments and their sub-segments will be utilized to calibrate the FREQ macro-simulation model for the traffic study and HOV report (to be developed as a subsequent report for the Highway 101 Widening Project EA 05-0N7000).

**Figure 8. Northbound 101 Floating Car Survey Results for AM Peak Hour (Sample)**

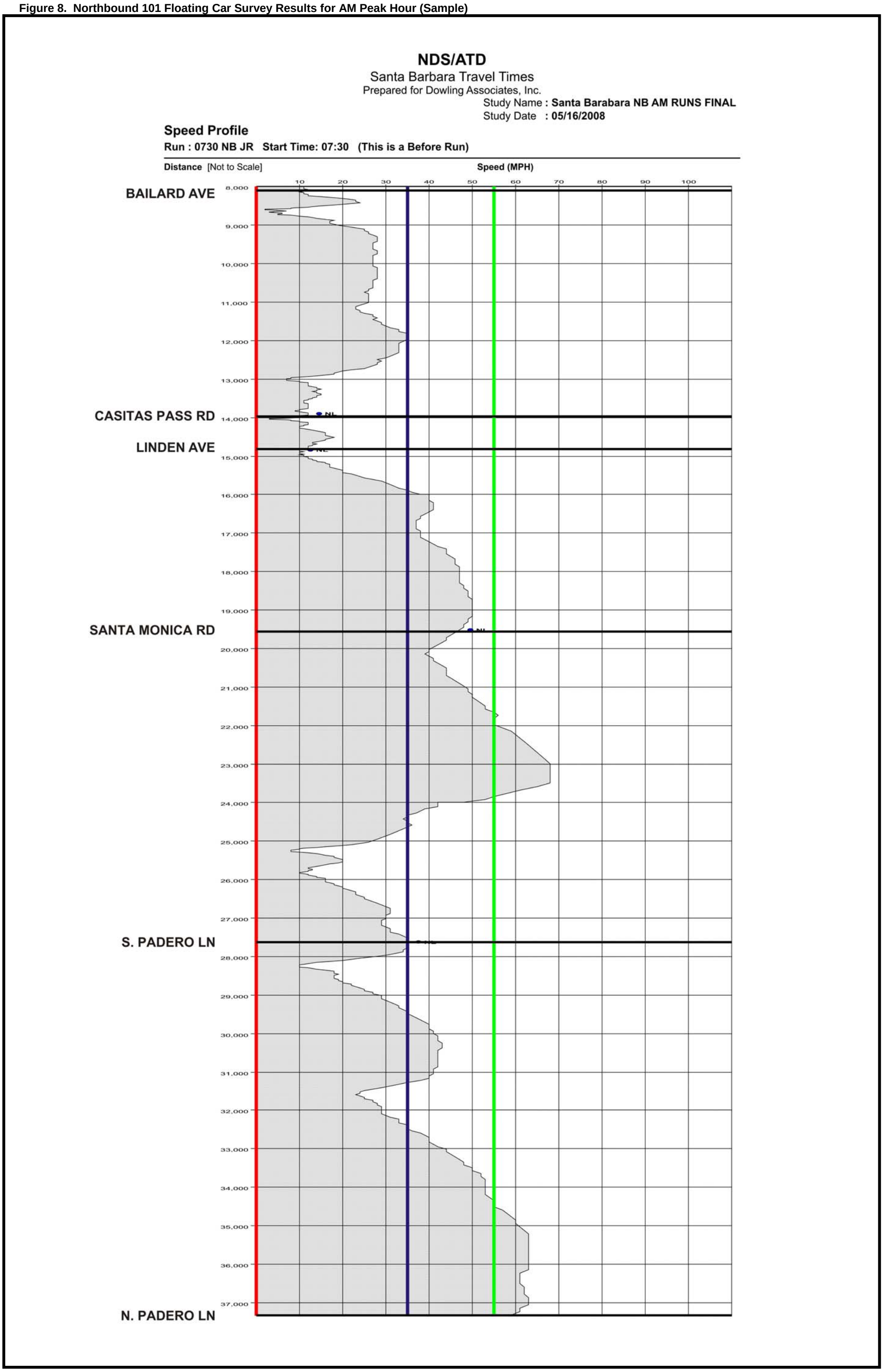


**Figure 9. Southbound 101 Floating Car Survey Results for PM Peak Hour (Sample)**

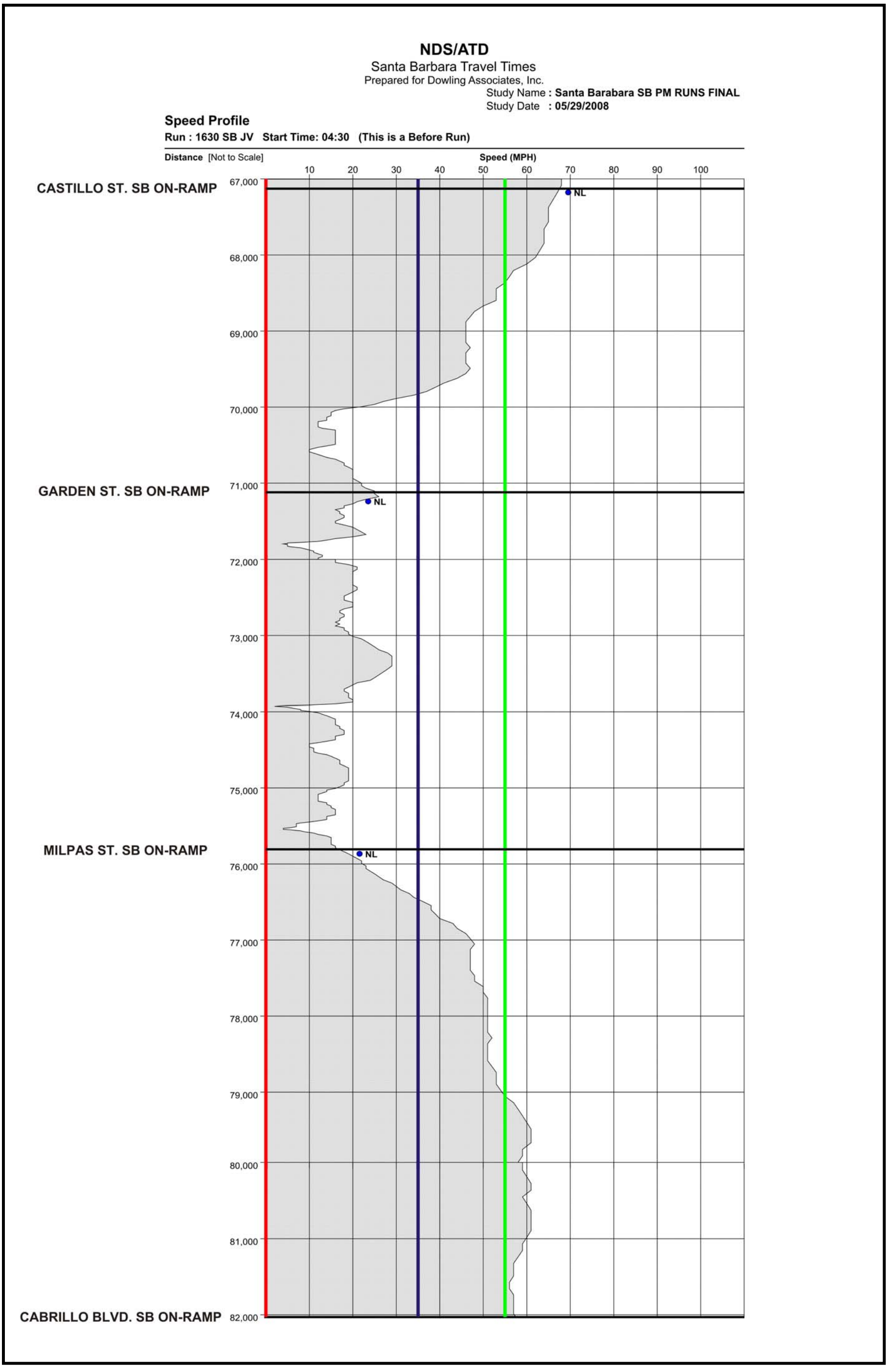


**Table 7. Highway 101 Northbound Floating Car Survey AM Peak Hour (7:30 – 8:30) Results**

| Node # | Length (feet) | Node Names | Average Travel Time (sec) | Average # of Stops | Average Speed (mph) | Average Time = 0 mph (sec) | Average Time <= 35 mph (sec) | Average Time <=55 mph (sec) |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | BATES RD NB ON-RAMP | | | | | | |
| 2 | 3616 | JCT RTE 150 NB ON-RAMP | 40 | 0 | 63 | 0 | 0 | 0 |
| 3 | 4489 | BAILARD AVE NB ON-RAMP | 69 | 0 | **51** | 0 | 29 | 34 |
| 4 | 5858 | CASITAS PASS RD NB ON-RAMP | 126 | 1 | **47** | 0 | 92 | 98 |
| 5 | 846 | LINDEN AVE. NB ON-RAMP | 30 | 1 | **41** | 0 | 26 | 26 |
| 6 | 4751 | SANTA MONICA RD NB NB ON-RAMP | 75 | 0 | **51** | 0 | 28 | 52 |
| 7 | 8065 | S. PADARO LN NB NB ON-RAMP | 115 | 0 | **53** | 0 | 33 | 69 |
| 8 | 9700 | N. PADARO LN NB ON-RAMP | 143 | 0 | **48** | 1 | 45 | 91 |
| 9 | 5877 | EVANS AVE NB ON-RAMP | 92 | 1 | **50** | 1 | 19 | 62 |
| 10 | 3450 | SHEFFIELD DR NB ON-RAMP | 77 | 0 | **34** | 0 | 53 | 67 |
| 11 | 5279 | SAN YSIDRO RD NB ON-RAMP | 102 | 0 | **37** | 4 | 42 | 101 |
| 12 | 7417 | CABRILLO BLVD NB ON-RAMP | 178 | 2 | **29** | 1 | 126 | 167 |
| 13 | 3172 | SALINAS ST NB ON-RAMP | 73 | 0 | **30** | 0 | 56 | 72 |
| 14 | 4193 | MILPAS ST NB ON-RAMP | 51 | 0 | 56 | 0 | 0 | 21 |
| 15 | 3967 | GARDEN ST NB ON-RAMP | 44 | 0 | 63 | 0 | 0 | 2 |
| 16 | 3240 | CASTILLO ST NB ON-RAMP | 34 | 0 | 66 | 0 | 0 | 0 |
| 17 | 3111 | CARRILLO ST NB ON-RAMP | 33 | 0 | 65 | 0 | 0 | 0 |
| 18 | 2889 | ARRELLAGA ST NB ON-RAMP | 33 | 0 | 61 | 0 | 0 | 5 |
| 19 | 2250 | MISSION ST NB ON-RAMP | 25 | 0 | 63 | 0 | 0 | 0 |
| 20 | 4475 | LOS POSITAS RD NB ON-RAMP | 52 | 0 | 61 | 0 | 0 | 17 |
| 21 | 4213 | HOPE AVE NB ON-RAMP | 55 | 0 | 57 | 0 | 10 | 34 |
| 22 | 3613 | JCT RTE 154 NB ON-RAMP | 38 | 0 | 65 | 0 | 0 | 2 |
| 23 | 4031 | EL SUENO RD NB ON-RAMP | 39 | 0 | 70 | 0 | 0 | 0 |
| 24 | 6669 | TURNPIKE RD NB ON-RAMP | 68 | 0 | 67 | 0 | 0 | 0 |
| 25 | 6789 | PATTERSON AVE NB ON-RAMP | 70 | 0 | 67 | 0 | 0 | 7 |
| 26 | 5070 | FAIRVIEW AVE NB ON-RAMP | 49 | 0 | 71 | 0 | 0 | 0 |
| 27 | 7448 | LOS CARNEROS RD NB ON-RAMP | 77 | 0 | 67 | 0 | 3 | 7 |
| 28 | 4635 | GLEN ANNIE RD NB ON-RAMP | 47 | 0 | 67 | 0 | 0 | 0 |
| 29 | 11364 | HOLLISTER AVE NB ON-RAMP | 116 | 0 | 67 | 0 | 0 | 0 |
| Total/Average | 140,477 | | 1,947 | 5 | 56 | 7 | 560 | 931 |

Notes
Above results represent average of four runs made during the study peak hour
Indicates unstable flow conditions

**Table 8. Highway 101 Northbound Floating Car Survey PM Peak Hour (4:30 – 5:30) Results**

| Node # | Length (feet) | Node Names | Average Travel Time (sec) | Average # of Stops | Average Speed (mph) | Average Time = 0 mph (sec) | Average Time <= 35 mph (sec) | Average Time <=55 mph (sec) |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | BATES RD NB ON-RAMP | | | | | | |
| 2 | 3623 | JCT RTE 150 NB ON-RAMP | 42 | 0 | 60 | 0 | 0 | 5 |
| 3 | 4533 | BAILARD AVE NB ON-RAMP | 46 | 0 | 68 | 0 | 0 | 0 |
| 4 | 5832 | CASITAS PASS RD NB ON-RAMP | 62 | 0 | 64 | 0 | 0 | 0 |
| 5 | 879 | LINDEN AVE. NB ON-RAMP | 10 | 0 | 62 | 0 | 0 | 0 |
| 6 | 4583 | SANTA MONICA RD NB NB ON-RAMP | 47 | 0 | 67 | 0 | 0 | 0 |
| 7 | 8240 | S. PADARO LN NB NB ON-RAMP | 83 | 0 | 67 | 0 | 0 | 0 |
| 8 | 9584 | N. PADARO LN NB ON-RAMP | 98 | 0 | 67 | 0 | 0 | 0 |
| 9 | 6009 | EVANS AVE NB ON-RAMP | 65 | 0 | 64 | 0 | 0 | 0 |
| 10 | 3435 | SHEFFIELD DR NB ON-RAMP | 36 | 0 | 64 | 0 | 0 | 0 |
| 11 | 5291 | SAN YSIDRO RD NB ON-RAMP | 56 | 0 | 65 | 0 | 0 | 0 |
| 12 | 7385 | CABRILLO BLVD NB ON-RAMP | 80 | 0 | 64 | 0 | 0 | 10 |
| 13 | 3212 | SALINAS ST NB ON-RAMP | 37 | 0 | 60 | 0 | 0 | 8 |
| 14 | 4167 | MILPAS ST NB ON-RAMP | 45 | 0 | 64 | 0 | 0 | 0 |
| 15 | 3864 | GARDEN ST NB ON-RAMP | 40 | 0 | 67 | 0 | 0 | 0 |
| 16 | 3341 | CASTILLO ST NB ON-RAMP | 35 | 0 | 65 | 0 | 0 | 0 |
| 17 | 3148 | CARRILLO ST NB ON-RAMP | 34 | 0 | 63 | 0 | 0 | 0 |
| 18 | 2659 | ARRELLAGA ST NB ON-RAMP | 29 | 0 | 63 | 0 | 0 | 0 |
| 19 | 2468 | MISSION ST NB ON-RAMP | 34 | 0 | **54** | 0 | 9 | 13 |
| 20 | 4593 | LOS POSITAS RD NB ON-RAMP | 56 | 0 | 57 | 0 | 6 | 21 |
| 21 | 4042 | HOPE AVE NB ON-RAMP | 52 | 0 | **54** | 0 | 8 | 21 |
| 22 | 3669 | JCT RTE 154 NB ON-RAMP | 42 | 0 | 60 | 0 | 0 | 0 |
| 23 | 4003 | EL SUENO RD NB ON-RAMP | 43 | 0 | 64 | 0 | 0 | 0 |
| 24 | 6692 | TURNPIKE RD NB ON-RAMP | 69 | 0 | 67 | 0 | 0 | 0 |
| 25 | 6788 | PATTERSON AVE NB ON-RAMP | 68 | 0 | 68 | 0 | 0 | 0 |
| 26 | 5042 | FAIRVIEW AVE NB ON-RAMP | 53 | 0 | 65 | 0 | 0 | 0 |
| 27 | 7438 | LOS CARNEROS RD NB ON-RAMP | 76 | 0 | 67 | 0 | 0 | 0 |
| 28 | 4712 | GLEN ANNIE RD NB ON-RAMP | 48 | 0 | 68 | 0 | 0 | 0 |
| 29 | 11470 | HOLLISTER AVE NB ON-RAMP | 113 | 0 | 69 | 0 | 0 | 0 |
| Total/Average | 140,702 | | 1,494 | 0 | 64 | 0 | 22 | 78 |

Notes
Above results represent average of four runs made during the study peak hour
Indicates unstable flow conditions

**Table 9. Highway 101 Southbound Floating Car Survey AM Peak Hour (7:30 – 8:30) Results**

| Node # | Length (feet) | Node Names | Average Travel Time (sec) | Average # of Stops | Average Speed (mph) | Average Time = 0 mph (sec) | Average Time <= 35 mph (sec) | Average Time <=55 mph (sec) |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | Hollister Ave SB On-Ramp | | | | | | |
| 2 | 11439 | Glen Annie Rd. SB On-Ramp | 114 | 0 | 69 | 0 | 0 | 6 |
| 3 | 6126 | Los Carneros Rd. SB On-Ramp | 62 | 0 | 67 | 0 | 0 | 5 |
| 4 | 5856 | Fairview Ave. SB On-Ramp | 62 | 0 | 65 | 0 | 0 | 3 |
| 5 | 7957 | Patterson Ave. SB On-Ramp | 82 | 0 | 66 | 0 | 0 | 0 |
| 6 | 5247 | Turnpike Rd. SB On-Ramp | 59 | 0 | 63 | 0 | 1 | 15 |
| 7 | 9802 | Jct. Rte. 154 SB On-Ramp | 106 | 0 | 63 | 0 | 0 | 15 |
| 8 | 1680 | La Cumbre Rd. SB On-Ramp | 18 | 0 | 66 | 0 | 0 | 0 |
| 9 | 7077 | Los Positas Rd. SB On-Ramp | 78 | 0 | 63 | 0 | 0 | 11 |
| 10 | 3784 | Mission St. SB On-Ramp | 40 | 0 | 66 | 0 | 0 | 1 |
| 11 | 5417 | Carrillo St. SB On-Ramp | 56 | 0 | 67 | 0 | 0 | 0 |
| 12 | 2773 | Castillo St. SB On-Ramp | 31 | 0 | 62 | 0 | 2 | 7 |
| 13 | 4138 | Garden St. SB On-Ramp | 46 | 0 | 62 | 0 | 0 | 5 |
| 14 | 4684 | Milpas St. SB On-Ramp | 51 | 0 | 63 | 0 | 0 | 0 |
| 15 | 6062 | Cabrillo Blvd. SB On-Ramp | 64 | 0 | 65 | 0 | 0 | 1 |
| 16 | 4769 | Olive Mill Rd. SB On-Ramp | 51 | 0 | 64 | 0 | 0 | 0 |
| 17 | 3924 | San Ysidro Rd. SB On-Ramp | 41 | 0 | 65 | 0 | 0 | 0 |
| 18 | 3922 | Sheffield Dr. SB On-Ramp | 42 | 0 | 64 | 0 | 0 | 0 |
| 19 | 5198 | Evans Ave. SB On-Ramp | 53 | 0 | 68 | 0 | 0 | 0 |
| 20 | 4553 | N. Padaro Ln. SB On-Ramp | 45 | 0 | 69 | 0 | 0 | 0 |
| 21 | 12250 | S. Padaro Ln. SB On-Ramp | 123 | 0 | 68 | 0 | 0 | 3 |
| 22 | 5975 | Reynolds Ave. SB On-Ramp | 61 | 0 | 67 | 0 | 0 | 3 |
| 23 | 5775 | Casitas Pass Rd. SB On-Ramp | 58 | 0 | 68 | 0 | 0 | 0 |
| 24 | 4965 | Bailard Ave. SB On-Ramp | 52 | 0 | 67 | 0 | 0 | 0 |
| 25 | 5362 | Jct. Rte. 150 SB On-Ramp | 54 | 0 | 68 | 0 | 0 | 0 |
| 26 | 1902 | Bates Rd. SB On-Ramp | 16 | 0 | 69 | 0 | 0 | 0 |
| Total/Average | 140,637 | | 1,461 | 0 | 66 | 0 | 3 | 73 |

Notes
Above results represent average of four runs made during the study peak hour
Indicates unstable flow conditions

**Table 10. Highway 101 Southbound Floating Car Survey PM Peak Hour (4:30 – 5:30) Results**

| Node # | Length (feet) | Node Names | Average Travel Time (sec) | Average # of Stops | Average Speed (mph) | Average Time = 0 mph (sec) | Average Time <= 35 mph (sec) | Average Time <=55 mph (sec) |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | Hollister Ave SB On-Ramp | | | | | | |
| 2 | 11518 | Glen Annie Rd. SB On-Ramp | 115 | 0 | 69 | 0 | 0 | 4 |
| 3 | 6009 | Los Carneros Rd. SB On-Ramp | 58 | 0 | 72 | 0 | 0 | 0 |
| 4 | 5960 | Fairview Ave. SB On-Ramp | 58 | 0 | 69 | 0 | 0 | 0 |
| 5 | 7892 | Patterson Ave. SB On-Ramp | 78 | 0 | 70 | 0 | 0 | 3 |
| 6 | 5027 | Turnpike Rd. SB On-Ramp | 54 | 0 | 64 | 0 | 0 | 0 |
| 7 | 10068 | Jct. Rte. 154 SB On-Ramp | 104 | 0 | 67 | 0 | 0 | 2 |
| 8 | 1663 | La Cumbre Rd. SB On-Ramp | 21 | 0 | 58 | 0 | 2 | 10 |
| 9 | 7076 | Los Positas Rd. SB On-Ramp | 85 | 0 | 57 | 0 | 5 | 33 |
| 10 | 3436 | Mission St. SB On-Ramp | 42 | 0 | 57 | 0 | 0 | 22 |
| 11 | 5681 | Carrillo St. SB On-Ramp | 61 | 0 | 64 | 0 | 0 | 10 |
| 12 | 2797 | Castillo St. SB On-Ramp | 30 | 0 | 65 | 0 | 0 | 0 |
| 13 | 3992 | Garden St. SB On-Ramp | 56 | 0 | **52** | 0 | 14 | 22 |
| 14 | 4687 | Milpas St. SB On-Ramp | 141 | 1 | **26** | 1 | 124 | 141 |
| 15 | 6224 | Cabrillo Blvd. SB On-Ramp | 95 | 0 | **45** | 0 | 25 | 67 |
| 16 | 4752 | Olive Mill Rd. SB On-Ramp | 54 | 0 | 60 | 0 | 0 | 11 |
| 17 | 4012 | San Ysidro Rd. SB On-Ramp | 45 | 0 | 61 | 0 | 0 | 3 |
| 18 | 3810 | Sheffield Dr. SB On-Ramp | 47 | 0 | 57 | 0 | 0 | 18 |
| 19 | 5215 | Evans Ave. SB On-Ramp | 57 | 0 | 63 | 0 | 0 | 7 |
| 20 | 4436 | N. Padaro Ln. SB On-Ramp | 45 | 0 | 68 | 0 | 0 | 0 |
| 21 | 12308 | S. Padaro Ln. SB On-Ramp | 138 | 0 | 61 | 0 | 0 | 11 |
| 22 | 6014 | Reynolds Ave. SB On-Ramp | 72 | 0 | 57 | 0 | 0 | 22 |
| 23 | 5836 | Casitas Pass Rd. SB On-Ramp | 65 | 0 | 61 | 0 | 0 | 3 |
| 24 | 4892 | Bailard Ave. SB On-Ramp | 60 | 0 | 57 | 0 | 0 | 26 |
| 25 | 5372 | Jct. Rte. 150 SB On-Ramp | 63 | 0 | 59 | 0 | 0 | 21 |
| 26 | 2182 | Bates Rd. SB On-Ramp | 21 | 0 | 60 | 0 | 0 | 3 |
| Total/Average | 140,859 | | 1,662 | 1 | 60 | 1 | 170 | 435 |

Notes
Above results represent average of four runs made during the study peak hour
Indicates unstable flow conditions

**Table 11. Highway 101 Northbound Floating Car Survey AM Peak Period Results**

| Node # | Length (feet) | Node Names | Average Travel Time (sec) | Average # of Stops | Average Speed (mph) | Average Time = 0 mph (sec) | Average Time <= 35 mph (sec) | Average Time <=55 mph (sec) |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | BATES RD NB ON-RAMP | | | | | | |
| 2 | 3616 | JCT RTE 150 NB ON-RAMP | 40 | 0 | 63 | 0 | 0 | 2 |
| 3 | 4489 | BAILARD AVE NB ON-RAMP | 63 | 0 | **54** | 0 | 18 | 34 |
| 4 | 5858 | CASITAS PASS RD NB ON-RAMP | 119 | 0 | **43** | 1 | 76 | 95 |
| 5 | 846 | LINDEN AVE. NB ON-RAMP | 23 | 0 | **40** | 0 | 18 | 19 |
| 6 | 4751 | SANTA MONICA RD NB NB ON-RAMP | 74 | 0 | **48** | 0 | 26 | 52 |
| 7 | 8065 | S. PADARO LN NB NB ON-RAMP | 101 | 0 | 58 | 0 | 13 | 37 |
| 8 | 9700 | N. PADARO LN NB ON-RAMP | 127 | 0 | **54** | 0 | 23 | 58 |
| 9 | 5877 | EVANS AVE NB ON-RAMP | 76 | 0 | 57 | 1 | 8 | 27 |
| 10 | 3450 | SHEFFIELD DR NB ON-RAMP | 54 | 0 | **51** | 0 | 21 | 29 |
| 11 | 5279 | SAN YSIDRO RD NB ON-RAMP | 75 | 0 | **53** | 1 | 17 | 42 |
| 12 | 7417 | CABRILLO BLVD NB ON-RAMP | 119 | 0 | **50** | 0 | 51 | 67 |
| 13 | 3172 | SALINAS ST NB ON-RAMP | 50 | 0 | **51** | 0 | 22 | 29 |
| 14 | 4193 | MILPAS ST NB ON-RAMP | 48 | 0 | 60 | 0 | 0 | 9 |
| 15 | 3967 | GARDEN ST NB ON-RAMP | 42 | 0 | 64 | 0 | 0 | 1 |
| 16 | 3240 | CASTILLO ST NB ON-RAMP | 34 | 0 | 66 | 0 | 0 | 0 |
| 17 | 3111 | CARRILLO ST NB ON-RAMP | 32 | 0 | 65 | 0 | 0 | 0 |
| 18 | 2889 | ARRELLAGA ST NB ON-RAMP | 31 | 0 | 63 | 0 | 0 | 3 |
| 19 | 2250 | MISSION ST NB ON-RAMP | 25 | 0 | 62 | 0 | 0 | 0 |
| 20 | 4475 | LOS POSITAS RD NB ON-RAMP | 48 | 0 | 64 | 0 | 0 | 7 |
| 21 | 4213 | HOPE AVE NB ON-RAMP | 47 | 0 | 63 | 0 | 4 | 14 |
| 22 | 3613 | JCT RTE 154 NB ON-RAMP | 38 | 0 | 66 | 0 | 0 | 1 |
| 23 | 4031 | EL SUENO RD NB ON-RAMP | 40 | 0 | 69 | 0 | 0 | 0 |
| 24 | 6669 | TURNPIKE RD NB ON-RAMP | 67 | 0 | 68 | 0 | 0 | 0 |
| 25 | 6789 | PATTERSON AVE NB ON-RAMP | 68 | 0 | 68 | 0 | 0 | 4 |
| 26 | 5070 | FAIRVIEW AVE NB ON-RAMP | 49 | 0 | 70 | 0 | 0 | 0 |
| 27 | 7448 | LOS CARNEROS RD NB ON-RAMP | 74 | 0 | 69 | 0 | 1 | 3 |
| 28 | 4635 | GLEN ANNIE RD NB ON-RAMP | 46 | 0 | 69 | 0 | 0 | 0 |
| 29 | 11364 | HOLLISTER AVE NB ON-RAMP | 111 | 0 | 68 | 0 | 0 | 0 |
| Total/Average | 140,477 | | 1,720 | 0 | 60 | 3 | 297 | 531 |

Notes
Above results represent average of ten runs made during the study peak period
Indicates unstable flow conditions

**Table 12. Highway 101 Northbound Floating Car Survey PM Peak Period Results**

| Node # | Length (feet) | Node Names | Average Travel Time (sec) | Average # of Stops | Average Speed (mph) | Average Time = 0 mph (sec) | Average Time <= 35 mph (sec) | Average Time <=55 mph (sec) |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | BATES RD NB ON-RAMP | | | | | | |
| 2 | 3623 | JCT RTE 150 NB ON-RAMP | 41 | 0 | 62 | 0 | 0 | 4 |
| 3 | 4533 | BAILARD AVE NB ON-RAMP | 45 | 0 | 69 | 0 | 0 | 0 |
| 4 | 5832 | CASITAS PASS RD NB ON-RAMP | 60 | 0 | 66 | 0 | 0 | 0 |
| 5 | 879 | LINDEN AVE. NB ON-RAMP | 9 | 0 | 64 | 0 | 0 | 0 |
| 6 | 4583 | SANTA MONICA RD NB NB ON-RAMP | 47 | 0 | 67 | 0 | 0 | 0 |
| 7 | 8240 | S. PADARO LN NB NB ON-RAMP | 82 | 0 | 68 | 0 | 0 | 0 |
| 8 | 9584 | N. PADARO LN NB ON-RAMP | 97 | 0 | 68 | 0 | 0 | 0 |
| 9 | 6009 | EVANS AVE NB ON-RAMP | 62 | 0 | 66 | 0 | 0 | 0 |
| 10 | 3435 | SHEFFIELD DR NB ON-RAMP | 35 | 0 | 66 | 0 | 0 | 0 |
| 11 | 5291 | SAN YSIDRO RD NB ON-RAMP | 56 | 0 | 65 | 0 | 0 | 3 |
| 12 | 7385 | CABRILLO BLVD NB ON-RAMP | 81 | 0 | 62 | 0 | 1 | 12 |
| 13 | 3212 | SALINAS ST NB ON-RAMP | 36 | 0 | 61 | 0 | 0 | 5 |
| 14 | 4167 | MILPAS ST NB ON-RAMP | 44 | 0 | 65 | 0 | 0 | 0 |
| 15 | 3864 | GARDEN ST NB ON-RAMP | 39 | 0 | 68 | 0 | 0 | 0 |
| 16 | 3341 | CASTILLO ST NB ON-RAMP | 34 | 0 | 66 | 0 | 0 | 0 |
| 17 | 3148 | CARRILLO ST NB ON-RAMP | 33 | 0 | 64 | 0 | 0 | 0 |
| 18 | 2659 | ARRELLAGA ST NB ON-RAMP | 32 | 0 | 59 | 0 | 5 | 8 |
| 19 | 2468 | MISSION ST NB ON-RAMP | 36 | 0 | **53** | 0 | 12 | 16 |
| 20 | 4593 | LOS POSITAS RD NB ON-RAMP | 55 | 0 | 58 | 0 | 4 | 15 |
| 21 | 4042 | HOPE AVE NB ON-RAMP | 48 | 0 | 59 | 0 | 4 | 12 |
| 22 | 3669 | JCT RTE 154 NB ON-RAMP | 40 | 0 | 62 | 0 | 0 | 0 |
| 23 | 4003 | EL SUENO RD NB ON-RAMP | 42 | 0 | 66 | 0 | 0 | 0 |
| 24 | 6692 | TURNPIKE RD NB ON-RAMP | 68 | 0 | 67 | 0 | 0 | 0 |
| 25 | 6788 | PATTERSON AVE NB ON-RAMP | 67 | 0 | 69 | 0 | 0 | 0 |
| 26 | 5042 | FAIRVIEW AVE NB ON-RAMP | 50 | 0 | 69 | 0 | 0 | 0 |
| 27 | 7438 | LOS CARNEROS RD NB ON-RAMP | 74 | 0 | 69 | 0 | 0 | 0 |
| 28 | 4712 | GLEN ANNIE RD NB ON-RAMP | 47 | 0 | 69 | 0 | 0 | 0 |
| 29 | 11470 | HOLLISTER AVE NB ON-RAMP | 109 | 0 | 70 | 0 | 0 | 0 |
| Total/Average | 140,702 | | 1,469 | 0 | 65 | 0 | 27 | 76 |

Notes
Above results represent average of seven runs made during the study peak period
Indicates unstable flow conditions

**Table 13. Highway 101 Southbound Floating Car Survey AM Peak Period Results**

| Node # | Length (feet) | Node Names | Average Travel Time (sec) | Average # of Stops | Average Speed (mph) | Average Time = 0 mph (sec) | Average Time <= 35 mph (sec) | Average Time <=55 mph (sec) |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | Hollister Ave SB On-Ramp | | | | | | |
| 2 | 11439 | Glen Annie Rd. SB On-Ramp | 126 | 0 | 64 | 2 | 8 | 17 |
| 3 | 6126 | Los Carneros Rd. SB On-Ramp | 63 | 0 | 67 | 0 | 0 | 2 |
| 4 | 5856 | Fairview Ave. SB On-Ramp | 60 | 0 | 66 | 0 | 0 | 1 |
| 5 | 7957 | Patterson Ave. SB On-Ramp | 81 | 0 | 67 | 0 | 0 | 0 |
| 6 | 5247 | Turnpike Rd. SB On-Ramp | 55 | 0 | 66 | 0 | 0 | 6 |
| 7 | 9802 | Jct. Rte. 154 SB On-Ramp | 104 | 0 | 65 | 0 | 0 | 7 |
| 8 | 1680 | La Cumbre Rd. SB On-Ramp | 18 | 0 | 65 | 0 | 0 | 0 |
| 9 | 7077 | Los Positas Rd. SB On-Ramp | 76 | 0 | 64 | 0 | 0 | 6 |
| 10 | 3784 | Mission St. SB On-Ramp | 39 | 0 | 67 | 0 | 0 | 0 |
| 11 | 5417 | Carrillo St. SB On-Ramp | 56 | 0 | 67 | 0 | 0 | 2 |
| 12 | 2773 | Castillo St. SB On-Ramp | 29 | 0 | 65 | 0 | 1 | 3 |
| 13 | 4138 | Garden St. SB On-Ramp | 44 | 0 | 65 | 0 | 0 | 3 |
| 14 | 4684 | Milpas St. SB On-Ramp | 50 | 0 | 63 | 0 | 0 | 0 |
| 15 | 6062 | Cabrillo Blvd. SB On-Ramp | 65 | 0 | 64 | 0 | 0 | 1 |
| 16 | 4769 | Olive Mill Rd. SB On-Ramp | 51 | 0 | 64 | 0 | 0 | 1 |
| 17 | 3924 | San Ysidro Rd. SB On-Ramp | 41 | 0 | 65 | 0 | 0 | 0 |
| 18 | 3922 | Sheffield Dr. SB On-Ramp | 42 | 0 | 64 | 0 | 0 | 0 |
| 19 | 5198 | Evans Ave. SB On-Ramp | 52 | 0 | 68 | 0 | 0 | 0 |
| 20 | 4553 | N. Padaro Ln. SB On-Ramp | 46 | 0 | 68 | 0 | 0 | 1 |
| 21 | 12250 | S. Padaro Ln. SB On-Ramp | 123 | 0 | 68 | 0 | 0 | 1 |
| 22 | 5975 | Reynolds Ave. SB On-Ramp | 60 | 0 | 68 | 0 | 0 | 1 |
| 23 | 5775 | Casitas Pass Rd. SB On-Ramp | 59 | 0 | 67 | 0 | 0 | 0 |
| 24 | 4965 | Bailard Ave. SB On-Ramp | 51 | 0 | 66 | 0 | 0 | 0 |
| 25 | 5362 | Jct. Rte. 150 SB On-Ramp | 55 | 0 | 67 | 0 | 0 | 0 |
| 26 | 1902 | Bates Rd. SB On-Ramp | 15 | 0 | 60 | 0 | 0 | 0 |
| Total/Average | 140,637 | | 1,460 | 0 | 66 | 2 | 10 | 56 |

Notes
Above results represent average of nine runs made during the study peak period
Indicates unstable flow conditions

**Table 14. Highway 101 Southbound Floating Car Survey PM Peak Period Results**

| Node # | Length (feet) | Node Names | Average Travel Time (sec) | Average # of Stops | Average Speed (mph) | Average Time = 0 mph (sec) | Average Time <= 35 mph (sec) | Average Time <=55 mph (sec) |
|---|---|---|---|---|---|---|---|---|
| 1 | 0 | Hollister Ave SB On-Ramp | | | | | | |
| 2 | 11518 | Glen Annie Rd. SB On-Ramp | 116 | 0 | 68 | 0 | 0 | 4 |
| 3 | 6009 | Los Carneros Rd. SB On-Ramp | 59 | 0 | 70 | 0 | 0 | 0 |
| 4 | 5960 | Fairview Ave. SB On-Ramp | 60 | 0 | 68 | 0 | 0 | 0 |
| 5 | 7892 | Patterson Ave. SB On-Ramp | 78 | 0 | 69 | 0 | 0 | 2 |
| 6 | 5027 | Turnpike Rd. SB On-Ramp | 54 | 0 | 64 | 0 | 0 | 0 |
| 7 | 10068 | Jct. Rte. 154 SB On-Ramp | 103 | 0 | 67 | 0 | 0 | 1 |
| 8 | 1663 | La Cumbre Rd. SB On-Ramp | 19 | 0 | 62 | 0 | 1 | 6 |
| 9 | 7076 | Los Positas Rd. SB On-Ramp | 81 | 0 | 60 | 0 | 3 | 21 |
| 10 | 3436 | Mission St. SB On-Ramp | 40 | 0 | 60 | 0 | 0 | 13 |
| 11 | 5681 | Carrillo St. SB On-Ramp | 60 | 0 | 65 | 0 | 0 | 6 |
| 12 | 2797 | Castillo St. SB On-Ramp | 29 | 0 | 66 | 0 | 0 | 0 |
| 13 | 3992 | Garden St. SB On-Ramp | 92 | 0 | **43** | 1 | 60 | 67 |
| 14 | 4687 | Milpas St. SB On-Ramp | 156 | 1 | **24** | 2 | 142 | 153 |
| 15 | 6224 | Cabrillo Blvd. SB On-Ramp | 98 | 0 | **44** | 0 | 30 | 74 |
| 16 | 4752 | Olive Mill Rd. SB On-Ramp | 56 | 0 | 58 | 0 | 0 | 18 |
| 17 | 4012 | San Ysidro Rd. SB On-Ramp | 45 | 0 | 61 | 0 | 0 | 4 |
| 18 | 3810 | Sheffield Dr. SB On-Ramp | 46 | 0 | 58 | 0 | 0 | 13 |
| 19 | 5215 | Evans Ave. SB On-Ramp | 57 | 0 | 63 | 0 | 0 | 4 |
| 20 | 4436 | N. Padaro Ln. SB On-Ramp | 45 | 0 | 67 | 0 | 0 | 0 |
| 21 | 12308 | S. Padaro Ln. SB On-Ramp | 136 | 0 | 62 | 0 | 0 | 9 |
| 22 | 6014 | Reynolds Ave. SB On-Ramp | 71 | 0 | 58 | 0 | 5 | 22 |
| 23 | 5836 | Casitas Pass Rd. SB On-Ramp | 63 | 0 | 63 | 0 | 0 | 3 |
| 24 | 4892 | Bailard Ave. SB On-Ramp | 56 | 0 | 61 | 0 | 0 | 15 |
| 25 | 5372 | Jct. Rte. 150 SB On-Ramp | 61 | 0 | 61 | 0 | 0 | 16 |
| 26 | 2182 | Bates Rd. SB On-Ramp | 22 | 0 | 62 | 0 | 0 | 2 |
| Total/Average | 140,859 | | 1,703 | 2 | 60 | 3 | 240 | 450 |

Notes
Above results represent average of seven runs made during the study peak period
Indicates unstable flow conditions

In addition to speed survey data collection, the most recently published State Highway Congestion Monitoring Program (HICOMP) reports were also examined. HICOMP annual reports daily vehicle hour of delay, congested directional miles and duration of congestion for Highway 101 from Post Mile 0.0 (South of the Rincon Point/Bates Road Interchange) to Post Mile 27.5 (North of the Hollister Avenue Interchange).

HICOMP reports were obtained for the year 2004 through 2007. Tachometer data used to develop the statistics reported, such as travel time, number of stops, average speed will be used in conjunction with the speed data collected as part of this study to calibrate FREQ model for macro-simulation analysis.

HICOMP reports measure the congestion that lasts for 15 minutes or longer where vehicular speeds drop below 35 mph during the commute peak periods. Reports use following three parameters:

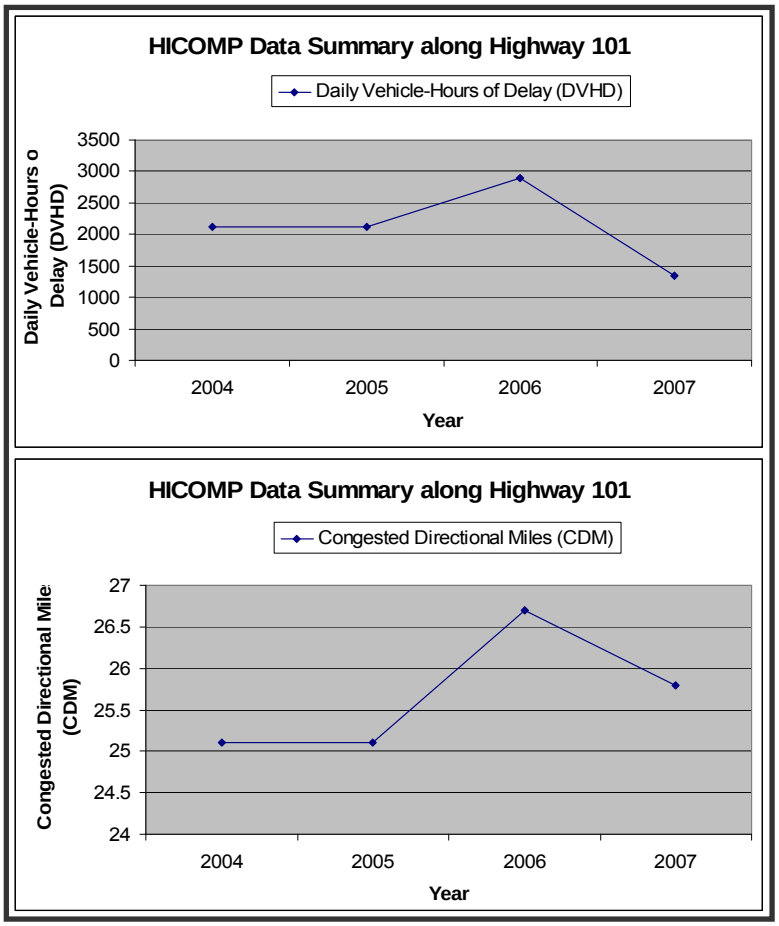
- Daily vehicle-hours of delay (DVHD) - reflects magnitude of the delay. Difference between the time it takes to travel a segment at the recorded congested speed and the travel time at 35 mph.

- Congested directional miles (CDM) – reflects extent of congestion. The length of a freeway segment, by direction, that experiences speeds below 35 mph for 15 minutes or more.

- The length of time expressed in hours that the directional segment remains congested – reflects duration of congestion.

**Figure 10** show summary of HICOMP reports in terms of DVHD and CDM. Both indicate that DVHD and CDM were consistent between 2004 and 2005, but rose sharply in the year 2006. In 2007, DVPD declined below 1,400; however, CDM remained somewhere between 2005 and 2006 levels.

**Figure 10. Highway 101 Daily Delay and Congested Directional Miles**



## Occupancy Surveys

Average vehicle occupancy (AVO) data will only be used an input in the FREQ macro simulation analyses which is not presented in this report. Nonetheless, to document the complete data collection effort, the AVO data collection and results are presented herein.

At this time, field surveys of vehicle occupancy are not collected on a systematic basis within Santa Barbara County. Existing sources of vehicle occupancy data have typically come from surveys conducted by the US Census, Caltrans (Statewide Travel Survey) and SBCAG (Traffic Solutions Commuter Survey). The Census and Caltrans data are home-based surveys while SBCAG's Traffic Solutions State of the Commute Report is an employer based survey. Although these sources generally allow commuter occupancy trends to be tracked, they can not be used to reflect vehicle occupancy trends as a whole (for all trip purposes together) nor are they reflective of AVO characteristics on specific facilities or at specific locations.

For purposes of this study, AVO surveys were performed at four ramp locations along Highway 101. These ramp locations were parsimoniously selected to provide a sampling across the entire study area with a minimum of sample locations. The selected locations included: Storke Road (western boundary ramps); Turnpike Road (intermediate location ramps); Carrillo Street (intermediate location ramps); and, SR 150 (eastern boundary ramps). AVO counts were collected for each vehicle using the particular facility stratified as vehicles with 1 person, 2 persons and 3+ persons. AVO surveys were performed for only the peak hour direction of travel, i.e. northbound direction ramps during the AM peak period and southbound during the PM peak period.

Highway 101 mainline vehicle occupancy counts were conducted along the freeway near SR-150. Given the greater speeds and volume of traffic, a sample method was used which surveyed every 10$^{th}$ vehicle per lane. AVO data on the Highway 101 mainline at SR 150 primarily reflects commuter traffic that originates from areas south (i.e., Ventura County) destined for employment centers in Santa Barbara County. Given that a similar travel demand profile exists on the west end of the study area (i.e., long distance commuting to from areas in northern Santa Barbara County), it was assumed that the AM/PM peak period AVO characteristics at SR-150 would be similar (i.e., percentage of 1 person, 2 persons and 3+ persons vehicles) to the AM/PM peak period northbound AVO characteristics on Highway 101 at Hollister Avenue.

**Table 15** shows the summary of AVO data at each ramp location. Percent of vehicle occupancy is the average for the weekdays (Tuesday, Wednesday and Thursday).

**Table 15. AVO Data Summary - Mainline and Ramp Locations**

| Location | AM Peak Hour (Northbound) | | | | PM Peak Hour (Southbound) | | | |
|---|---|---|---|---|---|---|---|---|
| | % 1 Person | % 2 Persons | % 3+ Persons | AVO [1] | % 1 Person | % 2 Persons | % 3+ Persons | AVO [1] |
| **Freeway Mainline** | | | | | | | | |
| At SR 150 | 79.5 | 18.1 | 2.4 | 1.23 | 74.4 | 22.7 | 2.9 | 1.29 |
| **Freeway Ramps** | | | | | | | | |
| SR 150 Ramps | 87.3 | 11.3 | 1.4 | 1.14 | 84.3 | 15 | 0.7 | 1.16 |
| Carrillo Boulevard Ramps | 92 | 7.2 | 0.75 | 1.09 | 70.5 | 25.3 | 4.2 | 1.34 |
| Turnpike Road Ramps | 87.3 | 10.5 | 2.2 | 1.15 | 75.6 | 20.6 | 3.8 | 1.28 |
| Storke Road Ramps | 72.7 | 18.1 | 9.2 | 1.37 | 77.2 | 19.4 | 3.4 | 1.26 |

Notes
[1] AVO is computed as :(veh with 1 person + 2* veh with 2 persons + 3*vehi with 3 and 3+ persons) / total veh

The methodology for estimating mainline AVO with available data required inputs for percent of vehicles with 1 person, 2 persons and 3+ persons at each ramp. Due to the limited number of ramp locations surveyed, ramp AVO was applied to adjacent ramps based on engineering judgment. Area type and travel market i.e., heavy commuter use, were considered when making these judgments. These AVO assumptions are shown in **Table 16**.

**Table 16. AVO Ramp Assumptions**

| Location | Applied to Ramps From: |
|---|---|
| SR-150 Ramp AVO | SR-150 to Hermisillo |
| Carrillo Ramp AVO | Cabrillo Blvd to La Cumbre |
| Turnpike Ramp AVO | State St. to Fairview |
| Storke Ramp AVO | Los Carneros Rd. to Hollister |

Once the ramp AVO distributions were established, mainline AVO between each ramp juncture was automatically calculated by "seeding" the spreadsheet with mainline and ramp volume inputs. The resultant AVO results for mainline segments are shown **Figure 11**. This figure also depicts estimated vehicles with 1 person, 2 persons and 3+ persons occupancy for all ramp locations. These AVO results will be used as input to the FREQ simulation analysis portion of the study.

Southbound PM peak hour traffic volumes show higher occupancy, ranging from 1.16 to 1.29, than the northbound AM peak hour vehicles that vary from 1.16 to 1.26. This is plausible given that the AM peak traffic will be characterized by a greater proportion of commuters which are typically characterized with having lower AVO than other trip purposes (shopping and recreational trips). The relative mix of non-commuter related traffic is greater during the PM peak hour versus the AM peak hour.

### *Traffic Accident History*

Traffic accident history along Highway 101 for the most recent three years available was obtained from Caltrans, District-5. From April 2003 to March 2006, a total of 525 accidents were reported for the portion of Highway 101 between Rincon Point and Hollister Avenue. Within the Highway 101 project area (PM 2.0-12.3), a total of 67 accidents occurred in the three year span between 2003 and 2006 while 458 occurred within the remaining study area. For the entire 27.5 mile study area, a total of 256 and 269 accidents occurred along the northbound and southbound Highway 101 direction respectively.

As shown in **Table 17**, the total collision rate for the three year period within the Highway 101 project limits (PM 2.0-12.3) is higher than the statewide average for like facilities 1.18 vs. 0.85. The higher total collision rate can be attributed to unstable traffic flow caused by congestion.

**Table 17. Collision Rate Calculations for Highway 101 Widening Project Limits**

| Location | Post Mile | Actual | | | Average | | |
|---|---|---|---|---|---|---|---|
| | | Fatal | F+I | Total | Fatal | F+I | Total |
| Highway 101 | 2.0 – 12.3 | 0.008 | 0.35 | 1.18 | 0.012 | 0.32 | 0.85 |

Collision rates are collisions per million vehicle miles
F+I = Fatal plus Injury
Source: 05-0N700K PSR-PDS, February 2007

**Table 18** shows accident data recorded from April 2003 to March 2006 by post mile within the Project Area and by Study Area along Highway 101. Highway 101 southbound at Castillo Street has highest number of accident (22) in three years, whereas Highway 101 southbound at Carpinteria Street/7th Street showed highest accident rate.

**Table 18. Project Area and Study Area Accident Data Summary (April 2003 to March 2006)**

| Accident Data within Project Limits (PM 2.0 to PM 12.3) | | | |
|---|---|---|---|
| **Location Description** | **Postmile** | **Total** | **Total Rate** |
| 101/NB Off to Rte 224 | 2.52 | 4 | 1.15 |
| 101/SB On from Rte 224 | 2.526 | 1 | 0.5 |
| 101/SB Off to Rte 224 | 2.76 | 2 | 0.75 |
| 101/NB On from Rte 224 | 2.94 | 1 | 0.5 |
| 101/NB On from Linden Ave | 3.04 | 2 | 0.4 |
| 101/SB Off to Linden Ave | 3.17 | 2 | 1.9 |
| 101/SB On from Carpinteria/7th St | 3.56 | 0 | 0.6 |
| 101/SB Off to Carpinteria/7th St | 3.63 | 6 | 1.9 |
| 101/NB Off to San Monica/7th | 3.82 | 4 | 1.9 |
| 101/NB On from San Monica/7th | 3.93 | 0 | 0.6 |
| 101/SB Off to Carp Ave | 4.34 | 0 | 0.9 |
| 101/SB On from S Padero Ln | 4.7 | 0 | 0.5 |
| 101/NB Off to S Padero Ln | 5.1 | 0 | 1.15 |
| 101/SB Off to S Padero Ln | 5.44 | 0 | 1.15 |
| 101/NB On from S Padero Ln | 5.5 | 1 | 0.55 |
| 101/NB Off to N Padero Ln | 6.97 | 0 | 1.5 |
| 101/SB On from N Padero Ln | 7 | 0 | 0.8 |
| 101/SB Off to N Padero Ln | 7.26 | 0 | 1.5 |
| 101/NB On from N Padero Ln | 7.3 | 1 | 0.8 |
| 101/SB On from Evens Ave | 7.87 | 0 | 0.55 |
| 101/NB Off to Evans Ave | 8.1 | 1 | 1.15 |
| 101/NB On from Evans Ave | 8.44 | 1 | 0.6 |
| 101/SB Off to Evans Ave | 8.45 | 0 | 1.5 |
| 101/SB On from Sheffield Dr | 8.85 | 0 | 0.8 |
| 101/NB Off to Sheffield Dr | 8.89 | 1 | 1.5 |
| 101/SB Off to Sheffield Dr | 9.07 | 1 | 1.5 |
| 101/NB On from Sheffield Dr | 9.11 | 2 | 0.8 |
| 101/SB On from Eucalyptus | 9.64 | 0 | 0.55 |
| 101/NB Off to San Ysidro Rd | 9.91 | 0 | 1.5 |
| 101/SB Off to Eucalyptus | 10.12 | 1 | 1.5 |
| 101/NB On from San Ysidro Rd | 10.15 | 2 | 0.8 |
| 101/SB On from Olive Mill Rd | 10.34 | 2 | 0.8 |
| 101/NB Off to Olive Mill Rd | 10.41 | 4 | 1.5 |
| 101/SB Off to Olive Mill Rd | 10.74 | 1 | 0.9 |
| 101/NB Off to Hermosilla Rd | 11.03 | 3 | 1.15 |
| 101/NB Off to 225/Cabrillo | 11.24 | 1 | 0.9 |
| 101/SB On from 225/Cabrillo | 11.25 | 0 | 0.45 |
| 101/NB On from 225/Cabrillo | 11.52 | 6 | 0.8 |
| 101/SB Off LT 225/Cabrillo | 11.62 | 7 | 0.9 |
| 101/SB Off RT 225/Cabrillo | 11.74 | 6 | 0.45 |
| 101/NB Off to Salinas St | 12.03 | 2 | 1.15 |
| 101/NB On From Salinas St | 12.12 | 2 | 0.6 |
| **Total Project Area (Exclusive)** | | **67** | |

| Accident Data within Traffic Study Area (PM 0.0 to PM 27.5) | | | |
|---|---|---|---|
| **Location Description** | **Postmile** | **Total** | **Total Rate** |
| 101/SB Off to Rincon Pt | 0.1 | 0 | 1.15 |
| 101/NB On from Rincon Pt | 0.101 | 0 | 0.55 |
| 101/NB Off to Rte 150 | 0.45 | 2 | 0.75 |
| 101/SB On from Rte 150 | 0.48 | 0 | 0.55 |
| 101/NB On from Rte 150 | 0.752 | 0 | 0.5 |
| 101/SB Off to Rte 150 | 0.79 | 1 | 1.15 |
| 101/NB Off to Bailard Ave | 1.48 | 2 | 1.15 |
| 101/SB On from El Rincon | 1.51 | 0 | 0.55 |
| 101/SB Off to El Rincon | 1.79 | 1 | 1.15 |
| 101/NB On from Bailard Ave | 1.81 | 0 | 0.55 |
| **Project Area** | | | |
| 101/SB On from Milpas/144 | 12.41 | 8 | 0.6 |
| 101/NB Off to Milpas/144 | 12.57 | 9 | 0.9 |
| 101/SB Off to Milpas/144 | 12.85 | 7 | 1.5 |
| 101/NB On from Milpas/144 | 12.865 | 6 | 0.45 |
| 101/NB Off to Montecito/Gutier | 13.24 | 0 | 0.25 |
| 101/SB On from Garden St | 13.357 | 7 | 0.8 |
| 101/SEG NB Off to Garden St | 13.387 | 6 | 1.5 |
| 101/SEG NB Off to Gutierrez | 13.388 | 0 | 1.15 |
| 101/NB On from Garden St | 13.611 | 9 | 0.8 |
| 101/SB Off to Garden St | 13.62 | 10 | 1.5 |
| 101/NB Off to Castillo St | 14.018 | 2 | 1.15 |
| 101/SB On from Castillo St | 14.08 | 9 | 0.8 |
| 101/NB On from Castill St | 14.28 | 9 | 0.6 |
| 101/SB Off to Castillo St | 14.34 | 22 | 1.5 |
| 101/NB Off to Carrillo St | 14.63 | 12 | 1.5 |
| 101/SB On from Carrillo St | 14.64 | 6 | 0.8 |
| 101/NB On from Carrillo St | 14.89 | 11 | 0.8 |
| 101/SB Off to Carrillo St | 14.92 | 18 | 1.5 |
| 101/NB Off to Arrellaga St | 15.32 | 0 | 1.15 |
| 101/NB On from Arrellaga St | 15.4 | 1 | 0.6 |
| 101/SB On from Mission St | 15.64 | 9 | 0.8 |
| 101/NB Off to Mission St | 15.65 | 8 | 1.5 |
| 101/NB On from Mission St | 15.86 | 19 | 0.8 |
| 101/SB Off to Mission St | 15.9 | 12 | 1.5 |
| 101/NB Off to Pueblo St | 16.02 | 2 | 0.9 |
| 101/NB Off to Calle Real | 16.3 | 4 | 1.15 |
| 101/SB On from Las Positas/225 | 16.32 | 3 | 0.45 |
| 101/NB On from Calle Real | 16.71 | 5 | 0.6 |
| 101/SB Off to Las Positas/225 | 16.72 | 14 | 0.9 |
| 101/NB Off to Hope Ave | 17.41 | 11 | 1.15 |
| 101/NB On from Hope Ave | 17.5 | 0 | 0.6 |
| 101/SB On from La Cumbre | 17.64 | 2 | 0.8 |
| 101/SB Off to La Cumbre | 17.91 | 6 | 1.5 |
| 101/NB Off to State St/154 | 17.93 | 4 | 1.5 |
| 101/SB On from Hollister/154 | 18.03 | 3 | 0.6 |
| 101/NB On From State St/154 | 18.23 | 5 | 0.6 |
| 101/SB Off to Hollister/154 | 18.82 | 11 | 1.15 |
| 101/NB Off to El Sueno Rd | 18.85 | 12 | 1.15 |
| 101/NB On from El Sueno Rd | 18.99 | 1 | 0.6 |
| 101/SB On from Turnpike Rd | 19.87 | 11 | 0.8 |
| 101/NB Off to Turnpike Rd | 19.9 | 10 | 1.5 |
| 101/NB On from Turnpike Rd | 20.207 | 7 | 0.8 |
| 101/SB Off to Turnpike Rd | 20.26 | 11 | 1.5 |
| 101/SB On from Patterson Ave | 20.85 | 6 | 0.8 |
| 101/NB Off to Patterson Ave | 21.6 | 10 | 1.5 |
| 101/SEG SB Off to Patterson Ave | 21.25 | 4 | 0.8 |
| 101/SEG NB On from Patterson Av | 21.261 | 1 | 0.25 |
| 101/NB On froom Patterson Ave | 21.51 | 1 | 0.4 |
| 101/SB Off to Patterson Ave | 21.54 | 2 | 0.45 |
| 101/NB Off to Fairview Ave | 22.29 | 12 | 0.9 |
| 101/SB On from Fairview Ave | 22.36 | 7 | 0.8 |
| 101/NB On from Fairview Ave | 22.48 | 9 | 0.6 |
| 101/SB Off to Fairview Ave | 22.71 | 8 | 1.5 |
| 101/SB On from Los Carneros | 23.45 | 3 | 0.8 |
| 101/NB Off to Los Carneros | 23.52 | 13 | 1.5 |
| 101/NB On from Los Carneros | 23.9 | 2 | 0.8 |
| 101/SB Off to Los Carneros | 23.96 | 4 | 1.5 |
| 101/SB On from Glen Annie/Storke | 24.57 | 10 | 0.8 |
| 101/NB Off to Glen Annie | 24.65 | 15 | 1.5 |
| 101/NB On from Glen Annie | 24.9 | 4 | 0.8 |
| 101/SB Off to Storke/Glen Annie | 25 | 8 | 1.5 |
| 101/NB Off to Hollister Ave | 26.4 | 1 | 0.9 |
| 101/SB On from Hollister Ave | 26.72 | 8 | 0.8 |
| 101/NB On from Hollister Ave | 27.1 | 0 | 0.8 |
| 101/SB Off to Hollister Ave | 27.12 | 2 | 1.5 |
| **Total Study Area (Exlusive)** | | **458** | |

**Figure 11. Existing Conditions AVO Data Results**

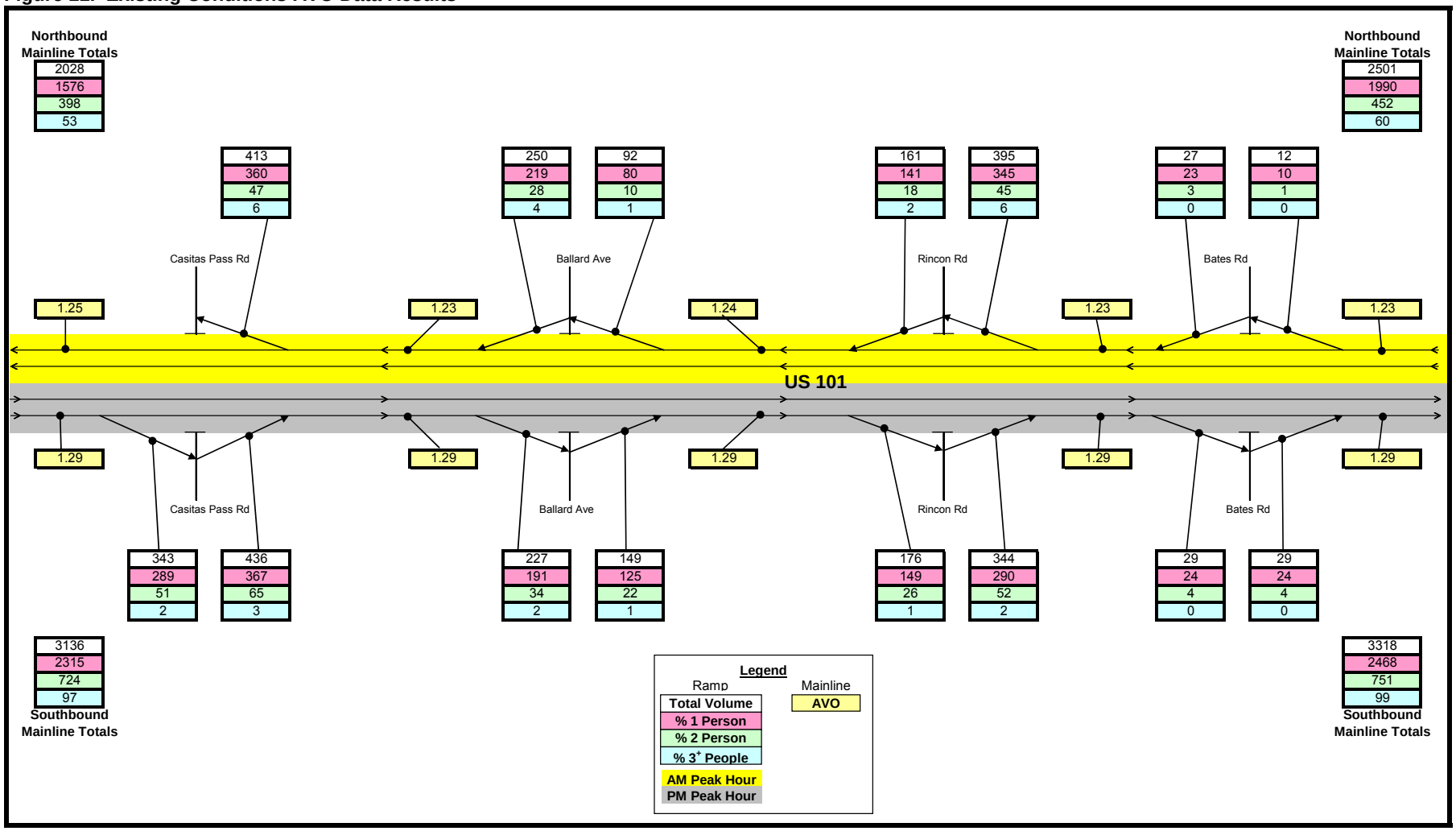


**Figure 11. Existing Conditions AVO Data Results (cont.)**

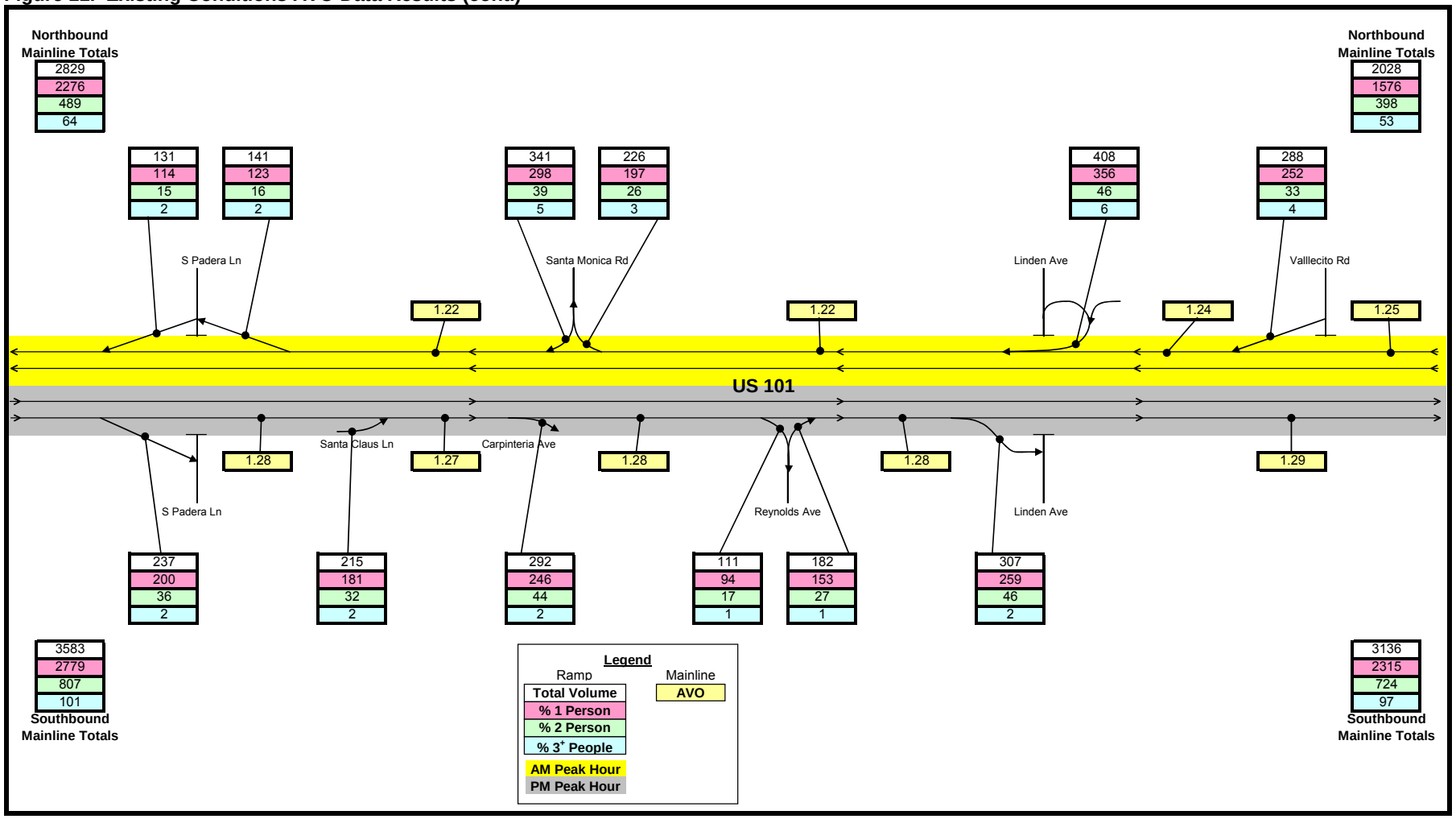


**Figure 11. Existing Conditions AVO Data Results (cont.)**

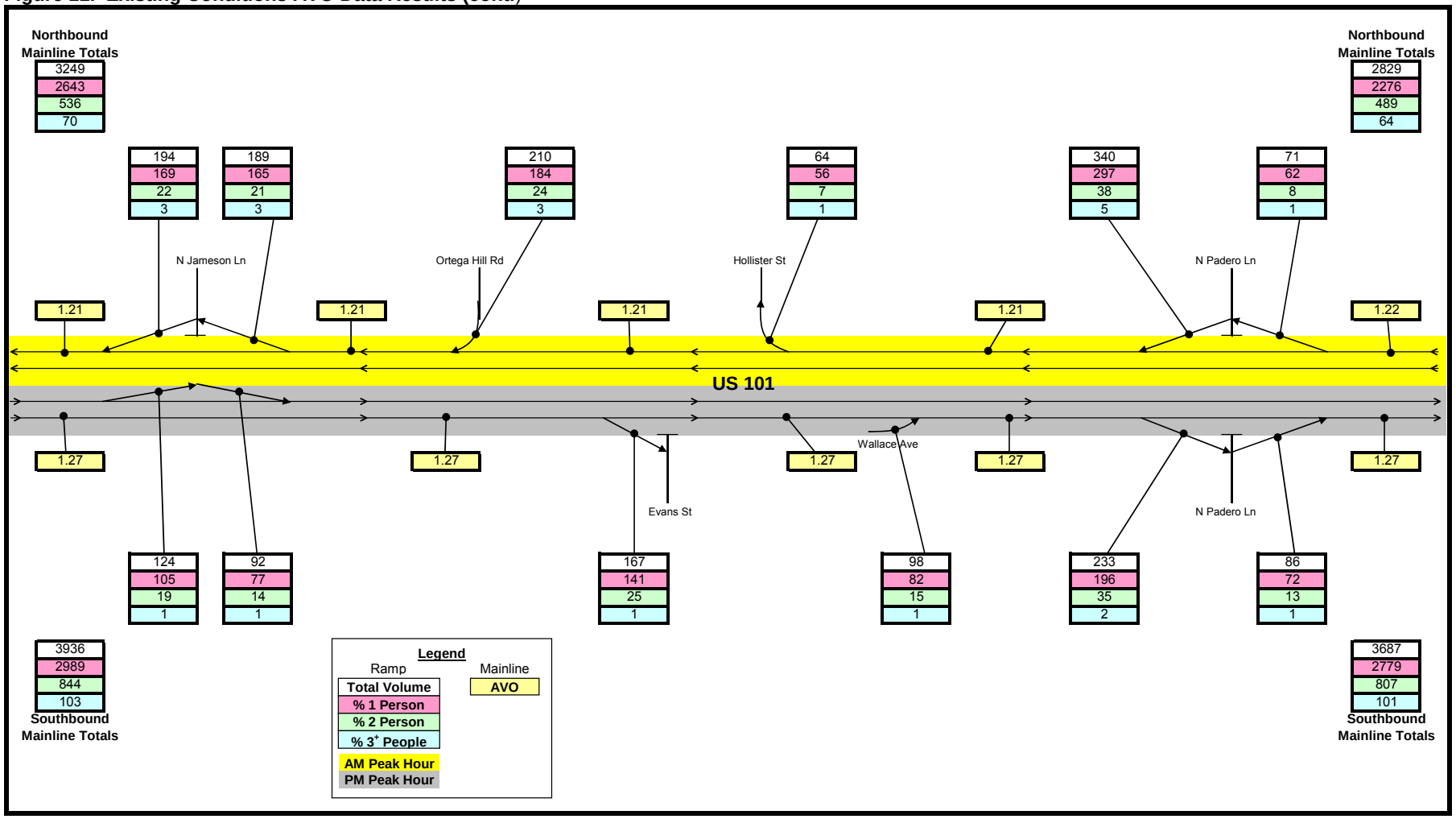


**Figure 11. Existing Conditions AVO Data Results (cont.)**

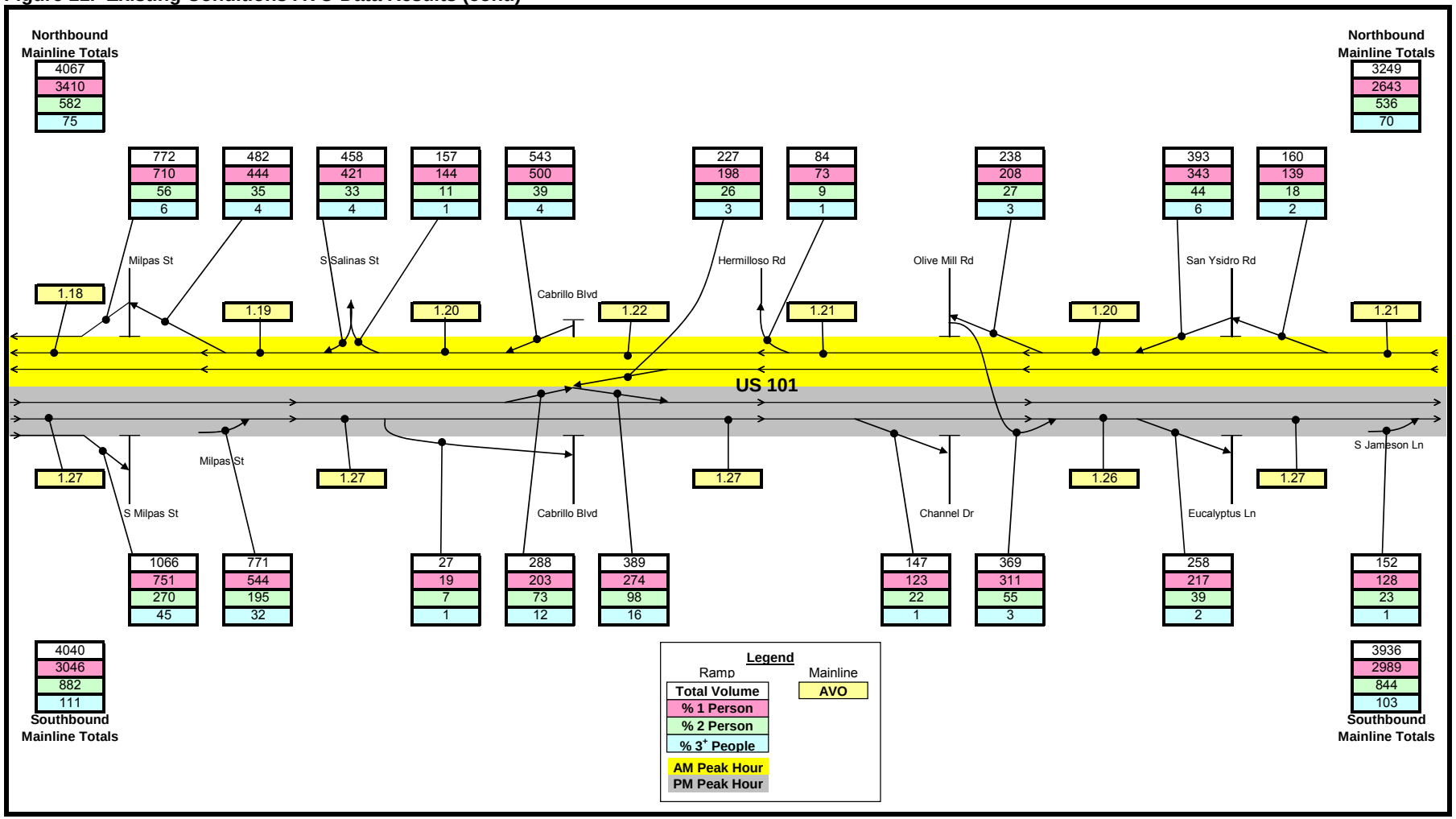


**Figure 11. Existing Conditions AVO Data Results (cont.)**

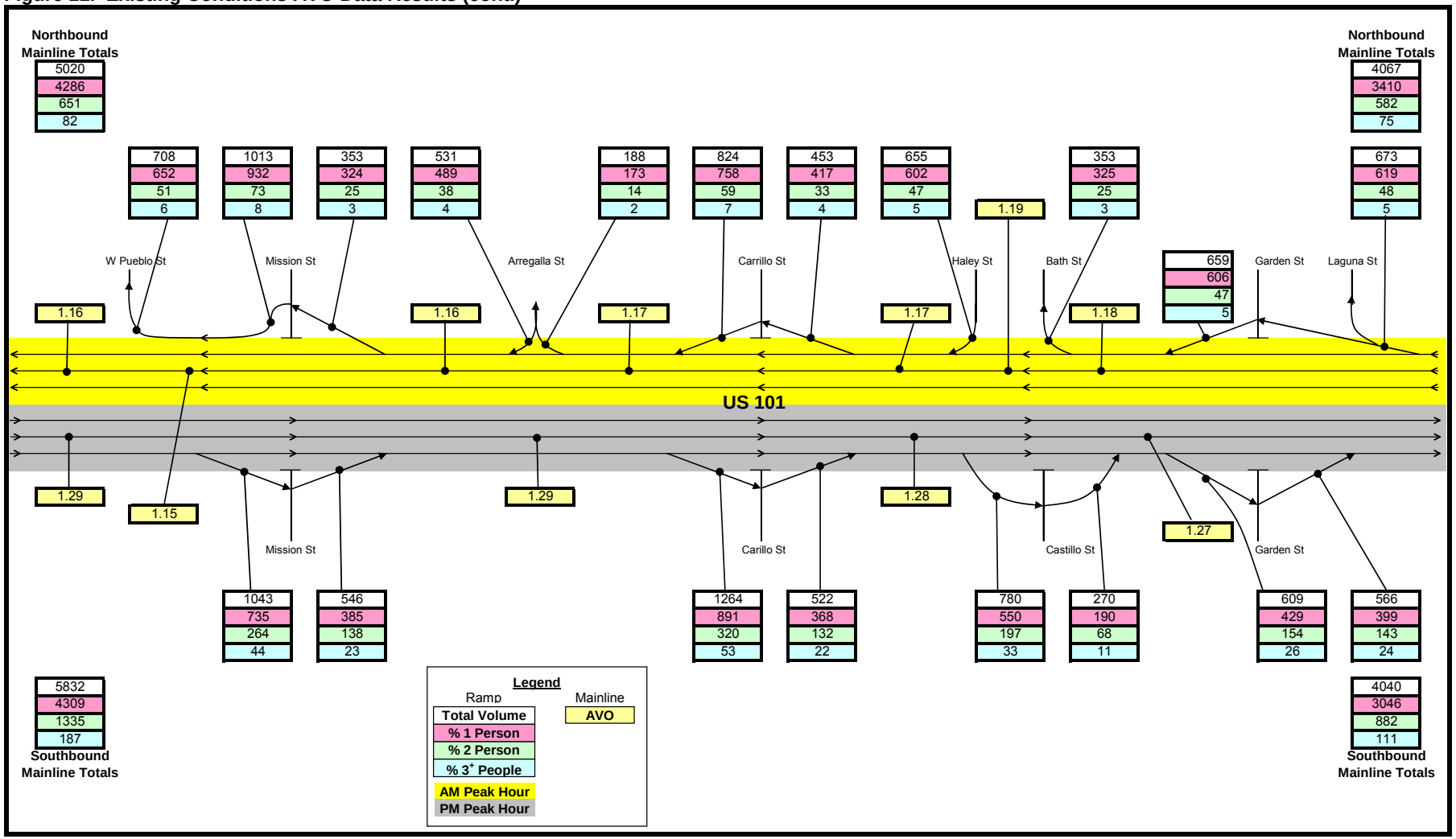


**Figure 11. Existing Conditions AVO Data Results (cont.)**

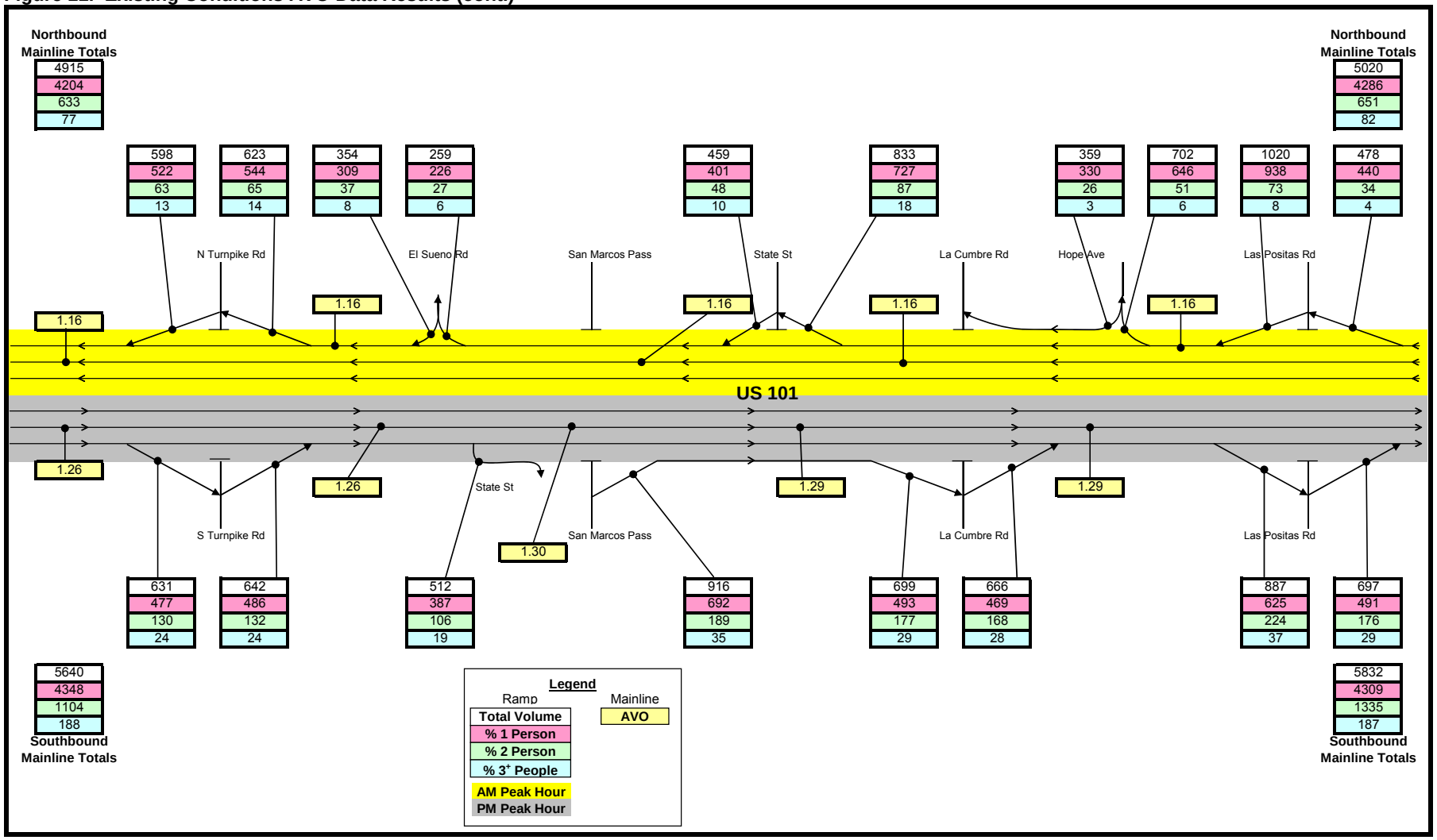
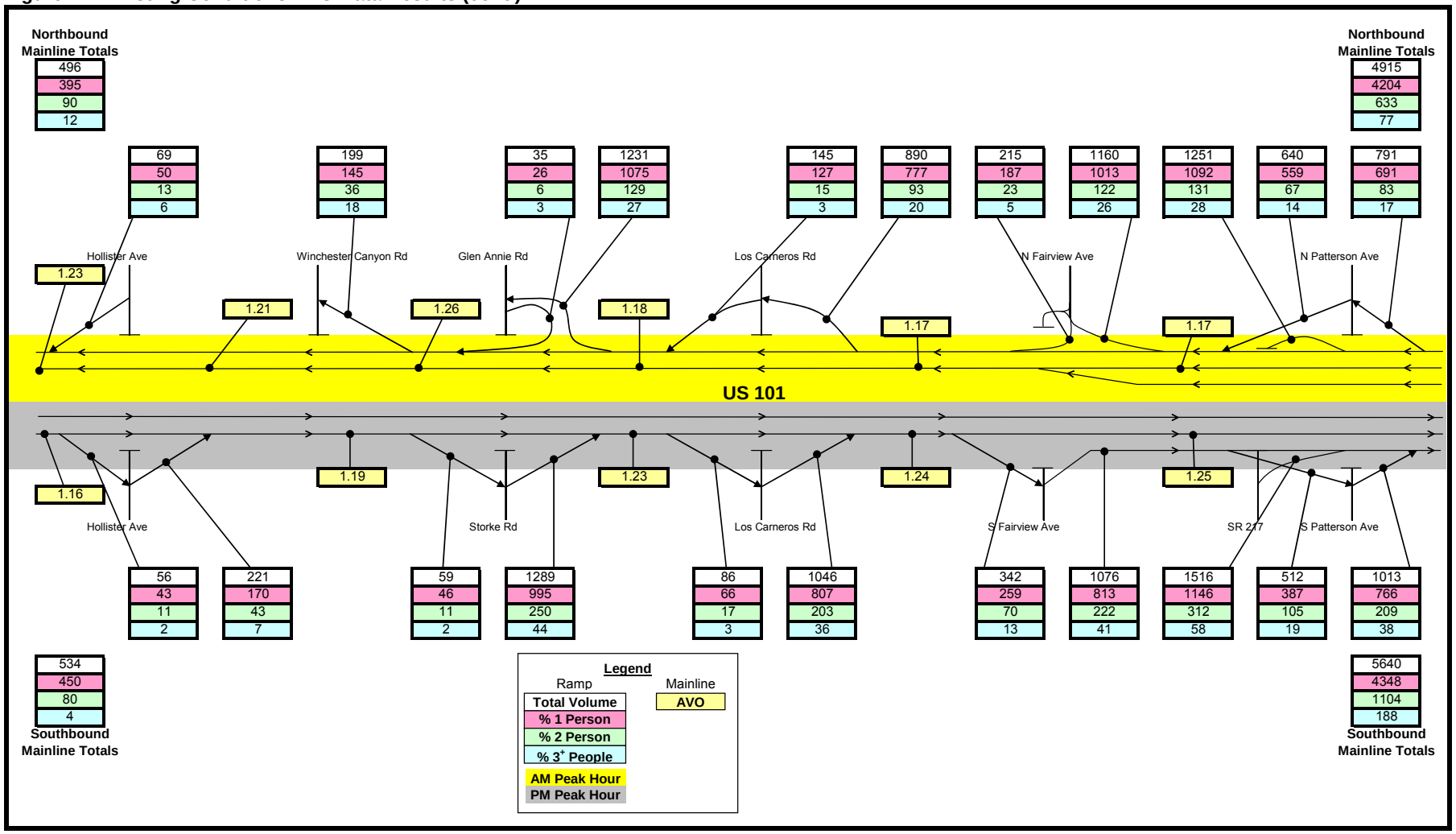


**Figure 11. Existing Conditions AVO Data Results (cont.)**



# Levels of Service (LOS) Methodology

Level of service (LOS) is a qualitative indication of the level of delay and congestion experienced by motorists using a given roadway facility e.g., freeway mainline, ramp or intersection. Levels of service are designated by the letters A through F, with A being the best conditions and F being the worse (high delay and congestion).

The methodologies for determining LOS vary by facility type. There can be alternative LOS methods based on different measures of effectiveness for even the same facility type. The LOS methods used as part of this study are described below.

### *Signalized and Non-signalized Intersection Analysis*

The methodology used herein to analyze intersection levels of service (LOS) is that outlined in the Transportation Research Board's Special Report 209, Highway Capacity Manual, 2000. Level of service is a qualitative indication of the level of delay and congestion experienced by motorists using an intersection. Levels of service are designated by the letters A through F, with A being the best conditions and F being the worse (high delay and congestion).

Some of the intersections analyzed herein are non-signalized, with stop sign control on the minor street approaches. At these types of intersections, most of the main street traffic is freely flowing, and by definition have acceptable conditions. The main street left-turn movements and the minor street movements are all susceptible to delay of varying degrees. Generally, the higher the main street traffic volumes, the higher the delay for the minor movements.

The methodology for analysis of non-signalized intersections calculates an average total delay per vehicle for each major street movement and for the minor street left-turn movements, based on the availability of adequate gaps in the main street through traffic. A level of service designation is assigned to individual movements or to combinations of movements (in the case of shared lanes) based upon delay. Non-signalized intersection levels of service reported herein are for each movement (or group of movements) based upon the respective average delay per vehicle.

**Table 19** presents the average delay criteria used to determine the level of service at non-signalized intersections. It is not unusual for some of the minor street movements to have LOS D, E, or F conditions while the major street movements have LOS A, B, or C conditions. In such cases, the minor street traffic experiences delays that can be substantial for individual minor street vehicles, but the majority of vehicles using the intersection have very little delay. Usually in such cases the minor street traffic volumes are relatively low. If the minor street volume is large enough, a lower overall LOS may result.

At signalized intersections, LOS is determined by the weighted average delay for all vehicles entering the intersection. The methodologies for these types of intersections calculate a single weighted average delay and LOS for the intersection. However in order to more fully ascertain the operational characteristics at these intersections, this study reports the average total delay (i.e., LOS) per vehicle for each movement. This will allow a more complete diagnosis of operational deficiencies. **Table 20** presents the average delay criteria used to determine the level of service at signalized intersections.

For signalized intersections, the Intersection Capacity Utilization (ICU) method was also computed. The ICU method is based on the Transportation Research Board's Special Report 209, Highway Capacity Manual, 2000 and determines LOS based on the volume-to-capacity relationship of critical movements that compete for space within an intersection. The ICU method is the adopted LOS procedure for implementing the Santa Barbara County Congestion Management Program. TRAFFIX™ software was used to perform ICU LOS analysis, which is based on the saturation flow rate of 1600 vph per lane with 10 percent loss time adjustment. A default signal cycle length of 100 sec is assumed as part of this method.

**Table 19. Level of Service Criteria for Signalized Intersections**

| Level of Service Criteria for Signalized Intersections | | |
|---|---|---|
| **LOS** | **Average Delay[1] (secs/veh)** | **Description** |
| **A** | ≤ 10.00 | **Very Low Delay:** This level of service occurs when progression is extremely favorable and most vehicles arrive during a green phase. Most vehicles do not stop at all. |
| **B** | 10.1-20.0 | **Minimal Delays:** This level of service generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay. |
| **C** | 21.0-35.0 | **Acceptable Delay:** Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (*to service all waiting vehicles*) may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping. |
| **D** | 35.1-55.0 | **Approaching Unstable/Tolerable Delays:** The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. |
| **E** | 55.1-80.0 | **Unstable Operation/Significant Delays:** This is considered by many agencies the upper limit of acceptable delays. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences. |
| **F** | ≥ 80.0 | **Excessive Delays:** Describes operations with average delay in excess of 60 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels. |

[1] Weighted average of delay on all approaches.
Source: Highway Capacity Manual, 2000

**Table 20. Level of Service Criteria for Non-signalized Intersections**

| Level of Service Criteria for Non-signalized Intersections | | | |
|---|---|---|---|
| **Level of Service** | **Average Delay[1] (seconds/veh)** | | |
| **A** | 0.0 | - | 10.0 |
| **B** | 10.1 | - | 15.0 |
| **C** | 15.1 | - | 25.0 |
| **D** | 25.1 | - | 35.0 |
| **E** | 35.1 | - | 50.0 |
| **F** | >50.0 | | |

[1] Weighted average delay
Source: Highway Capacity Manual, 2000

### *Freeway Mainline Segment and Merge-Diverge Analysis*

For Highway 101, the basic freeway segment and merge-diverge LOS methodologies published in Highway Capacity Manual 2000 were applied. The HCM methods are implemented in validated spreadsheets for mainline and ramps analysis. **Table 21** presents the criteria used to determine the level of service for basic freeway segment and ramp merge-diverge facilities.

### *Weaving Analysis*

LOS for weave sections is calculated using Chapter 500 for Highway Design Manual, 6th Edition. It estimates LOS from nomograph 504.7A. Total volumes involved in weaving, length of weaving section, and number of lane on freeway before and within weaving section are inputs to perform analysis.

All highway segment traffic volumes are adjusted to reflect passenger car equivalents based on the truck classification data collected at/near each respective location.

### *Roundabout Analysis*

Capacity analysis for roundabouts was performed using Federal Highway Administration (FHWA) publication *Roundabouts: An Informational Guide*, June 2000. In addition to the control delay, FHWA guidelines consider delay due to geometrical features. TRAFFIX™ software evaluates roundabouts based on FHWA methodology and was therefore utilized.

**Table 21. Freeway and Ramp LOS Criteria**

| Level of Service Criteria For Basic Freeway Segments | | | | |
|---|---|---|---|---|
| **Level of Service** | **Density pc/mi/ln FFS = 70** | **Density pc/mi/ln FFS = 65** | **Density pc/mi/ln FFS = 60** | **Density pc/mi/ln FFS = 55** |
| **A** | 11 | 11 | 11 | 11 |
| **B** | 18 | 18 | 18 | 18 |
| **C** | 26 | 26 | 26 | 26 |
| **D** | 35 | 35 | 35 | 35 |
| **E** | 45 | 45 | 45 | 45 |
| **F** | - | - | - | - |

| Level of Service Criteria For Ramp Merge-Diverge Areas | |
|---|---|
| **Level of Service** | **Density pc/mi/ln** |
| **A** | ≤ 10 |
| **B** | > 10-20 |
| **C** | > 20-28 |
| **D** | > 28-35 |
| **E** | > 35 |
| **F** | - |

### *Intersection Queuing Analysis*

As stated in section 405.2 (2) (e) Left Turn Channelization of the Caltrans Highway Design Manual, "At signalized intersections, the storage length may be based on one and one-half to two times the average number of vehicles that would store per signal cycle depending on cycle length, signal phasing, and arrival and departure rates. As a minimum, storage length should be calculated in the same manner as a non-signalized intersection. At non-signalized intersections, storage length may be based on the number of turning vehicles likely to arrive in an average 2-minute period during the peak hour. As a minimum, space for 2 passenger cars should be provided at 7.5 meter per car." Using the customary units measurement equivalent of 25 feet per vehicle in place of 7.5 meters results in the following equation for the required storage length is:

Storage Length (1) = 25 ft/veh x Maximum of (2, or vph/lane/30, or 1.5 x Mean Queue/lane)

Where: vph = the peak hour arrival rate in vehicles per hour.

Estimation of the mean queue per lane requires a traffic operations analysis of the intersection to compute the appropriate signal cycle length, signal phasing, and green times per cycle. However, this analysis can be avoided by conservatively assuming a long cycle length of 140 seconds and then assuming that all arriving vehicles during that cycle must be stored (in other words, the signal is assumed to stay red for a full 140 seconds), and multiplying the number of stored vehicles by 1.5 rather than 2.0. The result is a moderately conservative estimate of the required storage.

Applying this moderately conservative assumption to the Caltrans requirements results in the following equation for estimating the required storage length:

Storage Length (2) = 25 ft/veh x Maximum of (2, or vph/lane/30, or 1.5 x 140 secs x vph/lane/3600)

Since the long cycle length and the multiplier of 1.5 guarantees that the signalized storage will always exceed the equivalent non-signalized storage, the equation can be further simplified to:

Storage Length (2) = 25 ft/veh x Maximum of (2, or 1.5 x 140 secs/cycle x vph/lane/3600)

The above methodology was applied to measure left turn storage length requirements for the Highway 101 ramp intersections.

### *Intersection Signal Warrant Analysis*

The need for traffic signalization at non-signalized intersections within the study area was examined. This analysis was based on the California Manual on Uniform Traffic Control Devices (MUTCD) signal warrant criteria (Caltrans, 2003). The MUTCD identifies a total of eight signal warrant analyses for evaluating the need for new traffic signals. Signal Warrant-3 (peak hour traffic volumes) and Signal Warrant-7 (vehicle collision/accidents) were used to examine the need for signalization in this study. Given that peak hour and accident warrants are merely a sub-set of the MUTCD and associated State guidelines, they should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, a full set of warrants should be investigated based on actual field-measured traffic data, accident data, and a thorough study of traffic signal and engineering judgment.

Peak hour signal warrant criteria establish traffic volume levels above which it is presumed that the need for a traffic signal is warranted. Traffic signals tend to reduce the potential for right-angle type collisions but also tend to increase the potential for less severe rear-end collisions. Signal warrant volumes represent the threshold point at which the potential for more rear-end collisions is offset by the potential for fewer more severe right-angle collisions. When peak hour signal warrant volumes are exceeded, an

intersection should be considered for signalization. However as stated above, the decision to install a traffic signal should be based on an analysis of all 8 signal warrants.

Peak hour warrant for urban conditions was applied to all non-signalized intersections.

The MUTCD states that, “This [peak hour] signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.” So the peak hour warrant is being used in this study as an “indicator” of the likelihood of a non-signalized intersection warranting a traffic signal in the future. Intersections that exceed the peak hour warrant are considered (for the purposes of this study) to be likely to meet one or more of the other signal warrants (such as the 4-hour or 8-hour warrants). However, this does not mean that a signal is definitely unwarranted. A signal may be warranted by other criteria, some of which cannot be known until the intersection is constructed and operational. This peak hour analysis is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

# Existing Conditions Traffic Operation Inputs

Given that there are multiple jurisdictions within the study area (i.e., Caltrans, the County of Santa Barbara, the cities of Carpinteria, Santa Barbara and Goleta) a unified traffic operations methodology was desired. Key operational assumptions for the existing condition operational analysis are listed in **Table 22**. Selected measures of effectiveness (MOE) for each analysis type are listed in **Table 23**.

**Table 22. Parameter Values for Existing Static Operations Analysis**

| Parameter | Value or Method To Be Used |
|---|---|
| Ideal Saturation Flow Rate: HCM | Intersections: 1,900 vphpl<br>Freeway Mainline Existing 4-Lane South of Milpas: 1,900 vphpl;<br>Freeway Mainline Existing 4-Lane North of Milpas: 2,150 vphpl;<br>Freeway Mainline Existing 6-Lane mainline: 2,150 vphpl;<br>Freeway Mainline Future Project Area Mixed flow lanes: 2,150 vphpl;<br>Freeway Auxiliary lanes 900 vphpl. |
| Saturation Flow Rate: HCM | SYNCHRO-7 software |
| Saturation Flow Rate: ICU | Locally controlled Intersections: 1,600 vphpl; with Lost Time Adjustment of 10% |
| Peak Hour Factor (PHF): | Existing Condition: Field Data |
| Peak Hour Directional Factor (D) | Existing Condition: Field Data |
| Freeway Free Flow Speed | HCM using Base Free Flow Speed of 70 mph; 4-Lane Section (Cabrillo to Evans) 65 mph |
| Freeway Delay Speed Cut-Point | 55 mph – Based on HCM Freeway Speed at LOS E |
| Lane Width: | Field Data, If No Field Data then use 12 ft, or Consult District 5 staff |
| Heavy Vehicle Percentage: | Existing Condition: Field Data |
| Intersection Pedestrian Calls: | Existing Condition: Field Data |
| Intersection Signal Cycle Length | Existing Condition: Field Data, If No Field Data 120 seconds, or consult agency staff. |
| Intersection Signal Coordination | Existing; Coordinate if coordination exists; |
| Intersection Right Turn On Red (RTOR) | Existing Condition: Field Data |
| Intersection Lane Utilization Factor: | Field Data, If Field Data is not available then use HCM defaults or engineering judgment. |
| Intersection Existing Signal Timing: | Signal Timing Plans from jurisdiction. No signal timing plan-assume left turn protection with cycle length computed per Webster's equation and optimize using SYNCHRO-7 software. |
| Intersection Length of Queue | 95th Percentile Queue |
| Intersection Turn Storage | As determined by the Highway Design Manual |
| Peak Hour Traffic Volumes | Existing Condition: Field Data |
| Freeway Weave Analysis | As determined by the Highway Design Manual |
| Freeway Accident Rate | Existing Condition: TASAS |
| Freeway Vehicle Speeds | Existing Condition: Field Data |
| Freeway Vehicle Occupancy | Existing Condition: Field Data |
| Freeway Travel Time | Existing Condition: Field Data |
| Freeway Delay | Existing Condition: Field Data |
| Project Evaluation Years | 2008 (existing) |

**Table 23. Measures of Effectiveness (MOE) for Existing Operations Analysis**

| Analysis | Primary MOE | Secondary MOE | Tertiary MOE |
|---|---|---|---|
| Static Intersection LOS (State Controlled) | Delay(HCM) | V/C (ICU) | |
| Static Intersection LOS (Locally Controlled) | V/C (ICU) | n/a | |
| Observed Freeway Mainline Analysis | Total Peak Period Delay survey) | | |
| Static Freeway Mainline LOS | Vehicle Density (HCM) | Delay (HCM/Simulation) | Travel Time/Speed |
| Static Freeway Merge-Diverge LOS | Vehicle Density (HCM) | Speed (HCM/Simulation) | |
| Static Freeway Weave LOS | Vehicle Density (HDM) | Speed (HCM/Simulation) | |
| Static Intersection Length of Queue | 95 Percentile Queue | 50th Percentile Queue | Simulated Queues |
| Static Intersection Left Turn Storage | Distance (ft) (HDM) | Simulated Queues | |

It should be noted that the standard values of Ideal Saturation Flow Rate for freeways and ramps are consistent with those used for the 101 In-Motion Study (SBCAG, 2006). These ideal saturation flow rates may be modified from segment to segment or within segments based on traffic flow characteristics and calibration of traffic flow parameters inputs using the FREQ macro-simulation model.

Due to grade and roadway curvature, a base free flow speed of 65 mph was assumed for the 4-lane mainline sections of Highway 101 between Evans Street and Cabrillo Boulevard. For all other freeway

segments, a base free flow speed of 70 mph was used. The free flow speed was calculated using HCM methodology which is based on various input parameters (e.g., number of lanes, lateral shoulder clearance on right side, interchange density, etc.). Free flow speed was rounded to the nearest 5 mph. Shoulder clearance was measured using readily available aerial images. Recreational vehicles were assumed to be 1%. Number of heavy vehicles and buses was based on field collected data.

Freeway count data summarized previously (Data Collection Results) supports the use of a 0.92 peak hour factor for freeway segment and ramp analysis. For ramp merge-diverge and weaving analysis, length of acceleration and deceleration lanes was estimated based on available aerial photographs.

Percent of heavy vehicles and pedestrian calls at study area intersections was based on collected field data. Given that field data was not collected for all study intersections, a systematic approach was implemented to estimate heavy vehicles where classification data was not available. This was based on the number of heavy vehicles at upstream and/or downstream locations. Where estimation was not possible, the HCM default value of 2% was applied.

For HCM intersection analysis, the default value for ideal saturation flow rate of 1,900 vphpl was utilized. For ICU intersection analysis, a saturation flow rate of 1,600 vphpl with 10% lost time was used. At signalized intersections, measured right-turns on red were discounted from the overall right-turn volume as recommended on page 16-9 of the Highway Capacity Manual.

Signal timing sheets acquired from Caltrans and the local agencies were input for analysis of operations. Where signal timing sheets were not available, signal timings were based on coordinating with the adjacent signal (if indicated by the adjacent signal timing sheet) or estimated using SYNCHRO-7. These locations include:

**Santa Ynez Avenue/7th Street & Carpinteria Avenue (Loc #20)** – Cycle length and timing were optimized due to unclear signal timing information on submitted plan.

**Milpas Street & SB on Ramp (Loc #48) and SB off Ramp (Loc #49)** – Signal timing information was not submitted. Both signals were assumed to be coordinated. Cycle length, splits and offsets were optimized. Field collected phasing plan was applied. Minimum green, clearance interval and pedestrian time were assumed appropriately.

**Castillo Street & SB on/off Ramps (Loc #56)** – Signal timing information was not submitted. Intersection was modeled as a fully actuated and uncoordinated controller. Field collected phasing plan was applied. Cycle length was assumed to be 60 sec during both peak hours.

**Mission Street & Castillo Street (Loc #65)** – Signal timing information was not submitted. Given that this signal must have coordination with adjacent signals – the same cycle length as adjacent signal was used. Offsets were optimized.

**Fairview Avenue & NB on/off Ramp (Loc #87) and Fairview Avenue & Calle Real (Loc #88)** – It was assumed that these intersections operate with real-time coordination; however, signal timing information at Loc #87 does not support it. Signal timing plan was not submitted for Loc #88. These two intersections were coded with actuated-coordinated controller. Cycle length, offsets and splits were optimized. Field collected phasing plan was applied.

**Garden Street & E. Yanonali Street (Loc #53), La Cumbre Road & Calle Real (Loc #74)**, **and Turnpike Road & Calle Real (Loc #83)** – Insufficient signal timing was submitted. Assumptions were required for maximum green time, splits and pedestrian times.

Where adequate shoulder and/or existence of wide lanes exist, operational turn lanes were assumed. Storage capacity for these operational turn lanes ranged from 25-50 feet based on visual observations of aerial pictures. **Table 24** shows the list of locations where such operational turn lanes were assumed and coded.

**Table 24. Operational Right Turn Storage Assumptions**

| Int ID | Intersection | Intersection Approach | Assumed Storage Length (Feet) |
|---|---|---|---|
| 5 | Via Real & SR-150 | EB, WB | 50 |
| 7 | NB on/off ramp & Bailard Avenue | WB, SB | 50 |
| 9 | Via Real & Bailard Avenue | NB,SB,EB,WB | 50 |
| 11 | NB off-ramp & Casistas Pass Rd. | WB | 50 |
| 13 | SB on/off ramp & Casitas Pass Rd | EB | 50 |
| 15 | NB on ramp & Ogan Rd | EB | 50 |
| 16 | Linden Ave & Ogan Rd | WB, NB | 25, 50 |
| 20 | Santa Ynez Ave/7th St & Carpinteria Ave | EB | 50 |
| 21 | NB on/off ramp & Via Real | WB | 50 |
| 22 | NB on/off ramp & Padaro Ln | WB | 50 |
| 24 | SB off ramp & Santa Claus Ln/Padaro Ln | NB | 50 |
| 28 | NB off ramp & Oriega Hill Rd | NB | 50 |
| 30 | NB on ramp & Ortega Hill Rd | EB | 50 |
| 31 | SB off ramp & Evans Ave | EB | 50 |
| 32 | NB on/off ramp & Sheffield | SB | 50 |
| 34 | Jameson & Sheffield | EB | 25 |
| 35 | NB on/off ramp & San Ysidro Rd | SB, WB | 50 |
| 36 | San Ysidro Rd & N. Jameson Ln | NB, SB, EB, WB | 25 |
| 43 | NB off ramp & Coast Village Rd/Hermosillo Dr | NB (RT and LT) | 25 |
| 44 | SB on/off ramp & NB off ramp & Cabrillo Blvd | EB | 25 |
| 56 | W. Haley St & Bath St | WB | 50 |
| 79/792 | SB on ramp & State St & Rt 154 | NB | 25 |
| 80 | NB on/off ramp & Calle Real & El Sueno Rd | NB | 50 |

## *Level of Service Criteria*

The Highway 101 freeway mainline and its ramp locations are within Caltrans jurisdiction. Caltrans also oversees operations for Highway 101 interchanges (i.e., ramp termini). For purposes of this analysis, state facility operational performance was based on Caltrans District-5 LOS performance criteria as represented by LOS C. This equates numerically to:

- 35 and 25 seconds of control delay per vehicle for signalized and non-signalized intersections respectively;
- 26 pcplpm (passenger cars per lane per mile) for freeway segments;
- 28 pcplpm (passenger cars per lane per mile) for ramps.

At locally operated signalized intersections, the LOS criteria documented in the adopted Congestion Management Program for Santa Barbara County was reported. This standard is based on the intersection threshold of LOS D (v/c .90). It is computed using the Intersection Capacity Utilization (ICU) method. The ICU method and the LOS D standard were adopted by Santa Barbara County of Association Governments, the designated Congestion Management Agency (CMA) and the agency responsible for regional transportation planning and programming for Santa Barbara County.

In addition, for locally controlled intersections, the following local agency intersection LOS criterion was also evaluated. As noted below, the ICU method is used for signalized intersections while the HCM method is applied to non-signalized intersection LOS analysis.

<u>Local Signalized Intersections</u>:

- County of Santa Barbara — LOS C ICU Method
- City of Carpinteria — LOS C ICU Method
- City of Santa Barbara — v/c .77 ICU Method
- City of Goleta — LOS C ICU Method
- Santa Barbara County Association of Governments CMP — LOS D ICU Method

<u>Local Non-signalized Intersections</u> — same as above but with HCM

### *Intersection Turning Movement Volumes*

**Figure 12** provides the 2008 intersection lane geometry, control type, and AM/PM peak hour turning movement volumes.

Turning movement counts were refined and balanced. Between ramp intersections with no intermediate access, perfect balance was maintained while less than 15 percent was considered acceptable for arterial intersections with limited access. At signalized intersections, right-turn volumes were reduced by the actual RTOR volumes during the peak hours.

### *Basic Freeway Segment and Ramps Traffic Volumes*

**Figures 13** and **14** depict graphical representation of Highway 101 corridor and volumes including trucks, buses and RVs for each ramp and segment locations during both peak hours.

To address ramp data anomalies, weekday ramp count data showing unreasonable deviation e.g. ± 15% was omitted from further consideration. Manual intersection turning movement count data at adjacent ramps was also compared with machine hose ramp counts. Systematic adjustments were made, as appropriate, to narrow the difference between manual and automated traffic counts.

Once ramp volumes were finalized, mainline volumes between each ramp juncture were automatically calculated by balancing mainline and ramp volume inputs. Estimated mainline traffic volumes were then compared with the field collected mainline traffic volumes at intermediate locations. Manual adjustments were made to keep both data sets within 10 percent of variation.

The resultant peak hour mainline traffic volumes were compared with available historical counts in **Table 25**. The comparison revealed that traffic volumes observed during the data collection period of April 21 to 27 2008 were roughly 0% to 12% lower than historical data along the Highway 101 mainline. This could be attributable to the rapidly increasing fuel costs at the time of data collection (shown below).

**Table 25. Comparison of Highway 101 Mainline Traffic Counts with Historical Data**

| Location | Published Caltrans Data [1] | | | | Estimated | Change in 2008 Compared to | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2000 ADT [2] | 2003 ADT [2] | 2005 ADT [2] | 2007 ADT [2] | 2008 ADT [3] | 2000 | 2003 | 2005 | 2007 |
| Hwy 101 from SR 150 to Bailard | 58,540 | 67,670 | 63,880 | 66,860 | 60,210 | 2.9% | -11.0% | -5.7% | -9.9% |
| Hwy 101 from Cabrillo to Salinas | 97,560 | 106,050 | 95,320 | 95,220 | 93,260 | -4.4% | -12.1% | -2.2% | -2.1% |
| Hwy 101 @ Las Positas | 138,650 | 137,360 | 143,990 | 138,780 | 138,260 | -0.3% | 0.7% | -4.0% | -0.4% |

[1] Summarized from the readily available data at Traffic Data Branch of Caltrans
[2] Indicates adjusted ADT after applying year specific seasonal factor derived from the historical monthly VMT data
[3] As reflected by spring 2008 conditions. Derived by DA's seeding spreasheet

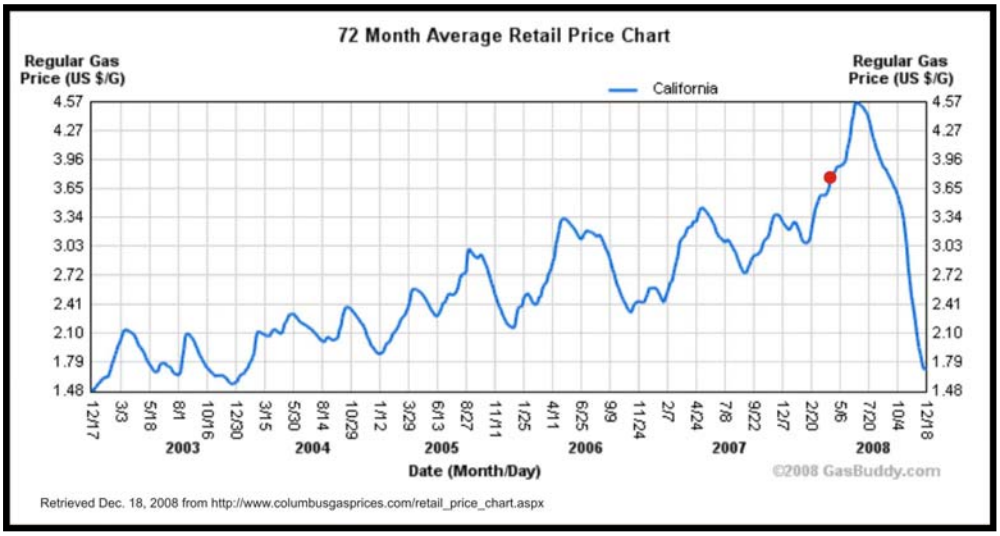


**Figure 12. Existing Conditions Peak Hour Traffic Volumes**

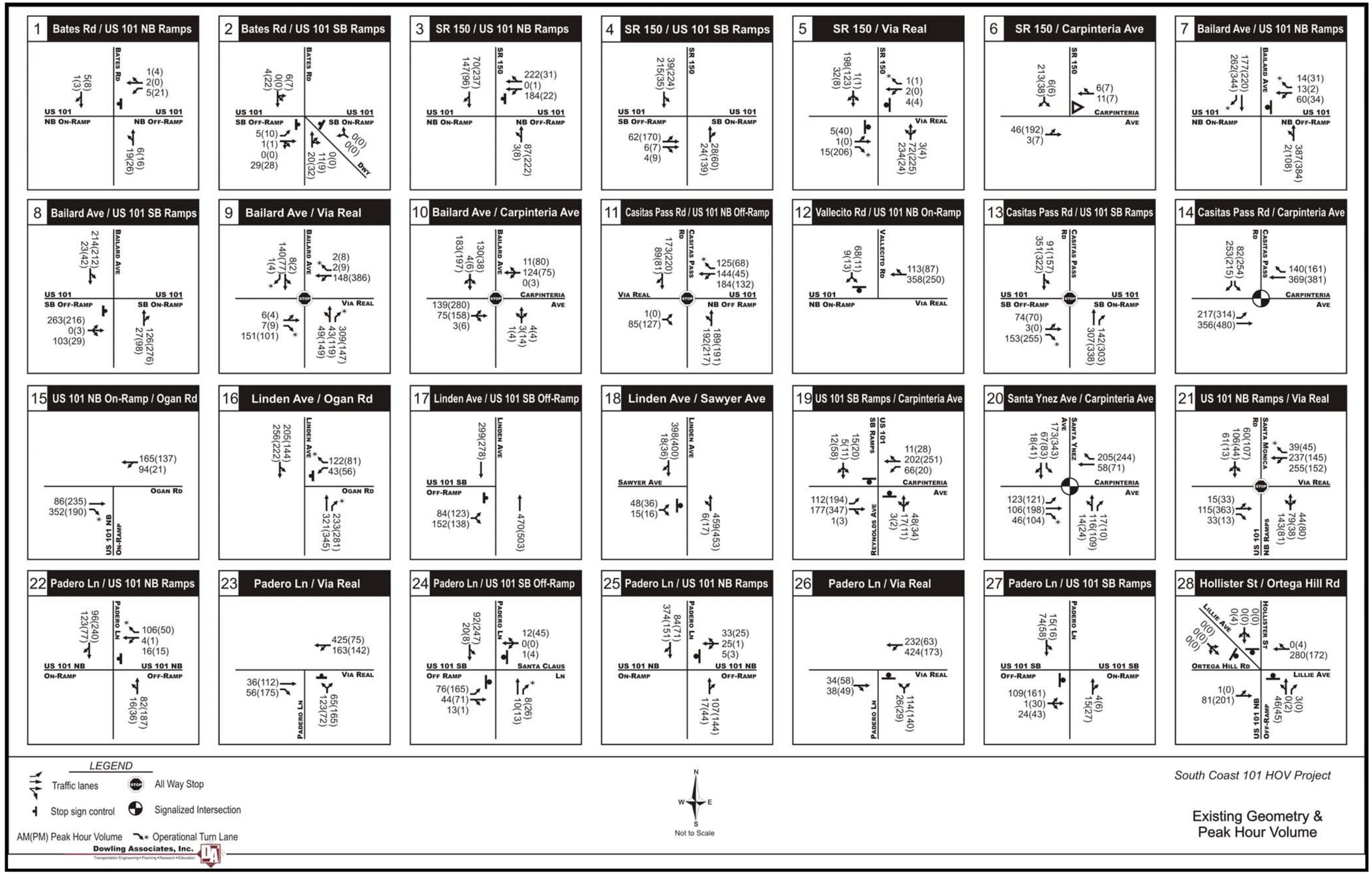


**Figure 12 contd. Existing Conditions Peak Hour Traffic Volumes**

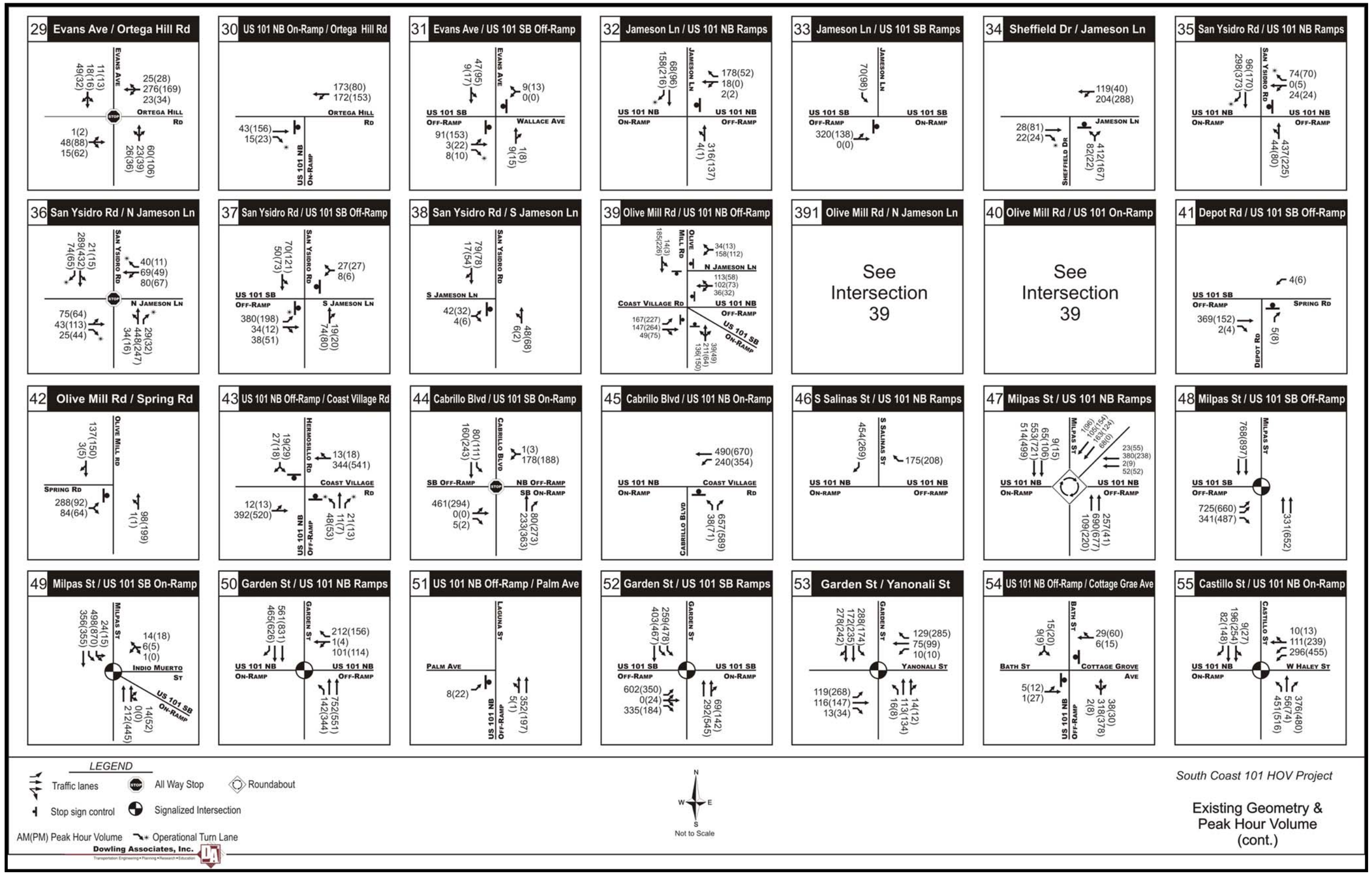


**Figure 12 contd. Existing Conditions Peak Hour Traffic Volumes**

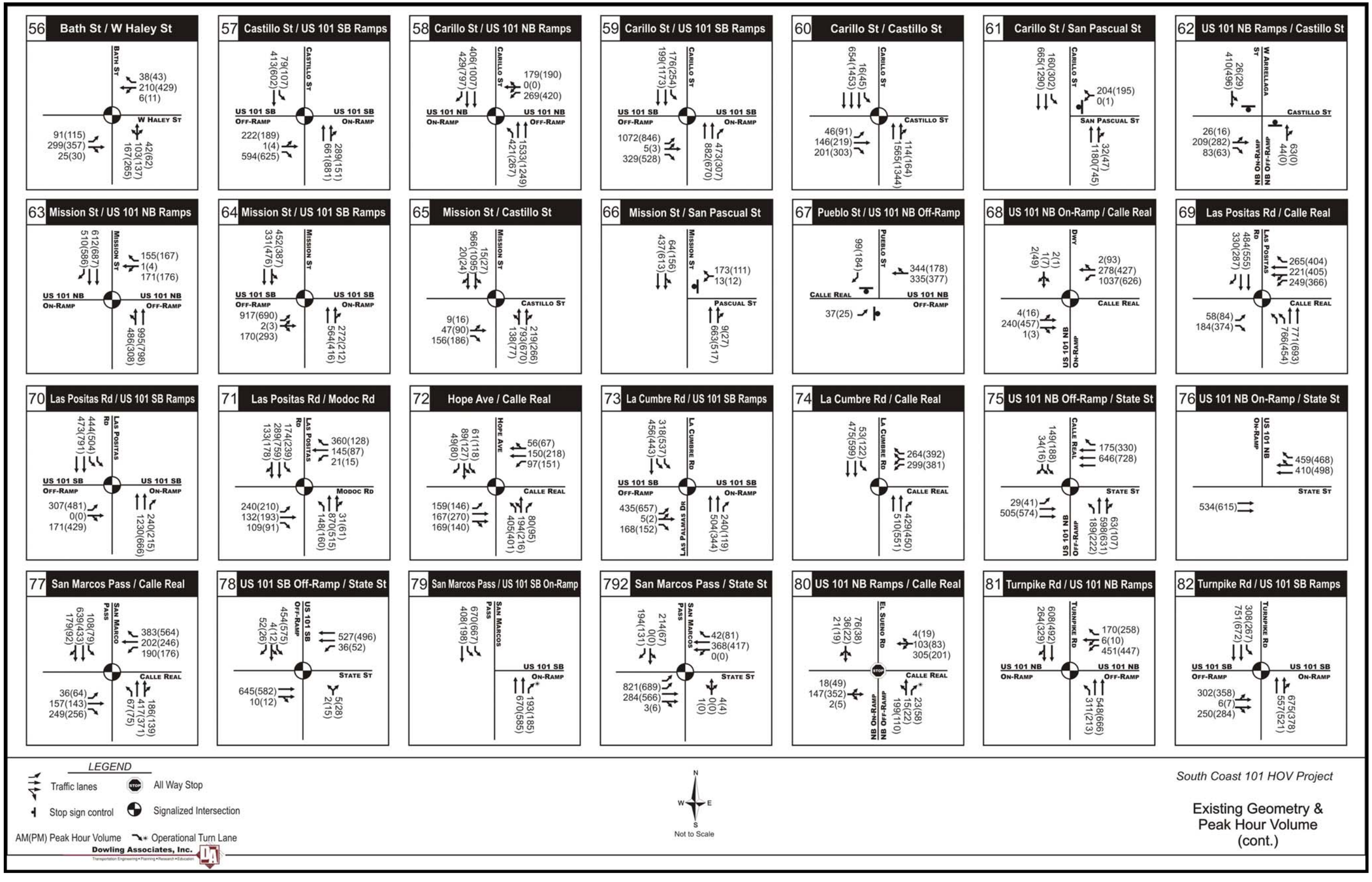


**Figure 12 contd. Existing Conditions Peak Hour Traffic Volumes**

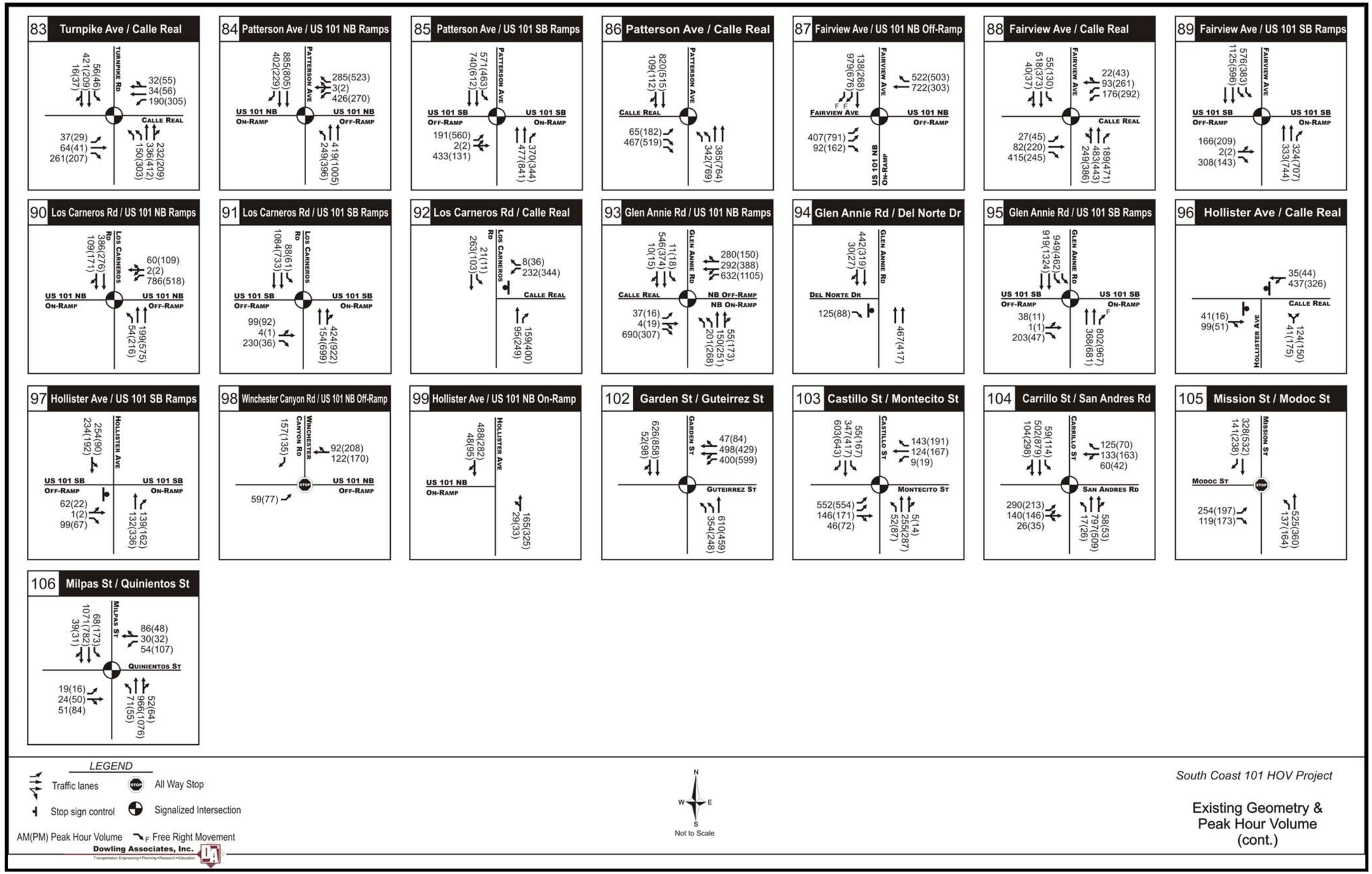


**Figure 13. Existing Conditions Freeway and Ramps AM Peak Hour Traffic Volumes**

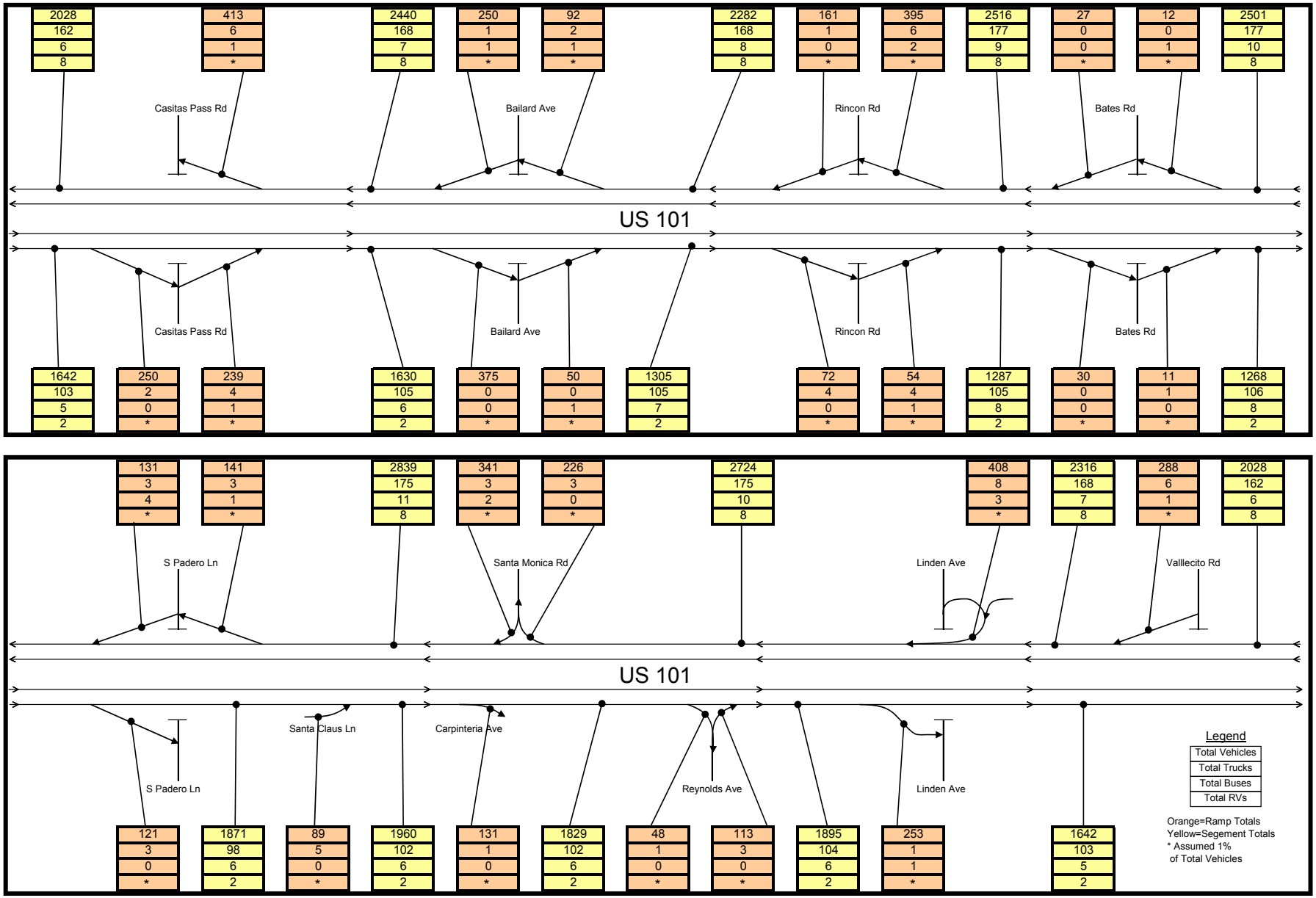


**Figure 13. Existing Conditions Freeway and Ramps AM Peak Hour Traffic Volumes (cont.)**

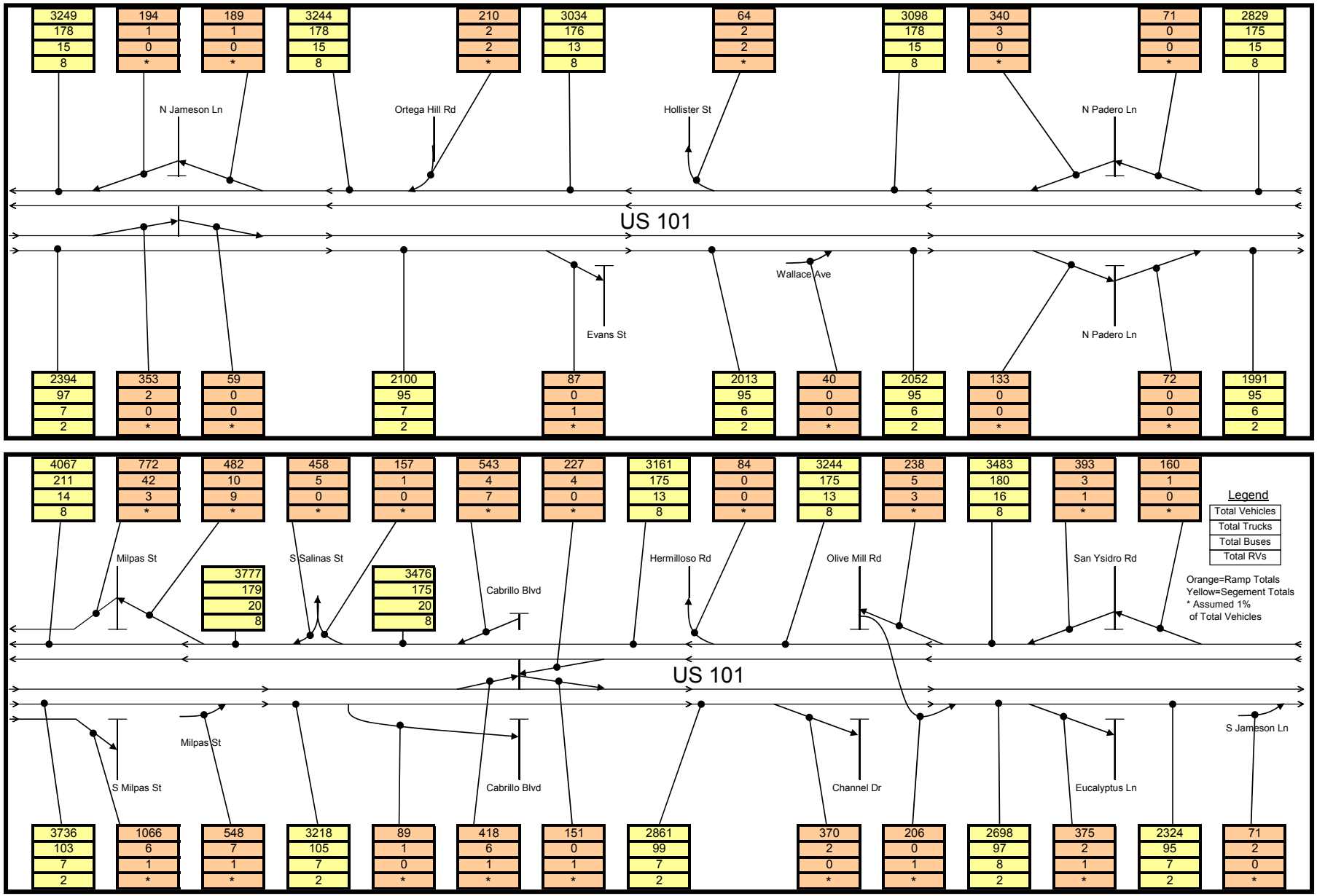


**Figure 13. Existing Conditions Freeway and Ramps AM Peak Hour Traffic Volumes (cont.)**

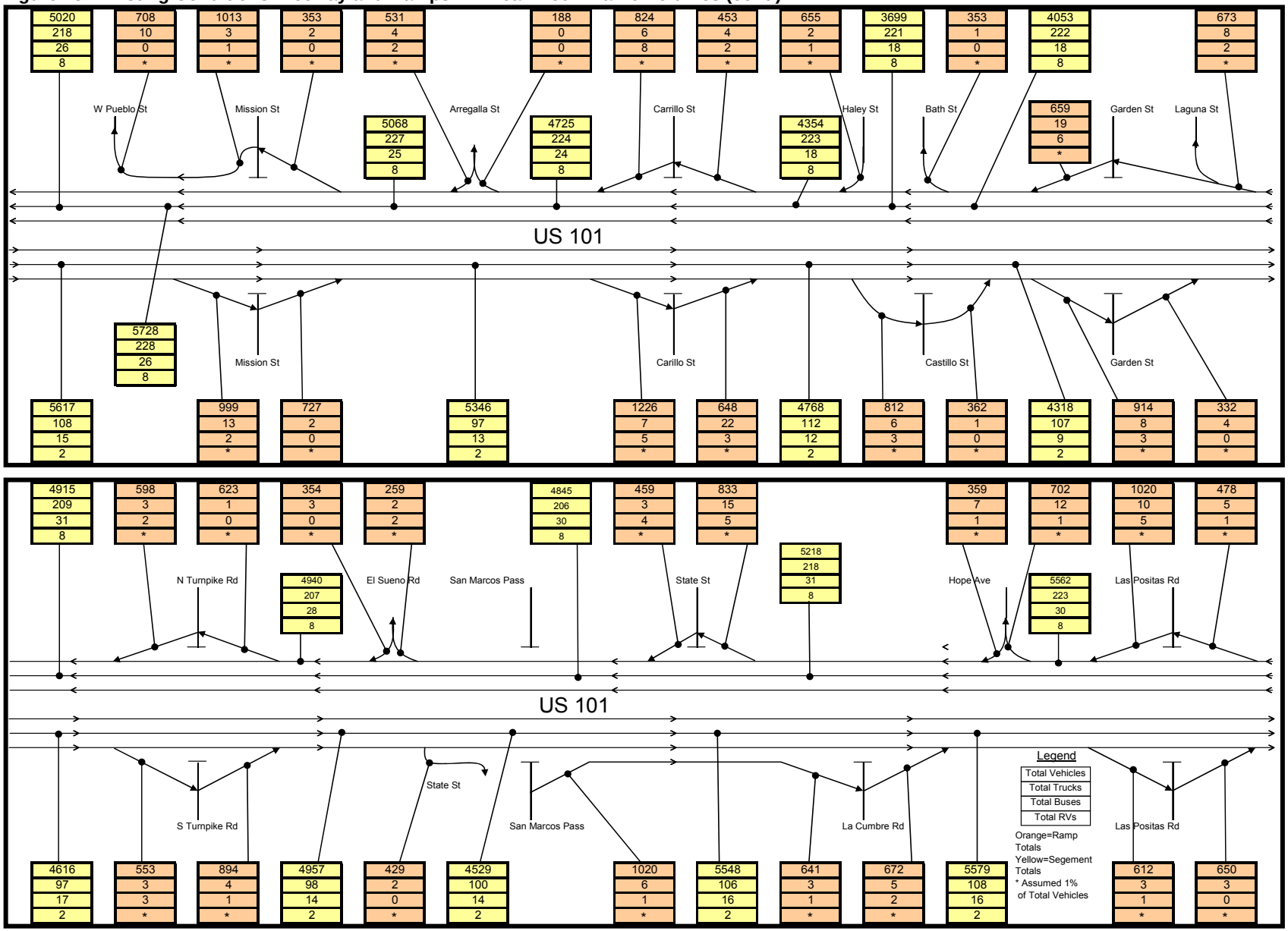


**Figure 13. Existing Conditions Freeway and Ramps AM Peak Hour Traffic Volumes (cont.)**

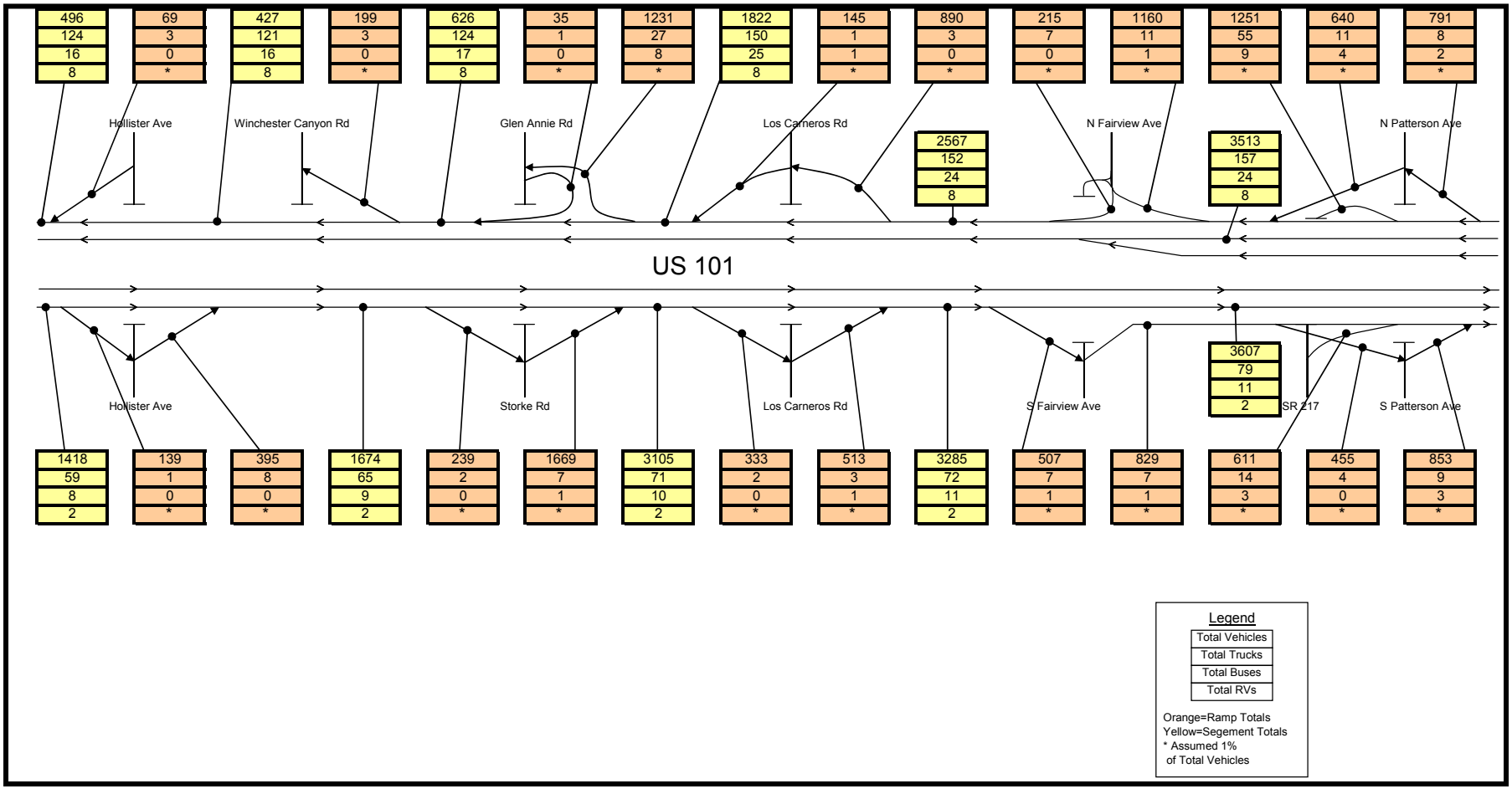


**Figure 14. Existing Conditions Freeway and Ramps PM Peak Hour Traffic Volumes**

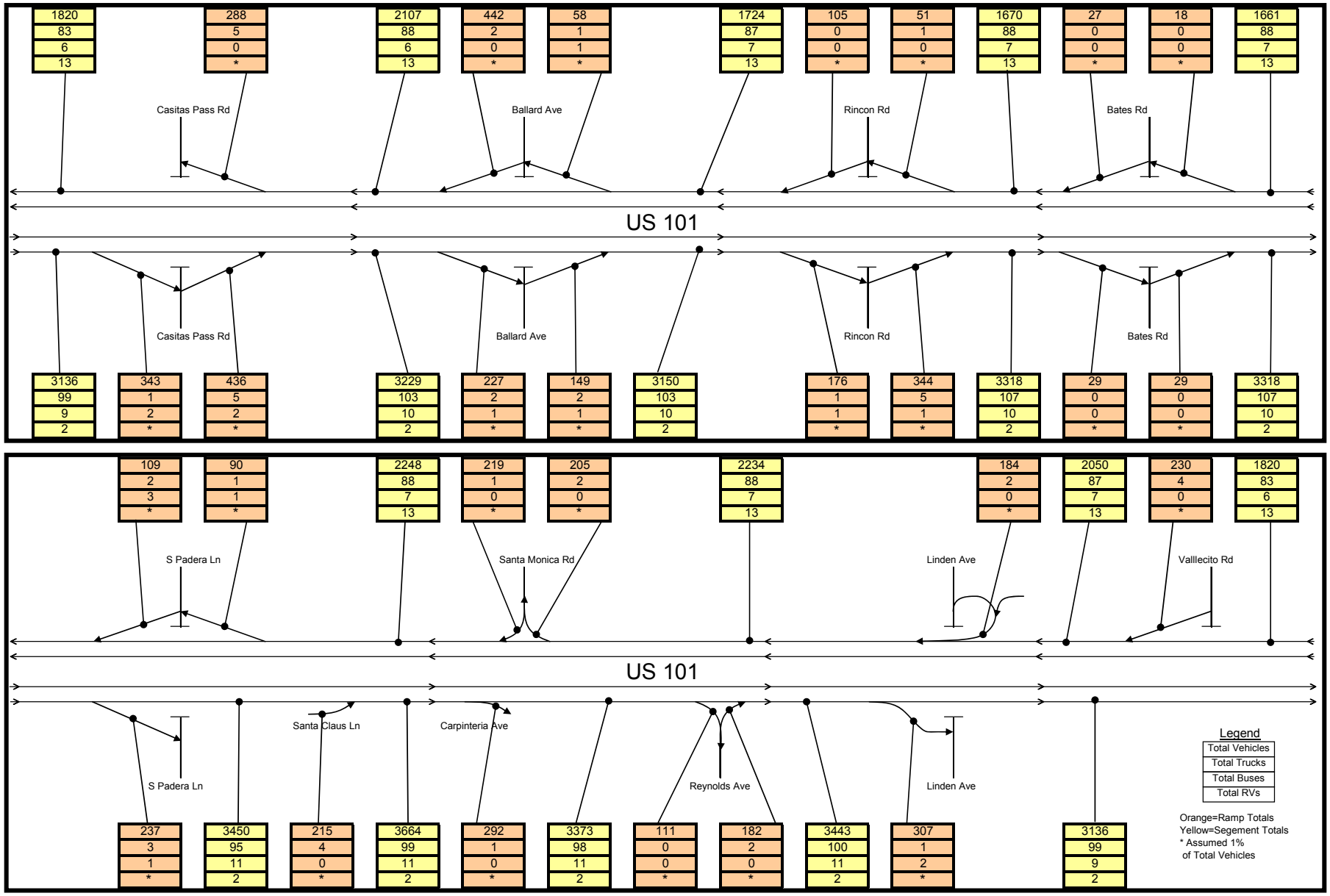


**Figure 14. Existing Conditions Freeway and Ramps PM Peak Hour Traffic Volumes (cont.)**

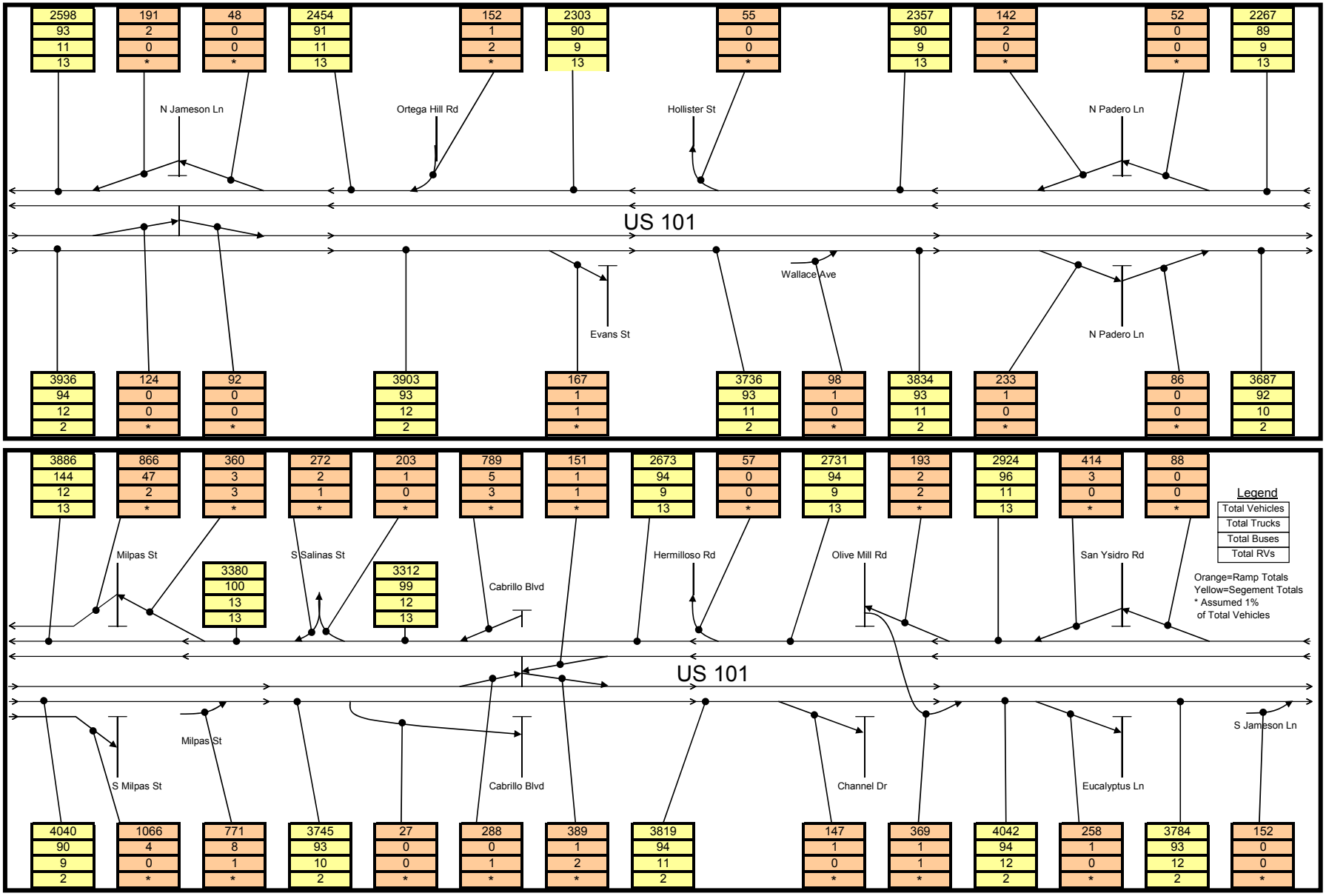


**Figure 14. Existing Conditions Freeway and Ramps PM Peak Hour Traffic Volumes (cont.)**

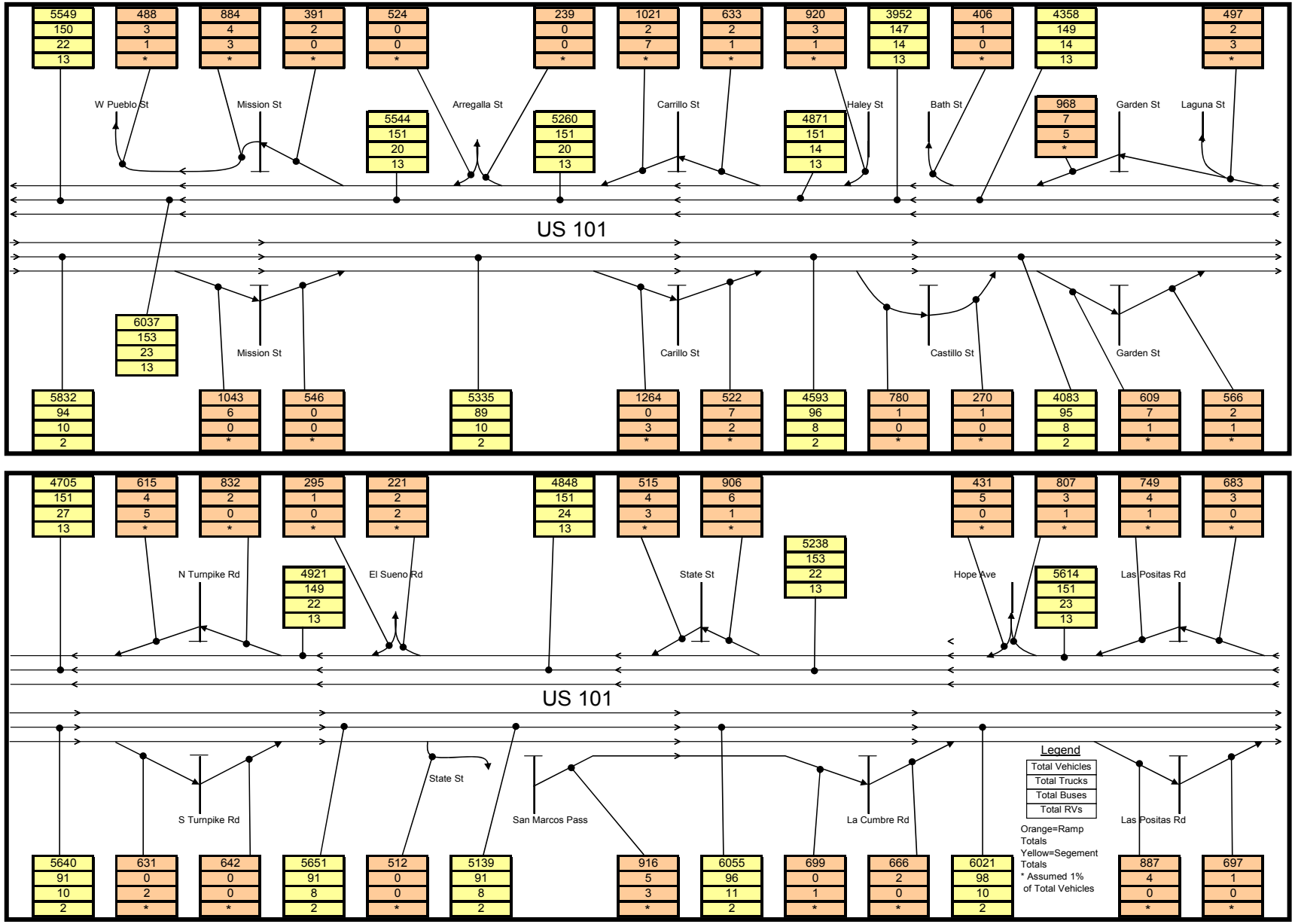
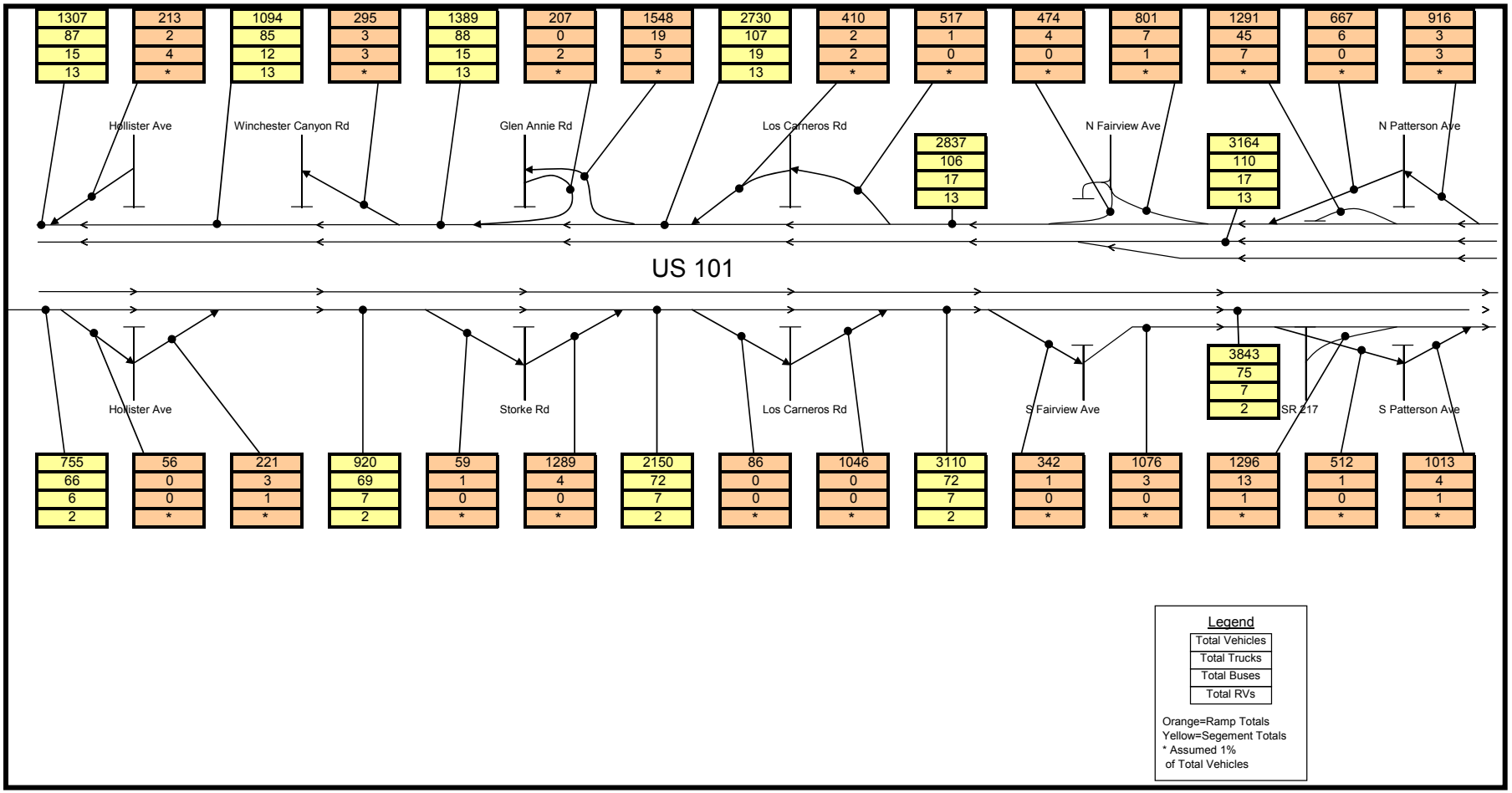


**Figure 14. Existing Conditions Freeway and Ramps PM Peak Hour Traffic Volumes (cont.)**



# Baseline Condition LOS Analysis

### *Intersection Capacity/Level of Service Analysis*

All turning movements were input into the intersection operational analysis software SYNCHRO-7 to estimate peak hour intersection level of service and 95$^{th}$ percentile length of queue.

Existing condition AM and PM peak hour intersection LOS results indicate that 32 study intersections currently operate at LOS D or worse during either or both study peak hours. These locations are summarized in **Table 26.** Complete AM and PM peak hour LOS results by movement for all ramp intersections are provided in **Table 27** and **Table 28** respectively. One CMP designated intersection currently does not meet the ICU based CMP LOS standard.

**Table 29** and **Table 30** show the AM and PM peak hour LOS analysis results at local agency intersections respectively. Based on ICU methodology, one signalized CMP intersection currently does not meet LOS and v/c thresholds during the AM peak hour. Another non-signalized local agency intersection currently does not meet LOS based on the HCM methodology.

All SYNCHRO-7 intersection HCM LOS worksheets are provided in **Appendix A**. All TRAFFIX intersection ICU LOS and roundabout LOS worksheets are provided in **Appendix B**. It should be noted that the traffic volumes presented previously in **Figure 15** provide total right-turn volumes, whereas, results worksheets indicate those after reduction of right-turn-on-red volumes.

### Signalized Intersections Exceeding Caltrans LOS Criteria

**Garden Street and SB 101 On/Off Ramp (Int #50)** – NB left-turn movement of this intersection operates at LOS D during both peak hours. However, Overall intersection LOS meets Caltrans LOS threshold of LOS C or better.

**Garden Street and SB 101 On/Off Ramp (Int #52)** – Overall intersection operates at LOS D during the PM peak hour. EB left-turn and shared through/left-turn movements of off-ramp approach operates at LOS F during the PM peak hour.

**Castillo Street and NB 101 On Ramp (Int #55)** – Overall intersection operates at LOS D and LOS E during the AM and PM peak hours respectively. WB movements operate at LOS F during AM and PM peak hours. SB Castillo Street movements also operate at LOS D during both peak hours.

**Castillo Street and SB 101 On/Off Ramp (Los #57)** – SB Castillo Street left-turn movement functions at LOS F and LOS D during the AM and PM peak hours respectively. EB right-turn lane operates at LOS D during both peak hours.

**Carrillo Street and NB 101 On/Off Ramp (Int #58)** – Overall intersection experiences significant delay and operates at LOS F during the AM peak hour. Individual movements of NB Highway 101 off-ramp approach operate at LOS F and LOS D during the AM and PM peak hour respectively.

**Carrillo Street and SB 101 On/Off Ramp (Int #59)** – EB movements operate at LOS D or worse during both peak hours. Overall intersection meets Caltrans LOS threshold criteria.

**Mission Street and SB 101 On/Off Ramps (Int #64)** – Overall intersection operates at LOS D during the AM peak hour. EB left-turn and shared through/right-turn movements operate at LOS E during the AM peak hour and LOS D during the PM peak hour. Intersection also exceeds the CMP deficiency criteria by

operating at LOS E during the peak hour based on ICU method. A CMP Deficiency Plan has been developed and adopted for this intersection by the City of Santa Barbara and SBCAG.

**Calle Real and NB On Ramp (Int #68)** – EB and SB approaches operate at deficient LOS D and LOS E during both peak hours. Overall intersection LOS meets Caltrans threshold criteria.

**Las Positas Road and SB 101 On/off Ramp (Int #70)** – Overall intersection exceeds Caltrans LOS criteria during the PM peak hour (LOS D). EB left-turn movement operates at LOS F during both peak hours. Other movements e.g., EB through and SB left-turn exceed limit of 35 seconds of delay during both peak hours.

**Las Positas Road and Modoc Road (Int #71)** – Overall intersection experiences deficient LOS D during the AM peak hour and acceptable LOS B the PM peak hour. Therefore, it does not meet the City of Santa Barbara's LOS threshold.

**State Street and NB 101 Off Ramp (Int #75)** – SB approach and left-turn lane of EB approach exceeds Caltrans LOS criteria during the PM peak hour.

**State Street and San Marcos Pass Road (Int #79-2)** – NB approach and SB right-turn lane of San Macros Pass Road operate at LOS E and LOS D respectively, during the AM peak hour.

**Turnpike Road and NB 101 On/Off Ramps (Int #81)** – Due to significant amount of traffic utilizing the NB off-ramp during the AM peak hour, the WB approach left-turn and shared through/left-turn movements operate at LOS F. However, overall intersection performance complies with all LOS criteria.

**Turnpike Road and SB 101 On/Off Ramps (Int #82)** – EB approach for off-ramp traffic and SB Turnpike Road left-turn movement operate at LOS D during the AM peak hour. Overall intersection also operates at acceptable levels during both peak hours.

**Patterson Avenue and NB 101 On/Off Ramp (Int #84)** – WB off-ramp approach experiences minor delays (LOS E) for the left-turn and shared through/left-turn movements during the AM peak hour. Overall, intersection falls within applicable performance criteria.

**Patterson Avenue and SB 101 On/Off Ramp (Int #85)** – EB approach serving off-ramp traffic operates at LOS E/F during the AM and PM peak hours. Delays are more prominent during the PM peak hour with overall LOS at E. SB Patterson Avenue left-turn lane operates at LOS D during the PM peak hour.

**Fairview Avenue and NB 101 On/Off Ramp (Int #87)** – Overall intersection operates at LOS D during the AM peak hour. Several individual movements function at LOS D or worse during peak hours.

**Los Carneros Road and NB 101 On/Off Ramp (Int #90)** –Intersection exceeds Caltrans LOS criteria during the AM peak hour. WB approach operates with unacceptable delay during the AM peak hour.

**Los Carneros Road and SB 101 On/Off Ramp (Int #91)** – Due to heavy conflicting movement traffic, EB right-turn movement operates at LOS F during the AM peak hour.

**Glen Annie Road and NB 101 On/Off Ramp (Int #93)** – Intersection operates with significant delay ranging from 5 to 6 minutes (LOS F) during the AM and PM peak hours.

**Glen Annie Road and SB 101 On/Off Ramp (Int #95)** – The SB Glen Annie Road left-turn and EB right-turn movements experience significant delays (LOS F) during the AM peak hour. Overall intersection operates at LOS F during the AM peak hour which exceeds Caltrans LOS criteria.

**Table 26. Summary of Intersections Exceeding State Deficiency Criteria**

| InID | Intersection | Control Type | Delay [1] (seconds) OR V/C | HCM LOS [1] | ICU LOS [2] |
|---|---|---|---|---|---|
| 4 | SB on/off ramp & SR 150 | TWSC | | | |
| | ***PM Peak*** | | 41.9 | E | |
| 8 | SB on/off ramp & Bailard Ave | TWSC | | | |
| | ***PM Peak*** | | 40.1 | E | |
| 11 | NB off ramp & Casitas Pass Rd | AWSC | | | |
| | ***AM Peak*** | | 32.5 | D | |
| 13 | SB On/Off Ramp and Casitas Pass Road | AWSC | | | |
| | ***PM Peak*** | | 25.6 | D | |
| 17 | SB off ramp & Linden Ave | TWSC | | | |
| | ***AM Peak*** | | 36.2 | E | |
| | ***PM Peak*** | | 30.9 | D | |
| 19 | SB on/off ramp & Carpinteria Ave | TWSC | | | |
| | ***AM Peak*** | | 25.2 | D | |
| | ***PM Peak*** | | 32.2 | D | |
| 21 | NB on/off ramp & Via Real | AWSC | | | |
| | ***AM Peak*** | | 46.1 | E | |
| 24 | SB off ramp & Santa Claus Ln/S. Padaro Ln | TWSC | | | |
| | ***PM Peak*** | | 37.9 | E | |
| 36 | San Ysidro Rd & N Jameson Ln | AWSC | | | |
| | ***AM Peak*** | | 36.3 | E | |
| 37 | SB off ramp & San Ysidro Rd/Eucalyptus Ln | TWSC | | | |
| | ***AM Peak*** | | 25.8 | D | |
| 39 | NB off ramp & Olive Mill Rd | AWSC | | | |
| | ***AM Peak*** | | 31.3 | D | |
| 43 | NB off ramp & Coast Village Rd/Hermosillo Dr | TWSC | | | |
| | ***AM Peak*** | | 71.3 | F | |
| 44 | SB on/off ramp & NB off ramp & Cabrillo Blvd | AWSC | | | |
| | ***AM Peak*** | | 50.4 | F | |
| | ***PM Peak*** | | 49.2 | E | |
| 45 | NB on ramp & Cabrillo Blvd | TWSC | | | |
| | ***PM Peak*** | | 116.6 | F | |
| 52 | SB on/off ramp & Garden St | Signal | | | |
| | ***PM Peak*** | | 52.8 | D | |
| 55 | NB on ramp & Castillo St | Signal | | | |
| | **AM Peak** | | 38.8 | D | |
| | ***PM Peak*** | | 79.1 | E | |
| 58 | NB on/off ramp & Carrillo St | Signal | | | |
| | ***AM Peak*** | | 124.9 | F | |
| 62 | NB on/off ramp & Castillo St | TWSC | | | |
| | ***AM Peak*** | | 86.0 | F | |
| | ***PM Peak*** | | 158.8 | F | |
| 64 | SB on/off ramp & Mission St | Signal | | | |
| | ***AM Peak*** | | 38.2 | D | |
| 67 | NB off ramp & Pueblo St & Calle Real | TWSC | | | |
| | ***AM Peak*** | | 39.2 | E | |
| | ***PM Peak*** | | 157.7 | F | |
| 70 | SB on/off ramp & Las Positas Rd | Signal | | | |
| | ***PM Peak*** | | 43.1 | D | |
| 71 | Las Positas Rd & Modoc Rd | Signal | | | |
| | ***AM Peak*** | | 0.863 | | D |
| 79 | SB on ramp & State St & Rt 154 | TWSC | | | |
| | ***AM Peak*** | | 81.3 | F | |
| | ***PM Peak*** | | 37.6 | E | |
| 85 | SB on/off ramp & Patterson Ave | Signal | | | |
| | ***PM Peak*** | | 73.5 | E | |
| 87 | NB on/off ramp & Fairview Ave | Signal | | | |
| | ***AM Peak*** | | 43.4 | D | |
| 90 | NB on/off ramp & Los Carneros Rd | Signal | | | |
| | ***AM Peak*** | | 36.6 | D | |
| 93 | NB on/off ramp & Glen Annie Rd & Calle Real | Signal | | | |
| | ***AM Peak*** | | 347.7 | F | |
| | ***PM Peak*** | | 371.1 | F | |
| 95 | SB on/off ramp & Glen Annie Rd | Signal | | | |
| | ***AM Peak*** | | 113.6 | F | |
| 96 | Calle Real & Hollister Ave | TWSC | | | |
| | ***AM Peak*** | | 140.3 | F | |
| | ***PM Peak*** | | 85.6 | F | |
| 97 | SB on/off ramp & Hollister Ave | TWSC | | | |
| | ***AM Peak*** | | 25.1 | D | |
| 103 | Montecito St & Castillo St | Signal | | | |
| | ***AM Peak*** | | 0.771 | | C |
| | ***PM Peak*** | | 0.849 | | D |
| 106 | Quinientos St & Milpas St | AWSC | | | |
| | ***AM Peak*** | | 48.8 | E | |
| | ***PM Peak*** | | 44.4 | E | |

AWSC - All Way Stop Control, TWSC - Two Way Stop Control
1 HCM 2000, Chapter 16 Signalized Intersections; Chapter 17 Unsignalized Intersections methodology
2 ICU LOS is reported for signalized local intersections only
Indicates that LOS exceeds LOS threshold

## Unsignalized Intersections Exceeding Caltrans LOS Criteria

**SR 150 and SB 101 On/Off Ramp (Int #4)** – EB stop controlled left-turn movement experiences delay of 41.9 sec (LOS E) during the PM peak hour.

**Bailard Avenue and NB 101 On/Off Ramp (Int #8)** – Stop controlled minor street approach (EB) operates at LOS E during both peak hours. Delay is more significant during the AM peak.

**Casitas Pass Road and NB 101 Off Ramp (Int #11)** – Intersection operates at unacceptable LOS D during the AM peak hour with the WB approach through movement operating at LOS E.

**Casitas Pass Road and SB 101 On/Off Ramp (Int #13)** – SB approach of this all-way stop control intersection operates at LOS D and LOS E during the AM and PM peak hours respectively.

**Linden Avenue and SB 101 Off Ramp (Int #17)** – Stop controlled off-ramp approach operates at LOS E and LOS D during the AM and PM peak hours respectively.

**Carpinteria Avenue and SB 101 On/Off Ramp (Int #19)** – SB stop control approach operates at LOS D during both peak hours.

**Via Real and NB 101 On/Off Ramp (Int #21)** – Overall intersection operates at LOS E during the AM peak hour. WB stop controlled approach would function at LOS F during the AM peak hour.

**Padaro Lane and SB 101 Off Ramp (Int #24)** – Left-turn movement of EB stop control approach operates at LOS E and 37.9 seconds of delay during the PM peak hour.

**Ortega Hill Road and NB 101 On Ramp (Int #30)** – Through lane of EB stop control approach functions at LOS E during the AM peak hour.

**San Ysidro Road and Jameson Lane (Int #36)** – This intersection operates at overcall HCM LOS E during the AM peak hour, which exceeds the County of Santa Barbara's LOS threshold.

**Olive Mill Road and NB 101 Off Ramp (Int #39)** – Overall intersection exceeds Caltrans LOS criteria operating at LOS D during the AM peak hour. NB stop controlled approach also functions at LOS E during the AM peak hour.

**Coast Village Road/Hermosillo Drive and NB 101 Off Ramp (Int #43)** – NB left-turn movement functions with at LOS F and SB approach at LOS E during the PM peak hour.

**Cabrillo Boulevard and SB 101 On/Off Ramp (Int #44)** – All-way stop intersection operates at overall LOS F and E during the AM and PM peak hours respectively. EB shared through and left-turn movement experiences significant delay (LOS F) during both peak hours. The NB Cabrillo Boulevard shared through and left-turn lane operates at LOS F during the PM peak hour.

**Cabrillo Boulevard and NB 101 On Ramp (Int #45)** – Due to higher through volumes and unavailability of gaps, NB stop-controlled Cabrillo Boulevard left-turn movement operates at LOS D and LOS F during the AM and PM peak hours respectively.

**Castillo Street and NB 101 On/Off Ramp (Int #62)** – Overall intersection operates at LOS E and F during the AM and PM peak hours respectively. Heavy traffic cause SB shared through-left movement to work at LOS F during both peak hours. Delay is more significant during the PM peak hour.

**Calle Real/Pueblo Street and NB 101 Off Ramp (Int #67)** – This two-way stop controlled intersection operates with overall delay of 44.5 seconds during the PM peak hour. SB stop control approach operates at LOS F during both peak hours. EB left-turn movement also operates at unacceptable LOS E and LOS D during the AM and PM peak hours respectively.

**State Street/SR 154 and SB 101 On Ramp (Int #79)** – SB State Street uncontrolled left-turn movement faces heavy through traffic in NB direction. As a result of insufficient gaps, it operates at LOS F and LOS E during the AM and PM peak hours respectively. Overall intersection also functions at LOS D during the AM peak hour.

**El Sueno Road and Call Real/NB 101 On/Off Ramp (Int #80)** – WB approach of this all-way stop intersection has LOS D during the AM peak hour.

**Winchester Canyon and NB 101 Off Ramp/Calle Real (Int #96)** – Heavy volumes on stop controlled NB 101 off-ramp and Calle Real approaches result in LOS F and LOS E during the AM and PM peak hours respectively. WB shared through and left-turn movement operates with significant delays (LOS F) during both peak hours.

**Hollister Avenue and SB 101 On/Off Ramp (Int #97)** – EB stop control approach operates at LOS D during AM peak hour.

**Table 27. Existing Conditions Intersection AM Peak Level of Service Results**

| InID | Intersection | Control Type | Overall V/C / ICU LOS [1] | Overall HCM [2] | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Southeastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT |
| 1 | NB on/off ramp & Bates Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.1 | | | | 8.9 | 9.1 | N/A | N/A | 5.5 | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | A | A | N/A | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 2 | SB on/off ramp & Bates Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9 | 9.0 | 8.5 | N/A | | | | | | | N/A | 4.4 | | | | |
| | *Level of Service* | | | A | A | A | N/A | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 3 | NB on/off ramp & SR 150 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13.5 | | | | 13.5 | 10.2 | N/A | N/A | 0.3 | | | 0.1 | N/A | | | |
| | *Level of Service* | | | B | --- | --- | --- | B | B | N/A | N/A | A | --- | --- | A | N/A | --- | --- | --- |
| 4 | SB on/off ramp & SR 150 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.5 | 12.5 | 11.1 | N/A | | | | | | | N/A | 1.3 | | | | |
| | *Level of Service* | | | B | B | B | N/A | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 5 | Via Real & SR 150 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 19.1 | N/A | 12.6 | | N/A | 19.1 | | N/A | 6.7 | | | | | | | |
| | *Level of Service* | | | C | N/A | B | --- | N/A | C | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 6 | Carpinteria Ave & SR 150 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.2 | N/A | 10.2 | | | 10.1 | N/A | | | | | 0.2 | | | | |
| | *Level of Service* | | | B | N/A | B | --- | --- | B | N/A | --- | --- | --- | --- | A | --- | --- | --- | --- |
| 7 | NB on/off ramp & Bailard Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 21.8 | | | | N/A | 21.8 | | N/A | 0.1 | | | | | | | |
| | *Level of Service* | | | C | --- | --- | --- | N/A | C | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 8 | SB on/off ramp & Bailard Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 49.6 | N/A | 49.6 | N/A | | | | | | | N/A | 0.9 | | | | |
| | *Level of Service* | | | E | N/A | E | N/A | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 9 | Via Real & Bailard Ave | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 15 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.3 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 11 | NB off ramp & Casitas Pass Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 29.7 | N/A | 13.2 | N/A | N/A | 45.5 | 11.2 | N/A | 33.3 | | | 19.3 | N/A | | | |
| | *Level of Service* | | | D | N/A | B | N/A | N/A | E | B | N/A | D | --- | --- | C | N/A | --- | --- | --- |
| 12 | NB on ramp & Via Real | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13.6 | | | | | | | | | | N/A | 13.6 | N/A | | | |
| | *Level of Service* | | | B | --- | --- | --- | --- | --- | --- | --- | --- | --- | N/A | B | N/A | --- | --- | --- |
| 13 | SB on/off ramp & Casitas Pass Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 20.6 | N/A | 10.9 | 10.6 | | | | | 16.2 | 8.8 | N/A | 32.2 | | | | |
| | *Level of Service* | | | C | N/A | B | B | --- | --- | --- | --- | C | A | N/A | D | --- | --- | --- | --- |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 15.8 | 22.5 | 4.3 | | | 19.6 | 13.6 | | | | 22.3 | | 23.4 | | | |
| | *Level of Service* | | 0.541 / A | B | C | A | --- | --- | B | B | --- | --- | --- | C | --- | C | --- | --- | --- |
| 15 | NB on ramp & Ogan Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 3.2 | | | | 3.2 | | | | | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | Linden Ave & Ogan Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 17.9 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 17 | SB off ramp & Linden Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 36.2 | N/A | 36.2 | N/A | | | | | | | | | | | | |
| | *Level of Service* | | | E | N/A | E | N/A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 18 | Linden Ave & Sawyer Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 18.8 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 19 | SB on/off ramp & Carpinteria Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 25.2 | 8.2 | | | 7.8 | | | N/A | 15.7 | N/A | N/A | 25.2 | N/A | | | |
| | *Level of Service* | | | D | A | --- | --- | A | --- | --- | N/A | C | N/A | N/A | D | N/A | --- | --- | --- |
| 20 | Santa Ynez Ave/7th St & Carpinteria Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 22.5 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.453 / A | C | | | | | | | | | | | | | | | |
| 21 | NB on/off ramp & Via Real | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 46.1 | N/A | 14.0 | 6.3 | N/A | 89.0 | 8.7 | N/A | 23.9 | N/A | N/A | 17.2 | N/A | | | |
| | *Level of Service* | | | E | N/A | B | A | N/A | F | A | N/A | C | N/A | N/A | C | N/A | --- | --- | --- |
| 22 | NB on/off ramp & S. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.7 | | | | N/A | 9.7 | | N/A | 1.4 | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | N/A | A | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 23 | Via Real & S. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 24.7 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 24 | SB off ramp & Santa Claus Ln/S. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.2 | 11.2 | 10.8 | N/A | N/A | 8.7 | N/A | | | | N/A | 6.2 | | | | |
| | *Level of Service* | | | B | B | B | N/A | N/A | A | N/A | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 25 | NB on/off ramp & N. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13.4 | | | | N/A | 13.4 | N/A | N/A | 1.3 | | | | | | | |
| | *Level of Service* | | | B | --- | --- | --- | N/A | B | N/A | N/A | A | --- | --- | --- | --- | --- | --- | |
| 26 | N. Padaro Ln & Via Real | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 16.8 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |

**Table 27. Existing Conditions Intersection AM Peak Level of Service Results (cont.)**

| InID | Intersection | Control Type | Overall V/C / ICU LOS [1] | Overall HCM [2] | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Southeastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT |
| 27 | SB on/off ramp & N. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.9 | N/A | 10.9 | N/A | | | | | | | N/A | 6.2 | | | | |
| | *Level of Service* | | | B | N/A | B | N/A | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 28 | NB off ramp & Oriega Hill Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.7 | N/A | 0.1 | | | | | N/A | 12.7 | | | 0.1 | | | | |
| | *Level of Service* | | | B | N/A | A | --- | --- | --- | --- | N/A | B | --- | --- | A | --- | --- | --- | --- |
| 29 | Evans Ave & Ortega Hill Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.4 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 30 | NB on ramp & Ortega Hill Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 15.6 | | 14.9 | 15.6 | N/A | 4.4 | | | | | | | | | | |
| | *Level of Service* | | | C | --- | B | C | N/A | A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | SB off ramp & Evans Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.3 | N/A | 10.3 | | N/A | 8.5 | N/A | | | | N/A | 6.2 | | | | |
| | *Level of Service* | | | B | N/A | B | --- | N/A | A | N/A | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 32 | NB on/off ramp & Sheffield | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.6 | | | | N/A | 14.6 | | N/A | 0.1 | | | | | | | |
| | *Level of Service* | | | B | --- | --- | --- | N/A | B | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 33 | SB on/off ramp & Sheffield | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13.2 | N/A | 13.2 | | | | | | | | 7.3 | | | | | |
| | *Level of Service* | | | B | N/A | B | --- | --- | --- | --- | --- | --- | --- | A | --- | --- | --- | --- | --- |
| 34 | Jameson & Sheffield | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.5 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 35 | NB on/off ramp & San Ysidro Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13 | | | | N/A | 13.0 | | N/A | 1.2 | | | | | | | |
| | *Level of Service* | | | B | --- | --- | --- | N/A | B | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 36 | San Ysidro Rd & N. Jameson Ln | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 36.3 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | E | | | | | | | | | | | | | | | |
| 37 | SB off ramp & San Ysidro Rd/Eucalyptus Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 25.8 | 25.8 | 10.5 | N/A | N/A | 9.8 | N/A | | | | N/A | 4.6 | | | | |
| | *Level of Service* | | | D | D | B | N/A | N/A | A | N/A | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 38 | S. Jameson Ln & San Ysidro Rd/Eucalyptus Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.8 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | A | | | | | | | | | | | | | | | |
| 39 | NB off ramp & Olive Mill Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 31.3 | | | | N/A | 16.4 | N/A | N/A | 48.0 | | | 15.9 | N/A | | | |
| | *Level of Service* | | | D | --- | --- | --- | N/A | C | N/A | N/A | E | --- | --- | C | N/A | --- | --- | --- |
| 39a | N. Jameson Ln & Olive Mill Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 15.4 | | | | 12.3 | | | | 18.5 | | | 10.7 | | | | |
| | *Level of Service* | | | C | --- | --- | --- | B | --- | --- | --- | C | --- | --- | B | --- | --- | --- | --- |
| 40 | SB on ramp & Olive Mill Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.7 | 13.1 | 12.4 | N/A | | | | | 17.9 | N/A | N/A | 13.2 | | | | |
| | *Level of Service* | | | B | B | B | N/A | --- | --- | --- | --- | C | N/A | N/A | B | --- | --- | --- | --- |
| 41 | SB off ramp & Depot | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.7 | | | | 8.2 | | | | | 10.7 | | | | | | |
| | *Level of Service* | | | B | --- | --- | --- | A | --- | --- | --- | --- | B | --- | --- | --- | --- | --- | --- |
| 42 | Olive Mill Rd & Spring | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 18.5 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 43 | NB off ramp & Coast Village Rd/Hermosillo Dr | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 23.2 | N/A | 0.4 | | | N/A | | 23.2 | 13.2 | | N/A | 15.9 | N/A | | | |
| | *Level of Service* | | | C | N/A | A | --- | --- | N/A | --- | C | B | --- | N/A | C | N/A | --- | --- | --- |
| 44 | SB on/off ramp & NB off ramp & Cabrillo Blvd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 50.4 | N/A | 109.3 | 8.7 | N/A | 21.1 | N/A | N/A | 21.5 | 10.8 | 13.3 | 17.0 | N/A | | | |
| | *Level of Service* | | | F | N/A | F | A | N/A | C | N/A | N/A | C | B | B | C | N/A | --- | --- | --- |
| 45 | NB on ramp & Cabrillo Blvd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 28 | | | | 7.7 | | | 28.0 | | 13.8 | | | | | | |
| | *Level of Service* | | | D | --- | --- | --- | A | --- | --- | D | --- | B | --- | --- | --- | --- | --- | --- |
| 46 | NB on/off ramp & S. Salinas St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9 | | | | | | 6.8 | | | | | | 9.0 | | | |
| | *Level of Service* | | | A | --- | --- | --- | --- | --- | A | --- | --- | --- | --- | --- | A | --- | --- | --- |
| 47 | NB on/off ramp & Milpas St [3] | Roundabout | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 3.9 | | | | | | | | | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 48 | SB off ramp & Milpas St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.6 | 18.2 | | 20.9 | | | | | 10.0 | | | 10.2 | | | | |
| | *Level of Service* | | 0.567 / A | B | B | --- | C | --- | --- | --- | --- | A | --- | --- | B | --- | --- | --- | --- |
| 49 | SB on ramp & Milpas St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11 | | | | | | | | 11.2 | N/A | 15.6 | 1.8 | | N/A | 27.8 | N/A |
| | *Level of Service* | | 0.343 / A | B | --- | --- | --- | --- | --- | --- | --- | B | N/A | B | A | --- | N/A | C | N/A |
| 50 | NB on/off ramp & Garden St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.9 | | | | N/A | 28.4 | 43.7 | 36.9 | 2.2 | | | 11.7 | 13.3 | | | |
| | *Level of Service* | | 0.479 / A | B | | | | N/A | C | D | D | A | | | B | B | | | |
| 51 | NB off ramp & Palm Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.1 | 10.1 | | | | | | N/A | 0.3 | | | | | | | |
| | *Level of Service* | | | B | B | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 52 | SB on/off ramp & Garden St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 21.3 | 32.9 | 36.2 | 20.0 | | | | | 15.0 | N/A | 20.7 | 7.1 | | | | |
| | *Level of Service* | | 0.540 / A | C | C | D | B | --- | --- | --- | --- | B | N/A | C | A | --- | --- | --- | --- |

**Table 27. Existing Conditions Intersection AM Peak Level of Service Results (cont.)**

| InID | Intersection | Control Type | Overall V/C / ICU LOS [1] | Overall HCM [2] | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Southeastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT |
| 53 | Garden St & E/ Yanonali St | Signal | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 25.5 | | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.439 / A | C | | | | | | | | | | | | | | | |
| 54 | NB off ramp & Bath St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.7 | N/A | 12.7 | | | 11.1 | N/A | N/A | 0.1 | | 5.1 | | | | | |
| | *Level of Service* | | | B | N/A | B | --- | --- | B | N/A | N/A | A | --- | A | --- | --- | --- | --- | --- |
| 55 | NB on ramp & Castillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 38.8 | | | | 111.6 | 69.5 | N/A | 6.1 | 2.3 | 5.7 | N/A | 52.5 | 47.5 | | | |
| | *Level of Service* | | 0.538 / A | D | --- | --- | --- | F | E | N/A | A | A | A | N/A | D | D | --- | --- | --- |
| 56 | W. Haley St & Bath St | Signal | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 9.2 | | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.501 / A | A | | | | | | | | | | | | | | | |
| 57 | SB on/off ramp & Castillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 21.7 | N/A | 31.8 | 42.5 | | | | | 12.1 | N/A | 87.7 | 5.0 | | | | |
| | *Level of Service* | | 0.621 / B | C | N/A | C | D | --- | --- | --- | --- | B | N/A | F | A | --- | --- | --- | --- |
| 58 | NB on/off ramp & Carrillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 124.9 | | | | 795.2 | 785.3 | N/A | 47.0 | 3.6 | | | 10.9 | 14.0 | | | |
| | *Level of Service* | | 0.702 / C | F | --- | --- | --- | F | F | N/A | D | A | --- | --- | B | B | --- | --- | --- |
| 59 | SB on/off ramp & Carrillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 33.1 | 45.6 | 46.8 | 21.3 | | | | | 29.3 | 27.2 | 44.6 | 14.3 | | | | |
| | *Level of Service* | | 0.822 / D | C | D | D | C | --- | --- | --- | --- | C | C | D | B | --- | --- | --- | --- |
| 60 | Carrillo St & Castillo St | Signal | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 19 | | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.723 / C | B | | | | | | | | | | | | | | | |
| 61 | Carrillo St & San Pascual St | TWSC | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 13.4 | | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 62 | NB on/off ramp & Castillo St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 86 | N/A | 1.0 | | | | | | 12.1 | N/A | N/A | 86.0 | | | | |
| | *Level of Service* | | | F | N/A | A | --- | --- | --- | --- | --- | B | N/A | N/A | F | --- | --- | --- | --- |
| 63 | NB on/off ramp & Mission St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 20.8 | | | | N/A | 91.6 | 30.7 | N/A | 24.2 | | | 2.3 | 3.1 | | | |
| | *Level of Service* | | 0.829 / D | C | --- | --- | --- | N/A | F | C | N/A | C | --- | --- | A | A | --- | --- | --- |
| 64 | SB on/off ramp & Mission St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 38.2 | 67.0 | 64.5 | N/A | | | | | 10.6 | N/A | N/A | 30.4 | | | | |
| | *Level of Service* | | 0.935 / E | D | E | E | N/A | --- | --- | --- | --- | B | N/A | N/A | C | --- | --- | --- | --- |
| 65 | Mission St & Castillo St | Signal | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 5.1 | | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.558 / A | A | | | | | | | | | | | | | | | |
| 66 | Mission St & San Pascual St | TWSC | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 18.5 | | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 67 | NB off ramp & Pueblo St & Calle Real | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 39.2 | 35.6 | | | | 4.9 | N/A | | | | | | 39.2 | | | |
| | *Level of Service* | | | E | E | --- | --- | --- | A | N/A | --- | --- | --- | --- | --- | E | --- | --- | --- |
| 68 | NB on ramp & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 25.7 | N/A | 61.7 | N/A | 21.5 | 2.4 | N/A | | | | N/A | 68.0 | N/A | | | |
| | *Level of Service* | | 0.827 / D | C | N/A | E | N/A | C | A | N/A | --- | --- | --- | N/A | E | N/A | --- | --- | --- |
| 69 | Calle Real & Las Positas Rd | Signal | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 36.8 | | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.658 / B | D | | | | | | | | | | | | | | | |
| 70 | SB on/off ramp & Las Positas Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 33.7 | 98.9 | 45.6 | N/A | | | | | 21.9 | 16.4 | 53.0 | 3.7 | | | | |
| | *Level of Service* | | 0.815 / D | C | F | D | N/A | --- | --- | --- | --- | C | B | D | A | --- | --- | --- | --- |
| 71 | Las Pasitas Rd & Modoc Rd | Signal | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 159.7 | | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.863 / D | F | | | | | | | | | | | | | | | |
| 72 | NB on/off ramp & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 27.3 | 27.1 | 25.4 | N/A | 29.7 | 29.0 | N/A | 27.7 | 27.5 | 20.3 | 28.3 | 29.4 | 27.3 | | | |
| | *Level of Service* | | 0.498 / A | C | C | C | N/A | C | C | N/A | C | C | C | C | C | C | --- | --- | --- |
| 73 | SB on/off ramp & La Cumbre Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.6 | 18.2 | 18.4 | 15.7 | | | | | 15.3 | 16.4 | 18.4 | 6.3 | | | | |
| | *Level of Service* | | 0.523 / A | B | B | B | B | --- | --- | --- | --- | B | B | B | A | --- | --- | --- | --- |
| 74 | La Cumbre Rd & Calle Real | Signal | | | | | | | | | City of Santa Barbara | | | | | | | | |
| | *Delay (seconds)* | | | 9.3 | | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.390 / A | A | | | | | | | | | | | | | | | |
| 75 | NB off ramp & State St & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 22.9 | 34.2 | 18.7 | | | 24.0 | 22.7 | 20.3 | 23.7 | N/A | 28.6 | 28.6 | N/A | | | |
| | *Level of Service* | | 0.522 / A | C | C | B | --- | --- | C | C | C | C | N/A | C | C | N/A | --- | --- | --- |
| 76 | NB on ramp & State St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 0 | | | | | | | | | | | | | | | |
| | *Level of Service* | | | --- | | | | | | | | | | | | | | | |
| 77 | Calle Real & Rt 154 & San Macros Pass Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 31.8 | 52.2 | 33.6 | 33.0 | 43.6 | 24.1 | 30.2 | 43.6 | 31.5 | N/A | 41.1 | 27.9 | N/A | | | |
| | *Level of Service* | | 0.592 / A | C | D | C | C | D | C | C | D | C | N/A | D | C | N/A | --- | --- | --- |
| 78 | SB off ramp & State St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.6 | | 15.2 | N/A | 24.7 | 8.9 | | | 30.0 | | 19.2 | 19.3 | 15.3 | | | |
| | *Level of Service* | | 0.475 / A | B | --- | B | N/A | C | A | --- | --- | C | --- | B | B | B | --- | --- | --- |

## Table 27. Existing Conditions Intersection AM Peak Level of Service Results (cont.)

| InID | Intersection | Control Type | Overall V/C / ICU LOS [1] | Overall HCM [2] | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Southeastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT |
| 79 | SB on ramp & State St & Rt 154 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 81.3 | | | | | | | | | | 81.3 | | | | | |
| | *Level of Service* | | | F | --- | --- | --- | --- | --- | --- | --- | --- | --- | F | --- | --- | --- | --- | --- |
| 792 | State St & San Marcos Pass Road | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 29.6 | 30.6 | 8.9 | N/A | N/A | 35.0 | 30.7 | N/A | 55.4 | N/A | N/A | 34.2 | 35.9 | | | |
| | *Level of Service* | | 0.608 / B | C | C | A | N/A | N/A | C | C | N/A | E | N/A | N/A | C | D | --- | --- | --- |
| 80 | NB on/off ramp & Calle Real & El Sueno Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 19.7 | N/A | 13.4 | N/A | N/A | 25.5 | N/A | N/A | 20.0 | 8.4 | N/A | 12.7 | N/A | | | |
| | *Level of Service* | | | C | N/A | B | N/A | N/A | D | N/A | N/A | C | A | N/A | B | N/A | --- | --- | --- |
| 81 | NB on/off ramp & Turnpike Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 34.5 | | | | 94.6 | 89.8 | 33.8 | 33.2 | 4.6 | | | 21.8 | N/A | | | |
| | *Level of Service* | | 0.669 / B | C | --- | --- | --- | F | F | C | C | A | --- | --- | C | N/A | --- | --- | --- |
| 82 | SB on/off ramp & Turnpike Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 25.4 | N/A | 36.9 | N/A | | | | | 26.7 | N/A | 46.2 | 7.2 | | | | |
| | *Level of Service* | | 0.796/ C | C | N/A | D | N/A | --- | --- | --- | --- | C | N/A | D | A | --- | --- | --- | --- |
| 83 | Turnpike Rd & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 24.7 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.492 / A | C | | | | | | | | | | | | | | | |
| 84 | NB on/off ramp & Patterson Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 23.3 | | | | 55.3 | 59.4 | 33.7 | 38.5 | 3.6 | | | 14.1 | 14.9 | | | |
| | *Level of Service* | | 0.720 / C | C | --- | --- | --- | E | E | C | D | A | --- | --- | B | B | --- | --- | --- |
| 85 | SB on/off ramp & Patterson Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 34.5 | 65.6 | 150.1 | N/A | | | | | 26.0 | 26.8 | 30.8 | 0.8 | | | | |
| | *Level of Service* | | 0.724 / C | C | E | F | N/A | --- | --- | --- | --- | C | C | C | A | --- | --- | --- | --- |
| 86 | Patterson Ave & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 17.5 | City of Goleta | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.537 / A | B | | | | | | | | | | | | | | | |
| 87 | NB on/off ramp & Fairview Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 43.4 | 76.7 | | 0.1 | | 85.1 | 18.8 | | | | | 119.9 | 0.3 | | | |
| | *Level of Service* | | 0.765 / C | D | E | --- | A | --- | F | B | --- | --- | --- | --- | F | A | --- | --- | --- |
| 88 | Calle Real & Fairview Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 27.7 | City of Goleta | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.663 / B | C | | | | | | | | | | | | | | | |
| 89 | SB on/off ramp & Fairview Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13 | N/A | 16.5 | 18.2 | | | | | 18.3 | 17.2 | 17.2 | 7.5 | | | | |
| | *Level of Service* | | 0.575 / A | B | N/A | B | B | --- | --- | --- | --- | B | B | B | A | --- | --- | --- | --- |
| 90 | NB on/off ramp & Los Carneros Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 36.6 | | | | 54.6 | 56.0 | N/A | 31.2 | 4.6 | | | 16.1 | N/A | | | |
| | *Level of Service* | | 0.531 / A | D | --- | --- | --- | D | E | N/A | C | A | --- | --- | B | N/A | --- | --- | --- |
| 91 | SB on/off ramp & Los Carneros Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 17.6 | N/A | 35.5 | 56.1 | | | | | 8.9 | N/A | 28.8 | 11.5 | | | | |
| | *Level of Service* | | 0.531 / A | B | N/A | D | E | --- | --- | --- | --- | A | N/A | C | B | --- | --- | --- | --- |
| 92 | Los Carneros Rd & Calle Real | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 18.7 | City of Goleta | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 93 | NB on/off ramp & Glen Annie Rd & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 347.7 | 36.2 | 683.3 | 674.2 | 446.3 | 423.4 | N/A | 96.0 | 10.1 | N/A | 81.0 | 20.0 | N/A | | | |
| | *Level of Service* | | 0.805 / D | F | D | F | F | F | F | N/A | F | B | N/A | F | B | N/A | --- | --- | --- |
| 94 | Glen Annie Rd & Del Norte Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.4 | City of Goleta | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 95 | SB on/off ramp & Glen Annie Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 113.6 | N/A | 31.7 | 160.1 | | | | | 12.9 | 1.4 | 337.4 | 7.7 | | | | |
| | *Level of Service* | | 0.638 / B | F | N/A | C | F | --- | --- | --- | --- | B | A | F | A | --- | --- | --- | --- |
| 96 | Calle Real & Hollister Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 140.3 | | 10.4 | N/A | N/A | 140.3 | N/A | N/A | 2.1 | | | | | | | |
| | *Level of Service* | | | F | --- | B | N/A | N/A | F | N/A | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 97 | SB on/off ramp & Hollister Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 25.1 | N/A | 25.1 | | | | | | | | N/A | 5.3 | | | | |
| | *Level of Service* | | | D | N/A | D | --- | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 98 | NB off ramp & Winchester Canyon Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 8.6 | 8.5 | | | | 8.9 | N/A | | | | | | 8.2 | | | |
| | *Level of Service* | | | A | A | --- | --- | --- | A | N/A | --- | --- | --- | --- | --- | A | --- | --- | --- |
| 102 | Guteirrez St & Garden St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 19 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.679 / B | B | | | | | | | | | | | | | | | |
| 103 | Montecito St & Castillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 54.1 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.771 / C | D | | | | | | | | | | | | | | | |
| 104 | San Andres & Carrillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 29.7 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.708 / C | C | | | | | | | | | | | | | | | |
| 105 | Modoc St & Mission St | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 48.8 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | E | | | | | | | | | | | | | | | |
| 106 | Quinientos St & Milpas St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.3 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.572 / A | A | | | | | | | | | | | | | | | |

Note: --- indicates corresponding movement does not exist.
N/A indicates delay same as the adjacent movement due to shared approach.
AWSC = All Way Stop Control, TWSC = Two Way Stop Control
1 - ICU LOS is reported for signalized intersections only
2 - Based on HCM 2000, Chapter 16 Signalized Intersections and Chapter 17 Unsignalized Intersections methodology
3 - Based on methodology developed by FHWA publication Roundabouts: An Information Guide, June 2000
Indicates that LOS exceeds LOS threshold

**Table 28. Existing Conditions Intersection PM Peak Level of Service Results**

| InID | Intersection | Control Type | Overall V/C / ICU LOS [1] | Overall HCM [2] | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Southeastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT |
| 1 | NB on/off ramp & Bates Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.4 | | | | 9.4 | 8.4 | N/A | N/A | 4.6 | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | A | A | N/A | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 2 | SB on/off ramp & Bates Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.4 | 9.0 | 9.4 | N/A | | | | | | | N/A | 0.1 | | | | |
| | *Level of Service* | | | A | A | A | N/A | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 3 | NB on/off ramp & SR 150 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.8 | | | | 14.8 | 9.9 | N/A | N/A | 0.3 | | | 0.1 | N/A | | | |
| | *Level of Service* | | | B | --- | --- | --- | B | A | N/A | N/A | A | --- | --- | A | N/A | --- | --- | --- |
| 4 | SB on/off ramp & SR 150 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 41.9 | 41.9 | 11.7 | N/A | | | | | | | N/A | 7.5 | | | | |
| | *Level of Service* | | | E | E | B | N/A | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 5 | Via Real & SR 150 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 16.7 | N/A | 11.4 | | N/A | 16.7 | | N/A | 0.9 | | | | | | | |
| | *Level of Service* | | | C | N/A | B | --- | N/A | C | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 6 | Carpinteria Ave & SR 150 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.2 | N/A | 10.2 | | | 8.9 | N/A | | | | | 1.0 | | | | |
| | *Level of Service* | | | B | N/A | B | --- | --- | A | N/A | --- | --- | --- | --- | A | --- | --- | --- | --- |
| 7 | NB on/off ramp & Bailard Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 21 | | | | N/A | 21.0 | | N/A | 3.3 | | | | | | | |
| | *Level of Service* | | | C | --- | --- | --- | N/A | C | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 8 | SB on/off ramp & Bailard Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 40.1 | N/A | 40.1 | N/A | | | | | 0.1 | N/A | 0.4 | 1.7 | | | | |
| | *Level of Service* | | | E | N/A | E | N/A | --- | --- | --- | --- | A | N/A | A | A | --- | --- | --- | --- |
| 9 | Via Real & Bailard Ave | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 22.8 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 21.4 | N/A | 30.5 | N/A | N/A | 12.0 | N/A | N/A | 10.4 | N/A | N/A | 14.4 | N/A | | | |
| | *Level of Service* | | | C | N/A | D | N/A | N/A | B | N/A | N/A | B | N/A | N/A | B | N/A | --- | --- | --- |
| 11 | NB off ramp & Casitas Pass Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 20.8 | N/A | 12.6 | N/A | N/A | 15.7 | 9.6 | N/A | 30.2 | | N/A | 17.4 | | | | |
| | *Level of Service* | | | C | N/A | B | N/A | N/A | C | A | N/A | D | --- | N/A | C | --- | --- | --- | --- |
| 12 | NB on ramp & Via Real | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.3 | | | | | | | | | | N/A | 12.3 | N/A | | | |
| | *Level of Service* | | | B | --- | --- | --- | --- | --- | --- | --- | --- | --- | N/A | B | N/A | --- | --- | --- |
| 13 | SB on/off ramp & Casitas Pass Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 25.6 | N/A | 11.4 | 15.6 | | | | | 21.9 | 14.7 | N/A | 43.9 | | | | |
| | *Level of Service* | | | D | N/A | B | C | --- | --- | --- | --- | C | B | N/A | E | --- | --- | --- | --- |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 22.4 | 30.4 | 7.4 | | | 28.4 | 19.5 | | | | 29.3 | | 25.0 | | | |
| | *Level of Service* | | 0.693 / B | C | C | A | --- | --- | C | B | --- | --- | --- | C | --- | C | --- | --- | --- |
| 15 | NB on ramp & Ogan Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 1.2 | | | | 1.2 | | | | | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | Linden Ave & Ogan Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 16.1 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 17 | SB off ramp & Linden Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 30.9 | N/A | 30.9 | N/A | | | | | | | | | | | | |
| | *Level of Service* | | | D | N/A | D | N/A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18 | Linden Ave & Sawyer Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 19.1 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 19 | SB on/off ramp & Carpinteria Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 32.2 | 8.9 | | | 8.2 | | | N/A | 20.8 | N/A | N/A | 32.2 | N/A | | | |
| | *Level of Service* | | | D | A | --- | --- | A | --- | --- | N/A | C | N/A | N/A | D | N/A | --- | --- | --- |
| 20 | Santa Ynez Ave/7th St & Carpinteria Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 37.3 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.626 / B | D | | | | | | | | | | | | | | | |
| 21 | NB on/off ramp & Via Real | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 21.6 | N/A | 28.8 | 6.2 | N/A | 22.9 | 8.6 | N/A | 15.4 | N/A | N/A | 14.8 | N/A | | | |
| | *Level of Service* | | | C | N/A | D | A | N/A | C | A | N/A | C | N/A | N/A | B | N/A | --- | --- | --- |
| 22 | NB on/off ramp & S. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.2 | | | | N/A | 11.2 | | N/A | 1.6 | | | | | | | |
| | *Level of Service* | | | B | --- | --- | --- | N/A | B | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 23 | Via Real & S. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13.6 | City of Carpinteria | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 24 | SB off ramp & Santa Claus Ln/S. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 37.9 | 37.9 | 19.5 | N/A | N/A | 9.7 | N/A | | 0.0 | 0.0 | N/A | 7.6 | | | | |
| | *Level of Service* | | | E | E | C | N/A | N/A | A | N/A | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 25 | NB on/off ramp & N. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.9 | | | | N/A | 9.9 | N/A | N/A | 2.1 | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | N/A | A | N/A | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 26 | N. Padaro Ln & Via Real | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.2 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |

**Table 28. Existing Conditions Intersection PM Peak Level of Service Results (cont.)**

| InID | Intersection | Control Type | Overall V/C / ICU LOS [1] | Overall HCM [2] | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Southeastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT |
| 27 | SB on/off ramp & N. Padaro Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.2 | N/A | 12.2 | N/A | | | | | | | N/A | 5.9 | | | | |
| | *Level of Service* | | | B | N/A | B | N/A | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 28 | NB off ramp & Oriega Hill Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.6 | N/A | 0.1 | | | | | N/A | 14.6 | | | 9.4 | | | | |
| | *Level of Service* | | | B | N/A | A | --- | --- | --- | --- | N/A | B | --- | --- | A | --- | --- | --- | --- |
| 29 | Evans Ave & Ortega Hill Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.7 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | A | | | | | | | | | | | | | | | |
| 30 | NB on ramp & Ortega Hill Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 15.7 | | 15.7 | 12.8 | N/A | 5.2 | | | | | | | | | | |
| | *Level of Service* | | | C | --- | C | B | N/A | A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | SB off ramp & Evans Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.8 | N/A | 14.8 | | N/A | 8.5 | N/A | | | | N/A | 6.4 | | | | |
| | *Level of Service* | | | B | N/A | B | --- | N/A | A | N/A | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 32 | NB on/off ramp & Sheffield | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.4 | | | | N/A | 9.4 | | N/A | 0.1 | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | N/A | A | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 33 | SB on/off ramp & Sheffield | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.5 | N/A | 11.5 | | | | | | | | 7.4 | | | | | |
| | *Level of Service* | | | B | N/A | B | --- | --- | --- | --- | --- | --- | --- | A | --- | --- | --- | --- | --- |
| 34 | Jameson & Sheffield | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.8 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 35 | NB on/off ramp & San Ysidro Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12 | | | | N/A | 12.0 | | N/A | 3.1 | | | | | | | |
| | *Level of Service* | | | B | --- | --- | --- | N/A | B | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 36 | San Ysidro Rd & N. Jameson Ln | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 24.4 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 37 | SB off ramp & San Ysidro Rd/Eucalyptus Ln | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 24.3 | 24.3 | 9.9 | N/A | N/A | 10.2 | N/A | | | | N/A | 5.0 | | | | |
| | *Level of Service* | | | C | C | A | N/A | N/A | B | N/A | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 38 | S. Jameson Ln & San Ysidro Rd/Eucalyptus L | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.8 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | A | | | | | | | | | | | | | | | |
| 39 | NB off ramp & Olive Mill Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 16.6 | | | | N/A | 11.3 | N/A | N/A | 21.0 | | | 12.7 | N/A | | | |
| | *Level of Service* | | | C | --- | --- | --- | N/A | B | N/A | N/A | C | --- | --- | B | N/A | --- | --- | --- |
| 39a | N. Jameson Ln & Olive Mill Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.4 | | | | 10.2 | | | | 12.4 | | | 10.5 | | | | |
| | *Level of Service* | | | B | --- | --- | --- | B | --- | --- | --- | B | --- | --- | B | --- | --- | --- | --- |
| 40 | SB on ramp & Olive Mill Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.4 | 13.6 | 16.3 | N/A | | | | | 13.9 | N/A | N/A | 12.9 | | | | |
| | *Level of Service* | | | B | B | C | N/A | --- | --- | --- | --- | B | N/A | N/A | B | --- | --- | --- | --- |
| 41 | SB off ramp & Depot | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.5 | | | | 7.7 | | | | | 9.5 | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | A | --- | --- | --- | --- | A | --- | --- | --- | --- | --- | --- |
| 42 | Olive Mill Rd & Spring | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.9 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 43 | NB off ramp & Coast Village Rd/Hermosillo Dr | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 71.3 | N/A | 0.4 | | | N/A | | 71.3 | 18.2 | | N/A | 42.0 | N/A | | | |
| | *Level of Service* | | | F | N/A | A | --- | --- | N/A | --- | F | C | --- | N/A | E | N/A | --- | --- | --- |
| 44 | SB on/off ramp & NB off ramp & Cabrillo Blvd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 49.2 | N/A | 55.6 | 10.0 | N/A | 30.6 | N/A | N/A | 92.4 | 28.9 | 16.4 | 33.4 | N/A | | | |
| | *Level of Service* | | | E | N/A | F | A | N/A | D | N/A | N/A | F | D | C | D | N/A | --- | --- | --- |
| 45 | NB on ramp & Cabrillo Blvd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 116.6 | | | | 7.9 | | | 116.6 | | 12.5 | | | | | | |
| | *Level of Service* | | | F | --- | --- | --- | A | --- | --- | F | --- | B | --- | --- | --- | --- | --- | --- |
| 46 | NB on/off ramp & S. Salinas St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 7.3 | | | | | | 7.1 | | | | | | 7.3 | | | |
| | *Level of Service* | | | A | --- | --- | --- | --- | --- | A | --- | --- | --- | --- | --- | A | --- | --- | --- |
| 47 | NB on/off ramp & Milpas St [3] | Roundabout | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 5.6 | | | | | | | | | | | | | | | |
| | *Level of Service* | | | A | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 48 | SB off ramp & Milpas St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13.6 | 13.0 | | 22.5 | | | | | 6.5 | | | 15.0 | | | | |
| | *Level of Service* | | 0.685 / B | B | B | --- | C | --- | --- | --- | --- | A | --- | --- | B | --- | --- | --- | --- |
| 49 | SB on ramp & Milpas St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13.4 | | | | | | | | 18.2 | N/A | 14.7 | 2.7 | | N/A | 33.5 | N/A |
| | *Level of Service* | | 0.532 / A | B | --- | --- | --- | --- | --- | --- | --- | B | N/A | B | A | --- | N/A | C | N/A |
| 50 | NB on/off ramp & Garden St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 19.9 | | | | N/A | 51.8 | 33.9 | 47.7 | 1.2 | | | 15.2 | 16.9 | | | |
| | *Level of Service* | | 0.666 / B | B | --- | --- | --- | N/A | D | C | D | A | --- | --- | B | B | --- | --- | --- |
| 51 | NB off ramp & Palm Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.3 | 9.3 | | | | | | N/A | 0.1 | | | | | | | |
| | *Level of Service* | | | A | A | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 52 | SB on/off ramp & Garden St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 52.8 | 186.3 | 202.4 | 35.8 | | | | | 11.4 | N/A | 22.0 | 9.2 | | | | |
| | *Level of Service* | | 0.747 / C | D | F | F | D | --- | --- | --- | --- | B | N/A | C | A | --- | --- | --- | --- |

**Table 28. Existing Conditions Intersection PM Peak Level of Service Results (cont.)**

| InID | Intersection | Control Type | Overall V/C / ICU LOS [1] | Overall HCM [2] | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Southeastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT |
| 53 | Garden St & E/ Yanonali St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 70.5 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.527 / A | E | | | | | | | | | | | | | | | |
| 54 | NB off ramp & Bath St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 15.8 | N/A | 15.8 | | | 12.9 | N/A | N/A | 0.2 | | 5.8 | | | | | |
| | *Level of Service* | | | C | N/A | C | --- | --- | B | N/A | N/A | A | --- | A | --- | --- | --- | --- | --- |
| 55 | NB on ramp & Castillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 79.1 | | | | 208.7 | 226.9 | N/A | 6.4 | 4.4 | 6.8 | N/A | 43.2 | 40.8 | | | |
| | *Level of Service* | | 0.665 / B | E | --- | --- | --- | F | F | N/A | A | A | A | N/A | D | D | --- | --- | --- |
| 56 | W. Haley St & Bath St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 13.7 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.737 / C | B | | | | | | | | | | | | | | | |
| 57 | SB on/off ramp & Castillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 28.6 | N/A | 27.6 | 47.2 | | | | | 23.8 | N/A | 48.1 | 20.8 | | | | |
| | *Level of Service* | | 0.719 / C | C | N/A | C | D | --- | --- | --- | --- | C | N/A | D | C | --- | --- | --- | --- |
| 58 | NB on/off ramp & Carrillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 26.5 | | | | 53.6 | 52.6 | N/A | 37.7 | 3.4 | | | 18.9 | 58.4 | | | |
| | *Level of Service* | | 0.798 / C | C | --- | --- | --- | D | D | N/A | D | A | --- | --- | B | E | --- | --- | |
| 59 | SB on/off ramp & Carrillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 31.2 | 46.2 | 47.2 | 70.5 | | | | | 19.5 | 17.3 | 32.1 | 14.8 | | | | |
| | *Level of Service* | | 0.733 / C | C | D | D | E | --- | --- | --- | --- | B | B | C | B | --- | --- | --- | --- |
| 60 | Carrillo St & Castillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 16.3 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.730 / C | B | | | | | | | | | | | | | | | |
| 61 | Carrillo St & San Pascual St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.5 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 62 | NB on/off ramp & Castillo St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 158.8 | N/A | 0.5 | | | | | | 0.1 | N/A | N/A | 158.8 | | | | |
| | *Level of Service* | | | F | N/A | A | --- | --- | --- | --- | --- | A | N/A | N/A | F | --- | --- | --- | --- |
| 63 | NB on/off ramp & Mission St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.4 | | | | N/A | 55.6 | 34.8 | N/A | 7.2 | | | 3.6 | 4.6 | | | |
| | *Level of Service* | | 0.711 / C | B | --- | --- | --- | N/A | E | C | N/A | A | --- | --- | A | A | --- | --- | --- |
| 64 | SB on/off ramp & Mission St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 29.2 | 51.0 | 49.7 | N/A | | | | | 9.3 | N/A | N/A | 20.7 | | | | |
| | *Level of Service* | | 0.811 / D | C | D | D | N/A | --- | --- | --- | --- | A | N/A | N/A | C | --- | --- | --- | --- |
| 65 | Mission St & Castillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 6.9 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.571 / A | A | | | | | | | | | | | | | | | |
| 66 | Mission St & San Pascual St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 14.9 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | B | | | | | | | | | | | | | | | |
| 67 | NB off ramp & Pueblo St & Calle Real | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 155.7 | 32.1 | | | | 6.2 | N/A | | | | | | 155.7 | | | |
| | *Level of Service* | | | F | D | --- | --- | --- | A | N/A | --- | --- | --- | --- | --- | F | --- | --- | --- |
| 68 | NB on ramp & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 22.3 | N/A | 52.8 | N/A | 9.0 | 6.0 | N/A | | | | N/A | 65.3 | N/A | | | |
| | *Level of Service* | | 0.651 / B | C | N/A | D | N/A | A | A | N/A | --- | --- | --- | N/A | E | N/A | --- | --- | --- |
| 69 | Calle Real & Las Positas Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 43.6 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.701 / C | D | | | | | | | | | | | | | | | |
| 70 | SB on/off ramp & Las Positas Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 43.1 | 122.5 | 46.0 | | | | | | 27.6 | 21.5 | 47.1 | 6.8 | | | | |
| | *Level of Service* | | 0.766 / C | D | F | D | --- | --- | --- | --- | --- | C | C | D | A | --- | --- | --- | --- |
| 71 | Las Pasitas Rd & Modoc Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 70.5 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.691 / B | E | | | | | | | | | | | | | | | |
| 72 | NB on/off ramp & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 30.3 | 33.0 | 31.3 | N/A | 32.1 | 28.9 | N/A | 30.2 | 29.7 | 22.7 | 30.6 | 32.7 | 28.5 | | | |
| | *Level of Service* | | 0.578 / A | C | C | C | N/A | C | C | N/A | C | C | C | C | C | C | --- | --- | --- |
| 73 | SB on/off ramp & La Cumbre Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 26.3 | 30.9 | 31.1 | 17.0 | | | | | 30.0 | 28.5 | 28.9 | 14.9 | | | | |
| | *Level of Service* | | 0.581 / A | C | C | C | B | --- | --- | --- | --- | C | C | C | B | --- | --- | --- | --- |
| 74 | La Cumbre Rd & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11.7 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.470 / A | B | | | | | | | | | | | | | | | |
| 75 | NB off ramp & State St & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 25.5 | 40.7 | 18.1 | | | 23.5 | 26.4 | 25.1 | 29.8 | N/A | 35.1 | 35.2 | N/A | | | |
| | *Level of Service* | | 0.578 / A | C | D | B | --- | --- | C | C | C | C | N/A | D | D | N/A | --- | --- | --- |
| 76 | NB on ramp & State St | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 0 | | | | | | | | | | | | | | | |
| | *Level of Service* | | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 77 | Calle Real & Rt 154 & San Macros Pass Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 26.4 | 27.1 | 29.5 | 28.0 | 23.0 | 25.3 | 27.4 | 32.9 | 26.3 | N/A | 32.6 | 24.4 | N/A | | | |
| | *Level of Service* | | 0.500 / A | C | C | C | C | C | C | C | C | C | N/A | C | C | N/A | --- | --- | --- |
| 78 | SB off ramp & State St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 20 | | 20.4 | N/A | 29.5 | 11.8 | | | 34.0 | | 24.6 | 24.5 | 17.7 | | | |
| | *Level of Service* | | 0.528 / A | B | --- | C | N/A | C | B | --- | --- | C | --- | C | C | B | --- | --- | --- |

**Table 28. Existing Conditions Intersection PM Peak Level of Service Results (cont.)**

| InID | Intersection | Control Type | Overall V/C / ICU LOS [1] | Overall HCM [2] | Eastbound | | | Westbound | | | Northbound | | | Southbound | | | Southeastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT | LT | T | RT |
| 79 | SB on ramp & State St & Rt 154 | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 37.6 | | | | | | | | | | 37.6 | | | | | |
| | *Level of Service* | | | E | --- | --- | --- | --- | --- | --- | --- | --- | --- | E | --- | --- | --- | --- | --- |
| 792 | State St & San Marcos Pass Road | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 18 | 22.1 | 6.5 | N/A | N/A | 23.2 | 21.1 | N/A | 35.8 | N/A | N/A | 23.7 | 25.5 | | | |
| | *Level of Service* | | 0.530 / A | B | C | A | N/A | N/A | C | C | N/A | D | N/A | N/A | C | C | --- | --- | --- |
| 80 | NB on/off ramp & Calle Real & El Sueno Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 16.5 | N/A | 20.6 | N/A | N/A | 16.0 | N/A | N/A | 12.6 | 8.9 | N/A | 11.4 | N/A | | | |
| | *Level of Service* | | | C | N/A | C | N/A | N/A | C | N/A | N/A | B | A | N/A | B | N/A | --- | --- | --- |
| 81 | NB on/off ramp & Turnpike Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 20.6 | | | | 34.5 | 34.7 | 26.3 | 35.3 | 10.6 | | | 13.8 | N/A | | | |
| | *Level of Service* | | 0.573 / A | C | --- | --- | --- | C | C | C | D | B | --- | --- | B | N/A | --- | --- | --- |
| 82 | SB on/off ramp & Turnpike Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 16.7 | N/A | 32.4 | N/A | | | | | 18.1 | N/A | 24.6 | 0.3 | | | | |
| | *Level of Service* | | 0.718 / C | B | N/A | C | N/A | --- | --- | --- | --- | B | N/A | C | A | --- | --- | --- | --- |
| 83 | Turnpike Rd & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 241.1 | County of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.556 / A | F | | | | | | | | | | | | | | | |
| 84 | NB on/off ramp & Patterson Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 20.3 | | | | 49.4 | 54.8 | 50.9 | 43.4 | 4.3 | | | 11.3 | 9.3 | | | |
| | *Level of Service* | | 0.699 / B | C | --- | --- | --- | D | D | D | D | A | --- | --- | B | A | --- | --- | --- |
| 85 | SB on/off ramp & Patterson Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 73.5 | 211.6 | 215.3 | N/A | | | | | 23.1 | 19.6 | 52.5 | 9.5 | N/A | | | |
| | *Level of Service* | | 0.844 / D | E | F | F | N/A | --- | --- | --- | --- | C | B | D | A | N/A | --- | --- | --- |
| 86 | Patterson Ave & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 46.1 | City of Goleta | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.634 / B | D | | | | | | | | | | | | | | | |
| 87 | NB on/off ramp & Fairview Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 30.5 | 44.8 | | 0.2 | | 61.1 | 24.6 | | | | | 58.6 | 0.2 | | | |
| | *Level of Service* | | 0.820 / D | C | D | --- | A | --- | E | C | --- | --- | --- | --- | E | A | --- | --- | --- |
| 88 | Calle Real & Fairview Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 24.1 | City of Goleta | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.714 / C | C | | | | | | | | | | | | | | | |
| 89 | SB on/off ramp & Fairview Ave | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 15.9 | N/A | 23.3 | 19.5 | | | | | 18.2 | 17.2 | 22.5 | 5.2 | | | | |
| | *Level of Service* | | 0.584 / A | B | N/A | C | B | --- | --- | --- | --- | B | B | C | A | --- | --- | --- | --- |
| 90 | NB on/off ramp & Los Carneros Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 16.4 | | | | 19.8 | 19.9 | N/A | 21.7 | 8.5 | | | 20.9 | N/A | | | |
| | *Level of Service* | | 0.534 / A | B | --- | --- | --- | B | B | N/A | C | A | --- | --- | C | N/A | --- | --- | --- |
| 91 | SB on/off ramp & Los Carneros Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.9 | N/A | 30.1 | 27.9 | | | | | 15.4 | N/A | 31.9 | 3.2 | | | | |
| | *Level of Service* | | 0.708 / C | B | N/A | C | C | --- | --- | --- | --- | B | N/A | C | A | --- | --- | --- | --- |
| 92 | Los Carneros Rd & Calle Real | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 24.4 | City of Goleta | | | | | | | | | | | | | | |
| | *Level of Service* | | | C | | | | | | | | | | | | | | | |
| 93 | NB on/off ramp & Glen Annie Rd & Calle Real | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 371.1 | 35.6 | 140.1 | 147.5 | 649.8 | 626.7 | N/A | 159.8 | 9.4 | N/A | 45.5 | 17.7 | N/A | | | |
| | *Level of Service* | | 0.753 / C | F | D | F | F | F | F | N/A | F | A | N/A | D | B | N/A | --- | --- | --- |
| 94 | Glen Annie Rd & Del Norte Rd | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10 | City of Goleta | | | | | | | | | | | | | | |
| | *Level of Service* | | | A | | | | | | | | | | | | | | | |
| 95 | SB on/off ramp & Glen Annie Rd | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 9.9 | N/A | 38.3 | 44.5 | | | | | 9.6 | 2.3 | 22.9 | 9.2 | | | | |
| | *Level of Service* | | 0.543 / A | A | N/A | D | D | --- | --- | --- | --- | A | A | C | A | --- | --- | --- | --- |
| 96 | Calle Real & Hollister Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 85.6 | | 10.2 | N/A | N/A | 85.6 | N/A | N/A | 4.5 | | | | | | | |
| | *Level of Service* | | | F | --- | B | N/A | N/A | F | N/A | N/A | A | --- | --- | --- | --- | --- | --- | --- |
| 97 | SB on/off ramp & Hollister Ave | TWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 12.3 | N/A | 12.3 | | | | | | | | N/A | 3.2 | | | | |
| | *Level of Service* | | | B | N/A | B | --- | --- | --- | --- | --- | --- | --- | N/A | A | --- | --- | --- | --- |
| 98 | NB off ramp & Winchester Canyon Rd | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 11 | 8.7 | | | | 12.1 | N/A | | | | | | 8.7 | | | |
| | *Level of Service* | | | B | A | --- | --- | --- | B | N/A | --- | --- | --- | --- | --- | A | --- | --- | --- |
| 102 | Guteirrez St & Garden St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 30.1 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.708 / C | C | | | | | | | | | | | | | | | |
| 103 | Montecito St & Castillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 50.5 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.849 / D | D | | | | | | | | | | | | | | | |
| 104 | San Andres & Carrillo St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 38.5 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.753 / C | D | | | | | | | | | | | | | | | |
| 105 | Modoc St & Mission St | AWSC | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 48.8 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | | E | | | | | | | | | | | | | | | |
| 106 | Quinientos St & Milpas St | Signal | | | | | | | | | | | | | | | | | |
| | *Delay (seconds)* | | | 10.6 | City of Santa Barbara | | | | | | | | | | | | | | |
| | *Level of Service* | | 0.715 / C | B | | | | | | | | | | | | | | | |

Note: --- indicates corresponding movement does not exist.
N/A indicates delay same as the adjacent movement due to shared approach.
AWSC = All Way Stop Control, TWSC = Two Way Stop Control
1 - ICU LOS is reported for signalized intersections only
2 - Based on HCM 2000, Chapter 16 Signalized Intersections and Chapter 17 Unsignalized Intersections methodology
3 - Based on methodology developed by FHWA publication Roundabouts: An Information Guide, June 2000
Indicates that LOS exceeds LOS threshold

### Table 29. Existing Conditions Local Intersections AM Peak Level of Service Results

| InID | Intersection | Jurisdiction | Control Type | Overall ICU [1] | | Overall HCM [2] | |
|---|---|---|---|---|---|---|---|
| | | | | V/C | LOS | Delay | LOS |
| 9 | Via Real & Bailard Ave | City of Carpinteria | AWSC | | | 15 | B |
| 10 | Carpinteria Ave & Bailard Ave | City of Carpinteria | AWSC | | | 12.3 | B |
| 16 | Linden Ave & Ogan Rd | City of Carpinteria | TWSC | | | 17.9 | C |
| 18 | Linden Ave & Sawyer Ave | City of Carpinteria | TWSC | | | 18.8 | C |
| 20 | Santa Ynez Ave/7th St & Carpinteria Ave | City of Carpinteria | Signal | 0.453 | A | | |
| 23 | Via Real & S. Padaro Ln | City of Carpinteria | TWSC | | | 24.7 | C |
| 26 | N. Padaro Ln & Via Real | County of Santa Barbara | TWSC | | | 16.8 | C |
| 29 | Evans Ave & Ortega Hill Rd | County of Santa Barbara | AWSC | | | 10.4 | B |
| 34 | Jameson & Sheffield | County of Santa Barbara | TWSC | | | 12.5 | B |
| 36 | San Ysidro Rd & N. Jameson Ln | County of Santa Barbara | AWSC | | | **36.3** | **E** |
| 38 | S. Jameson Ln & San Ysidro Rd/Eucalyptus Ln | County of Santa Barbara | TWSC | | | 9.8 | A |
| 42 | Olive Mill Rd & Spring | County of Santa Barbara | TWSC | | | 18.5 | C |
| 53 | Garden St & E/ Yanonali St | City of Santa Barbara | Signal | 0.439 | A | | |
| 56 | W. Haley St & Bath St | City of Santa Barbara | Signal | 0.501 | A | | |
| 60 | Carrillo St & Castillo St | City of Santa Barbara | Signal | 0.723 | C | | |
| 61 | Carrillo St & San Pascual St | City of Santa Barbara | TWSC | | | 13.4 | B |
| 65 | Mission St & Castillo St | City of Santa Barbara | Signal | 0.558 | A | | |
| 66 | Mission St & San Pascual St | City of Santa Barbara | TWSC | | | 18.5 | C |
| 69 | Calle Real & Las Pasitas Rd | City of Santa Barbara | Signal | 0.658 | B | | |
| 71 | Las Pasitas Rd & Modoc Rd | City of Santa Barbara | Signal | **0.863** | **D** | | |
| 74 | La Cumbre Rd & Calle Real | City of Santa Barbara | Signal | 0.39 | A | | |
| 83 | Turnpike Rd & Calle Real | County of Santa Barbara | Signal | 0.492 | A | | |
| 86 | Patterson Ave & Calle Real | City of Goleta | Signal | 0.537 | A | | |
| 88 | Calle Real & Fairview Ave | City of Goleta | Signal | 0.663 | B | | |
| 92 | Los Carneros Rd & Calle Real | City of Goleta | TWSC | | | 18.7 | C |
| 94 | Glen Annie Rd & Del Norte Rd | City of Goleta | TWSC | | | 11.4 | B |
| 102 | Guteirrez St & Garden St | City of Santa Barbara | Signal | 0.679 | B | | |
| 103 | Montecito St & Castillo St | City of Santa Barbara | Signal | **0.771** | **C** | | |
| 104 | San Andres & Carrillo St | City of Santa Barbara | Signal | 0.708 | C | | |
| 105 | Modoc St & Mission St | City of Santa Barbara | AWSC | | | **48.8** | **E** |
| 106 | Quinientos St & Milpas St | City of Santa Barbara | Signal | 0.572 | A | | |

AWSC = All Way Stop Control, TWSC = Two Way Stop Control
1 - ICU LOS is reported for signalized intersections only
2 - Based on HCM 2000, Chapter 16 Signalized Intersections and Chapter 17 Unsignalized Intersections methodology
Indicates that LOS exceeds LOS threshold

### Table 30. Existing Conditions Local Intersections PM Peak Level of Service Results

| InID | Intersection | Jurisdiction | Control Type | Overall ICU [1] | | Overall HCM [2] | |
|---|---|---|---|---|---|---|---|
| | | | | V/C | LOS | Delay | LOS |
| 9 | Via Real & Bailard Ave | City of Carpinteria | AWSC | | | 22.8 | C |
| 10 | Carpinteria Ave & Bailard Ave | City of Carpinteria | AWSC | | | 21.4 | C |
| 16 | Linden Ave & Ogan Rd | City of Carpinteria | TWSC | | | 16.1 | C |
| 18 | Linden Ave & Sawyer Ave | City of Carpinteria | TWSC | | | 19.1 | C |
| 20 | Santa Ynez Ave/7th St & Carpinteria Ave | City of Carpinteria | Signal | 0.626 | B | | |
| 23 | Via Real & S. Padaro Ln | City of Carpinteria | TWSC | | | 13.6 | B |
| 26 | N. Padaro Ln & Via Real | County of Santa Barbara | TWSC | | | 11.2 | B |
| 29 | Evans Ave & Ortega Hill Rd | County of Santa Barbara | AWSC | | | 9.7 | A |
| 34 | Jameson & Sheffield | County of Santa Barbara | TWSC | | | 10.8 | B |
| 36 | San Ysidro Rd & N. Jameson Ln | County of Santa Barbara | AWSC | | | 24.4 | C |
| 38 | S. Jameson Ln & San Ysidro Rd/Eucalyptus Ln | County of Santa Barbara | TWSC | | | 9.8 | A |
| 42 | Olive Mill Rd & Spring | County of Santa Barbara | TWSC | | | 11.9 | B |
| 53 | Garden St & E/ Yanonali St | City of Santa Barbara | Signal | 0.527 | A | | |
| 56 | W. Haley St & Bath St | City of Santa Barbara | Signal | 0.737 | C | | |
| 60 | Carrillo St & Castillo St | City of Santa Barbara | Signal | 0.73 | C | | |
| 61 | Carrillo St & San Pascual St | City of Santa Barbara | TWSC | | | 12.5 | B |
| 65 | Mission St & Castillo St | City of Santa Barbara | Signal | 0.571 | A | | |
| 66 | Mission St & San Pascual St | City of Santa Barbara | TWSC | | | 14.9 | B |
| 69 | Calle Real & Las Pasitas Rd | City of Santa Barbara | Signal | 0.701 | C | | |
| 71 | Las Pasitas Rd & Modoc Rd | City of Santa Barbara | Signal | 0.691 | B | | |
| 74 | La Cumbre Rd & Calle Real | City of Santa Barbara | Signal | 0.47 | A | | |
| 83 | Turnpike Rd & Calle Real | County of Santa Barbara | Signal | 0.556 | A | | |
| 86 | Patterson Ave & Calle Real | City of Goleta | Signal | 0.634 | B | | |
| 88 | Calle Real & Fairview Ave | City of Goleta | Signal | 0.714 | C | | |
| 92 | Los Carneros Rd & Calle Real | City of Goleta | TWSC | | | 24.4 | C |
| 94 | Glen Annie Rd & Del Norte Rd | City of Goleta | TWSC | | | 10 | A |
| 102 | Guteirrez St & Garden St | City of Santa Barbara | Signal | 0.708 | C | | |
| 103 | Montecito St & Castillo St | City of Santa Barbara | Signal | **0.849** | **D** | | |
| 104 | San Andres & Carrillo St | City of Santa Barbara | Signal | 0.753 | C | | |
| 105 | Modoc St & Mission St | City of Santa Barbara | AWSC | | | **48.8** | **E** |
| 106 | Quinientos St & Milpas St | City of Santa Barbara | Signal | 0.715 | C | | |

AWSC = All Way Stop Control, TWSC = Two Way Stop Control
1 - ICU LOS is reported for signalized intersections only
2 - Based on HCM 2000, Chapter 16 Signalized Intersections and Chapter 17 Unsignalized Intersections methodology
Indicates that LOS exceeds LOS threshold

### *Intersection Signal Warrant Analysis*

Non-signalized intersections were evaluated using the Peak Hour Volume Warrant (Warrant No. 11) in the Caltrans Traffic Manual. For most non-signalized intersections, available data was limited to peak hour volumes. The Peak Hour Volume Warrant was applied to determine if the minor street experiences long delays in entering or crossing the major street for at least one hour of a day.

The MUTCD states that, "This [peak hour] signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time." Hence, the peak hour warrant is being used in this study as an "indicator" of the likelihood of an existing non-signalized intersection warranting a traffic signal now. Intersections that fail to exceed the peak hour warrant are considered (for the purposes of this study) to be unlikely to meet one or more of the other signal warrants (such as the 4-hour or 8-hour warrants). However, this does not mean that a signal is definitely unwarranted. A signal may be warranted by other criteria, some of which cannot be known without additional data collection. This peak hour warrant analysis is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

Even if the Peak Hour Volume Warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the daily peak hours of roadway traffic, pedestrian traffic, and accident histories.

Signal warrant results are summarized in **Table 31**. The following five intersections currently meet signal warrants.

**Olive Mill Road and SB 101 On-Ramp (Int #40)**
The all-way stop controlled intersection of Olive Mill Road and SB 101 On-Ramp meets the peak hour warrant in the AM peak hour only. All individual movements operate at acceptable conditions as shown in the LOS results.

**Cabrillo Blvd and NB 101 On-Ramp (Int #45)**
This two-way stop controlled intersection meets peak hour volume warrant during both study peak hours. The intersection functions at LOS F during the PM peak hour.

**Carrillo Street and San Pascual Street (Int #61)**
The two-way stop controlled intersection of Carrillo Street and San Pascual Street meets the peak hour warrant during the AM and PM peak hours, but most of the minor street approach traffic is turning right. Delays do occur however as shown in the LOS results.

**Hollister Avenue and Calle Real (Int #96)**
The two-way stop controlled intersection of Hollister Avenue and Calle Real meets the peak hour warrant during the PM peak hour. In addition, based on LOS results, the westbound stop controlled approach functions at LOS F. Even though the same movement has LOS F during AM peak hour, traffic signal is not warranted based on peak hour volumes.

**Mission St and Modoc St (Int #105)**
This all-way stop controlled intersection meets the peak hour volume warrant in the AM and PM peak hours. The intersection also operates at deficient LOS during both peak hours.

**Appendix C** presents the worksheets used in determining the degree to which the signal warrant criteria are met.

**Table 31. Signal Warrant Analysis Results**

| Int ID | Major Street | Minor Street | Control | AM Peak Hour Volumes Warrant Met? | PM Peak Hour Volumes Warrant Met? |
|---|---|---|---|---|---|
| 1 | Bates Rd | NB On/Off Ramps | TWSC | No | No |
| 2 | Bates Rd | SB On/Off Ramps | TWSC | No | No |
| 3 | SR 150 | NB On/Off Ramps | TWSC | No | No |
| 4 | SR 150 | SB On/Off Ramps | TWSC | No | No |
| 5 | SR 150 | Via Real | TWSC | No | No |
| 6 | SR 150 | Carpinteria Ave | TWSC | No | No |
| 7 | Bailard Ave | NB On/Off Ramps | TWSC | No | No |
| 8 | Bailard Ave | SB On/Off Ramps | TWSC | No | No |
| 9 | Bailard Ave | Via Real | AWSC | No | No |
| 10 | Bailard Ave | Carpinteria Ave | AWSC | No | No |
| 11 | Casitas Pass Rd | NB Off Ramp | AWSC | No | No |
| 12 | NB On Ramp | Via Real | TWSC | No | No |
| 13 | Casitas Pass Rd | SB On/Off Ramps | AWSC | No | No |
| 16 | Linden Ave | Ogan Rd | TWSC | No | No |
| 17 | Linden Ave | SB Off Ramp | TWSC | No | No |
| 18 | Linden Ave | Sawyer Ave | TWSC | No | No |
| 19 | Carpinteria Ave | SB On/Off Ramps | TWSC | No | No |
| 21 | Via Real | NB On/Off Ramps | AWSC | No | No |
| 22 | Padaro Ln S | NB On/Off Ramps | TWSC | No | No |
| 23 | Via Real | Padaro Ln S | TWSC | No | No |
| 24 | Padaro Ln S | SB Off Ramp | TWSC | No | No |
| 25 | Padaro Ln N | NB On/Off Ramps | TWSC | No | No |
| 26 | Via Real | Padaro Ln N | TWSC | No | No |
| 27 | Padaro Ln N | SB On/Off Ramps | TWSC | No | No |
| 28 | Ortega Hill Rd | NB Off Ramp | TWSC | No | No |
| 29 | Ortega Hill Rd | Evans Ave | AWSC | No | No |
| 30 | Ortega Hill Rd | NB On Ramp | TWSC | No | No |
| 31 | Evans Ave | SB Off Ramp | TWSC | No | No |
| 32 | Jameson Ln | NB On/Off Ramps | TWSC | No | No |
| 33 | Jameson Ln | SB On/Off Ramps | TWSC | No | No |
| 34 | Sheffield Dr | Jameson Ln | TWSC | No | No |
| 35 | San Ysidro Rd | NB On/Off Ramps | TWSC | No | No |
| 36 | Jameson Ln N | San Ysidro Rd | AWSC | No | No |
| 37 | San Ysidro Rd | SB Off Ramp | TWSC | No | No |
| 38 | San Ysidro Rd | Jameson Ln S | TWSC | No | No |
| 39 | Olive Mill Rd | NB Off Ramp | AWSC | No | No |
| 391 | Olive Mill Rd | Jameson Ln | AWSC | No | No |
| 40 | Olive Mill Rd | SB On Ramp | AWSC | **Yes** | No |
| 41 | SB Off Ramp | Depot | TWSC | No | No |
| 42 | Olive Mill Rd | Spring Rd | TWSC | No | No |
| 43 | Coast Village Rd | NB Off Ramp | TWSC | No | No |
| 44 | Cabrillo Rd | SB On/Off Ramps | AWSC | No | No |
| 45 | NB On Ramp | Cabrillo Rd | TWSC | **Yes** | **Yes** |
| 54 | NB Off Ramp | Cottage Grove | TWSC | No | No |
| 61 | Carrillo St | San Pascual St | TWSC | **Yes** | **Yes** |
| 62 | Castillo St | NB On/Off Ramps | TWSC | No | No |
| 66 | Mission St | San Pascual St | TWSC | No | No |
| 67 | NB Off Ramp | Pueblo St | TWSC | No | No |
| 80 | Calle Real | NB On/Off Ramps | AWSC | No | No |
| 92 | Las Carneros Rd | Calle Real | TWSC | No | No |
| 94 | Glen Annie Rd | Del Norte Rd | TWSC | No | No |
| 96 | Hollister Ave | Calle Real | TWSC | No | **Yes** |
| 97 | Hollister Ave | SB On/Off Ramps | TWSC | No | No |
| 98 | Winchester Canyon Rd | NB Off Ramp | AWSC | No | No |
| 105 | Mission St | Modoc St | TWSC | **Yes** | **Yes** |

## *Intersection Left-Turn Queuing Analysis*

Analysis of peak hour queuing and left-turn queue storage requirements at study intersections was performed based on the HDM methodology. Analysis results are shown in **Table 32**. Max vehicles per hour, highest of either the AM or PM peak hour, indicate greatest queues. Required storage as calculated by the HDM methodology was compared with available storage measured from aerial photos. Locations where required storage exceeds available storage are highlighted. It is noted that shared through/left-turn lanes are not addressed by the HDM. HDM intersection left turn queue calculation worksheets are provide in **Appendix D**.

**Table 32. Intersection Left-Turn Queuing Analysis Results**

| No. | Intersection | Control Type | Northbound | | Southbound | | Eastbound | | Westbound | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max VPH | Storage (ft) | Max VPH | Storage (ft) | Max VPH | Storage (ft) | Max VPH | Storage (ft) |
| 1 | NB On/Off Ramps & Bates Rd | TWSC | - | - | - | - | - | - | 25 | 75 |
| 2 | SB On/Off-Ramps & | TWSC | - | - | - | - | 10 | 75 | - | - |
| 3 | NB On/Off-Ramps & SR150 | TWSC | - | - | - | - | - | - | - | - |
| 4 | SB On/Off-Ramps & SR150 | TWSC | - | - | - | - | - | - | - | - |
| 5 | Via Real & SR150 | TWSC | - | - | - | - | - | - | - | - |
| 6 | Carpinteria Ave & SR150 | TWSC | - | - | - | - | - | - | - | - |
| 7 | NB On/Off Ramps & Bailard Ave | TWSC | - | - | - | - | - | - | - | - |
| 8 | SB On/Off Ramps & Bailard Ave | TWSC | - | - | - | - | - | - | - | - |
| 9 | Via Real & Bailard Ave | AWSC | - | - | - | - | - | - | - | - |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | - | - | - | - | - | - | - | - |
| 11 | NB Off Ramp & Casitas Pass Rd | AWSC | - | - | - | - | - | - | - | - |
| 12 | NB On Ramp & Via Real | TWSC | - | - | - | - | - | - | - | - |
| 13 | SB On/Off Ramps & Casitas Pass Rd | AWSC | - | - | - | - | - | - | - | - |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | - | - | 255 | 375 | 315 | 460 | - | - |
| 15 | Ogan Rd & NB On Ramp | TWSC | - | - | - | - | - | - | - | - |
| 16 | Ogan Rd & Linden Ave | TWSC | - | - | - | - | - | - | - | - |
| 17 | SB Off Ramp & Linden Ave | TWSC | - | - | - | - | - | - | - | - |
| 18 | Sawyer Ave & Linden Ave | TWSC | - | - | - | - | - | - | - | - |
| 19 | Carpinteria Ave & SB On/Off Ramps | TWSC | - | - | - | - | 195 | 165 | 70 | 75 |
| 20 | Carpinteria Ave & Santan Ynez Ave | Signal | - | - | 345 | 505 | 125 | 180 | - | - |
| 21 | Via Real & NB On/Off Ramps | AWSC | - | - | - | - | - | - | - | - |
| 22 | NB On/Off Ramps & Padero Ln | TWSC | - | - | - | - | - | - | - | - |
| 23 | Via Real & Padero Ln | TWSC | - | - | - | - | - | - | - | - |
| 24 | SB Off Ramp & Padero Ln | TWSC | - | - | - | - | 165 | 140 | - | - |
| 25 | NB On/Off Ramps & Padero Ln | TWSC | - | - | - | - | - | - | - | - |
| 26 | Via Real & Padero Ln | TWSC | - | - | - | - | - | - | - | - |
| 27 | SB On/Off Ramps & Padero Ln | TWSC | - | - | - | - | - | - | - | - |
| 28 | Ortega Hill Rd & Hollister St | TWSC | - | - | - | - | - | - | - | - |
| 29 | Ortega Hill Rd & Evans Ave | AWSC | - | - | - | - | - | - | - | - |
| 30 | Ortega Hill Rd & NB On Ramp | TWSC | - | - | - | - | - | - | - | - |
| 31 | SB Off Ramp & Evans Ave | TWSC | - | - | - | - | - | - | - | - |
| 32 | NB On/Off Ramps & Jameson Ln | TWSC | - | - | - | - | - | - | - | - |
| 33 | SB On/Off Ramps & Jameson Ln | TWSC | - | - | - | - | - | - | - | - |
| 34 | Sheffield Dr & Jameson Ln | TWSC | - | - | - | - | - | - | - | - |
| 35 | NB On/Off Ramps & San Ysidro Rd | TWSC | - | - | - | - | - | - | - | - |
| 36 | N Jameson Ln & San Ysidro Rd | AWSC | - | - | - | - | - | - | - | - |
| 37 | SB Off Ramp & San Ysidro Rd | TWSC | - | - | - | - | 380 | 315 | - | - |
| 38 | S Jameson Ln & San Ysidro Rd | TWSC | - | - | - | - | - | - | - | - |
| 39 | NB Off Ramp & Olive Mill Rd | AWSC | - | - | - | - | - | - | - | - |
| 40 | SB On Ramp & Olive Mill Rd | AWSC | - | - | - | - | 230 | 190 | - | - |
| 41 | SB Off Ramp & Depot Rd | TWSC | - | - | - | - | - | - | - | - |
| 42 | Spring Rd & Olive Mill Rd | TWSC | - | - | - | - | - | - | - | - |
| 43 | Coast Village Rd & NB Off Ramp | TWSC | 55 | 75 | - | - | - | - | - | - |
| 44 | SB On/Off Ramps & Cabrillo Blvd | AWSC | - | - | 115 | 95 | - | - | - | - |
| 45 | NB On Ramp & Cabrillo Blvd | TWSC | 75 | 75 | - | - | - | - | 355 | 295 |
| 46 | NB On/Off Ramps & S Salinas St | TWSC | - | - | - | - | - | - | - | - |
| 47 | NB On-Ramp & Carpinteria St | Signal | - | - | - | - | - | - | - | - |
| 48 | SB Off-Ramp & Milpas St | Signal | - | - | - | - | 725 | 1,060 | - | - |
| 49 | SB On-Ramp & Milpas St | Signal | - | - | 885 | 1,295 | - | - | - | - |
| 50 | NB On/Off-Ramp & Garden St | Signal | 345 | 505 | - | - | - | - | - | - |
| 51 | Palm Ave & NB Off-Ramp | TWSC | - | - | - | - | - | - | - | - |
| 52 | SB On/Off-Ramp & Garden St | Signal | - | - | 480 | 700 | 605 | 880 | - | - |
| 53 | Yanonali St & Garden St | Signal | 20 | 50 | 290 | 420 | 270 | 395 | 10 | 50 |
| 54 | Cottage Grove Ave & NB Off Ramp | TWSC | - | - | - | - | - | - | - | - |
| 55 | NB On Ramp & Castillo St | Signal | 520 | 755 | - | - | - | - | 455 | 665 |
| 56 | W Haley St & Bath St | Signal | - | - | - | - | 115 | 170 | - | - |
| 57 | SB On/Off Ramps & Castillo St | Signal | - | - | 110 | 160 | - | - | - | - |
| 58 | NB On/Off-Ramp & Carillo St | Signal | 425 | 615 | - | - | - | - | 420 | 615 |

**Table 32 cont. Intersection Left-Turn Queuing Analysis Results**

| No. | Intersection | Control Type | Northbound | | Southbound | | Eastbound | | Westbound | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Max VPH | Storage (ft) | Max VPH | Storage (ft) | Max VPH | Storage (ft) | Max VPH | Storage (ft) |
| 59 | SB On/Off-Ramp & Carillo St | Signal | - | - | 255 | 375 | - | - | - | - |
| 60 | Castillo St & Carillo St | Signal | - | - | 45 | 70 | 95 | 135 | - | - |
| 61 | Carillo St & | TWSC | - | - | 305 | 255 | - | - | - | - |
| 62 | Castillo St & NB On/Off Ramps | TWSC | - | - | - | - | - | - | - | - |
| 63 | NB On/Off Ramps & Mission St | Signal | - | - | - | - | - | - | - | - |
| 64 | SB On/Off Ramps & Mission St | Signal | - | - | - | - | 920 | 1,340 | - | - |
| 65 | Castillo St & Mission St | Signal | - | - | - | - | - | - | - | - |
| 66 | San Pascual St & Mission St | TWSC | - | - | - | - | - | - | - | - |
| 67 | NB Off Ramp & Pueblo St | TWSC | - | - | - | - | - | - | - | - |
| 68 | Calle Real & NB On Ramp | Signal | - | - | - | - | - | - | 1,040 | 1,515 |
| 69 | Calle Real & Las Positas Rd | Signal | 770 | 1,120 | - | - | 85 | 125 | 370 | 535 |
| 70 | SB On/Off Ramps & Las Positas Rd | Signal | - | - | 505 | 735 | 485 | 705 | - | - |
| 71 | Modoc Rd & Las Positas Rd | Signal | 160 | 235 | 240 | 350 | 240 | 350 | 25 | 50 |
| 72 | Calle Real & Hope Ave | Signal | 405 | 595 | 120 | 175 | 160 | 235 | 155 | 225 |
| 73 | SB On/Off Ramps & La Cumbre Rd | Signal | - | - | 540 | 785 | 660 | 960 | - | - |
| 74 | Calle Real & La Cumbre Rd | Signal | - | - | 125 | 180 | - | - | 385 | 560 |
| 75 | State St & NB Off Ramp | Signal | 225 | 325 | 190 | 275 | 45 | 60 | - | - |
| 76 | State St & NB On Ramp | TWSC | - | - | - | - | - | - | - | - |
| 77 | Calle Real & San Marcos Pass Rd | Signal | 75 | 110 | 110 | 160 | 65 | 95 | 190 | 280 |
| 78 | State St & SB Off Ramp | Signal | - | - | 575 | 840 | - | - | 55 | 80 |
| 79 | SB On Ramp & San Marcos Pass Rd | TWSC | - | - | - | - | - | - | - | - |
| 80 | Calle Real & NB On/Off Ramps / El Sueno Rd | AWSC | - | - | - | - | - | - | - | - |
| 81 | NB On/Off Ramps & Turnpike Rd | Signal | 315 | 455 | - | - | - | - | 455 | 660 |
| 82 | SB On/Off Ramps & Turnpike Rd | Signal | - | - | 310 | 450 | - | - | - | - |
| 83 | Calle Real & Turnpike Rd | Signal | 305 | 445 | 60 | 85 | 40 | 55 | 305 | 445 |
| 84 | NB On/Off Ramps & Patterson Ave | Signal | 400 | 580 | - | - | - | - | 430 | 625 |
| 85 | SB On/Off Ramps & Patterson Ave | Signal | - | - | 575 | 835 | 560 | 820 | - | - |
| 86 | Calle Real & Patterson Ave | Signal | 770 | 1,125 | - | - | 185 | 270 | - | - |
| 87 | NB Off Ramp & NB On Ramp | Signal | - | - | - | - | 795 | 1,155 | - | - |
| 88 | Calle Real & Fairview Ave | Signal | - | - | 130 | 190 | 45 | 70 | 295 | 430 |
| 89 | SB On/Off Ramps & Fairview Ave | Signal | - | - | 580 | 840 | - | - | - | - |
| 90 | NB On/Off Ramps & Los Carneros Rd | Signal | 220 | 315 | - | - | - | - | 790 | 1,150 |
| 91 | SB On/Off Ramps & Los Carneros Rd | Signal | - | - | 90 | 130 | - | - | - | - |
| 92 | Calle Real & Los Carneros Rd | TWSC | - | - | 25 | 75 | - | - | 345 | 290 |
| 93 | NB On/Off Ramps & Glen Annie Rd | Signal | 270 | 395 | 20 | 50 | 40 | 55 | 1,105 | 1,615 |
| 94 | Del Norte Dr & Glen Annie Rd | TWSC | - | - | - | - | - | - | - | - |
| 95 | SB On/Off Ramps & Glen Annie Rd | Signal | - | - | 950 | 1,385 | - | - | - | - |
| 96 | Calle Real & Hollister Ave | TWSC | - | - | - | - | - | - | - | - |
| 97 | SB On/Off Ramps & Hollister Ave | TWSC | - | - | - | - | - | - | - | - |
| 98 | NB Off Ramp & Winchester Canyon Rd | AWSC | - | - | - | - | - | - | - | - |
| 99 | NB On Ramp & Hollister Ave | TWSC | - | - | - | - | - | - | - | - |
| 102 | Guteirrez St & Garden St | Signal | 355 | 520 | - | - | - | - | 600 | 875 |
| 103 | Montecito St & Castillo St | Signal | 90 | 130 | 170 | 245 | 555 | 810 | 20 | 50 |
| 104 | San Andres & Carrillo St | Signal | 30 | 50 | 115 | 170 | 290 | 425 | - | - |
| 105 | Modoc St & Mission St | AWSC | 165 | 140 | - | - | 255 | 215 | - | - |
| 106 | Quinientos St & Milpas St | Signal | 75 | 105 | 175 | 255 | 20 | 50 | 110 | 160 |

Note " - " indicates either there is no separate left turn lane or volumes does not exist on that particular left-turn movement.
AWSC = All Way Stop Control, TWSC = Two Way Stop Control
Indicates available storage is less then the calculated storage based on Caltrans Highway Design Manual Methodology.

To check the analysis results provided above, intersection operations were simulated using SIMTRAFFIC-7. Five runs were made each with a unique random seed number. Comparisons indicate that for 84% of the study area intersection locations, queue results were similar between simulation and static analyses. 16 locations where queue results differed between static and simulation are shown in **Table 33**.

Although simulation better captures the dynamics of queuing and potential back spill between adjacent intersections, conjecture over which queue result (static vs. simulation) is more reflective of actual conditions must be deferred until more detailed field observations can be made at these intersections. Given that the SIMTRAFFIC simulation results have not been validated against field observations of queues - the HDM analysis is considered the operable result.

**Table 33. Static vs. Simulation Queue Locations**

| Int ID | Intersection | Control Type | Left Turn Approach | Static Analysis HDM Queue Length [1] (feet) | Static Analysis HDM Queue Exceeds Storage? | Simulation Analysis Sim-Traffic Queue Length [1] (feet) | Simulation Analysis Sim-Traffic Queue Exceeds Storage? |
|---|---|---|---|---|---|---|---|
| 4 | SB On/Off-Ramps & SR150 | TWSC | EB | < 75 | No | 109 | Yes |
| 48 | SB Off-Ramp & Milpas St | Signal | EB | < 1,060 | Yes | 210 | No |
| 49 | SB On-Ramp & Milpas St | Signal | SB | > 1,295 | Yes | 428 | No |
| 68 | Calle Real & NB On Ramp | Signal | WB | >1,515 | Yes | 374 | No |
| 72 | Calle Real & Hope Ave | Signal | WB | >225 | Yes | 176 | No |
| 77 | Calle Real & San Marcos Pass Rd | Signal | NB | < 110 | No | 174 | Yes |
| | | | SB | < 160 | No | 274 | Yes |
| | | | EB | < 95 | No | 145 | Yes |
| | | | WB | < 280 | No | 394 | Yes |
| 81 | NB On/Off Ramps & Turnpike Rd | Signal | NB | > 455 | Yes | 289 | No |
| 82 | SB On/Off Ramps & Turnpike Rd | Signal | SB | > 450 | Yes | 248 | No |
| 83 | Calle Real & Turnpike Rd | Signal | NB | > 445 | Yes | 96 | No |
| 84 | NB On/Off Ramps & Patterson Ave | Signal | NB | > 580 | Yes | 317 | No |
| 85 | SB On/Off Ramps & Patterson Ave | Signal | SB | > 835 | Yes | 828 | No |
| | | | EB | > 820 | Yes | 332 | No |
| 86 | Calle Real & Patterson Ave | Signal | NB | > 1,125 | Yes | 371 | No |
| 89 | SB On/Off Ramps & Fairview Ave | Signal | SB | > 840 | Yes | 145 | No |
| 90 | NB On/Off Ramps & Los Carneros Rd | Signal | WB | > 1,150 | Yes | 394 | No |
| 91 | SB On/Off Ramps & Los Carneros Rd | Signal | SB | < 130 | No | 204 | Yes |
| 93 | NB On/Off Ramps & Glen Annie Rd | Signal | EB | < 55 | No | 224 | Yes |

AWSC = All Way Stop Control, TWSC = Two Way Stop Control
[1] shows greater of AM and PM peak hour results

### *Highway 101 Basic Freeway Segment Level of Service Analysis*

Complete AM and PM peak hour LOS results for all study area segments of Highway 101 are provided in **Tables 35** and **Table 36** respectively. Basic freeway segment LOS is based on the HCM 2000 methodology.

Existing condition basic freeway AM and PM peak hour LOS results indicate that within the study area Highway 101 operates at LOS C or better with the exception of the locations listed in **Table 34**. These locations exceed the Caltrans LOS criteria established for this study. Freeway sections where congestion is shown to be most severe (LOS E or worse) are northbound from Salinas Street to Milpas Street (Route 144) during the AM peak hour; southbound from La Cumbre to Mission Street during the PM peak hour; and, southbound from Milpas Street (Route 144) to N Padaro Lane during the PM peak hour.

During the AM peak hour, greatest vehicle densities are experienced in the northbound direction. During the PM peak hour, the reverse occurs with the greatest vehicle densities being experienced in the southbound direction of travel. Based on Caltrans LOS criteria, most northbound mainline segments within the City of Santa Barbara operate at unacceptable LOS during both AM and PM peak hours. Except for the study area “bookend” segments, all of the southbound freeway segments experience PM peak hour vehicle densities that exceed Caltrans LOS criteria. Southbound segments generally experience greater congestion levels (higher vehicle densities) in the PM peak hour relative to the northbound traffic flows in the AM peak hour.

Detailed basic freeway LOS computation spreadsheets are provided in **Appendix E**.

It should be noted that the reported LOS results reflect mainline conditions as measured by data collected in April 2008. As stated previously, these counts were observed to be between 0% to 12% lower than the historical count data reported between 2000 and 2007. Thus, measured operating conditions may appear better than reported in previous years for the Highway 101.

**Table 34. Highway 101 Deficient Segments**

| Location | | Density [1] pc/mi/ln |
|---|---|---|
| NB 101 from N Padaro Lane to Evans Ave | | |
| | *AM Peak* | 27.05 |
| NB 101 from Evans Ave to Sheffield Dr. | | |
| | *AM Peak* | 33.04 |
| NB 101 from Sheffield Dr. to San Ysidro Rd. | | |
| | *AM Peak* | 33.11 |
| NB 101 from San Ysidro Rd. to Olive Mill Rd. | | |
| | *AM Peak* | 33.31 |
| | *PM Peak* | 27.02 |
| NB 101 from Olive Mill Rd to Hermosilla Rd | | |
| | *AM Peak* | 30.52 |
| NB 101 from Hermosilla Rd to Cabrillo Rd | | |
| | *AM Peak* | 29.65 |
| NB 101 from Cabrillo Blvd. to Salinas St. | | |
| | *AM Peak* | 31.24 |
| | *PM Peak* | 28.83 |
| NB 101 from Salinas St. to Route 144 | | |
| | *AM Peak* | 35.62 |
| | *PM Peak* | 29.72 |
| NB 101 from Castillo St to Carrillo St | | |
| | *PM Peak* | 28.13 |
| NB 101 from Carrillo St to Arrellaga St | | |
| | *AM Peak* | 29.91 |
| | *PM Peak* | 33.69 |
| NB 101 from Arrellaga St to Mission St | | |
| | *AM Peak* | 29.91 |
| | *PM Peak* | 33.69 |
| NB 101 from Mission St to Pueblo St | | |
| | *AM Peak* | 29.68 |
| | *PM Peak* | 31.62 |
| NB 101 from Pueblo St. to Las Positas Rd. | | |
| | *AM Peak* | 29.51 |
| | *PM Peak* | 33.75 |
| NB 101 from Las Positas Rd. to Hope Ave. | | |
| | *AM Peak* | 34.27 |
| | *PM Peak* | 34.41 |
| NB 101 from State St to El Sueno Rd | | |
| | *AM Peak* | 28.21 |
| | *PM Peak* | 28.01 |
| NB 101 from El Sueno Rd to Turnpike Rd | | |
| | *AM Peak* | 28.87 |
| | *PM Peak* | 28.52 |
| NB 101 from Turnpike Rd to Patterson Ave | | |
| | *AM Peak* | 28.71 |
| | *PM Peak* | 27.05 |

| Location | | Density [1] pc/mi/ln |
|---|---|---|
| SB 101 from Los Carneros Rd to Fairview Ave | | |
| | *AM Peak* | 28.38 |
| | *PM Peak* | 26.60 |
| SB 101 from Patterson Ave to Turnpike Rd | | |
| | *AM Peak* | 26.29 |
| | *PM Peak* | 34.30 |
| SB 101 from Turnpike Rd to State St | | |
| | *AM Peak* | 28.56 |
| | *PM Peak* | 34.39 |
| SB 101 from State St to La Cumbre | | |
| | *AM Peak* | 28.11 |
| | *PM Peak* | 31.50 |
| SB 101 from La Cumbre to Las Positas Rd. | | |
| | *AM Peak* | 33.80 |
| | *PM Peak* | 38.75 |
| SB 101 from Las Positas Rd to Mission St. | | |
| | *AM Peak* | 34.19 |
| | *PM Peak* | 36.39 |
| SB 101 from Mission St. to Carrillo St | | |
| | *AM Peak* | 31.59 |
| | *PM Peak* | 31.45 |
| SB 101 from Carrillo St to Castillo St | | |
| | *AM Peak* | 27.29 |
| | *PM Peak* | 26.10 |
| SB 101 from from Route 144 to Cabrillo Blvd | | |
| | *AM Peak* | 29.85 |
| | *PM Peak* | 36.36 |
| SB 101 from from Cabrillo Blvd to Olive Mill Rd | | |
| | *AM Peak* | 26.45 |
| | *PM Peak* | 37.55 |
| SB 101 from Olive Mill Rd. to San Ysidro Rd. | | |
| | *PM Peak* | 41.88 |
| SB 101 from San Ysidro Rd to Sheffield Dr. | | |
| | *PM Peak* | 42.59 |
| SB 101 from Sheffield Dr. to Evans Ave. | | |
| | *PM Peak* | 41.80 |
| SB 101 from Evans Ave to N Padaro Lane | | |
| | *PM Peak* | 35.77 |
| SB 101 from N Padaro Lane to S Padaro Lane | | |
| | *PM Peak* | 33.45 |
| SB 101 from Carpinteria Ave to Reynolds Ave | | |
| | *PM Peak* | 29.49 |
| SB 101 from Reynolds Ave to Linden Ave | | |
| | *PM Peak* | 30.32 |
| SB 101 from Linden Ave to Route 224 | | |
| | *PM Peak* | 26.99 |
| SB 101 from Route 224 to Bailard Ave | | |
| | *PM Peak* | 27.96 |
| SB 101 from Bailard Ave to Route 150 | | |
| | *PM Peak* | 27.16 |

[1] Density expressed in pc/mi/ln, passenger cars per mile per lane

Indicates locations that do not satisfy Caltrans LOS criteria

**Table 35. Highway 101 Northbound Freeway Segment LOS Results**

| Route 101 NB Segment | | AM Peak | | PM Peak | |
|---|---|---|---|---|---|
| From | To | Density [1] pc/mi/ln | LOS [2] | Density [1] pc/mi/ln | LOS [2] |
| Bates/Rincon | Route 150 | 14.57 | B | 9.58 | A |
| Route 150 | Bailard Ave. | 19.86 | C | 14.83 | B |
| Bailard Ave. | Route 224 | 21.17 | C | 18.05 | C |
| Route 224 | Linden Ave. | 20.14 | C | 17.57 | B |
| Linden Ave. | Santa Monica Rd. | 23.61 | C | 19.11 | C |
| Santa Monica Rd. | Padaro Lane S. | 24.61 | C | 19.23 | C |
| Padaro Lane S. | Padaro Lane N. | 24.53 | C | 19.40 | C |
| Padaro Lane N. | Evans Ave. | **27.05** | **D** | 20.15 | C |
| Evans Ave. | Sheffield Dr. | **33.04** | **D** | 23.83 | C |
| Sheffield Dr. | San Ysidro Rd. | **33.11** | **D** | 25.18 | C |
| San Ysidro Rd. | Olive Mill Rd. | **33.31** | **D** | **27.02** | **D** |
| Olive Mill Rd. | Hermosilla Rd. | **30.52** | **D** | 25.25 | C |
| Hermosilla Rd. | Cabrillo Blvd | **29.65** | **D** | 24.73 | C |
| Cabrillo Blvd | Salinas St. | **31.24** | **D** | **28.83** | **D** |
| Salinas St. | Route 144 | **35.62** | **E** | **29.72** | **D** |
| Route 144 | Garden St. | 23.34 | C | 22.14 | C |
| Garden St. | Castillo St. | 23.31 | C | 24.86 | C |
| Castillo St. | Carrillo St. | 25.05 | C | **28.13** | **D** |
| Carrillo St. | Arrellaga St. | **27.41** | **D** | **31.13** | **D** |
| Arrellaga St. | Mission St. | **29.91** | **D** | **33.69** | **D** |
| Mission St. | Pueblo St. | **29.68** | **D** | **31.62** | **D** |
| Pueblo St. | Las Positas Rd. | **29.51** | **D** | **33.75** | **D** |
| Las Positas Rd. | Hope Ave | **34.27** | **D** | **34.41** | **D** |
| Hope Ave | State St | **26.53** | **D** | **26.44** | **D** |
| State St | El Sueno Rd. | **28.21** | **D** | **28.01** | **D** |
| El Sueno Rd. | Turnpike Rd. | **28.87** | **D** | **28.52** | **D** |
| Turnpike Rd. | Patterson Ave | **28.71** | **D** | **27.05** | **D** |
| Patterson Ave | Fairview Rd. | 20.12 | C | 18.03 | C |
| Fairview Rd. | Los Carneros Rd. | 22.25 | C | 24.31 | C |
| Los Carneros Rd. | Glen Annie/Storke Rd. | 16.00 | B | 23.41 | C |
| Glen Annie/Storke Rd. | Hollister Rd. | 5.83 | A | 12.06 | B |
| Hollister Rd. | Project Limit | 4.74 | A | 11.37 | B |

[1] Density expressed in pc/mi/ln, passenger cars per mile per lane

[2] Level of service is based on density as described in Basic Freeway Segment, Chapter 23, HCM 2000

Indicates locations that do not satisfy Caltrans LOS criteria

**Table 36. Highway 101 Southbound Freeway Segment LOS Results**

| Route 101 SB Segment | | AM Peak | | PM Peak | |
|---|---|---|---|---|---|
| From | To | Density [1] pc/mi/ln | LOS [2] | Density [1] pc/mi/ln | LOS [2] |
| Hollister Rd. | Glen Annie/Storke Rd. | 14.34 | B | 8.03 | A |
| Glen Annie/Storke Rd. | Los Carneros Rd. | 21.08 | C | 14.68 | B |
| Los Carneros Rd. | Fairview Rd. | **28.38** | **D** | **26.60** | **D** |
| Fairview Rd. | Patterson Ave | 20.40 | C | 21.69 | C |
| Patterson Ave | Turnpike Rd. | **26.29** | **D** | **34.30** | **D** |
| Turnpike Rd. | State St | **28.56** | **D** | **34.39** | **D** |
| State St | La Cumbre | **28.11** | **D** | **31.50** | **D** |
| La Cumbre | Las Positas Rd. | **33.80** | **D** | **38.75** | **E** |
| Las Positas Rd. | Mission St. | **34.19** | **D** | **36.39** | **E** |
| Mission St. | Carrillo St. | **31.59** | **D** | **31.45** | **D** |
| Carrillo St. | Castillo St. | **27.29** | **D** | **26.10** | **D** |
| Castillo St. | Garden St. | 24.48 | C | 23.09 | C |
| Garden St. | Route 144 | 21.17 | C | 22.85 | C |
| Route 144 | Cabrillo Blvd | **29.85** | **D** | **36.36** | **E** |
| Cabrillo Blvd | Olive Mill Rd. | **26.45** | **D** | **37.55** | **E** |
| Olive Mill Rd. | San Ysidro Rd. | 24.97 | C | **41.88** | **E** |
| San Ysidro Rd. | Sheffield Dr. | 23.32 | C | **42.59** | **E** |
| Sheffield Dr. | Evans Ave. | 20.60 | C | **41.80** | **E** |
| Evans Ave. | Padaro Lane N. | 17.62 | B | **35.77** | **E** |
| Padaro Lane N. | Padaro Lane S. | 17.11 | B | **33.45** | **D** |
| Padaro Lane S. | Carpenteria Ave | 8.05 | A | 15.58 | B |
| Carpenteria Ave | Reynolds Ave | 15.78 | B | **29.49** | **D** |
| Reynolds Ave | Linden Ave. | 14.22 | B | **30.32** | **D** |
| Linden Ave. | Route 224 | 14.20 | B | **26.99** | **D** |
| Route 224 | Bailard Ave. | 14.12 | B | **27.96** | **D** |
| Bailard Ave. | Route 150 | 11.40 | B | **27.16** | **D** |
| Route 150 | Bates/Rincon | 7.51 | A | 18.86 | C |
| Bates/Rincon | Project Limit | 7.40 | A | 18.86 | C |

[1] Density expressed in pc/mi/ln, passenger cars per mile per lane

[2] Level of service is based on density as described in Basic Freeway Segment, Chapter 23, HCM 2000

Indicates locations that do not satisfy Caltrans LOS criteria

### *Highway 101 Ramp Level of Service Analysis*

Merge-diverge analyses isolate operations of ramp influence sections of the freeway (2,500 feet ahead and behind ramp junctures). Sections of freeway between consecutive on- and off-ramps of less than 2,500 feet are defined as a weaving section. Merge-diverge LOS results were based on the HCM 2000 methodology while weaving sections were analyzed based on the Caltrans HDM methodology.

**Table 37** and **Table 38** show existing condition ramp merge-diverge and weave section LOS results for northbound and southbound Highway 101 respectively. Results are summarized for the worse case among upstream and downstream adjacent sections.

Numerous merge-diverge and weave sections experience vehicle densities that exceed Caltrans performance criteria. Similar to findings reported for basic freeway segment analysis, northbound and southbound ramps reveal greatest congestion during the AM and PM peak hours respectively. Overall, unstable flow conditions are more prevalent during the PM peak hour given the generally greater volumes experienced during the PM peak hour relative to the AM peak hour.

HCM ramp merge-diverge LOS calculation worksheets and HDM weave section LOS calculation worksheets are provided in **Appendix F**. Highway 101 ramp merge-diverge and weave section deficiencies are described below.

### Highway 101 Merge-Diverge Sections Exceeding Caltrans LOS Criteria

**NB 101 on/off ramps at Santa Ynez Ave** – Insufficient length of deceleration lane combined with moderate ramp volumes results in unacceptable LOS D during the AM peak hour.

**NB 101 on/off ramps at S Padaro Ln –** Both ramp junctions operate at LOS D during the AM peak hour.

**NB 101 on/off ramps at N Padaro Ln** – Both ramp junctions operate at LOS D during the AM peak hour.

**NB 101 off ramp at Evans Avenue** – Rolling terrain attributes to LOS E (density 35.39 pcpmpl) during the AM peak hour.

**NB 101 off ramp at San Ysidro Rd –** This ramp junction operates at LOS D during both peak hours.

**NB 101 off ramp at Hermosillo Rd** – This junction is operates at unacceptable LOS D during both peak hours.

**NB 101 off ramp at Cabrillo Boulevard** – Moderate ramp volumes as well as left-side ramp location contribute to unacceptable LOS E with 36.99 pcpmpl of density and LOS D with 31.53 pcpmpl of density during the AM and PM peak hours respectively, which exceed Caltrans performance criteria.

**NB 101 off/on ramps at Las Positas Rd** – High off-ramp volumes during the PM peak hour cause LOS E conditions to occur. Similarly, on-ramp traffic ranges from 750-1000 vph, and operates at LOS E during both peak hours. Based on Caltrans criteria, unacceptable vehicle densities of 36.57 pcpmpl and 36.49 pcpmpl occur during the AM and PM peak hours respectively.

**NB 101 off ramp at Hope Ave** – Due to heavy traffic volumes on freeway and ramp locations, this off-ramp operates at LOS F (density of 42.08 pcpmpl) and LOS E (density of 38.3 pcpmpl) during the AM and PM peak hours respectively.

**NB 101 on/off ramps at El Sueno Rd** – These ramp junctions experience moderate to heavy traffic volumes and operate at LOS D during both peak hours.

**NB 101 on/off ramps at Turnpike Rd** – These ramp junctions serve 500-800 peak hour traffic during the AM and PM peak hours and operate at LOS D exceeding Caltrans LOS criteria.

**NB 101 off ramp at Patterson Avenue** – This ramp serves 791 and 916 vehicles during the AM and PM peak hours respectively. Adjacent ramps also accommodate high traffic volumes. As a result, this ramp operates at LOS E during both peak hours.

**NB 101 off ramp at Ward Memorial Blvd** – This ramp junction accommodates heavy traffic volumes that primarily either originate from or are destine to either the University of California at Santa Barbara campus or the Santa Barbara Airport and operates at LOS D during the AM and PM peak hours.

**NB 101 on/off ramps at Fairview Avenue** – The off-ramp junction operates at LOS D during the AM peak hour and the on-ramp at LOS D during the PM peak hour.

**NB 101 off ramp at Los Carneros Road** - This ramp serves approximately 800 and 500 vehicles during the AM and PM peak hours respectively and operates at LOS D during both peak hours.

**NB 101 on ramp at Linden Avenue** – This ramp junction operates at LOS D during the AM peak hour.

**NB 101 on ramp at Sheffield Dr** – This ramp junction operates at LOS D during the AM peak hour.

**SB 101 off ramps at Bailard Road, Casitas Pass Road and Santa Ynez Avenue** – Due to high traffic volumes along the mainline, these ramps operate at LOS D during the PM peak hour.

**SB 101 off ramps at S Padaro Lane** – This ramp experiences moderate traffic volumes, but still operates at LOS E during the PM peak hour.

**SB 101 on/off ramps at N Padaro Lane** – On- and off-ramps operate at LOS E with PM peak hour densities of 39.71 pcpmpl and 35.95 pcpmpl respectively.

**SB 101 off ramp at Sheffield Drive** – Rolling terrain and a left side ramp are principal causes for this ramp to operate at LOS D (density of 29.98 pcpmpl) and unstable LOS F (density of 45.95 pcpmpl) during the AM and PM peak hours respectively.

**SB 101 off ramp at Olive Mill Road** – This ramp operates at unacceptable LOS D and LOS E during the AM and PM peak hours respectively.

**SB 101 off/on ramps at Cabrillo Boulevard** – Both ramps are located on the left of the freeway which can cause vehicle maneuvering that reduces capacity. Off- and on-ramps operate at unacceptable LOS during both AM and PM peak hours.

**SB 101 off ramp at Carrillo Street** – High traffic volumes on freeway and ramps at this location creates densities of 38.69 and 38.2 pcpmpl during the AM and PM peak hours respectively which exceed Caltrans performance criteria.

**SB 101 off ramp at Las Positas Road** – Heavy traffic volumes and shorter deceleration lane of 90 feet results in densities that reflect LOS E conditions during both peak hours.

**SB 101 off ramp at San Marcos Pass Road** – Higher volumes in the range of 500-600 produces unacceptable LOS during both peak hours.

**SB 101 on/off ramps at Turnpike Road** – These ramp junctions and basic freeway segment carry 3,500-4,500 vehicles during the AM/PM peak hours operating at LOS D or worse during peak hours.

**SB 101 on ramps at Rincon Pt and Casitas Pass Road –** These ramp junctions operate at LOS D during the PM peak hour due to factors like decreased free flow speed and peak hour traffic direction.

**SB 101 on ramp at Evans Street and San Ysidro Road** – In addition to heavy mainline traffic volumes, rolling terrain tends to lower free flow speeds which contributes to LOS E operating conditions during the PM peak hour.

**SB 101 on ramp at Milpas Street** – This ramp serves over 500 vehicles during both peak hours, and function at unacceptable LOS D or worse during both peak hours.

**SB 101 on ramp at Mission Street** – High freeway and ramp volumes result in vehicle densities of 36.94 pcpmpl (LOS E) during the AM peak and 36.09 pcpmpl (LOS E) during the PM peak hour.

**SB 101 on ramp at La Cumbre Road** – This ramp experiences densities that exceed Caltrans performance criteria during both peak hours. It operates at LOS D and LOS E during the AM and PM peak hours respectively.

## Highway 101 Weave Sections Exceeding Caltrans LOS Criteria

Following weave sections experience LOS D or worse operating conditions during either or both peak hours. Some of the results below differ from the corresponding basic freeway segment analysis results. Since weave analysis examines both upstream and downstream ramps with the freeway segment, it represents a better estimate of capacity conditions within the weave influence area than the basic freeway segment analysis.

**NB 101 between San Ysidro Road and Olive Mill Road** – This section with length of 1,150 ft operates at LOS E and LOS D during the AM and PM peak hours respectively.

**NB 101 between Salinas Street and Milpas Street** – This section with length of 1,900 ft operates at LOS E during the AM peak hour.

**NB 101 between Milpas Street and Garden Street** – This 1,300 feet section experiences some delays and operates at LOS E and LOS D during the AM and PM peak hours respectively.

**NB 101 between Garden Street and Castillo Street** – This 1,500 ft section serves total weaving volumes in the range of 900-1,300 during both peak hours and operates at unacceptable LOS D.

**NB 101 between Castillo Street and Carrillo Street** – Due to higher weaving volume of 1,500 vehicles, this 1,300 ft section operates at LOS D and LOS E during the AM and PM peak hours respectively.

**NB 101 between Carrillo Street_and Arrellaga Street** – This section experiences heavy freeway volumes causing LOS D and LOS E during the AM and PM peak hours respectively.

**NB 101 between Arrellaga Street and Mission Street** – Short section of 900 ft experiences heavy weaving and volumes. It functions at LOS E during the AM and PM peak hours.

**NB 101 between Mission Street and Pueblo Street** – This is the shortest section in the study area with only 550 feet between Mission Street on-ramp and Pueblo Street off-ramp. It serves around 6,000 vehicles during the peak hours. As a result, it operates with delays (LOS E) during both peak hours.

**NB 101 between Hope Avenue and SR 154** – This section of freeway serves over 5,000 vehicles and ramps accommodates over 1,200 vehicles during both peak hours. It operates at unacceptable LOS E conditions during both peak hours.

**NB 101 between Los Carneros Road and Glen Annie Road** – The critical location is Glen Annie Road off-ramp, which serves over 1,200 and 1,500 vehicles during the AM and PM peak hours respectively. With only 2 lanes in the northbound direction, this section operates at LOS E during the PM peak hour.

**SB 101 between San Ysidro Road and Olive Mill Road** – This section operates at LOS F during the PM peak hour.

**SB 101 between Garden Street and Milpas Street** – Milpas Street off ramp has over 1,000 vehicles during both peak hours. This weave section of 1,950 feet operates at LOS D during the PM peak hour.

**SB 101 between Castillo Street and Garden Street** – This 1,650 ft section operates at LOS D during the AM and PM peak hours.

**SB 101 between Carrillo Street and Castillo Street** – This 1,400 ft weave section experiences heavy on/off ramp volumes, and hence, operates at LOS E during the AM and PM peak hours.

**SB 101 between Las Positas Road and Mission Street** – This 1,900 ft section serves weaving volumes in the range of 1,600-1,700 vehicles, and thus experiences significant delays (LOS F) during the AM and PM peak hours.

**SB 101 between San Macros Pass Road and La Cumbre Road** – This 1,200 ft section serves heavy amount of traffic operating at LOS D and LOS E during the AM and PM peak hours respectively.

**Table 37. Highway 101 Northbound Merge, Diverge and Weaving LOS Results**

| Position | Location | Type | Length (Feet) | AM Peak | | PM Peak | |
|---|---|---|---|---|---|---|---|
| | | | | Density [1] (pc/mi/ln) | LOS [2,3] | Density [1] (pc/mi/ln) | LOS [2,3] |
| EO | Rincon Pt. | Ramp Diverge | 1500 | 19.91 | B | 14.73 | B |
| EO | Casitas Pass Rd | Ramp Diverge | 1500 | 27.09 | C | 23.66 | C |
| WO | Santa Ynez Ave | Ramp Diverge | 1500 | **29.84** | **D** | 24.88 | C |
| EO | S Padaro Ln | Ramp Diverge | 1500 | **30.78** | **D** | 24.83 | C |
| EO | N Padaro Ln | Ramp Diverge | 1500 | **30.87** | **D** | 25.19 | C |
| EO | Evans Ave | Ramp Diverge | 1500 | **35.39** | **E** | 27.19 | C |
| EO | San Ysidro Rd | Ramp Diverge | 1500 | **34.61** | **D** | **28.17** | **D** |
| EO | Hermosillo Rd | Ramp Diverge | 1500 | **34.38** | **D** | **29.26** | **D** |
| EO | Cabrillo Blvd | Ramp Diverge | 1200 | **36.99** | **E** | **31.53** | **D** |
| EO | Las Positas Rd | Ramp Diverge | 1300 | **33.52** | **D** | **36.01** | **E** |
| EO | Hope Ave | Ramp Diverge | 1450 | **42.08** | **F** | **38.30** | **E** |
| EO | El Sueno Rd | Ramp Diverge | 1500 | **32.40** | **D** | **32.61** | **D** |
| EO | Turnpike Rd | Ramp Diverge | 1500 | **32.96** | **D** | **33.24** | **D** |
| EO | Patterson Ave | Ramp Diverge | 1500 | **39.17** | **E** | **38.40** | **E** |
| EO | Ward Memorial Blvd | Ramp Diverge | 800 | **30.57** | **D** | **28.93** | **D** |
| EO | Fairview Ave | Ramp Diverge | 1500 | **29.17** | **D** | 26.34 | C |
| EO | Los Carneros Rd | Ramp Diverge | 1500 | **28.05** | **D** | **30.27** | **D** |
| EO | Winchester Canyon Rd | Ramp Diverge | 1500 | 9.80 | A | 16.82 | B |
| WO | Bailard Rd | Ramp Merge | 1500 | 25.41 | C | 18.78 | B |
| WO | Casitas Pass Rd | Ramp Merge | 700 | 25.03 | C | 22.55 | C |
| EO | Linden Ave | Ramp Merge | 1500 | **28.43** | **D** | 24.04 | C |
| WO | Santa Ynez Ave | Ramp Merge | 1500 | **28.61** | **D** | 23.39 | C |
| WO | S Padaro Ln | Ramp Merge | 1500 | **28.45** | **D** | 23.31 | C |
| WO | N Padaro Ln | Ramp Merge | 1500 | **31.35** | **D** | 24.74 | C |
| WO | Sheffield Dr | Ramp Merge | 1500 | **34.11** | **D** | 27.49 | C |
| WO | Las Positas Rd | Ramp Merge | 1450 | **36.57** | **E** | **36.49** | **E** |
| WO | SR-154 | Ramp Merge | 1500 | **30.24** | **D** | **30.36** | **D** |
| WO | El Sueno Rd | Ramp Merge | 1500 | **30.94** | **D** | **31.16** | **D** |
| WO | Turnpike Rd | Ramp Merge | 1500 | **31.59** | **D** | **30.81** | **D** |
| WO | Patterson Ave | Ramp Merge | 1500 | **30.73** | **D** | 23.25 | C |
| WO | Fairview Ave | Ramp Merge | 1500 | 26.46 | C | **28.48** | **D** |
| WO | Glen Annie Rd | Ramp Merge | 1500 | 9.69 | A | 15.88 | B |
| WO | Hollister Ave | Ramp Merge | 1500 | 9.43 | A | 16.14 | B |
| BW | Rincon Pt. / SR-150 | Weave | 1400 | NA | A | NA | A |
| BW | SR-150 / Bailard Rd | Weave | 2400 | NA | A | NA | A |
| BW | Evans Ave / Sheffield Dr | Weave | 2000 | NA | A | NA | A |
| BW | San Ysidro Rd / Olive Mill Rd | Weave | 1150 | NA | **E** | NA | **D** |
| BW | Cabrillo Blvd / S Salinas St | Weave | 2400 | NA | A | NA | A |
| BW | S Salinas St / Milpas St | Weave | 1900 | NA | **E** | NA | A |
| BW | Milpas St / Garden St | Weave | 1300 | NA | **E** | NA | **D** |
| BW | Garden St / Castillo St | Weave | 1500 | NA | **D** | NA | **D** |
| BW | Castillo St / Carrillo St | Weave | 1300 | NA | **D** | NA | **E** |
| BW | Carrillo St / Arrellaga St | Weave | 1700 | NA | **D** | NA | **E** |
| BW | Arrellaga St / Mission St | Weave | 900 | NA | **E** | NA | **E** |
| BW | Mission St / Pueblo St | Weave | 550 | NA | **E** | NA | **E** |
| BW | Hope Ave / SR-154 | Weave | 1900 | NA | **E** | NA | **E** |
| BW | Los Carneros Rd / Glen Annie Rd | Weave | 1500 | NA | C | NA | **E** |

[1] Density expressed in pc/mi/ln, passenger cars per mile per lane

[2] Level of service for merge-diverge sections is based on density as described in Ramp and Ramp Juctions, Chapter 25, HCM 2000

[3] Level of Service for weaving sections is based on Caltrans Highway Design Manual, 6th Edition

EO = East Of, WO = West Of, BW = Between, NA = Not Applicable

Indicates locations that do not satisfy Caltrans LOS criteria

**Table 38. Highway 101 Southbound Merge, Diverge and Weaving LOS Results**

| Position | Location | Type | Length (Feet) | AM Peak | | PM Peak | |
|---|---|---|---|---|---|---|---|
| | | | | Density [1] (pc/mi/ln) | LOS [2,3] | Density [1] (pc/mi/ln) | LOS [2,3] |
| WO | Hollister Ave | Ramp Diverge | 1500 | 17.27 | B | 11.06 | B |
| WO | Glen Annie Rd | Ramp Diverge | 1500 | 18.69 | B | 11.62 | B |
| WO | Los Carneros Rd | Ramp Diverge | 1400 | 19.61 | B | 9.84 | A |
| WO | Fairview Ave | Ramp Diverge | 1500 | 25.55 | C | 26.40 | C |
| WO | Ward Memorial Blvd | Ramp Diverge | 1500 | 27.32 | C | **29.86** | **D** |
| WO | Turnpike Rd | Ramp Diverge | 1500 | **40.36** | **E** | **45.54** | **F** |
| WO | San Marcos Pass Rd | Ramp Diverge | 1500 | **34.15** | **D** | **36.50** | **E** |
| WO | Las Positas Rd | Ramp Diverge | 1500 | **36.27** | **E** | **38.56** | **E** |
| WO | Carrillo St | Ramp Diverge | 1500 | **38.69** | **E** | **38.20** | **E** |
| WO | Cabrillo Blvd | Ramp Diverge | 1500 | **33.92** | **D** | **38.78** | **E** |
| WO | Cabrillo Blvd | Ramp Diverge | 550 | **36.23** | **E** | **42.23** | **E** |
| WO | Olive Mill Rd | Ramp Diverge | 1300 | **30.69** | **D** | **39.66** | **E** |
| WO | Sheffield Dr | Ramp Diverge | 2800 | **29.98** | **D** | **45.95** | **F** |
| WO | N Padaro Ln | Ramp Diverge | 1350 | 23.06 | C | **39.71** | **E** |
| WO | S Padaro Ln | Ramp Diverge | 1500 | 22.74 | C | **38.59** | **E** |
| WO | Santa Ynez Ave | Ramp Diverge | 1500 | 20.28 | C | **34.69** | **D** |
| WO | Casitas Pass Rd | Ramp Diverge | 1500 | 18.72 | B | **32.77** | **D** |
| WO | Bailard Rd | Ramp Diverge | 1500 | 18.71 | B | **33.75** | **D** |
| EO | Hollister Ave | Ramp Merge | 1500 | 19.10 | B | 12.74 | B |
| EO | Glen Annie Rd | Ramp Merge | 1400 | 20.72 | C | 12.74 | B |
| EO | Los Carneros Rd | Ramp Merge | 1500 | **31.87** | **D** | **30.09** | **D** |
| EO | Fairview Ave | Ramp Merge | 1500 | 26.68 | C | **28.53** | **D** |
| EO | Ward Memorial Blvd | Ramp Merge | 1500 | 23.93 | C | **30.39** | **D** |
| EO | Patterson Ave | Ramp Merge | 1500 | **30.38** | **D** | **36.44** | **E** |
| EO | Turnpike Rd | Ramp Merge | 1500 | **32.36** | **D** | **35.34** | **E** |
| EO | La Cumbre Rd | Ramp Merge | 1500 | **34.16** | **D** | **37.00** | **E** |
| EO | Mission St | Ramp Merge | 1500 | **36.94** | **E** | **36.09** | **E** |
| EO | Milpas St | Ramp Merge | 1500 | **31.51** | **D** | **35.94** | **E** |
| EO | Cabrillo Blvd | Ramp Merge | 1300 | **33.61** | **D** | **42.83** | **F** |
| EO | San Ysidro Rd | Ramp Merge | 2650 | 25.59 | C | **38.62** | **E** |
| EO | Evans St | Ramp Merge | 1350 | 23.44 | C | **38.56** | **E** |
| EO | N Padaro Ln | Ramp Merge | 1500 | 21.59 | C | **35.95** | **E** |
| EO | Casitas Pass Rd | Ramp Merge | 1500 | 17.82 | B | **31.31** | **D** |
| EO | Rincon Pt. | Ramp Merge | 1500 | 13.40 | B | **30.88** | **D** |
| BW | San Marcos Pass Rd / La Cumbre Rd | Weave | 1200 | NA | **D** | NA | **E** |
| BW | Las Positas Rd / Mission St | Weave | 1900 | NA | **F** | NA | **F** |
| BW | Carrillo St / Castillo St | Weave | 1400 | NA | **E** | NA | **E** |
| BW | Castillo St / Garden St | Weave | 1650 | NA | **D** | NA | **D** |
| BW | Garden St / Milpas St | Weave | 1950 | NA | C | NA | **D** |
| BW | Olive Mill Rd / San Ysidro Rd | Weave | 900 | NA | C | NA | **F** |
| BW | Sheffield Dr / Evans St | Weave | 1900 | NA | A | NA | A |
| BW | S Padaro Ln / Santa Ynez Ave | Weave | 1600 | NA | A | NA | A |
| BW | Santa Ynez Ave / Linden Ave | Weave | 1700 | NA | A | NA | A |
| BW | Bailard Rd / SR-150 | Weave | 2300 | NA | A | NA | A |
| BW | SR-150 / Rincon Pt. | Weave | 1350 | NA | A | NA | A |

[1] Density expressed in pc/mi/ln, passenger cars per mile per lane

[2] Level of service for merge-diverge sections is based on density as described in Ramp and Ramp Juctions, Chapter 25, HCM 2000

[3] Level of Service for weaving sections is based on Caltrans Highway Design Manual, 6th Edition

EO = East Of, WO = West Of, BW = Between, NA = Not Applicable

Indicates locations that do not satisfy Caltrans LOS criteria

### *Assessment of Floating Car Surveys and HCM / HDM LOS Results*

Floating car survey results are considered the "ground truth" LOS result. Although speed survey results should be compared with the static analytical LOS results, exact consistency between survey and analytical method results should not be expected. Floating car surveys reflect fluctuations in demand, speed, and/or delay at a particular time whereas capacity analyses reflect operations averaged over an entire hour. As such, results can differ for the following reasons:

- There may be some individual sub-segments within a segment that produce unstable conditions which would be captured by floating car surveys, but would balance out due to consideration of the full length.

- Any deviation or difference from the results of the floating car surveys may also arise due to upstream/downstream traffic impacts, duration of analysis periods, sub-segment traffic conditions, etc. Consecutive locations with deficient static LOS could trigger shock waves along the entire corridor which would typically be captured by floating car surveys.

While floating car surveys reflect the effect of disruption in traffic flow on the overall operation, capacity deficient locations based on the analytical techniques represent potential trigger points where any minor or major disruption in the traffic flow is likely to occur.

An example of this is northbound Highway 101 between Milpas Street and Fairview Avenue. This segment is comprised of successive weave sections and merge-diverge sections which exceed Caltrans performance criteria. This portion of Highway 101 was surveyed with stable traffic flow conditions. Observing all analyses results together, this section was found to act as a trigger point where formation of shock waves take place. Shock waves propagate upstream as decreased queue dissipation and speeds. This effect would be accelerated by a lane drop at Milpas Street and south of it, where static analytical techniques indicate acceptable traffic flow but floating car surveys indicate forced flow conditions.

**Tables 7-14** illustrate results of the floating car surveys in northbound and southbound directions during the AM and PM peak hours and periods. Freeway sections operating below 55 mph are highlighted as experiencing unstable flow conditions (LOS F). **Table 39** summarizes operational deficiencies along Highway 101 based on floating car surveys during the AM and PM peak hours. Locations listed in **Table 39** were observed to operate at LOS F.

**Table 39. Operational Deficiency for Mainline Highway 101 based on Floating Car Surveys**

| Data Source | Dir | Start Location | End Location | Avg. Speed[1] (mph) | Lanes | Period | Start Time | End Time | Avg. % of Time below 35 mph | Avg. % of Time below 55 mph | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Test Car | NB | Rincon Rd (Rte 150) On-Ramp | Bailard Ave On-Ramp | 51 | 2 | AM | 7:30 | 8:30 | 42.03% | 49.64% | Speed below 55 mph |
| Test Car | NB | Bailard Ave On-Ramp | SR-224 On-Ramp | 47 | 2 | AM | 7:30 | 8:30 | 73.31% | 77.89% | Speed below 55 mph |
| Test Car | NB | SR-224 On-Ramp | Linden Ave On-Ramp | 41 | 2 | AM | 7:30 | 8:30 | 86.44% | 86.44% | Speed below 55 mph |
| Test Car | NB | Linden Ave On-Ramp | Santa Monica Rd On-Ramp | 51 | 2 | AM | 7:30 | 8:30 | 37.79% | 69.57% | Speed below 55 mph |
| Test Car | NB | Santa Monica Rd On-Ramp | S Padero Ln On-Ramp | 53 | 2 | AM | 7:30 | 8:30 | 28.63% | 60.09% | Speed below 55 mph |
| Test Car | NB | S Padero Ln On-Ramp | N Padero Ln On-Ramp | 48 | 2 | AM | 7:30 | 8:30 | 31.24% | 63.18% | Speed below 55 mph |
| Test Car | NB | N Padero Ln On-Ramp | Evans Ave On-Ramp | 50 | 2 | AM | 7:30 | 8:30 | 20.92% | 67.12% | Speed below 55 mph |
| Test Car | NB | Evans Ave On-Ramp | Jameson Ln On-Ramp | 34 | 2 | AM | 7:30 | 8:30 | 67.96% | 86.08% | Speed below 55 mph |
| Test Car | NB | Jameson Ln On-Ramp | San Ysidro Rd On-Ramp | 37 | 2 | AM | 7:30 | 8:30 | 41.38% | 99.01% | Speed below 55 mph |
| Test Car | NB | San Ysidro Rd On-Ramp | Cabrillo Blvd On-Ramp | 29 | 2 | AM | 7:30 | 8:30 | 70.83% | 93.83% | Speed below 55 mph |
| Test Car | NB | Cabrillo Blvd On-Ramp | Salinas St On-Ramp | 30 | 2 | AM | 7:30 | 8:30 | 76.37% | 98.97% | Speed below 55 mph |
| Test Car | NB | Arregalla St On-Ramp | Mission St On-Ramp | 54 | 3 | PM | 4:30 | 5:30 | 25.19% | 38.52% | Speed below 55 mph |
| Test Car | NB | Las Positas Rd On-Ramp | Hope Ave On-Ramp | 54 | 3 | PM | 4:30 | 5:30 | 14.35% | 40.19% | Speed below 55 mph |
| Test Car | SB | Castillo St On-Ramp | Garden St On-Ramp | 52 | 3 | PM | 4:30 | 5:30 | 24.11% | 39.29% | Speed below 55 mph |
| Test Car | SB | Garden St On-Ramp | Milpas St On-Ramp | 26 | 3 | PM | 4:30 | 5:30 | 88.12% | 100.00% | Speed below 55 mph |
| Test Car | SB | Milpas St On-Ramp | Cabrillo Blvd On-Ramp | 45 | 2 | PM | 4:30 | 5:30 | 26.58% | 70.00% | Speed below 55 mph |

Note
[1] Speed Data are based on four runs during the AM and PM peak hours.

### *Summary of Results*

A total of 32 intersections operate at unacceptable levels based on Caltrans criteria. At 42 intersections, estimated queues exceed available storage capacities for one or more left-turn lanes during one or both peak hours.

In general, 17 off 32 mainline segments in the northbound direction exceed Caltrans performance criteria operating at LOS D or worse during the AM peak hour. During the PM peak hour, 13 segments in the experience congestion in northbound direction. In the southbound direction, 10 and 20 of 28 freeway segments function at LOS D or worse during the AM and PM peak hours respectively.

The HCM merge-diverge analysis reveals many locations that serve heavy traffic volume and experience congested flow conditions due to lack of operational and storage capacity. In addition, most of the weave sections located north of Milpas Street lack auxiliary lanes as well as other capacity features, and experience unstable flow conditions during both peak hours as a result.

As previously discussed, floating car surveys do not always concur with corresponding static capacity analysis results. Surveys do provide insight of prevailing traffic conditions at the time of data collection efforts. Total travel time to cover entire study area in the northbound direction during the AM peak hour was found to be 32.5 minutes. Approximately 48% of the time (15.5 minutes) vehicles were traveling below 55 mph speed, which reflects congested conditions. Similarly, 7.25 minutes out of a total travel time of 27.7 minutes had prevailing speeds fall below 55 mph in the southbound direction during the PM peak hour.

**Table 40** and **41** summarize results of static LOS analysis and floating car surveys at each location along northbound and southbound Highway 101 respectively. They also describe potential causes of deficiencies in context of its pattern and overall operation along Highway 101.

Major findings are highlighted below:

- Overall, Highway 101 experienced the most unstable flow conditions in the northbound direction during the AM peak hour. In the southbound direction, operating conditions are more acceptable with only a few individual locations (basic freeway, merge, diverge, and weave) operating at LOS D or worse in the morning peak. Based on static capacity analysis, many segments – including the 3-lane portions are shown to exceed Caltrans LOS criteria.

- During the AM peak hour, the City of Santa Barbara and Goleta are the primary destinations for traffic originating from areas to the south rather than north. This results in many high volume on-ramp junctures contributing traffic to the 2-lane mainline sections of Highway 101. Conflicts between merge and diverge traffic occurs due to uncontrolled ramp operations and consecutive weave sections. Operating conditions are characterized by slow operating speeds - triggering shock waves upstream. A lane drop at Milpas Street aggravates and serves to propagate this effect further upstream towards south. Limited discharge capacities south of Milpas Street result in declined average speeds which were identified in floating car surveys. Unstable flow conditions based on floating car surveys is found to last for the entire AM peak period.

- The peak travel direction during the PM peak hour is southbound. Although traffic is more dispersed in the PM peak period than the AM peak period, extensive delays occur on Highway 101 throughout the corridor. The lane drop at Milpas Street is a bottleneck location resulting in a sudden loss of mainline discharge capacity. This bottleneck effect advances to the north of Milpas Street as demand increases and queue dissipation decreases. These unstable flow conditions extend outside the peak hour and to the entire PM peak period.

**Table 40. Northbound Highway 101 Summary of Results**

| Location | AM Peak Hour Level of Service | | | Deficient based on AM Peak Hour Floating Car Surveys? | Comments/Causes | PM Peak Hour Level of Service | | | Deficient based on PM Peak Hour Floating Car Surveys? | Comments/Causes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Basic Freeway | Merge/ Diverge | Weave | | | Basic Freeway | Merge/ Diverge | Weave | | |
| Bates Rd Off-Ramp | | B | | No | | | B | | No | |
| Bates Rd On-Ramp | | | | | | | | | | |
| Bates Rd / Rincon Rd | B | | A | No | | A | | A | No | |
| Rincon Rd Off-Ramp | | | | | | | | | | |
| Rincon Rd On-Ramp | | | | | | | | | | |
| Rincon Rd / Bailard Ave | C | | A | Yes | | B | | A | No | |
| Bailard Ave Off-Ramp | | | | | | | | | | |
| Bailard Ave On-Ramp | | C | | | Floating car survey results indicate unstable flow conditions (LOS F). Decreased average speeds are experienced due to shock wave effect triggered by heavy merge, diverge and weave volumes at downstream locations. In addition, capacity and potential geometric deficiencies within the area affect individual locations in static LOS analysis. Duration of unstable flow conditions is dependent on the discharge rate north of Milpas Street. North of Milpas Street, Highway 101 provides three mixed flow lanes. Lane drop at Milpas Street limits the rate of discharged, which results in declined speeds upstream of the lane drop location. In summary deficient merge, diverge and basic segments at downstream combine with six successive weave sections between Milpas Street and Pueblo Street propogate the wave effect further south and is aggravated further by high demand volume and a lane drop. Floating car surveys reveal that this deficiency extends outside the study peak hour. | | B | | | | |
| Bailard Ave / Casitas Pass Rd | C | | | Yes | | C | | | No | |
| Casitas Pass Rd Off-Ramp | | C | | | | | C | | | |
| Casitas Pass Rd/Vallecito Rd On-Ramp | | C | | | | | C | | | |
| Casitas Pass Rd/Vallecito / Linden Ave | C | | | Yes | | B | | | No | |
| Linden Ave On-Ramp | | D | | | | | C | | | |
| Linden Ave / Santa Monica Rd | C | | | Yes | | C | | | No | |
| Santa Montica Rd Off-Ramp | | D | | | | | C | | | |
| Santa Montica Rd On-Ramp | | D | | | | | C | | | |
| Santa Monica Rd / S Padera Ln | C | | | Yes | | C | | | No | |
| S Padero Ln Off-Ramp | | D | | | | | C | | | |
| S Padero Ln On-Ramp | | D | | | | | C | | | |
| S Padero Ln / N Padero Ln | C | | | Yes | | C | | | No | |
| N Padero Ln Off-Ramp | | D | | | | | C | | | |
| N Padero Ln On-Ramp | | D | | | | | C | | | |
| N Padero Ln / Evans Ave | D | | | Yes | | C | | | No | |
| Evans Ave Off-Ramp | | E | | | | | C | | | |
| Evans Ave On-Ramp | | | | | | | | | | |
| Evans Ave / Sheffield Dr | D | | A | Yes | | C | | A | No | |
| Sheffield Dr Off-Ramp | | | | | | | | | | |
| Sheffield Dr On-Ramp | | D | | | | | C | | | |
| Sheffield Dr / San Ysidro Rd | D | | | Yes | | C | | | No | |
| San Ysidro Rd Off-Ramp | | D | | | | | D | | | |
| San Ysidro Rd On-Ramp | | | | | | | | | | |
| San Ysidro Rd / Olive Mill Rd | D | | E | Yes | | D | | D | No | |
| Olive Mill Rd Off-Ramp | | | | | | | | | | |
| Olive Mill Rd / Hermosillo Rd | D | | | Yes | | C | | | No | |
| Hermosillo Rd Off-Ramp | | D | | | | | D | | | |
| Hermosillo Rd / Cabrillo Blvd | D | | | Yes | | C | | | No | |
| Cabrillo Blvd Off-Ramp | | E | | | | | D | | | |
| Cabrillo Blvd On-Ramp | | | | | | | | | | |
| Cabrillo Blvd / Salinas St | D | | A | Yes | | D | | A | No | |
| Salinas St Off-Ramp | | | | | | | | | | |
| Salinas St On-Ramp | | | | | | | | | | |
| Salinas St / Milpas St (Rte 144) | E | | E | No | | D | | A | No | |
| Milpas St (Rte 144) Off-Ramp | | | | | | | | | | |
| Milpas St (Rte 144) On-Ramp | | | | | | | | | | |
| Milpas St (Rte 144) / Garden St | C | | E | No | | C | | D | No | |
| Garden St Off-Ramp | | | | | | | | | | |
| Garden St On-Ramp | | | | | | | | | | |
| Garden St / Castillo St | C | | D | No | | C | | D | No | |
| Castillo St Off-Ramp | | | | | | | | | | |
| Castillo St On-Ramp | | | | | | | | | | |
| Castillo St / Carrillo St | C | | D | No | | D | | E | No | |
| Carrillo St Off-Ramp | | | | | | | | | | |
| Carrillo St On-Ramp | | | | | | | | | | |
| Carrillo St / Arrellaga St | D | | D | No | | D | | E | No | |
| Arrellaga St Off-Ramp | | | | | | | | | | |
| Arrellaga St On-Ramp | | | | | | | | | | |
| Arrellaga St / Mission St | D | | E | No | | D | | E | Yes | |
| Mission St Off-Ramp | | | | | | | | | | |
| Mission St On-Ramp | | | | | | | | | | |
| Mission St / Pueblo St | D | | E | No | | D | | E | No | |
| Pueblo St Off-Ramp | | | | | | | | | | |
| Pueblo St / Las Positas Rd | D | | | No | | D | | | No | |
| Las Positas Rd Off-Ramp | | D | | | | | E | | | |
| Las Positas Rd On-Ramp | | E | | | | | E | | | |
| Las Positas Rd / Hope Ave | D | | | No | | D | | | Yes | |
| Hope Ave Off-Ramp | | F | | | | | E | | | |
| Hope Ave On-Ramp | | | | | | | | | | |
| Hope Ave / State St (Rte 154) | D | | E | No | | D | | E | No | |
| State St (Rte 154) Off-Ramp | | | | | | | | | | |
| State St (Rte 154) On-Ramp | | D | | | | | D | | | |
| State St (Rte 154) / El Sueno Rd | D | | | No | | D | | | No | |
| El Sueno Rd Off-Ramp | | D | | | | | D | | | |
| El Sueno Rd On-Ramp | | D | | | | | D | | | |
| El Sueno Rd / Turnpike Rd | D | | | No | | D | | | No | |
| Turnpike Rd Off-Ramp | | D | | | | | D | | | |
| Turnpike Rd On-Ramp | | D | | | | | D | | | |
| Turnpike Rd / Patterson Ave | D | | | No | | D | | | No | |
| Patterson Ave Off-Ramp | | E | | | | | E | | | |
| Ward Memorial Off-Ramp | | D | | | | | D | | | |
| Patterson Ave On-Ramp | | D | | | | | C | | | |
| Patterson Ave / Fairview Ave | C | | | No | | C | | | No | |
| Fairview Ave Off-Ramp | | D | | | | | C | | | |
| Fairview Ave On-Ramp | | C | | | | | D | | | |
| Fairview Ave / Los Carneros Rd | C | | | No | | C | | | No | |
| Los Carneros Rd Off-Ramp | | D | | | | | D | | | |
| Los Carneros Rd On-Ramp | | | | | | | | | | |
| Los Carneros Rd / Glen Annie Rd | B | | C | No | | C | | E | No | |
| Glen Annie Rd Off-Ramp | | | | | | | | | | |
| Glen Annie Rd On-Ramp | | A | | | | | B | | | |
| Glen Annie Rd / Hollister Ave | A | | | No | | B | | | No | |
| Hollister Ave Off-Ramp | | A | | | | | B | | | |
| Hollister Ave On-Ramp | | A | | | | | B | | | |
| Hollister Ave / Project Limits | A | | | No | | B | | | No | |

Notes
**LOS exceeds Caltrans LOS threshold**

**Table 41. Southbound Highway 101 Summary of Results**

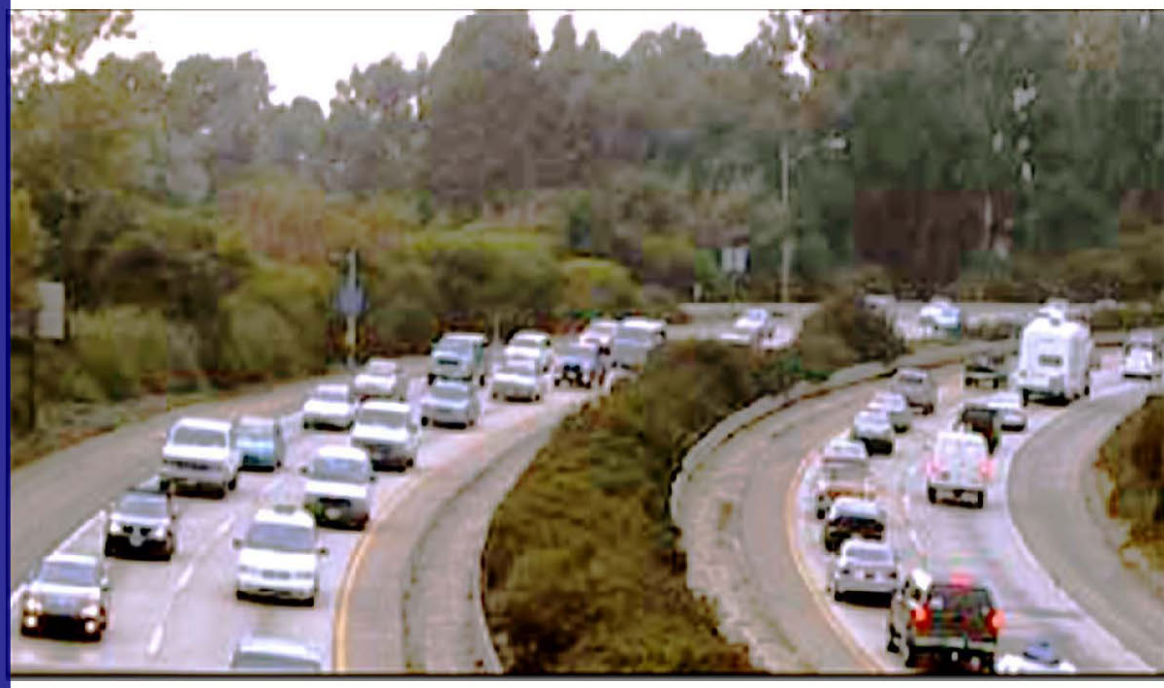
| Location | AM Peak Hour Level of Service | | | Deficient based on AM Peak Hour Floating Car Surveys? | Comments/Causes | PM Peak Hour Level of Service | | | Deficient based on PM Peak Hour Floating Car Surveys? | Comments/Causes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Basic Freeway | Merge/ Diverge | Weave | | | Basic Freeway | Merge/ Diverge | Weave | | |
| Hollister Ave Off-Ramp | | B | | | | | B | | | |
| Hollister Ave On-Ramp | | B | | | | | B | | | |
| Holister Ave / Glen Annie Rd | B | | | No | | A | | | No | |
| Glen Annie Rd Off-Ramp | | B | | | | | B | | | |
| Glen Annie Rd On-Ramp | | C | | | | | B | | | |
| Glan Annie / Los Carneros Rd | C | | | No | | B | | | No | |
| Los Carneros Rd Off-Ramp | | B | | | | | A | | | |
| Los Carneros Rd On-Ramp | | D | | | | | D | | | |
| Los Carneros Rd / Fairview Ave | D | | | No | | D | | | No | |
| Fairview Ave Off-Ramp | | C | | | | | C | | | |
| Fairview Ave On-Ramp | | C | | | | | D | | | |
| Fairview Ave / Patterson Ave | C | | | No | | C | | | No | |
| Patterson Ave Off-Ramp | | C | | | | | D | | | Lane drop at downstream location results in metered discharge capacities at these locations. This results in lower speeds and increased delays - typical of a bottleneck feature. In addtion, closely spaced ramps in this area can cause even minor disruption is traffic flow. This unstable flow condition can extend outside of the study peak hour. |
| Ward Memorial On-Ramp | | C | | | | | D | | | |
| Patterson Ave On-Ramp | | D | | | Individual segments, weave sections, ramps operate at unacceptable LOS. However, LOS F conditions were not observed by the floating car surveys. This is plausible given that southbound is not the predominant travel direction during the AM peak hour. Unstable flow results from static LOS analysis can be attributable to such factors as insufficient distance between ramps, lack of acceleration or deceleration lanes, existence of some ramps that are being used more than others, etc. | | E | | | |
| Patterson Ave / Turnpike Rd | D | | | No | | D | | | No | |
| Turnpike Rd Off-Ramp | | E | | | | | F | | | |
| Turnpike Rd On-Ramp | | D | | | | | E | | | |
| Turnpike Rd / State St (Rte 154) | D | | | No | | D | | | No | |
| State St (Rte 154)/San Marcos Pass Off-Ramp | | D | | | | | E | | | |
| State St (Rte 154)/San Marcos Pass On-Ramp | | | D | | | | | E | | |
| State St (Rte 154)/San Marcos Pass / La Cumbre Rd | D | | | No | | D | | | No | |
| La Cumbre Rd Off-Ramp | | | | | | | | | | |
| La Cumbre Rd On-Ramp | | D | | | | | E | | | |
| La Cumbre Rd / Las Positas Rd | D | | | No | | E | | | No | |
| Las Positas Rd Off-Ramp | | E | | | | | E | | | |
| Las Positas Rd On-Ramp | | | F | | | | | F | | |
| Las Positas Rd / Mission St | D | | | No | | E | | | No | |
| Mission St Off-Ramp | | | | | | | | | | |
| Mission St On-Ramp | | E | | | | | E | | | |
| Mission St / Carrillo St | D | | | No | | D | | | No | |
| Carrillo St Off-Ramp | | E | | | | | E | | | |
| Carrillo St On-Ramp | | | E | | | | | E | | |
| Carrillo St / Castillo St | D | | | No | | D | | | No | |
| Castillo St Off-Ramp | | | | | | | | | | |
| Castillo St On-Ramp | | | D | | | | | D | | Heavy traffic volumes generated within this area in combination with a lane drop are the primary causes for unstable flow conditions here. This transition point is identified as a bottleneck where discharge capacities significantly decrease. |
| Castillo St / Garden St | C | | | No | | C | | | Yes | |
| Garden St Off-Ramp | | | | | | | | | | |
| Garden St On-Ramp | | | C | | | | | D | | |
| Garden St / Milpas St (Rte 144) | C | | | No | | C | | | Yes | |
| Milpas St (Rte 144) Off-Ramp | | | | | | | | | | |
| Milpas St (Rte 144) On-Ramp | | D | | | | | E | | | |
| Milpas St (Rte 144) / Cabrillo Blvd | D | | | No | | E | | | Yes | |
| Cabrillo Blvd Off-Ramp (L) | | D | | | | | E | | | |
| Cabrillo Blvd Off-Ramp (R) | | E | | | | | E | | | Though floating car surveys do not measure LOS F downstream of the lane drop. The static operational analyses does estimate congested conditions. However, floating car surveys indicate that about 20% of traffic would travel below 55 mph (and thus at LOS F) between Cabrillo and Bates. Reduced free flow speeds due to grade contributes to the static deficiency result. |
| Cabrillo Blvd On-Ramp | | D | | | | | F | | | |
| Cabrillo Blvd / Olive Mill Rd | D | | | No | | E | | | No | |
| Olive Mill Rd Off-Ramp | | D | | | | | E | | | |
| Olive Mill Rd On-Ramp | | | C | | | | | F | | |
| Olive Mill Rd / San Ysidro Rd | C | | | No | | E | | | No | |
| San Ysidro Rd Off-Ramp | | | | | | | | | | |
| San Ysidro Rd On-Ramp | | C | | | | | E | | | |
| San Ysidro Rd / Sheffield Dr | C | | | No | | E | | | No | |
| Sheffield Dr Off-Ramp | | D | | | | | F | | | |
| Sheffield Dr On-Ramp | | | A | | | | | A | | |
| Sheffield Dr / Evans Ave | C | | | No | | E | | | No | |
| Evans Ave Off-Ramp | | | | | | | | | | |
| Evans Ave On-Ramp | | C | | | | | E | | | |
| Evans Ave / N Padero Ln | B | | | No | | E | | | No | |
| N Padero Ln Off-Ramp | | C | | | | | E | | | |
| N Padero Ln On-Ramp | | C | | | | | E | | | |
| N Padero Ln / S Padero Ln | B | | | No | | D | | | No | |
| S Padero Ln Off-Ramp | | C | | | | | E | | | |
| S Padero Ln On-Ramp | | | A | | | | | A | | |
| S Padero Ln / Carpineria Ave | A | | | No | | B | | | No | |
| Carpinteria Ave Off-Ramp | | | | | | | | | | |
| Carpinteria Ave / Reynolds Ave | B | | | No | | D | | | No | |
| Reynolds Ave Off-Ramp | | C | | | | | D | | | |
| Reynolds Ave On-Ramp | | | A | | | | | A | | |
| Reynolds Ave / Linden Ave | B | | | No | | D | | | No | |
| Linden Ave Off-Ramp | | | | | | | | | | |
| Linden Ave / Casitas Pass Rd | B | | | No | | D | | | No | |
| Casitas Pass Rd Off-Ramp | | B | | | | | D | | | |
| Casitas Pass Rd On-Ramp | | B | | | | | D | | | |
| Casitas Pass Rd / Bailard Ave | B | | | No | | D | | | No | |
| Bailard Ave Off-Ramp | | B | | | | | D | | | |
| Bailard Ave On-Ramp | | | A | | | | | A | | |
| Bailard Ave / Rincon Rd | B | | | No | | D | | | No | |
| Rincon Rd (Rte 150) Off-Ramp | | | | | | | | | | |
| Rincon Rd (Rte 150) On-Ramp | | | A | | | | | A | | |
| Rincon Rd (Rte 150) / Bates Rd | A | | | No | | C | | | No | |
| Bates Rd Off-Ramp | | | | | | | | | | |
| Bates Rd On-Ramp | | B | | | | | D | | | |
| Bates Rd / Project Limit | A | | | No | | C | | | No | |

Notes
**LOS exceeds Caltrans LOS threshold**

# SC101 HOV Traffic Study

## Existing Conditions Operations Analysis Technical Appendices

**EA 05-0N7000**
**Contract Number 05A1141 T01**



**Prepared for:**

**Caltrans District 5**

**State of California**
**Department of Transportation**

**SUBMITTED BY**

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*December 15, 2008*

REGISTERED PROFESSIONAL ENGINEER

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Exp. 3/31/10

CIVIL

STATE OF CALIFORNIA

# List of Appendices

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# APPENDIX A.

## SYNCHRO-7 INTERSECTION LOS WORKSHEETS

## (HCM ANALYSIS)

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 5 | 2 | 1 | 19 | 6 | 0 | 0 | 5 | 1 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.67 | 0.67 | 0.67 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 7 | 3 | 1 | 25 | 8 | 0 | 0 | 7 | 1 |
| Pedestrians | | 1 | | | | | | | | | | |
| Lane Width (ft) | | 0.0 | | | | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | | | | | | | | |
| Percent Blockage | | 0 | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 70 | 67 | 8 | 66 | 68 | 8 | 9 | | | 8 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 70 | 67 | 8 | 66 | 68 | 8 | 9 | | | 8 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 99 | 100 | 100 | 98 | | | 100 | | |
| cM capacity (veh/h) | 912 | 815 | 1079 | 921 | 814 | 1080 | 1624 | | | 1625 | | |

| Direction, Lane # | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 7 | 4 | 33 | 8 |
| Volume Left | 7 | 0 | 25 | 0 |
| Volume Right | 0 | 1 | 0 | 1 |
| cSH | 921 | 887 | 1624 | 1700 |
| Volume to Capacity | 0.01 | 0.01 | 0.02 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 1 | 0 |
| Control Delay (s) | 8.9 | 9.1 | 5.5 | 0.0 |
| Lane LOS | A | A | A | |
| Approach Delay (s) | 9.0 | | 5.5 | 0.0 |
| Approach LOS | A | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 5.5 | |
| Intersection Capacity Utilization | | 18.0% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 1 | 29 | 0 | 0 | 0 | 0 | 20 | 11 | 6 | 4 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.67 | 0.67 | 0.67 | 0.92 | 0.92 | 0.92 | 0.50 | 0.50 | 0.50 | 0.78 | 0.78 | 0.78 |
| Hourly flow rate (vph) | 7 | 1 | 43 | 0 | 0 | 0 | 0 | 40 | 22 | 8 | 5 | 0 |
| Pedestrians | | 1 | | | | | | | | | | |
| Lane Width (ft) | | 12.0 | | | | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | | | | | | | | |
| Percent Blockage | | 0 | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 73 | 84 | 6 | 116 | 73 | 51 | 6 | | | 62 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 73 | 84 | 6 | 116 | 73 | 51 | 6 | | | 62 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 99 | 100 | 96 | 100 | 100 | 100 | 100 | | | 100 | | |
| cM capacity (veh/h) | 918 | 806 | 1082 | 822 | 813 | 1017 | 1613 | | | 1554 | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 7 | 45 | 62 | 13 |
| Volume Left | 7 | 0 | 0 | 8 |
| Volume Right | 0 | 43 | 22 | 0 |
| cSH | 918 | 1069 | 1700 | 1554 |
| Volume to Capacity | 0.01 | 0.04 | 0.04 | 0.00 |
| Queue Length 95th (ft) | 1 | 3 | 0 | 0 |
| Control Delay (s) | 9.0 | 8.5 | 0.0 | 4.4 |
| Lane LOS | A | A | | A |
| Approach Delay (s) | 8.6 | | 0.0 | 4.4 |
| Approach LOS | A | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 4.0 | |
| Intersection Capacity Utilization | | 15.8% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 184 | 0 | 222 | 3 | 87 | 0 | 0 | 70 | 147 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.87 | 0.87 | 0.87 | 0.81 | 0.81 | 0.81 | 0.69 | 0.69 | 0.69 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 211 | 0 | 255 | 4 | 107 | 0 | 0 | 101 | 213 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 578 | 323 | 208 | 323 | 216 | 107 | 101 | | | 107 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 578 | 323 | 208 | 323 | 216 | 107 | 101 | | | 107 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 67 | 100 | 73 | 100 | | | 100 | | |
| cM capacity (veh/h) | 314 | 596 | 837 | 633 | 683 | 952 | 1485 | | | 1496 | | |

| Direction, Lane # | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 211 | 255 | 111 | 314 |
| Volume Left | 211 | 0 | 4 | 0 |
| Volume Right | 0 | 255 | 0 | 213 |
| cSH | 633 | 952 | 1485 | 1700 |
| Volume to Capacity | 0.33 | 0.27 | 0.00 | 0.18 |
| Queue Length 95th (ft) | 37 | 27 | 0 | 0 |
| Control Delay (s) | 13.5 | 10.2 | 0.3 | 0.0 |
| Lane LOS | B | B | A | |
| Approach Delay (s) | 11.7 | | 0.3 | 0.0 |
| Approach LOS | B | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | | 6.1 | |
| Intersection Capacity Utilization | | | 31.9% | ICU Level of Service |
| Analysis Period (min) | | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 62 | 6 | 4 | 0 | 0 | 0 | 0 | 28 | 24 | 39 | 215 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.92 | 0.92 | 0.92 | 0.75 | 0.75 | 0.75 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 79 | 8 | 5 | 0 | 0 | 0 | 0 | 37 | 32 | 43 | 239 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 379 | 395 | 239 | 388 | 379 | 53 | 239 | | | 69 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 379 | 395 | 239 | 388 | 379 | 53 | 239 | | | 69 | | |
| tC, single (s) | 7.2 | 6.6 | 6.3 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.6 | 4.1 | 3.4 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 86 | 99 | 99 | 100 | 100 | 100 | 100 | | | 97 | | |
| cM capacity (veh/h) | 557 | 519 | 788 | 552 | 541 | 1020 | 1328 | | | 1544 | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 79 | 13 | 69 | 282 |
| Volume Left | 79 | 0 | 0 | 43 |
| Volume Right | 0 | 5 | 32 | 0 |
| cSH | 557 | 601 | 1700 | 1544 |
| Volume to Capacity | 0.14 | 0.02 | 0.04 | 0.03 |
| Queue Length 95th (ft) | 12 | 2 | 0 | 2 |
| Control Delay (s) | 12.5 | 11.1 | 0.0 | 1.3 |
| Lane LOS | B | B | | A |
| Approach Delay (s) | 12.3 | | 0.0 | 1.3 |
| Approach LOS | B | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | | 3.4 | |
| Intersection Capacity Utilization | | | 30.2% | ICU Level of Service |
| Analysis Period (min) | | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 1 | 15 | 4 | 2 | 1 | 234 | 72 | 3 | 1 | 198 | 32 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.58 | 0.58 | 0.58 | 0.44 | 0.44 | 0.44 | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 |
| Hourly flow rate (vph) | 9 | 2 | 26 | 9 | 5 | 2 | 254 | 78 | 3 | 1 | 208 | 34 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | 2 | | | 2 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 819 | 818 | 225 | 830 | 833 | 80 | 242 | | | 82 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 819 | 818 | 225 | 830 | 833 | 80 | 242 | | | 82 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 97 | 99 | 97 | 96 | 98 | 100 | 81 | | | 100 | | |
| cM capacity (veh/h) | 247 | 251 | 814 | 238 | 246 | 980 | 1330 | | | 1516 | | |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 36 | 16 | 336 | 243 |
| Volume Left | 9 | 9 | 254 | 1 |
| Volume Right | 26 | 2 | 3 | 34 |
| cSH | 866 | 281 | 1330 | 1516 |
| Volume to Capacity | 0.04 | 0.06 | 0.19 | 0.00 |
| Queue Length 95th (ft) | 3 | 4 | 18 | 0 |
| Control Delay (s) | 12.6 | 19.1 | 6.7 | 0.0 |
| Lane LOS | B | C | A | A |
| Approach Delay (s) | 12.6 | 19.1 | 6.7 | 0.0 |
| Approach LOS | B | C | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 4.8 | | |
| Intersection Capacity Utilization | | 43.7% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 46 | 3 | 11 | 6 | 6 | 213 |
| Sign Control | | Yield | Yield | | Free | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.68 | 0.68 | 0.47 | 0.47 | 0.84 | 0.84 |
| Hourly flow rate (vph) | 68 | 4 | 23 | 13 | 7 | 254 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 166 | 141 | 268 | 0 | 0 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 166 | 141 | 268 | 0 | 0 | |
| tC, single (s) | 7.1 | 6.5 | 6.5 | 6.2 | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 4.0 | 4.0 | 3.3 | 2.2 | |
| p0 queue free % | 91 | 99 | 96 | 99 | 100 | |
| cM capacity (veh/h) | 765 | 747 | 635 | 1085 | 1623 | |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 72 | 36 | 261 |
| Volume Left | 68 | 0 | 7 |
| Volume Right | 0 | 13 | 254 |
| cSH | 764 | 744 | 1623 |
| Volume to Capacity | 0.09 | 0.05 | 0.00 |
| Queue Length 95th (ft) | 8 | 4 | 0 |
| Control Delay (s) | 10.2 | 10.1 | 0.2 |
| Lane LOS | B | B | A |
| Approach Delay (s) | 10.2 | 10.1 | 0.2 |
| Approach LOS | B | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 3.1 | | |
| Intersection Capacity Utilization | | 29.6% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 60 | 13 | 14 | 2 | 387 | 0 | 0 | 177 | 262 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.61 | 0.61 | 0.61 | 0.76 | 0.76 | 0.76 | 0.84 | 0.84 | 0.84 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 98 | 21 | 23 | 3 | 509 | 0 | 0 | 211 | 312 |
| Pedestrians | | | | | 13 | | | 1 | | | | |
| Lane Width (ft) | | | | | 12.0 | | | 12.0 | | | | |
| Walking Speed (ft/s) | | | | | 4.0 | | | 4.0 | | | | |
| Percent Blockage | | | | | 1 | | | 0 | | | | |
| Right turn flare (veh) | | | | | | 2 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 747 | 738 | 212 | 739 | 1050 | 522 | 523 | | | 522 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 747 | 738 | 212 | 739 | 1050 | 522 | 523 | | | 522 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 70 | 91 | 96 | 100 | | | 100 | | |
| cM capacity (veh/h) | 292 | 343 | 833 | 328 | 226 | 552 | 1049 | | | 1038 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 143 | 512 | 211 | 312 |
| Volume Left | 98 | 3 | 0 | 0 |
| Volume Right | 23 | 0 | 0 | 312 |
| cSH | 370 | 1049 | 1700 | 1700 |
| Volume to Capacity | 0.39 | 0.00 | 0.12 | 0.18 |
| Queue Length 95th (ft) | 44 | 0 | 0 | 0 |
| Control Delay (s) | 21.8 | 0.1 | 0.0 | 0.0 |
| Lane LOS | C | A | | |
| Approach Delay (s) | 21.8 | 0.1 | 0.0 | |
| Approach LOS | C | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 2.7 | | |
| Intersection Capacity Utilization | 50.7% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 263 | 0 | 103 | 0 | 0 | 0 | 0 | 126 | 27 | 23 | 214 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.92 | 0.92 | 0.92 | 0.82 | 0.82 | 0.82 | 0.73 | 0.73 | 0.73 |
| Hourly flow rate (vph) | 337 | 0 | 132 | 0 | 0 | 0 | 0 | 154 | 33 | 32 | 293 | 0 |
| Pedestrians | | | | | 10 | | | | | | | |
| Lane Width (ft) | | | | | 0.0 | | | | | | | |
| Walking Speed (ft/s) | | | | | 4.0 | | | | | | | |
| Percent Blockage | | | | | 0 | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 526 | 553 | 293 | 668 | 536 | 180 | 293 | | | 197 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 526 | 553 | 293 | 668 | 536 | 180 | 293 | | | 197 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 26 | 100 | 82 | 100 | 100 | 100 | 100 | | | 98 | | |
| cM capacity (veh/h) | 457 | 434 | 751 | 303 | 443 | 868 | 1268 | | | 1382 | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 469 | 187 | 325 |
| Volume Left | 337 | 0 | 32 |
| Volume Right | 132 | 33 | 0 |
| cSH | 514 | 1700 | 1382 |
| Volume to Capacity | 0.91 | 0.11 | 0.02 |
| Queue Length 95th (ft) | 269 | 0 | 2 |
| Control Delay (s) | 49.6 | 0.0 | 0.9 |
| Lane LOS | E | | A |
| Approach Delay (s) | 49.6 | 0.0 | 0.9 |
| Approach LOS | E | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 24.0 | | |
| Intersection Capacity Utilization | 53.2% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 6 | 7 | 151 | 148 | 2 | 2 | 49 | 43 | 309 | 8 | 140 | 1 |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.79 | 0.79 | 0.79 |
| Hourly flow rate (vph) | 8 | 9 | 194 | 218 | 3 | 3 | 72 | 63 | 454 | 10 | 177 | 1 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|---|
| Volume Total (vph) | 17 | 194 | 221 | 3 | 135 | 454 | 187 | 1 |
| Volume Left (vph) | 8 | 0 | 218 | 0 | 72 | 0 | 10 | 0 |
| Volume Right (vph) | 0 | 194 | 0 | 3 | 0 | 454 | 0 | 1 |
| Hadj (s) | 0.26 | -0.67 | 0.53 | -0.67 | 0.28 | -0.68 | 0.06 | -0.67 |
| Departure Headway (s) | 7.2 | 6.3 | 7.4 | 6.2 | 6.5 | 5.5 | 6.8 | 6.1 |
| Degree Utilization, x | 0.03 | 0.34 | 0.45 | 0.01 | 0.24 | 0.70 | 0.35 | 0.00 |
| Capacity (veh/h) | 458 | 529 | 459 | 534 | 534 | 624 | 498 | 546 |
| Control Delay (s) | 9.3 | 11.3 | 15.2 | 8.0 | 10.4 | 19.2 | 12.2 | 7.9 |
| Approach Delay (s) | 11.1 | | 15.1 | | 17.2 | | 12.2 | |
| Approach LOS | B | | C | | C | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | 15.0 | |
| HCM Level of Service | | B | |
| Intersection Capacity Utilization | | 40.3% | ICU Level of Service |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 139 | 75 | 3 | 0 | 124 | 11 | 1 | 3 | 4 | 130 | 4 | 183 |
| Peak Hour Factor | 0.69 | 0.69 | 0.69 | 0.80 | 0.80 | 0.80 | 0.67 | 0.67 | 0.67 | 0.88 | 0.88 | 0.88 |
| Hourly flow rate (vph) | 201 | 109 | 4 | 0 | 155 | 14 | 1 | 4 | 6 | 148 | 5 | 208 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 314 | 169 | 12 | 360 |
| Volume Left (vph) | 201 | 0 | 1 | 148 |
| Volume Right (vph) | 4 | 14 | 6 | 208 |
| Hadj (s) | 0.15 | -0.01 | -0.24 | -0.23 |
| Departure Headway (s) | 5.3 | 5.4 | 5.6 | 5.0 |
| Degree Utilization, x | 0.46 | 0.25 | 0.02 | 0.50 |
| Capacity (veh/h) | 641 | 618 | 540 | 679 |
| Control Delay (s) | 12.8 | 10.2 | 8.7 | 12.9 |
| Approach Delay (s) | 12.8 | 10.2 | 8.7 | 12.9 |
| Approach LOS | B | B | A | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | 12.3 | |
| HCM Level of Service | | B | |
| Intersection Capacity Utilization | | 54.3% | ICU Level of Service |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 1 | 0 | 85 | 184 | 144 | 125 | 192 | 189 | 0 | 0 | 173 | 89 |
| Peak Hour Factor | 0.68 | 0.68 | 0.68 | 0.78 | 0.78 | 0.78 | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 1 | 0 | 125 | 236 | 185 | 160 | 209 | 205 | 0 | 0 | 192 | 99 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|---|
| Volume Total (vph) | 126 | 421 | 160 | 414 | 291 |
| Volume Left (vph) | 1 | 236 | 0 | 209 | 0 |
| Volume Right (vph) | 125 | 0 | 160 | 0 | 99 |
| Hadj (s) | -0.56 | 0.31 | -0.67 | 0.12 | -0.17 |
| Departure Headway (s) | 7.5 | 7.6 | 6.6 | 7.0 | 7.1 |
| Degree Utilization, x | 0.26 | 0.89 | 0.29 | 0.81 | 0.57 |
| Capacity (veh/h) | 423 | 464 | 531 | 498 | 467 |
| Control Delay (s) | 13.2 | 45.5 | 11.2 | 33.3 | 19.3 |
| Approach Delay (s) | 13.2 | 36.0 | | 33.3 | 19.3 |
| Approach LOS | B | E | | D | C |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 29.7 | | |
| HCM Level of Service | | D | | |
| Intersection Capacity Utilization | | 70.2% | ICU Level of Service | C |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 358 | 113 | 68 | 9 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.79 | 0.79 | 0.80 | 0.80 |
| Hourly flow rate (vph) | 0 | 0 | 453 | 143 | 85 | 11 |
| Pedestrians | | | | | 2 | |
| Lane Width (ft) | | | | | 12.0 | |
| Walking Speed (ft/s) | | | | | 4.0 | |
| Percent Blockage | | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 598 | | | | 527 | 527 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 598 | | | | 527 | 527 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 100 | | | | 83 | 98 |
| cM capacity (veh/h) | 987 | | | | 511 | 550 |

| Direction, Lane # | WB 1 | SB 1 |
|---|---|---|
| Volume Total | 596 | 96 |
| Volume Left | 0 | 85 |
| Volume Right | 143 | 11 |
| cSH | 1700 | 515 |
| Volume to Capacity | 0.35 | 0.19 |
| Queue Length 95th (ft) | 0 | 17 |
| Control Delay (s) | 0.0 | 13.6 |
| Lane LOS | | B |
| Approach Delay (s) | 0.0 | 13.6 |
| Approach LOS | | B |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 1.9 | | |
| Intersection Capacity Utilization | | 36.7% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

## HCM Unsignalized Intersection Capacity Analysis
## 13: SB On/Off Ramps & Casitas Pass Rd

Existing - AM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 74 | 3 | 153 | 0 | 0 | 0 | 0 | 307 | 142 | 91 | 351 | 0 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.92 | 0.92 | 0.92 | 0.86 | 0.86 | 0.86 | 0.88 | 0.88 | 0.88 |
| Hourly flow rate (vph) | 76 | 3 | 158 | 0 | 0 | 0 | 0 | 357 | 165 | 103 | 399 | 0 |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total (vph) | 79 | 158 | 357 | 165 | 502 |
| Volume Left (vph) | 76 | 0 | 0 | 0 | 103 |
| Volume Right (vph) | 0 | 158 | 0 | 165 | 0 |
| Hadj (s) | 0.48 | -0.70 | 0.02 | -0.68 | 0.04 |
| Departure Headway (s) | 7.6 | 6.4 | 6.0 | 5.3 | 6.0 |
| Degree Utilization, x | 0.17 | 0.28 | 0.59 | 0.24 | 0.84 |
| Capacity (veh/h) | 451 | 530 | 579 | 658 | 586 |
| Control Delay (s) | 10.9 | 10.6 | 16.2 | 8.8 | 32.2 |
| Approach Delay (s) | 10.7 | | 13.8 | | 32.2 |
| Approach LOS | B | | B | | D |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 20.6 | | |
| HCM Level of Service | | C | | |
| Intersection Capacity Utilization | | 58.6% | ICU Level of Service | B |
| Analysis Period (min) | | 15 | | |



## HCM Signalized Intersection Capacity Analysis
## 14: Carpinteria Ave & Casitas Pass Rd

Existing - AM Peak
12/15/2009

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 217 | 356 | 369 | 90 | 82 | 119 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 5.0 | 5.0 | 5.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1583 | 1787 | 1599 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1583 | 1787 | 1599 |
| Peak-hour factor, PHF | 0.80 | 0.80 | 0.77 | 0.77 | 0.86 | 0.86 |
| Adj. Flow (vph) | 271 | 445 | 479 | 117 | 95 | 138 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 271 | 445 | 479 | 117 | 95 | 138 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 1% | 1% |
| Turn Type | Prot | | | Perm | | Perm |
| Protected Phases | 7 | 4 | 8 | | 6 | |
| Permitted Phases | | | | 8 | | 6 |
| Actuated Green, G (s) | 15.4 | 42.0 | 22.6 | 22.6 | 11.0 | 11.0 |
| Effective Green, g (s) | 15.4 | 42.0 | 22.6 | 22.6 | 11.0 | 11.0 |
| Actuated g/C Ratio | 0.25 | 0.68 | 0.36 | 0.36 | 0.18 | 0.18 |
| Clearance Time (s) | 4.0 | 5.0 | 5.0 | 5.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lane Grp Cap (vph) | 440 | 1262 | 679 | 577 | 317 | 284 |
| v/s Ratio Prot | c0.15 | 0.24 | c0.26 | | 0.05 | |
| v/s Ratio Perm | | | | 0.07 | | c0.09 |
| v/c Ratio | 0.62 | 0.35 | 0.71 | 0.20 | 0.30 | 0.49 |
| Uniform Delay, d1 | 20.7 | 4.2 | 16.9 | 13.5 | 22.2 | 23.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.8 | 0.1 | 2.7 | 0.1 | 0.2 | 0.5 |
| Delay (s) | 22.5 | 4.3 | 19.6 | 13.6 | 22.3 | 23.4 |
| Level of Service | C | A | B | B | C | C |
| Approach Delay (s) | | 11.2 | 18.4 | | 23.0 | |
| Approach LOS | | B | B | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 15.8 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 62.0 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 46.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 86 | 352 | 94 | 165 | 0 | 0 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.80 | 0.80 | 0.77 | 0.77 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 108 | 440 | 122 | 214 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 108 | | 566 | 108 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 108 | | 566 | 108 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 92 | | 100 | 100 |
| cM capacity (veh/h) | | | 1490 | | 449 | 952 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 |
|---|---|---|---|
| Volume Total | 108 | 440 | 336 |
| Volume Left | 0 | 0 | 122 |
| Volume Right | 0 | 440 | 0 |
| cSH | 1700 | 1700 | 1490 |
| Volume to Capacity | 0.06 | 0.26 | 0.08 |
| Queue Length 95th (ft) | 0 | 0 | 7 |
| Control Delay (s) | 0.0 | 0.0 | 3.2 |
| Lane LOS | | | A |
| Approach Delay (s) | 0.0 | | 3.2 |
| Approach LOS | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 1.2 | |
| Intersection Capacity Utilization | | 42.3% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 43 | 122 | 321 | 233 | 205 | 256 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.82 | 0.82 | 0.89 | 0.89 | 0.77 | 0.77 |
| Hourly flow rate (vph) | 52 | 149 | 361 | 262 | 266 | 332 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | 1 | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1226 | 361 | | | 361 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1226 | 361 | | | 361 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 66 | 78 | | | 78 | |
| cM capacity (veh/h) | 155 | 688 | | | 1198 | |

| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|
| Volume Total | 201 | 361 | 262 | 599 |
| Volume Left | 52 | 0 | 0 | 266 |
| Volume Right | 149 | 0 | 262 | 0 |
| cSH | 479 | 1700 | 1700 | 1198 |
| Volume to Capacity | 0.42 | 0.21 | 0.15 | 0.22 |
| Queue Length 95th (ft) | 51 | 0 | 0 | 21 |
| Control Delay (s) | 17.9 | 0.0 | 0.0 | 5.3 |
| Lane LOS | C | | | A |
| Approach Delay (s) | 17.9 | 0.0 | | 5.3 |
| Approach LOS | C | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 4.8 | |
| Intersection Capacity Utilization | | 55.0% | ICU Level of Service B |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 84 | 152 | 0 | 470 | 299 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.87 | 0.87 | 0.64 | 0.64 | 0.77 | 0.77 |
| Hourly flow rate (vph) | 97 | 175 | 0 | 734 | 388 | 0 |
| Pedestrians | | | | 68 | | |
| Lane Width (ft) | | | | 12.0 | | |
| Walking Speed (ft/s) | | | | 4.0 | | |
| Percent Blockage | | | | 6 | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1123 | 456 | 388 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1123 | 456 | 388 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 58 | 70 | 100 | | | |
| cM capacity (veh/h) | 230 | 574 | 1170 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 271 | 734 | 388 |
| Volume Left | 97 | 0 | 0 |
| Volume Right | 175 | 0 | 0 |
| cSH | 374 | 1700 | 1700 |
| Volume to Capacity | 0.72 | 0.43 | 0.23 |
| Queue Length 95th (ft) | 138 | 0 | 0 |
| Control Delay (s) | 36.2 | 0.0 | 0.0 |
| Lane LOS | E | | |
| Approach Delay (s) | 36.2 | 0.0 | 0.0 |
| Approach LOS | E | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 7.0 | | |
| Intersection Capacity Utilization | 48.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 48 | 15 | 6 | 459 | 398 | 18 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.78 | 0.78 | 0.97 | 0.97 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 62 | 19 | 6 | 473 | 423 | 19 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 919 | 433 | 443 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 919 | 433 | 443 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 79 | 97 | 99 | | | |
| cM capacity (veh/h) | 300 | 623 | 1117 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 81 | 479 | 443 |
| Volume Left | 62 | 6 | 0 |
| Volume Right | 19 | 0 | 19 |
| cSH | 342 | 1117 | 1700 |
| Volume to Capacity | 0.24 | 0.01 | 0.26 |
| Queue Length 95th (ft) | 23 | 0 | 0 |
| Control Delay (s) | 18.8 | 0.2 | 0.0 |
| Lane LOS | C | A | |
| Approach Delay (s) | 18.8 | 0.2 | 0.0 |
| Approach LOS | C | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 39.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

## HCM Unsignalized Intersection Capacity Analysis
## 19: Carpinteria Ave & SB On/Off Ramps

Existing - AM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 112 | 177 | 1 | 66 | 202 | 11 | 3 | 17 | 48 | 15 | 5 | 12 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.72 | 0.72 | 0.72 | 0.61 | 0.61 | 0.61 | 0.62 | 0.62 | 0.62 |
| Hourly flow rate (vph) | 122 | 192 | 1 | 92 | 281 | 15 | 5 | 28 | 79 | 24 | 8 | 19 |
| Pedestrians | | 9 | | | 18 | | | 13 | | | 8 | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | 1 | | | 2 | | | 1 | | | 1 | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 316 | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 304 | | | 206 | | | 946 | 937 | 224 | 1026 | 929 | 305 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 304 | | | 206 | | | 946 | 937 | 224 | 1026 | 929 | 305 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 90 | | | 93 | | | 97 | 87 | 90 | 84 | 96 | 97 |
| cM capacity (veh/h) | 1254 | | | 1356 | | | 196 | 221 | 799 | 149 | 223 | 729 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|
| Volume Total | 122 | 193 | 92 | 296 | 111 | 52 |
| Volume Left | 122 | 0 | 92 | 0 | 5 | 24 |
| Volume Right | 0 | 1 | 0 | 15 | 79 | 19 |
| cSH | 1254 | 1700 | 1356 | 1700 | 446 | 229 |
| Volume to Capacity | 0.10 | 0.11 | 0.07 | 0.17 | 0.25 | 0.23 |
| Queue Length 95th (ft) | 8 | 0 | 5 | 0 | 24 | 21 |
| Control Delay (s) | 8.2 | 0.0 | 7.8 | 0.0 | 15.7 | 25.2 |
| Lane LOS | A | | A | | C | D |
| Approach Delay (s) | 3.2 | | 1.9 | | 15.7 | 25.2 |
| Approach LOS | | | | | C | D |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 5.5 | | |
| Intersection Capacity Utilization | | 38.0% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |



## HCM Signalized Intersection Capacity Analysis
## 20: Carpinteria Ave & Santan Ynez Ave

Existing - AM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 123 | 106 | 6 | 0 | 58 | 139 | 14 | 116 | 14 | 173 | 67 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 3.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | | 1881 | 1599 | | 1853 | 1583 | 1770 | 1856 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | | 1881 | 1599 | | 1853 | 1583 | 1770 | 1856 | |
| Peak-hour factor, PHF | 0.72 | 0.72 | 0.72 | 0.85 | 0.85 | 0.85 | 0.82 | 0.82 | 0.82 | 0.83 | 0.83 | 0.83 |
| Adj. Flow (vph) | 171 | 147 | 8 | 0 | 68 | 164 | 17 | 141 | 17 | 208 | 81 | 2 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 171 | 147 | 8 | 0 | 68 | 164 | 0 | 158 | 17 | 208 | 83 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | | Perm | | | Perm | Split | | Perm | Split | | |
| Protected Phases | 7 | 4 | | | 8 | | 2 | 2 | | 6 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 7.0 | 22.1 | 22.1 | | 11.6 | 11.6 | | 8.2 | 8.2 | 12.5 | 12.5 | |
| Effective Green, g (s) | 7.0 | 22.1 | 22.1 | | 11.6 | 11.6 | | 8.2 | 8.2 | 12.5 | 12.5 | |
| Actuated g/C Ratio | 0.12 | 0.39 | 0.39 | | 0.21 | 0.21 | | 0.15 | 0.15 | 0.22 | 0.22 | |
| Clearance Time (s) | 3.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 1.5 | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.5 | 2.5 | 2.8 | 2.8 | |
| Lane Grp Cap (vph) | 220 | 731 | 621 | | 388 | 329 | | 270 | 231 | 393 | 412 | |
| v/s Ratio Prot | c0.10 | 0.08 | | | 0.04 | | | c0.09 | | c0.12 | 0.04 | |
| v/s Ratio Perm | | | 0.01 | | | c0.10 | | | 0.01 | | | |
| v/c Ratio | 0.78 | 0.20 | 0.01 | | 0.18 | 0.50 | | 0.59 | 0.07 | 0.53 | 0.20 | |
| Uniform Delay, d1 | 23.9 | 11.3 | 10.4 | | 18.4 | 19.8 | | 22.5 | 20.8 | 19.3 | 17.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 14.5 | 0.1 | 0.0 | | 0.2 | 0.9 | | 2.7 | 0.1 | 1.2 | 0.2 | |
| Delay (s) | 38.4 | 11.4 | 10.4 | | 18.6 | 20.6 | | 25.1 | 20.9 | 20.5 | 18.1 | |
| Level of Service | D | B | B | | B | C | | C | C | C | B | |
| Approach Delay (s) | | 25.5 | | | 20.0 | | | 24.7 | | | 19.8 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | | 22.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | | 0.58 | | |
| Actuated Cycle Length (s) | | 56.3 | Sum of lost time (s) | 17.0 |
| Intersection Capacity Utilization | | 37.2% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 15 | 115 | 33 | 255 | 237 | 39 | 143 | 79 | 44 | 60 | 106 | 61 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.93 | 0.93 | 0.93 | 0.75 | 0.75 | 0.75 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 16 | 126 | 36 | 274 | 255 | 42 | 191 | 105 | 59 | 67 | 118 | 68 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|
| Volume Total (vph) | 143 | 36 | 529 | 42 | 355 | 252 |
| Volume Left (vph) | 16 | 0 | 274 | 0 | 191 | 67 |
| Volume Right (vph) | 0 | 36 | 0 | 42 | 59 | 68 |
| Hadj (s) | 0.06 | -0.57 | 0.29 | -0.67 | 0.04 | -0.07 |
| Departure Headway (s) | 7.7 | 3.2 | 7.3 | 6.4 | 7.0 | 7.2 |
| Degree Utilization, x | 0.31 | 0.03 | 1.08 | 0.07 | 0.69 | 0.50 |
| Capacity (veh/h) | 425 | 1121 | 500 | 560 | 500 | 471 |
| Control Delay (s) | 14.0 | 6.3 | 89.0 | 8.7 | 23.9 | 17.2 |
| Approach Delay (s) | 12.5 | | 83.1 | | 23.9 | 17.2 |
| Approach LOS | B | | F | | C | C |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 46.1 | | |
| HCM Level of Service | | E | | |
| Intersection Capacity Utilization | | 68.0% | ICU Level of Service | C |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 16 | 4 | 106 | 16 | 82 | 0 | 0 | 96 | 123 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 18 | 4 | 118 | 21 | 105 | 0 | 0 | 123 | 158 |
| Pedestrians | | | | | 3 | | | | | | 3 | |
| Lane Width (ft) | | | | | 12.0 | | | | | | 12.0 | |
| Walking Speed (ft/s) | | | | | 4.0 | | | | | | 4.0 | |
| Percent Blockage | | | | | 0 | | | | | | 0 | |
| Right turn flare (veh) | | | | | | 2 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 412 | 351 | 202 | 351 | 430 | 111 | 281 | | | 108 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 412 | 351 | 202 | 351 | 430 | 111 | 281 | | | 108 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 97 | 99 | 88 | 98 | | | 100 | | |
| cM capacity (veh/h) | 473 | 566 | 844 | 597 | 511 | 943 | 1288 | | | 1491 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 140 | 126 | 281 |
| Volume Left | 18 | 21 | 0 |
| Volume Right | 118 | 0 | 158 |
| cSH | 1121 | 1288 | 1700 |
| Volume to Capacity | 0.12 | 0.02 | 0.17 |
| Queue Length 95th (ft) | 11 | 1 | 0 |
| Control Delay (s) | 9.7 | 1.4 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.7 | 1.4 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 2.8 | | |
| Intersection Capacity Utilization | | 28.9% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 36 | 56 | 163 | 425 | 123 | 65 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.86 | 0.86 | 0.92 | 0.92 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 42 | 65 | 177 | 462 | 135 | 71 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 107 | | 858 | 42 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 107 | | 858 | 42 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 88 | | 53 | 93 |
| cM capacity (veh/h) | | | 1484 | | 289 | 1032 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 |
|---|---|---|---|---|
| Volume Total | 42 | 65 | 639 | 207 |
| Volume Left | 0 | 0 | 177 | 135 |
| Volume Right | 0 | 65 | 0 | 71 |
| cSH | 1700 | 1700 | 1484 | 385 |
| Volume to Capacity | 0.02 | 0.04 | 0.12 | 0.54 |
| Queue Length 95th (ft) | 0 | 0 | 10 | 76 |
| Control Delay (s) | 0.0 | 0.0 | 3.1 | 24.7 |
| Lane LOS | | | A | C |
| Approach Delay (s) | 0.0 | | 3.1 | 24.7 |
| Approach LOS | | | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 7.4 | |
| Intersection Capacity Utilization | | 55.5% | ICU Level of Service B |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 76 | 44 | 13 | 1 | 0 | 12 | 0 | 10 | 8 | 92 | 20 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.65 | 0.65 | 0.65 | 0.75 | 0.75 | 0.75 | 0.96 | 0.96 | 0.96 |
| Hourly flow rate (vph) | 80 | 46 | 14 | 2 | 0 | 18 | 0 | 13 | 11 | 96 | 21 | 0 |
| Pedestrians | | 4 | | | 3 | | | | | | | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | | | | | |
| Percent Blockage | | 0 | | | 0 | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 248 | 244 | 25 | 266 | 233 | 16 | 25 | | | 27 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 248 | 244 | 25 | 266 | 233 | 16 | 25 | | | 27 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 88 | 92 | 99 | 100 | 100 | 98 | 100 | | | 94 | | |
| cM capacity (veh/h) | 656 | 615 | 1048 | 606 | 624 | 1060 | 1584 | | | 1596 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|---|
| Volume Total | 80 | 60 | 20 | 13 | 11 | 117 |
| Volume Left | 80 | 0 | 2 | 0 | 0 | 96 |
| Volume Right | 0 | 14 | 18 | 0 | 11 | 0 |
| cSH | 656 | 679 | 1002 | 1700 | 1700 | 1596 |
| Volume to Capacity | 0.12 | 0.09 | 0.02 | 0.01 | 0.01 | 0.06 |
| Queue Length 95th (ft) | 10 | 7 | 2 | 0 | 0 | 5 |
| Control Delay (s) | 11.2 | 10.8 | 8.7 | 0.0 | 0.0 | 6.2 |
| Lane LOS | B | B | A | | | A |
| Approach Delay (s) | 11.1 | | 8.7 | 0.0 | | 6.2 |
| Approach LOS | B | | A | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 8.1 | |
| Intersection Capacity Utilization | | 30.4% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 5 | 25 | 33 | 17 | 107 | 0 | 0 | 84 | 378 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.55 | 0.55 | 0.55 | 0.93 | 0.93 | 0.93 | 0.83 | 0.83 | 0.83 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 9 | 45 | 60 | 18 | 115 | 0 | 0 | 101 | 455 |
| Pedestrians | | 2 | | | | | | | | | | |
| Lane Width (ft) | | 0.0 | | | | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | | | | | | | | |
| Percent Blockage | | 0 | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 565 | 483 | 331 | 481 | 710 | 115 | 559 | | | 115 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 565 | 483 | 331 | 481 | 710 | 115 | 559 | | | 115 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 98 | 87 | 94 | 98 | | | 100 | | |
| cM capacity (veh/h) | 365 | 478 | 715 | 492 | 355 | 943 | 1022 | | | 1486 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 115 | 133 | 557 |
| Volume Left | 9 | 18 | 0 |
| Volume Right | 60 | 0 | 455 |
| cSH | 545 | 1022 | 1700 |
| Volume to Capacity | 0.21 | 0.02 | 0.33 |
| Queue Length 95th (ft) | 20 | 1 | 0 |
| Control Delay (s) | 13.4 | 1.3 | 0.0 |
| Lane LOS | B | A | |
| Approach Delay (s) | 13.4 | 1.3 | 0.0 |
| Approach LOS | B | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 2.1 | | |
| Intersection Capacity Utilization | | 38.2% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 34 | 38 | 424 | 232 | 26 | 114 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.93 | 0.93 | 0.94 | 0.94 | 0.80 | 0.80 |
| Hourly flow rate (vph) | 37 | 41 | 451 | 247 | 32 | 142 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 77 | | 1206 | 57 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 77 | | 1206 | 57 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 70 | | 77 | 86 |
| cM capacity (veh/h) | | | 1521 | | 144 | 1015 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 77 | 698 | 175 |
| Volume Left | 0 | 451 | 32 |
| Volume Right | 41 | 0 | 142 |
| cSH | 1700 | 1521 | 478 |
| Volume to Capacity | 0.05 | 0.30 | 0.37 |
| Queue Length 95th (ft) | 0 | 31 | 41 |
| Control Delay (s) | 0.0 | 6.4 | 16.8 |
| Lane LOS | | A | C |
| Approach Delay (s) | 0.0 | 6.4 | 16.8 |
| Approach LOS | | | C |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 7.8 | | |
| Intersection Capacity Utilization | | 57.5% | ICU Level of Service | B |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 109 | 1 | 24 | 0 | 0 | 0 | 0 | 15 | 4 | 74 | 15 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.92 | 0.92 | 0.92 | 0.79 | 0.79 | 0.79 | 0.86 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 124 | 1 | 27 | 0 | 0 | 0 | 0 | 19 | 5 | 86 | 17 | 0 |
| Pedestrians | | 2 | | | | | | | | | | |
| Lane Width (ft) | | 12.0 | | | | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | | | | | | | | |
| Percent Blockage | | 0 | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 213 | 216 | 19 | 239 | 213 | 22 | 19 | | | 24 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 213 | 216 | 19 | 239 | 213 | 22 | 19 | | | 24 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 83 | 100 | 97 | 100 | 100 | 100 | 100 | | | 95 | | |
| cM capacity (veh/h) | 715 | 648 | 1063 | 671 | 650 | 1062 | 1594 | | | 1604 | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 152 | 24 | 103 |
| Volume Left | 124 | 0 | 86 |
| Volume Right | 27 | 5 | 0 |
| cSH | 759 | 1700 | 1604 |
| Volume to Capacity | 0.20 | 0.01 | 0.05 |
| Queue Length 95th (ft) | 19 | 0 | 4 |
| Control Delay (s) | 10.9 | 0.0 | 6.2 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.9 | 0.0 | 6.2 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | | 8.2 |
| Intersection Capacity Utilization | | | 25.9% |
| Analysis Period (min) | | | 15 |
| | | ICU Level of Service | A |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 1 | 81 | 0 | 0 | 280 | 0 | 46 | 0 | 3 | 0 | 0 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.80 | 0.80 | 0.80 | 0.77 | 0.77 | 0.77 | 0.38 | 0.38 | 0.38 |
| Hourly flow rate (vph) | 1 | 99 | 0 | 0 | 350 | 0 | 60 | 0 | 4 | 0 | 0 | 0 |
| Pedestrians | | 9 | | | 7 | | | | | | 2 | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | | | | 4.0 | |
| Percent Blockage | | 1 | | | 1 | | | | | | 0 | |
| Right turn flare (veh) | | | | | | | | | 2 | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 352 | | | 99 | | | 460 | 453 | 106 | 462 | 453 | 361 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 352 | | | 99 | | | 460 | 453 | 106 | 462 | 453 | 361 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 100 | | | 88 | 100 | 100 | 100 | 100 | 100 |
| cM capacity (veh/h) | 1205 | | | 1500 | | | 510 | 504 | 948 | 506 | 504 | 682 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 100 | 350 | 64 | 0 |
| Volume Left | 1 | 0 | 60 | 0 |
| Volume Right | 0 | 0 | 4 | 0 |
| cSH | 1205 | 1700 | 543 | 1700 |
| Volume to Capacity | 0.00 | 0.21 | 0.12 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 10 | 0 |
| Control Delay (s) | 0.1 | 0.0 | 12.7 | 0.0 |
| Lane LOS | A | | B | A |
| Approach Delay (s) | 0.1 | 0.0 | 12.7 | 0.0 |
| Approach LOS | | | B | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | | 1.6 |
| Intersection Capacity Utilization | | | 27.7% |
| Analysis Period (min) | | | 15 |
| | | ICU Level of Service | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 1 | 48 | 15 | 23 | 276 | 25 | 26 | 23 | 60 | 11 | 18 | 49 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.84 | 0.84 | 0.84 | 0.91 | 0.91 | 0.91 | 0.81 | 0.81 | 0.81 |
| Hourly flow rate (vph) | 1 | 51 | 16 | 27 | 329 | 30 | 29 | 25 | 66 | 14 | 22 | 60 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 68 | 386 | 120 | 96 |
| Volume Left (vph) | 1 | 27 | 29 | 14 |
| Volume Right (vph) | 16 | 30 | 66 | 60 |
| Hadj (s) | -0.10 | -0.02 | -0.25 | -0.31 |
| Departure Headway (s) | 4.8 | 4.5 | 4.9 | 4.8 |
| Degree Utilization, x | 0.09 | 0.48 | 0.16 | 0.13 |
| Capacity (veh/h) | 687 | 765 | 672 | 668 |
| Control Delay (s) | 8.3 | 11.7 | 8.8 | 8.6 |
| Approach Delay (s) | 8.3 | 11.7 | 8.8 | 8.6 |
| Approach LOS | A | B | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 10.4 | | |
| HCM Level of Service | | B | | |
| Intersection Capacity Utilization | | 41.0% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | WBL | WBR | SBL2 | SBL | NWR |
|---|---|---|---|---|---|
| Lane Configurations | | | | | |
| Volume (veh/h) | 172 | 173 | 43 | 15 | 0 |
| Sign Control | Free | | | Stop | Stop |
| Grade | 0% | | | 0% | 0% |
| Peak Hour Factor | 0.78 | 0.78 | 0.81 | 0.81 | 0.92 |
| Hourly flow rate (vph) | 221 | 222 | 53 | 19 | 0 |
| Pedestrians | 5 | | | | |
| Lane Width (ft) | 12.0 | | | | |
| Walking Speed (ft/s) | 4.0 | | | | |
| Percent Blockage | 0 | | | | |
| Right turn flare (veh) | | | | | |
| Median type | None | | | | |
| Median storage veh) | | | | | |
| Upstream signal (ft) | | | | | |
| pX, platoon unblocked | | | | | |
| vC, conflicting volume | 0 | | 557 | 552 | 663 |
| vC1, stage 1 conf vol | | | | | |
| vC2, stage 2 conf vol | | | | | |
| vCu, unblocked vol | 0 | | 557 | 552 | 663 |
| tC, single (s) | 4.1 | | 7.1 | 6.5 | 6.5 |
| tC, 2 stage (s) | | | | | |
| tF (s) | 2.2 | | 3.5 | 4.0 | 4.0 |
| p0 queue free % | 86 | | 87 | 95 | 100 |
| cM capacity (veh/h) | 1623 | | 393 | 382 | 332 |

| Direction, Lane # | WB 1 | SB 1 | SB 2 |
|---|---|---|---|
| Volume Total | 442 | 53 | 19 |
| Volume Left | 221 | 53 | 0 |
| Volume Right | 222 | 0 | 0 |
| cSH | 1623 | 393 | 382 |
| Volume to Capacity | 0.14 | 0.13 | 0.05 |
| Queue Length 95th (ft) | 12 | 12 | 4 |
| Control Delay (s) | 4.4 | 15.6 | 14.9 |
| Lane LOS | A | C | B |
| Approach Delay (s) | 4.4 | 15.4 | |
| Approach LOS | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 5.9 | | |
| Intersection Capacity Utilization | | 38.3% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 91 | 3 | 8 | 0 | 0 | 9 | 0 | 9 | 1 | 47 | 9 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.56 | 0.56 | 0.56 | 0.75 | 0.75 | 0.75 | 0.80 | 0.80 | 0.80 |
| Hourly flow rate (vph) | 102 | 3 | 9 | 0 | 0 | 16 | 0 | 12 | 1 | 59 | 11 | 0 |
| Pedestrians | | 2 | | | 8 | | | | | | | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | | | | | |
| Percent Blockage | | 0 | | | 1 | | | | | | | |
| Right turn flare (veh) | | | 2 | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 159 | 152 | 13 | 156 | 151 | 21 | 13 | | | 21 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 159 | 152 | 13 | 156 | 151 | 21 | 13 | | | 21 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 87 | 100 | 99 | 100 | 100 | 98 | 100 | | | 96 | | |
| cM capacity (veh/h) | 767 | 708 | 1068 | 768 | 707 | 1050 | 1603 | | | 1584 | | |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 115 | 16 | 13 | 70 |
| Volume Left | 102 | 0 | 0 | 59 |
| Volume Right | 9 | 16 | 1 | 0 |
| cSH | 831 | 1050 | 1700 | 1584 |
| Volume to Capacity | 0.14 | 0.02 | 0.01 | 0.04 |
| Queue Length 95th (ft) | 12 | 1 | 0 | 3 |
| Control Delay (s) | 10.3 | 8.5 | 0.0 | 6.2 |
| Lane LOS | B | A | | A |
| Approach Delay (s) | 10.3 | 8.5 | 0.0 | 6.2 |
| Approach LOS | B | A | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 8.2 | | |
| Intersection Capacity Utilization | 28.5% | ICU Level of Service | A | |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 2 | 18 | 178 | 4 | 316 | 0 | 0 | 68 | 158 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.62 | 0.62 | 0.62 | 0.80 | 0.80 | 0.80 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 3 | 29 | 287 | 5 | 395 | 0 | 0 | 72 | 168 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | 6 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 635 | 477 | 72 | 477 | 645 | 395 | 240 | | | 395 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 635 | 477 | 72 | 477 | 645 | 395 | 240 | | | 395 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 99 | 93 | 56 | 100 | | | 100 | | |
| cM capacity (veh/h) | 209 | 488 | 995 | 500 | 392 | 659 | 1332 | | | 1175 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 319 | 400 | 72 | 168 |
| Volume Left | 3 | 5 | 0 | 0 |
| Volume Right | 287 | 0 | 0 | 168 |
| cSH | 733 | 1332 | 1700 | 1700 |
| Volume to Capacity | 0.44 | 0.00 | 0.04 | 0.10 |
| Queue Length 95th (ft) | 56 | 0 | 0 | 0 |
| Control Delay (s) | 14.6 | 0.1 | 0.0 | 0.0 |
| Lane LOS | B | A | | |
| Approach Delay (s) | 14.6 | 0.1 | 0.0 | |
| Approach LOS | B | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 4.9 | | |
| Intersection Capacity Utilization | 40.0% | ICU Level of Service | A | |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 320 | 0 | 0 | 0 | 70 | 0 |
| Sign Control | | Stop | Stop | | Free | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 348 | 0 | 0 | 0 | 76 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 152 | 152 | 152 | 0 | 0 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 152 | 152 | 152 | 0 | 0 | |
| tC, single (s) | 7.1 | 6.5 | 6.5 | 6.2 | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 4.0 | 4.0 | 3.3 | 2.2 | |
| p0 queue free % | 56 | 100 | 100 | 100 | 95 | |
| cM capacity (veh/h) | 786 | 705 | 708 | 1091 | 1623 | |

| Direction, Lane # | EB 1 | SB 1 |
|---|---|---|
| Volume Total | 348 | 76 |
| Volume Left | 348 | 76 |
| Volume Right | 0 | 0 |
| cSH | 786 | 1623 |
| Volume to Capacity | 0.44 | 0.05 |
| Queue Length 95th (ft) | 57 | 4 |
| Control Delay (s) | 13.2 | 7.3 |
| Lane LOS | B | A |
| Approach Delay (s) | 13.2 | 7.3 |
| Approach LOS | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 12.1 | | |
| Intersection Capacity Utilization | 28.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 28 | 22 | 204 | 119 | 82 | 412 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.69 | 0.69 | 0.88 | 0.88 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 41 | 32 | 232 | 135 | 95 | 479 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 1 |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 41 | | 639 | 41 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 41 | | 639 | 41 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 85 | | 75 | 54 |
| cM capacity (veh/h) | | | 1569 | | 378 | 1036 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 |
|---|---|---|---|---|
| Volume Total | 41 | 32 | 367 | 574 |
| Volume Left | 0 | 0 | 232 | 95 |
| Volume Right | 0 | 32 | 0 | 479 |
| cSH | 1700 | 1700 | 1569 | 1243 |
| Volume to Capacity | 0.02 | 0.02 | 0.15 | 0.46 |
| Queue Length 95th (ft) | 0 | 0 | 13 | 63 |
| Control Delay (s) | 0.0 | 0.0 | 5.3 | 12.5 |
| Lane LOS | | | A | B |
| Approach Delay (s) | 0.0 | | 5.3 | 12.5 |
| Approach LOS | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 9.0 | | |
| Intersection Capacity Utilization | 35.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 24 | 0 | 74 | 44 | 437 | 0 | 0 | 96 | 298 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.74 | 0.74 | 0.74 | 0.97 | 0.97 | 0.97 | 0.86 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 32 | 0 | 100 | 45 | 451 | 0 | 0 | 112 | 347 |
| Pedestrians | | 3 | | | | | | 4 | | | 1 | |
| Lane Width (ft) | | 0.0 | | | | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | | | | 4.0 | | | 4.0 | |
| Percent Blockage | | 0 | | | | | | 0 | | | 0 | |
| Right turn flare (veh) | | | | | | 2 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 707 | 656 | 119 | 657 | 1002 | 452 | 461 | | | 451 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 707 | 656 | 119 | 657 | 1002 | 452 | 461 | | | 451 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 91 | 100 | 83 | 96 | | | 100 | | |
| cM capacity (veh/h) | 285 | 372 | 935 | 364 | 231 | 605 | 1105 | | | 1121 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 132 | 496 | 112 | 347 |
| Volume Left | 32 | 45 | 0 | 0 |
| Volume Right | 100 | 0 | 0 | 347 |
| cSH | 802 | 1105 | 1700 | 1700 |
| Volume to Capacity | 0.17 | 0.04 | 0.07 | 0.20 |
| Queue Length 95th (ft) | 15 | 3 | 0 | 0 |
| Control Delay (s) | 13.0 | 1.2 | 0.0 | 0.0 |
| Lane LOS | B | A | | |
| Approach Delay (s) | 13.0 | 1.2 | 0.0 | |
| Approach LOS | B | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 2.1 | |
| Intersection Capacity Utilization | | 57.9% | ICU Level of Service | B |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 75 | 43 | 25 | 80 | 69 | 40 | 34 | 448 | 29 | 21 | 289 | 74 |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.71 | 0.71 | 0.71 | 0.94 | 0.94 | 0.94 | 0.81 | 0.81 | 0.81 |
| Hourly flow rate (vph) | 96 | 55 | 32 | 113 | 97 | 56 | 36 | 477 | 31 | 26 | 357 | 91 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|---|
| Volume Total (vph) | 151 | 32 | 210 | 56 | 513 | 31 | 383 | 91 |
| Volume Left (vph) | 96 | 0 | 113 | 0 | 36 | 0 | 26 | 0 |
| Volume Right (vph) | 0 | 32 | 0 | 56 | 0 | 31 | 0 | 91 |
| Hadj (s) | 0.35 | -0.67 | 0.30 | -0.67 | 0.05 | -0.68 | 0.07 | -0.67 |
| Departure Headway (s) | 8.5 | 7.5 | 8.2 | 7.3 | 7.1 | 6.3 | 7.2 | 6.5 |
| Degree Utilization, x | 0.36 | 0.07 | 0.48 | 0.11 | 1.01 | 0.05 | 0.77 | 0.17 |
| Capacity (veh/h) | 411 | 460 | 427 | 479 | 513 | 551 | 482 | 539 |
| Control Delay (s) | 15.0 | 9.8 | 17.4 | 10.0 | 66.5 | 8.5 | 29.3 | 9.6 |
| Approach Delay (s) | 14.1 | | 15.8 | | 63.2 | | 25.5 | |
| Approach LOS | B | | C | | F | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | 36.3 | |
| HCM Level of Service | | E | |
| Intersection Capacity Utilization | | 66.6% | ICU Level of Service | C |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 380 | 34 | 38 | 8 | 0 | 27 | 0 | 74 | 19 | 70 | 50 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.80 | 0.80 | 0.80 | 0.85 | 0.85 | 0.85 | 0.83 | 0.83 | 0.83 |
| Hourly flow rate (vph) | 392 | 35 | 39 | 10 | 0 | 34 | 0 | 87 | 22 | 84 | 60 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 361 | 338 | 60 | 384 | 327 | 98 | 60 | | | 109 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 361 | 338 | 60 | 384 | 327 | 98 | 60 | | | 109 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 29 | 94 | 96 | 98 | 100 | 96 | 100 | | | 94 | | |
| cM capacity (veh/h) | 553 | 553 | 1011 | 503 | 558 | 958 | 1543 | | | 1493 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 392 | 74 | 44 | 109 | 145 |
| Volume Left | 392 | 0 | 10 | 0 | 84 |
| Volume Right | 0 | 39 | 34 | 22 | 0 |
| cSH | 553 | 727 | 794 | 1700 | 1493 |
| Volume to Capacity | 0.71 | 0.10 | 0.06 | 0.06 | 0.06 |
| Queue Length 95th (ft) | 142 | 8 | 4 | 0 | 4 |
| Control Delay (s) | 25.8 | 10.5 | 9.8 | 0.0 | 4.6 |
| Lane LOS | D | B | A | | A |
| Approach Delay (s) | 23.4 | | 9.8 | 0.0 | 4.6 |
| Approach LOS | C | | A | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 15.7 | | |
| Intersection Capacity Utilization | | 47.6% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 45 | 4 | 6 | 48 | 79 | 17 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.68 | 0.68 | 0.90 | 0.90 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 66 | 6 | 7 | 53 | 89 | 19 |
| Pedestrians | 1 | | | | 1 | |
| Lane Width (ft) | 12.0 | | | | 12.0 | |
| Walking Speed (ft/s) | 4.0 | | | | 4.0 | |
| Percent Blockage | 0 | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 167 | 99 | 109 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 167 | 99 | 109 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 92 | 99 | 100 | | | |
| cM capacity (veh/h) | 818 | 956 | 1480 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 72 | 60 | 108 |
| Volume Left | 66 | 7 | 0 |
| Volume Right | 6 | 0 | 19 |
| cSH | 828 | 1480 | 1700 |
| Volume to Capacity | 0.09 | 0.00 | 0.06 |
| Queue Length 95th (ft) | 7 | 0 | 0 |
| Control Delay (s) | 9.8 | 0.9 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.8 | 0.9 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 3.1 | | |
| Intersection Capacity Utilization | | 17.6% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 0 | 0 | 0 | 36 | 102 | 113 | 136 | 378 | 0 | 0 | 152 | 191 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.81 | 0.81 | 0.81 | 0.84 | 0.84 | 0.84 | 0.94 | 0.94 | 0.94 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 44 | 126 | 140 | 162 | 450 | 0 | 0 | 162 | 203 |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 310 | 612 | 365 |
| Volume Left (vph) | 44 | 162 | 0 |
| Volume Right (vph) | 140 | 0 | 203 |
| Hadj (s) | -0.17 | 0.05 | -0.30 |
| Departure Headway (s) | 6.3 | 5.6 | 5.6 |
| Degree Utilization, x | 0.54 | 0.95 | 0.57 |
| Capacity (veh/h) | 556 | 635 | 623 |
| Control Delay (s) | 16.4 | 48.0 | 15.9 |
| Approach Delay (s) | 16.4 | 48.0 | 15.9 |
| Approach LOS | C | E | C |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | | 31.3 |
| HCM Level of Service | | | D |
| Intersection Capacity Utilization | | | 72.3% |
| Analysis Period (min) | | | 15 |
| | | ICU Level of Service | C |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 167 | 147 | 49 | 0 | 0 | 0 | 0 | 347 | 39 | 91 | 97 | 0 |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.92 | 0.92 | 0.92 | 0.93 | 0.93 | 0.93 | 0.75 | 0.75 | 0.75 |
| Hourly flow rate (vph) | 209 | 184 | 61 | 0 | 0 | 0 | 0 | 373 | 42 | 121 | 129 | 0 |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 209 | 245 | 415 | 251 |
| Volume Left (vph) | 209 | 0 | 0 | 121 |
| Volume Right (vph) | 0 | 61 | 42 | 0 |
| Hadj (s) | 0.50 | -0.18 | -0.06 | 0.11 |
| Departure Headway (s) | 6.9 | 6.2 | 5.5 | 6.0 |
| Degree Utilization, x | 0.40 | 0.42 | 0.64 | 0.42 |
| Capacity (veh/h) | 502 | 558 | 625 | 572 |
| Control Delay (s) | 13.1 | 12.4 | 17.9 | 13.2 |
| Approach Delay (s) | 12.7 | | 17.9 | 13.2 |
| Approach LOS | B | | C | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | | 14.7 |
| HCM Level of Service | | | B |
| Intersection Capacity Utilization | | | 52.7% |
| Analysis Period (min) | | | 15 |
| | | ICU Level of Service | A |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 369 | 2 | 4 | 0 | 0 | 5 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.50 | 0.50 | 0.42 | 0.42 |
| Hourly flow rate (vph) | 405 | 2 | 8 | 0 | 0 | 12 |
| Pedestrians | | | | | 4 | |
| Lane Width (ft) | | | | | 12.0 | |
| Walking Speed (ft/s) | | | | | 4.0 | |
| Percent Blockage | | | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 412 | | 425 | 409 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 412 | | 425 | 409 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 98 |
| cM capacity (veh/h) | | | 1143 | | 580 | 640 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 |
|---|---|---|---|---|
| Volume Total | 405 | 2 | 8 | 12 |
| Volume Left | 0 | 0 | 8 | 0 |
| Volume Right | 0 | 2 | 0 | 12 |
| cSH | 1700 | 1700 | 1143 | 640 |
| Volume to Capacity | 0.24 | 0.00 | 0.01 | 0.02 |
| Queue Length 95th (ft) | 0 | 0 | 1 | 1 |
| Control Delay (s) | 0.0 | 0.0 | 8.2 | 10.7 |
| Lane LOS | | | A | B |
| Approach Delay (s) | 0.0 | | 8.2 | 10.7 |
| Approach LOS | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.5 | | |
| Intersection Capacity Utilization | 29.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 288 | 84 | 1 | 98 | 137 | 3 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.78 | 0.78 | 0.88 | 0.88 | 0.80 | 0.80 |
| Hourly flow rate (vph) | 369 | 108 | 1 | 111 | 171 | 4 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 287 | 173 | 175 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 287 | 173 | 175 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 47 | 88 | 100 | | | |
| cM capacity (veh/h) | 703 | 870 | 1401 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 477 | 112 | 175 |
| Volume Left | 369 | 1 | 0 |
| Volume Right | 108 | 0 | 4 |
| cSH | 735 | 1401 | 1700 |
| Volume to Capacity | 0.65 | 0.00 | 0.10 |
| Queue Length 95th (ft) | 121 | 0 | 0 |
| Control Delay (s) | 18.5 | 0.1 | 0.0 |
| Lane LOS | C | A | |
| Approach Delay (s) | 18.5 | 0.1 | 0.0 |
| Approach LOS | C | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 11.5 | | |
| Intersection Capacity Utilization | 35.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 12 | 392 | 0 | 0 | 344 | 13 | 48 | 11 | 21 | 19 | 0 | 27 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.90 | 0.90 | 0.90 | 0.87 | 0.87 | 0.87 | 0.72 | 0.72 | 0.72 |
| Hourly flow rate (vph) | 13 | 417 | 0 | 0 | 382 | 14 | 55 | 13 | 24 | 26 | 0 | 38 |
| Pedestrians | | 3 | | | 6 | | | 2 | | | 2 | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | 0 | | | 0 | | | 0 | | | 0 | |
| Right turn flare (veh) | | | | | | | | | 1 | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 399 | | | 419 | | | 874 | 843 | 425 | 858 | 836 | 394 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 399 | | | 419 | | | 874 | 843 | 425 | 858 | 836 | 394 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 100 | | | 78 | 96 | 96 | 90 | 100 | 94 |
| cM capacity (veh/h) | 1158 | | | 1138 | | | 253 | 298 | 629 | 253 | 299 | 652 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 430 | 397 | 55 | 37 | 64 |
| Volume Left | 13 | 0 | 55 | 0 | 26 |
| Volume Right | 0 | 14 | 0 | 24 | 38 |
| cSH | 1158 | 1700 | 253 | 867 | 395 |
| Volume to Capacity | 0.01 | 0.23 | 0.22 | 0.04 | 0.16 |
| Queue Length 95th (ft) | 1 | 0 | 20 | 3 | 14 |
| Control Delay (s) | 0.4 | 0.0 | 23.2 | 13.2 | 15.9 |
| Lane LOS | A | | C | B | C |
| Approach Delay (s) | 0.4 | 0.0 | 19.2 | | 15.9 |
| Approach LOS | | | C | | C |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 3.0 | |
| Intersection Capacity Utilization | | 46.9% | ICU Level of Service |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 461 | 0 | 5 | 178 | 0 | 1 | 0 | 233 | 80 | 80 | 160 | 0 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.75 | 0.75 | 0.75 | 0.85 | 0.85 | 0.85 | 0.76 | 0.76 | 0.76 |
| Hourly flow rate (vph) | 507 | 0 | 5 | 237 | 0 | 1 | 0 | 274 | 94 | 105 | 211 | 0 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|
| Volume Total (vph) | 507 | 5 | 239 | 274 | 94 | 105 | 211 |
| Volume Left (vph) | 507 | 0 | 237 | 0 | 0 | 105 | 0 |
| Volume Right (vph) | 0 | 5 | 1 | 0 | 94 | 0 | 0 |
| Hadj (s) | 0.50 | -0.70 | 0.23 | 0.02 | -0.68 | 0.50 | 0.00 |
| Departure Headway (s) | 8.0 | 6.8 | 8.3 | 8.0 | 7.3 | 8.6 | 8.1 |
| Degree Utilization, x | 1.13 | 0.01 | 0.55 | 0.61 | 0.19 | 0.25 | 0.47 |
| Capacity (veh/h) | 443 | 514 | 413 | 434 | 477 | 404 | 421 |
| Control Delay (s) | 109.3 | 8.7 | 21.1 | 21.5 | 10.8 | 13.3 | 17.0 |
| Approach Delay (s) | 108.2 | | 21.1 | 18.7 | | 15.8 | |
| Approach LOS | F | | C | C | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | 50.4 | |
| HCM Level of Service | | F | |
| Intersection Capacity Utilization | | 50.9% | ICU Level of Service |
| Analysis Period (min) | | 15 | |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 240 | 490 | 38 | 657 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.89 | 0.89 | 0.95 | 0.95 |
| Hourly flow rate (vph) | 0 | 0 | 270 | 551 | 40 | 692 |
| Pedestrians | 16 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 0 | | 1106 | 0 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 0 | | 1106 | 0 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 83 | | 80 | 37 |
| cM capacity (veh/h) | | | 1623 | | 196 | 1091 |

| Direction, Lane # | WB 1 | WB 2 | NB 1 | NB 2 |
|---|---|---|---|---|
| Volume Total | 270 | 551 | 40 | 692 |
| Volume Left | 270 | 0 | 40 | 0 |
| Volume Right | 0 | 0 | 0 | 692 |
| cSH | 1623 | 1700 | 196 | 1091 |
| Volume to Capacity | 0.17 | 0.32 | 0.20 | 0.63 |
| Queue Length 95th (ft) | 15 | 0 | 19 | 119 |
| Control Delay (s) | 7.7 | 0.0 | 28.0 | 13.8 |
| Lane LOS | A | | D | B |
| Approach Delay (s) | 2.5 | | 14.6 | |
| Approach LOS | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 8.2 | | |
| Intersection Capacity Utilization | 44.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Yield | | Yield | |
| Volume (vph) | 0 | 0 | 0 | 175 | 0 | 454 |
| Peak Hour Factor | 0.92 | 0.92 | 0.97 | 0.97 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 180 | 0 | 528 |

| Direction, Lane # | WB 1 | SB 1 |
|---|---|---|
| Volume Total (vph) | 180 | 528 |
| Volume Left (vph) | 0 | 0 |
| Volume Right (vph) | 180 | 528 |
| Hadj (s) | -0.60 | -0.57 |
| Departure Headway (s) | 3.2 | 3.2 |
| Degree Utilization, x | 0.16 | 0.47 |
| Capacity (veh/h) | 1121 | 1116 |
| Control Delay (s) | 6.8 | 9.0 |
| Approach Delay (s) | 6.8 | 9.0 |
| Approach LOS | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.4 | | |
| HCM Level of Service | A | | |
| Intersection Capacity Utilization | 31.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBT | WBR | WBR2 | NBL | NBT | NBR | SBL2 | SBL | SBT | SBR | SWL2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Right Turn Channelized | | | | | | | | | | | | |
| Volume (veh/h) | 52 | 2 | 380 | 23 | 109 | 690 | 257 | 9 | 65 | 553 | 514 | 68 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 57 | 2 | 413 | 25 | 118 | 750 | 279 | 10 | 71 | 601 | 559 | 74 |
| Approach Volume (veh/h) | | 497 | | | | 1148 | | | | 1240 | | |
| Crossing Volume (veh/h) | | 1158 | | | | 154 | | | | 542 | | |
| High Capacity (veh/h) | | 547 | | | | 1227 | | | | 902 | | |
| High v/c (veh/h) | | 0.91 | | | | 0.94 | | | | 1.37 | | |
| Low Capacity (veh/h) | | 418 | | | | 1018 | | | | 727 | | |
| Low v/c (veh/h) | | 1.19 | | | | 1.13 | | | | 1.71 | | |

| Intersection Summary | | | |
|---|---|---|---|
| Maximum v/c High | | 1.37 | |
| Maximum v/c Low | | 1.71 | |
| Intersection Capacity Utilization | | Err% | ICU Level of Service H |

# Crossing flow exceeds 1200, method is not applicable

Description: NB On/Off-Ramps & Milpas St

| Movement | SWL | SWR | SWR2 |
|---|---|---|---|
| Right Turn Channelized | | | |
| Volume (veh/h) | 163 | 105 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 177 | 114 | 1 |
| Approach Volume (veh/h) | 366 | | |
| Crossing Volume (veh/h) | 1340# | | |
| High Capacity (veh/h) | 470 | | |
| High v/c (veh/h) | 0.78 | | |
| Low Capacity (veh/h) | 353 | | |
| Low v/c (veh/h) | 1.04 | | |

Intersection Summary





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 725 | 341 | 0 | 331 | 768 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 11 | 11 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 0.97 | 1.00 | | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.98 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 1.00 | 1.00 | |
| Satd. Flow (prot) | 3502 | 1581 | | 3455 | 3490 | |
| Flt Permitted | 0.95 | 1.00 | | 1.00 | 1.00 | |
| Satd. Flow (perm) | 3502 | 1581 | | 3455 | 3490 | |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.86 | 0.86 | 0.97 | 0.97 |
| Adj. Flow (vph) | 797 | 375 | 0 | 385 | 792 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 797 | 375 | 0 | 385 | 792 | 0 |
| Confl. Peds. (#/hr) | | 8 | 20 | | | |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 0% | 0% |
| Turn Type | | Perm | | | | |
| Protected Phases | 4 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Actuated Green, G (s) | 20.5 | 20.5 | | 30.5 | 30.5 | |
| Effective Green, g (s) | 20.5 | 20.5 | | 30.5 | 30.5 | |
| Actuated g/C Ratio | 0.34 | 0.34 | | 0.51 | 0.51 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 1197 | 540 | | 1756 | 1774 | |
| v/s Ratio Prot | 0.23 | | | 0.11 | c0.23 | |
| v/s Ratio Perm | | c0.24 | | | | |
| v/c Ratio | 0.67 | 0.69 | | 0.22 | 0.45 | |
| Uniform Delay, d1 | 16.8 | 17.0 | | 8.2 | 9.4 | |
| Progression Factor | 1.00 | 1.00 | | 1.19 | 1.00 | |
| Incremental Delay, d2 | 1.4 | 3.9 | | 0.3 | 0.8 | |
| Delay (s) | 18.2 | 20.9 | | 10.0 | 10.2 | |
| Level of Service | B | C | | B | B | |
| Approach Delay (s) | 19.1 | | | 10.0 | 10.2 | |
| Approach LOS | B | | | B | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 50.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | WBL | WBR | NBT | NBR | NBR2 | SBL2 | SBL | SBT | SWL2 | SWL | SWR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 212 | 0 | 14 | 24 | 498 | 356 | 1 | 6 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 |
| Total Lost time (s) | | | 4.5 | | | | 4.5 | 4.5 | | 4.5 | |
| Lane Util. Factor | | | 0.95 | | | | 0.97 | 1.00 | | 1.00 | |
| Frt | | | 0.99 | | | | 1.00 | 1.00 | | 0.91 | |
| Flt Protected | | | 1.00 | | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (prot) | | | 3389 | | | | 3385 | 1837 | | 1668 | |
| Flt Permitted | | | 1.00 | | | | 0.95 | 1.00 | | 0.98 | |
| Satd. Flow (perm) | | | 3389 | | | | 3385 | 1837 | | 1668 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.85 | 0.85 | 0.85 | 0.38 | 0.38 | 0.38 |
| Adj. Flow (vph) | 0 | 0 | 241 | 0 | 16 | 28 | 586 | 419 | 3 | 16 | 37 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 257 | 0 | 0 | 0 | 614 | 419 | 0 | 56 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | | | | | | Prot | Prot | | Split | | |
| Protected Phases | | | 2 | | | 1 | 1 | 6 | 4 | 4 | |
| Permitted Phases | | | | | | | | | | | |
| Actuated Green, G (s) | | | 25.2 | | | | 16.2 | 45.9 | | 5.1 | |
| Effective Green, g (s) | | | 25.2 | | | | 16.2 | 45.9 | | 5.1 | |
| Actuated g/C Ratio | | | 0.42 | | | | 0.27 | 0.76 | | 0.08 | |
| Clearance Time (s) | | | 4.5 | | | | 4.5 | 4.5 | | 4.5 | |
| Vehicle Extension (s) | | | 3.0 | | | | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | | 1423 | | | | 914 | 1405 | | 142 | |
| v/s Ratio Prot | | | 0.08 | | | | c0.18 | c0.23 | | c0.03 | |
| v/s Ratio Perm | | | | | | | | | | | |
| v/c Ratio | | | 0.18 | | | | 0.67 | 0.30 | | 0.39 | |
| Uniform Delay, d1 | | | 10.9 | | | | 19.5 | 2.1 | | 26.0 | |
| Progression Factor | | | 1.00 | | | | 0.71 | 0.63 | | 1.00 | |
| Incremental Delay, d2 | | | 0.3 | | | | 1.7 | 0.5 | | 1.8 | |
| Delay (s) | | | 11.2 | | | | 15.6 | 1.8 | | 27.8 | |
| Level of Service | | | B | | | | B | A | | C | |
| Approach Delay (s) | 0.0 | | 11.2 | | | | | 10.0 | | 27.8 | |
| Approach LOS | A | | B | | | | | A | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.41 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 35.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| Description: SB On-Ramp & Milpas St | | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 101 | 1 | 121 | 142 | 752 | 0 | 0 | 561 | 344 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | | 4.2 | 4.2 | 3.7 | 4.2 | | | 4.2 | 4.2 |
| Lane Util. Factor | | | | | 1.00 | 1.00 | 1.00 | 0.95 | | | 0.95 | 1.00 |
| Frt | | | | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | | 1775 | 1583 | 1770 | 3539 | | | 3539 | 1583 |
| Flt Permitted | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | | 1775 | 1583 | 1770 | 3539 | | | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.94 | 0.94 | 0.94 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 0 | 0 | 0 | 105 | 1 | 126 | 151 | 800 | 0 | 0 | 645 | 395 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 106 | 126 | 151 | 800 | 0 | 0 | 645 | 395 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | | | | Split | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | | 6.2 | 6.2 | 7.9 | 45.4 | | | 33.8 | 33.8 |
| Effective Green, g (s) | | | | | 6.2 | 6.2 | 7.9 | 45.4 | | | 33.8 | 33.8 |
| Actuated g/C Ratio | | | | | 0.10 | 0.10 | 0.13 | 0.76 | | | 0.56 | 0.56 |
| Clearance Time (s) | | | | | 4.2 | 4.2 | 3.7 | 4.2 | | | 4.2 | 4.2 |
| Vehicle Extension (s) | | | | | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| Lane Grp Cap (vph) | | | | | 183 | 164 | 233 | 2678 | | | 1994 | 892 |
| v/s Ratio Prot | | | | | 0.06 | | c0.09 | 0.23 | | | 0.18 | |
| v/s Ratio Perm | | | | | | c0.08 | | | | | | c0.25 |
| v/c Ratio | | | | | 0.58 | 0.77 | 0.65 | 0.30 | | | 0.32 | 0.44 |
| Uniform Delay, d1 | | | | | 25.7 | 26.2 | 24.7 | 2.3 | | | 7.0 | 7.6 |
| Progression Factor | | | | | 1.00 | 1.00 | 1.34 | 0.86 | | | 1.63 | 1.59 |
| Incremental Delay, d2 | | | | | 2.7 | 17.5 | 3.8 | 0.2 | | | 0.3 | 1.2 |
| Delay (s) | | | | | 28.4 | 43.7 | 36.9 | 2.2 | | | 11.7 | 13.3 |
| Level of Service | | | | | C | D | D | A | | | B | B |
| Approach Delay (s) | | 0.0 | | | 36.7 | | | 7.7 | | | 12.3 | |
| Approach LOS | | A | | | D | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.52 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 12.1 |
| Intersection Capacity Utilization | 60.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 8 | 0 | 5 | 352 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.50 | 0.50 | 0.76 | 0.76 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 16 | 0 | 7 | 463 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 245 | 0 | 0 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 245 | 0 | 0 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 98 | 100 | 100 | | | |
| cM capacity (veh/h) | 719 | 1084 | 1622 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 |
|---|---|---|---|
| Volume Total | 16 | 161 | 309 |
| Volume Left | 16 | 7 | 0 |
| Volume Right | 0 | 0 | 0 |
| cSH | 719 | 1622 | 1700 |
| Volume to Capacity | 0.02 | 0.00 | 0.18 |
| Queue Length 95th (ft) | 2 | 0 | 0 |
| Control Delay (s) | 10.1 | 0.3 | 0.0 |
| Lane LOS | B | A | |
| Approach Delay (s) | 10.1 | 0.1 | |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 0.4 | |
| Intersection Capacity Utilization | | 19.9% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 602 | 0 | 184 | 0 | 0 | 0 | 0 | 292 | 31 | 259 | 403 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.2 | 4.2 | 4.2 | | | | | 4.2 | | 4.2 | 4.2 | |
| Lane Util. Factor | 0.95 | 0.91 | 0.95 | | | | | 0.95 | | 0.97 | 1.00 | |
| Frt | 1.00 | 0.99 | 0.85 | | | | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 0.96 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1698 | 1620 | 1519 | | | | | 3488 | | 3433 | 1863 | |
| Flt Permitted | 0.95 | 0.96 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1698 | 1620 | 1519 | | | | | 3488 | | 3433 | 1863 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 640 | 0 | 196 | 0 | 0 | 0 | 0 | 321 | 34 | 278 | 433 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 333 | 327 | 176 | 0 | 0 | 0 | 0 | 355 | 0 | 278 | 433 | 0 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Actuated Green, G (s) | 14.4 | 14.4 | 14.4 | | | | | 24.1 | | 8.9 | 37.2 | |
| Effective Green, g (s) | 14.4 | 14.4 | 14.4 | | | | | 24.1 | | 8.9 | 37.2 | |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.24 | | | | | 0.40 | | 0.15 | 0.62 | |
| Clearance Time (s) | 4.2 | 4.2 | 4.2 | | | | | 4.2 | | 4.2 | 4.2 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 408 | 389 | 365 | | | | | 1401 | | 509 | 1155 | |
| v/s Ratio Prot | 0.20 | c0.20 | | | | | | 0.10 | | c0.08 | c0.23 | |
| v/s Ratio Perm | | | 0.12 | | | | | | | | | |
| v/c Ratio | 0.82 | 0.84 | 0.48 | | | | | 0.25 | | 0.55 | 0.37 | |
| Uniform Delay, d1 | 21.5 | 21.7 | 19.6 | | | | | 12.0 | | 23.7 | 5.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 1.22 | | 0.85 | 1.10 | |
| Incremental Delay, d2 | 11.3 | 14.5 | 0.4 | | | | | 0.4 | | 0.6 | 0.9 | |
| Delay (s) | 32.9 | 36.2 | 20.0 | | | | | 15.0 | | 20.7 | 7.1 | |
| Level of Service | C | D | B | | | | | B | | C | A | |
| Approach Delay (s) | | 31.4 | | | 0.0 | | | 15.0 | | | 12.4 | |
| Approach LOS | | C | | | A | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 21.3 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.52 | | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 8.4 | |
| Intersection Capacity Utilization | 60.7% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 119 | 116 | 7 | 10 | 75 | 79 | 16 | 113 | 7 | 288 | 172 | 167 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 |
| Total Lost time (s) | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.93 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1770 | 3507 | | 1770 | 3277 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1770 | 3507 | | 1770 | 3277 | |
| Peak-hour factor, PHF | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 142 | 138 | 8 | 11 | 82 | 86 | 17 | 123 | 8 | 324 | 193 | 188 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 142 | 138 | 8 | 11 | 82 | 86 | 17 | 131 | 0 | 324 | 381 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Actuated Green, G (s) | 6.9 | 16.2 | 16.2 | 1.3 | 10.6 | 10.6 | 1.3 | 15.2 | | 12.3 | 26.2 | |
| Effective Green, g (s) | 6.9 | 16.2 | 16.2 | 1.3 | 10.6 | 10.6 | 1.3 | 15.2 | | 12.3 | 26.2 | |
| Actuated g/C Ratio | 0.12 | 0.27 | 0.27 | 0.02 | 0.18 | 0.18 | 0.02 | 0.25 | | 0.20 | 0.44 | |
| Clearance Time (s) | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | |
| Vehicle Extension (s) | 3.0 | 4.0 | 4.0 | 3.0 | 4.0 | 4.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | 197 | 486 | 413 | 37 | 318 | 270 | 38 | 888 | | 363 | 1431 | |
| v/s Ratio Prot | c0.08 | c0.08 | | 0.01 | 0.05 | | 0.01 | 0.04 | | c0.18 | c0.12 | |
| v/s Ratio Perm | | | 0.01 | | | 0.06 | | | | | | |
| v/c Ratio | 0.72 | 0.28 | 0.02 | 0.30 | 0.26 | 0.32 | 0.45 | 0.15 | | 0.89 | 0.27 | |
| Uniform Delay, d1 | 25.6 | 17.3 | 16.1 | 28.9 | 21.3 | 21.5 | 29.0 | 17.4 | | 23.2 | 10.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.01 | 0.92 | |
| Incremental Delay, d2 | 12.2 | 0.4 | 0.0 | 4.5 | 0.6 | 0.9 | 8.2 | 0.4 | | 22.1 | 0.4 | |
| Delay (s) | 37.8 | 17.8 | 16.1 | 33.4 | 21.9 | 22.5 | 37.2 | 17.7 | | 45.5 | 10.4 | |
| Level of Service | D | B | B | C | C | C | D | B | | D | B | |
| Approach Delay (s) | | 27.6 | | | 22.9 | | | 20.0 | | | 26.5 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.46 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 7.0 |
| Intersection Capacity Utilization | 42.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 5 | 1 | 0 | 0 | 6 | 29 | 2 | 318 | 38 | 15 | 0 | 9 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.82 | 0.82 | 0.82 | 0.90 | 0.90 | 0.90 | 0.78 | 0.78 | 0.78 |
| Hourly flow rate (vph) | 7 | 1 | 0 | 0 | 7 | 35 | 2 | 353 | 42 | 19 | 0 | 12 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | 229 | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 462 | 444 | 6 | 424 | 429 | 374 | 12 | | | 396 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 462 | 444 | 6 | 424 | 429 | 374 | 12 | | | 396 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 99 | 100 | 100 | 100 | 99 | 95 | 100 | | | 98 | | |
| cM capacity (veh/h) | 471 | 499 | 1077 | 532 | 509 | 672 | 1621 | | | 1163 | | |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 8 | 43 | 398 | 31 |
| Volume Left | 7 | 0 | 2 | 19 |
| Volume Right | 0 | 35 | 42 | 12 |
| cSH | 476 | 637 | 1621 | 1163 |
| Volume to Capacity | 0.02 | 0.07 | 0.00 | 0.02 |
| Queue Length 95th (ft) | 1 | 5 | 0 | 1 |
| Control Delay (s) | 12.7 | 11.1 | 0.1 | 5.1 |
| Lane LOS | B | B | A | A |
| Approach Delay (s) | 12.7 | 11.1 | 0.1 | 5.1 |
| Approach LOS | B | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 30.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 296 | 111 | 8 | 451 | 56 | 376 | 9 | 196 | 44 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | | | | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 |
| Lane Util. Factor | | | | 0.97 | 1.00 | | 1.00 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Frt | | | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 3319 | 1782 | | 1711 | 1801 | 1531 | | 3414 | 1531 |
| Flt Permitted | | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 3319 | 1782 | | 1711 | 1801 | 1531 | | 3414 | 1531 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.93 | 0.93 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 322 | 121 | 9 | 485 | 60 | 404 | 11 | 248 | 56 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 322 | 130 | 0 | 485 | 60 | 404 | 0 | 259 | 56 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | | | | Split | | | Split | | Perm | Split | | Perm |
| Protected Phases | | | | 4 | 4 | | 2 | 2 | | 3 | 3 | |
| Permitted Phases | | | | | | | | | 2 | | | 3 |
| Actuated Green, G (s) | | | | 10.8 | 10.8 | | 78.4 | 78.4 | 78.4 | | 13.2 | 13.2 |
| Effective Green, g (s) | | | | 10.8 | 10.8 | | 78.4 | 78.4 | 78.4 | | 13.2 | 13.2 |
| Actuated g/C Ratio | | | | 0.09 | 0.09 | | 0.68 | 0.68 | 0.68 | | 0.11 | 0.11 |
| Clearance Time (s) | | | | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 |
| Vehicle Extension (s) | | | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 2.5 | 2.5 |
| Lane Grp Cap (vph) | | | | 312 | 167 | | 1166 | 1228 | 1044 | | 392 | 176 |
| v/s Ratio Prot | | | | c0.10 | 0.07 | | c0.28 | 0.03 | | | c0.08 | |
| v/s Ratio Perm | | | | | | | | | 0.26 | | | 0.04 |
| v/c Ratio | | | | 1.03 | 0.78 | | 0.42 | 0.05 | 0.39 | | 0.66 | 0.32 |
| Uniform Delay, d1 | | | | 52.1 | 50.9 | | 8.1 | 6.0 | 7.9 | | 48.8 | 46.8 |
| Progression Factor | | | | 1.00 | 1.00 | | 0.71 | 0.40 | 0.66 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | | | 59.5 | 18.5 | | 1.0 | 0.1 | 0.9 | | 3.7 | 0.8 |
| Delay (s) | | | | 111.6 | 69.5 | | 6.7 | 2.4 | 6.2 | | 52.5 | 47.5 |
| Level of Service | | | | F | E | | A | A | A | | D | D |
| Approach Delay (s) | | 0.0 | | | 99.5 | | | 6.2 | | | 51.6 | |
| Approach LOS | | A | | | F | | | A | | | D | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 39.1 | HCM Level of Service | D | |
| HCM Volume to Capacity ratio | 0.51 | | | |
| Actuated Cycle Length (s) | 115.0 | Sum of lost time (s) | 12.6 | |
| Intersection Capacity Utilization | 49.6% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 91 | 299 | 25 | 6 | 210 | 38 | 167 | 103 | 42 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Lane Util. Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | | |
| Frt | 1.00 | 0.99 | | | 1.00 | 0.85 | | 0.98 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | 0.97 | | | | |
| Satd. Flow (prot) | 1711 | 1780 | | | 1798 | 1531 | | 1722 | | | | |
| Flt Permitted | 0.61 | 1.00 | | | 0.99 | 1.00 | | 0.97 | | | | |
| Satd. Flow (perm) | 1103 | 1780 | | | 1776 | 1531 | | 1722 | | | | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 101 | 332 | 28 | 7 | 228 | 41 | 190 | 117 | 48 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 101 | 360 | 0 | 0 | 235 | 41 | 0 | 355 | 0 | 0 | 0 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | | | |
| Actuated Green, G (s) | 13.6 | 13.6 | | | 13.6 | 13.6 | | 13.4 | | | | |
| Effective Green, g (s) | 13.6 | 13.6 | | | 13.6 | 13.6 | | 13.4 | | | | |
| Actuated g/C Ratio | 0.38 | 0.38 | | | 0.38 | 0.38 | | 0.37 | | | | |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | 3.0 | | | | |
| Lane Grp Cap (vph) | 417 | 672 | | | 671 | 578 | | 641 | | | | |
| v/s Ratio Prot | | c0.20 | | | | | | | | | | |
| v/s Ratio Perm | 0.09 | | | | 0.13 | 0.03 | | 0.21 | | | | |
| v/c Ratio | 0.24 | 0.54 | | | 0.35 | 0.07 | | 0.55 | | | | |
| Uniform Delay, d1 | 7.7 | 8.7 | | | 8.0 | 7.2 | | 8.9 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | | |
| Incremental Delay, d2 | 0.3 | 0.8 | | | 0.3 | 0.1 | | 1.0 | | | | |
| Delay (s) | 8.0 | 9.6 | | | 8.3 | 7.2 | | 10.0 | | | | |
| Level of Service | A | A | | | A | A | | A | | | | |
| Approach Delay (s) | | 9.2 | | | 8.2 | | | 10.0 | | | 0.0 | |
| Approach LOS | | A | | | A | | | A | | | A | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 9.2 | HCM Level of Service | A | |
| HCM Volume to Capacity ratio | 0.54 | | | |
| Actuated Cycle Length (s) | 36.0 | Sum of lost time (s) | 9.0 | |
| Intersection Capacity Utilization | 57.1% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 222 | 1 | 333 | 0 | 0 | 0 | 0 | 661 | 182 | 79 | 413 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | | 4.2 | 4.2 | | | | | 4.2 | | 4.2 | 4.2 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | | | | | 0.97 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1792 | 1599 | | | | | 3310 | | 1711 | 1801 | |
| Flt Permitted | | 0.95 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1792 | 1599 | | | | | 3310 | | 1711 | 1801 | |
| Peak-hour factor, PHF | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.85 | 0.85 | 0.85 |
| Adj. Flow (vph) | 264 | 1 | 396 | 0 | 0 | 0 | 0 | 718 | 198 | 93 | 486 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 265 | 396 | 0 | 0 | 0 | 0 | 916 | 0 | 93 | 486 | 0 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | | Prot | | |
| Protected Phases | 8 | 8 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | | 36.9 | 36.9 | | | | | 54.5 | | 11.0 | 69.7 | |
| Effective Green, g (s) | | 36.9 | 36.9 | | | | | 54.5 | | 11.0 | 69.7 | |
| Actuated g/C Ratio | | 0.32 | 0.32 | | | | | 0.47 | | 0.10 | 0.61 | |
| Clearance Time (s) | | 4.2 | 4.2 | | | | | 4.2 | | 4.2 | 4.2 | |
| Vehicle Extension (s) | | 3.5 | 3.5 | | | | | 5.0 | | 2.0 | 5.0 | |
| Lane Grp Cap (vph) | | 575 | 513 | | | | | 1569 | | 164 | 1092 | |
| v/s Ratio Prot | | 0.15 | | | | | | c0.28 | | c0.05 | 0.27 | |
| v/s Ratio Perm | | | c0.25 | | | | | | | | | |
| v/c Ratio | | 0.46 | 0.77 | | | | | 0.58 | | 0.57 | 0.45 | |
| Uniform Delay, d1 | | 31.1 | 35.3 | | | | | 22.0 | | 49.7 | 12.2 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 0.52 | | 1.73 | 0.35 | |
| Incremental Delay, d2 | | 0.7 | 7.3 | | | | | 1.1 | | 1.5 | 0.7 | |
| Delay (s) | | 31.8 | 42.5 | | | | | 12.6 | | 87.7 | 5.0 | |
| Level of Service | | C | D | | | | | B | | F | A | |
| Approach Delay (s) | | 38.2 | | | 0.0 | | | 12.6 | | | 18.3 | |
| Approach LOS | | D | | | A | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 22.0 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.65 | | | |
| Actuated Cycle Length (s) | 115.0 | Sum of lost time (s) | 12.6 | |
| Intersection Capacity Utilization | 51.3% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 269 | 0 | 125 | 421 | 1533 | 0 | 0 | 406 | 275 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | | | 4.2 | 4.2 | | 3.7 | 4.2 | | | 4.2 | 4.2 |
| Lane Util. Factor | | | | 0.95 | 0.95 | | 1.00 | 0.95 | | | 0.95 | 1.00 |
| Frpb, ped/bikes | | | | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.97 |
| Flpb, ped/bikes | | | | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | | | | 1.00 | 0.90 | | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.98 | | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1681 | 1568 | | 1668 | 3336 | | | 3303 | 1427 |
| Flt Permitted | | | | 0.95 | 0.98 | | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1681 | 1568 | | 1668 | 3336 | | | 3303 | 1427 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.81 | 0.81 | 0.81 | 0.93 | 0.93 | 0.93 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 0 | 0 | 0 | 332 | 0 | 154 | 453 | 1648 | 0 | 0 | 467 | 316 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 252 | 234 | 0 | 453 | 1648 | 0 | 0 | 467 | 316 |
| Confl. Peds. (#/hr) | | | | | | | | | 25 | 25 | | 5 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 2% | 2% | 2% | 1% | 1% | 1% | 2% | 2% | 2% |
| Turn Type | | | | Split | | | Prot | | | | | Perm |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | 6 |
| Actuated Green, G (s) | | | | 5.8 | 5.8 | | 29.4 | 85.8 | | | 52.7 | 52.7 |
| Effective Green, g (s) | | | | 5.8 | 5.8 | | 29.4 | 85.8 | | | 52.7 | 52.7 |
| Actuated g/C Ratio | | | | 0.06 | 0.06 | | 0.29 | 0.86 | | | 0.53 | 0.53 |
| Clearance Time (s) | | | | 4.2 | 4.2 | | 3.7 | 4.2 | | | 4.2 | 4.2 |
| Vehicle Extension (s) | | | | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | 2.0 |
| Lane Grp Cap (vph) | | | | 97 | 91 | | 490 | 2862 | | | 1741 | 752 |
| v/s Ratio Prot | | | | c0.15 | 0.15 | | c0.27 | c0.49 | | | 0.14 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.22 |
| v/c Ratio | | | | 2.60 | 2.57 | | 0.92 | 0.58 | | | 0.27 | 0.42 |
| Uniform Delay, d1 | | | | 47.1 | 47.1 | | 34.2 | 2.0 | | | 13.0 | 14.4 |
| Progression Factor | | | | 1.00 | 1.00 | | 0.97 | 1.60 | | | 0.81 | 0.86 |
| Incremental Delay, d2 | | | | 748.1 | 738.2 | | 13.6 | 0.4 | | | 0.4 | 1.7 |
| Delay (s) | | | | 795.2 | 785.3 | | 47.0 | 3.6 | | | 10.9 | 14.0 |
| Level of Service | | | | F | F | | D | A | | | B | B |
| Approach Delay (s) | | 0.0 | | | 790.4 | | | 13.0 | | | 12.2 | |
| Approach LOS | | A | | | F | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 124.9 | HCM Level of Service | F | |
| HCM Volume to Capacity ratio | 0.80 | | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 7.9 | |
| Intersection Capacity Utilization | 82.3% | ICU Level of Service | E | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 1072 | 5 | 178 | 0 | 0 | 0 | 0 | 882 | 260 | 176 | 499 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 4.2 | 4.2 | 4.2 | | | | | 4.2 | 4.2 | 3.7 | 4.2 | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | | | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1698 | 1703 | 1599 | | | | | 3369 | 1282 | 1652 | 3303 | |
| Flt Permitted | 0.95 | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1698 | 1703 | 1599 | | | | | 3369 | 1282 | 1652 | 3303 | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 1218 | 6 | 202 | 0 | 0 | 0 | 0 | 980 | 289 | 196 | 554 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 609 | 615 | 202 | 0 | 0 | 0 | 0 | 980 | 289 | 196 | 554 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 | 5 | | 45 | | | 5 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | Perm | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | 2 | | | |
| Actuated Green, G (s) | 39.2 | 39.2 | 39.2 | | | | | 35.9 | 35.9 | 12.8 | 52.4 | |
| Effective Green, g (s) | 39.2 | 39.2 | 39.2 | | | | | 35.9 | 35.9 | 12.8 | 52.4 | |
| Actuated g/C Ratio | 0.39 | 0.39 | 0.39 | | | | | 0.36 | 0.36 | 0.13 | 0.52 | |
| Clearance Time (s) | 4.2 | 4.2 | 4.2 | | | | | 4.2 | 4.2 | 3.7 | 4.2 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 666 | 668 | 627 | | | | | 1209 | 460 | 211 | 1731 | |
| v/s Ratio Prot | 0.36 | c0.36 | | | | | | c0.29 | | c0.12 | 0.17 | |
| v/s Ratio Perm | | | 0.13 | | | | | | 0.23 | | | |
| v/c Ratio | 0.91 | 0.92 | 0.32 | | | | | 0.81 | 0.63 | 0.93 | 0.32 | |
| Uniform Delay, d1 | 28.8 | 28.9 | 21.2 | | | | | 29.0 | 26.5 | 43.1 | 13.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 0.82 | 0.81 | 0.87 | 1.05 | |
| Incremental Delay, d2 | 16.8 | 17.8 | 0.1 | | | | | 5.4 | 5.7 | 7.0 | 0.0 | |
| Delay (s) | 45.6 | 46.8 | 21.3 | | | | | 29.3 | 27.2 | 44.6 | 14.3 | |
| Level of Service | D | D | C | | | | | C | C | D | B | |
| Approach Delay (s) | | 42.7 | | | 0.0 | | | 28.8 | | | 22.2 | |
| Approach LOS | | D | | | A | | | C | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 33.1 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.88 | | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.1 | |
| Intersection Capacity Utilization | 82.3% | ICU Level of Service | E | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 46 | 146 | 133 | 0 | 0 | 0 | 0 | 1565 | 103 | 16 | 654 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | | | | 5.6 | | 3.5 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | | | | 0.95 | | 1.00 | 0.91 | |
| Frt | 1.00 | 1.00 | 0.85 | | | | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1478 | | | | | 3273 | | 1652 | 4746 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1478 | | | | | 3273 | | 1652 | 4746 | |
| Peak-hour factor, PHF | 0.80 | 0.80 | 0.80 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.83 | 0.83 | 0.83 |
| Adj. Flow (vph) | 58 | 182 | 166 | 0 | 0 | 0 | 0 | 1701 | 112 | 19 | 788 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 58 | 182 | 166 | 0 | 0 | 0 | 0 | 1813 | 0 | 19 | 788 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Perm | | Perm | | | | | | | Prot | | |
| Protected Phases | | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | | | | | | | | | |
| Actuated Green, G (s) | 17.4 | 17.4 | 17.4 | | | | | 67.3 | | 1.7 | 72.5 | |
| Effective Green, g (s) | 17.4 | 17.4 | 17.4 | | | | | 67.3 | | 1.7 | 72.5 | |
| Actuated g/C Ratio | 0.17 | 0.17 | 0.17 | | | | | 0.67 | | 0.02 | 0.72 | |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | | | | 5.6 | | 3.5 | 5.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | | | | 5.0 | | 3.0 | 3.5 | |
| Lane Grp Cap (vph) | 287 | 303 | 257 | | | | | 2203 | | 28 | 3441 | |
| v/s Ratio Prot | | 0.10 | | | | | | c0.55 | | c0.01 | 0.17 | |
| v/s Ratio Perm | 0.04 | | c0.11 | | | | | | | | | |
| v/c Ratio | 0.20 | 0.60 | 0.65 | | | | | 0.82 | | 0.68 | 0.23 | |
| Uniform Delay, d1 | 35.4 | 38.1 | 38.4 | | | | | 12.0 | | 48.9 | 4.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 1.41 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 3.8 | 6.1 | | | | | 2.4 | | 49.7 | 0.2 | |
| Delay (s) | 35.8 | 41.9 | 44.5 | | | | | 19.3 | | 98.6 | 4.7 | |
| Level of Service | D | D | D | | | | | B | | F | A | |
| Approach Delay (s) | | 42.1 | | | 0.0 | | | 19.3 | | | 6.9 | |
| Approach LOS | | D | | | A | | | B | | | A | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 19.0 | HCM Level of Service | B | |
| HCM Volume to Capacity ratio | 0.78 | | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 13.6 | |
| Intersection Capacity Utilization | 62.6% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 204 | 1180 | 32 | 160 | 665 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.76 | 0.76 | 0.94 | 0.94 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 0 | 268 | 1255 | 34 | 186 | 773 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 552 | | | 492 |
| pX, platoon unblocked | 0.84 | 0.81 | | | 0.81 | |
| vC, conflicting volume | 2031 | 645 | | | 1289 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1591 | 105 | | | 897 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 64 | | | 70 | |
| cM capacity (veh/h) | 57 | 756 | | | 612 | |

| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 268 | 837 | 452 | 186 | 387 | 387 |
| Volume Left | 0 | 0 | 0 | 186 | 0 | 0 |
| Volume Right | 268 | 0 | 34 | 0 | 0 | 0 |
| cSH | 756 | 1700 | 1700 | 612 | 1700 | 1700 |
| Volume to Capacity | 0.36 | 0.49 | 0.27 | 0.30 | 0.23 | 0.23 |
| Queue Length 95th (ft) | 40 | 0 | 0 | 32 | 0 | 0 |
| Control Delay (s) | 12.4 | 0.0 | 0.0 | 13.4 | 0.0 | 0.0 |
| Lane LOS | B | | | B | | |
| Approach Delay (s) | 12.4 | 0.0 | | 2.6 | | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 2.3 | |
| Intersection Capacity Utilization | | 65.1% | ICU Level of Service C |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 26 | 209 | 83 | 0 | 0 | 0 | 0 | 44 | 63 | 26 | 410 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.92 | 0.92 | 0.92 | 0.70 | 0.70 | 0.70 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph) | 31 | 246 | 98 | 0 | 0 | 0 | 0 | 63 | 90 | 31 | 482 | 0 |
| Pedestrians | | | | | 4 | | | 23 | | | 10 | |
| Lane Width (ft) | | | | | 0.0 | | | 12.0 | | | 10.0 | |
| Walking Speed (ft/s) | | | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | | | | 0 | | | 2 | | | 1 | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 10 | | | 367 | | | 571 | 340 | 273 | 442 | 438 | 10 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 10 | | | 367 | | | 571 | 340 | 273 | 442 | 438 | 10 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 98 | | | 100 | | | 100 | 89 | 88 | 92 | 2 | 100 |
| cM capacity (veh/h) | 1605 | | | 1180 | | | 36 | 559 | 756 | 407 | 491 | 1067 |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 276 | 98 | 153 | 513 |
| Volume Left | 31 | 0 | 0 | 31 |
| Volume Right | 0 | 98 | 90 | 0 |
| cSH | 1605 | 1700 | 660 | 485 |
| Volume to Capacity | 0.02 | 0.06 | 0.23 | 1.06 |
| Queue Length 95th (ft) | 1 | 0 | 22 | 393 |
| Control Delay (s) | 1.0 | 0.0 | 12.1 | 86.0 |
| Lane LOS | A | | B | F |
| Approach Delay (s) | 0.7 | | 12.1 | 86.0 |
| Approach LOS | | | B | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 44.5 | |
| Intersection Capacity Utilization | | 55.5% | ICU Level of Service B |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 171 | 1 | 82 | 486 | 995 | 0 | 0 | 612 | 383 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | | | | 4.2 | 4.2 | | 4.2 | | | 4.2 | 4.2 |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.95 | | | 0.95 | 1.00 |
| Frpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | | 0.95 | 1.00 | | 0.98 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | | 1792 | 1599 | | 3315 | | | 3369 | 1507 |
| Flt Permitted | | | | | 0.95 | 1.00 | | 0.62 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | | 1792 | 1599 | | 2087 | | | 3369 | 1507 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.87 | 0.87 | 0.87 | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 0 | 0 | 0 | 197 | 1 | 94 | 528 | 1082 | 0 | 0 | 688 | 430 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 198 | 94 | 0 | 1610 | 0 | 0 | 688 | 430 |
| Confl. Peds. (#/hr) | 19 | | 9 | | | | | | | | | |
| Heavy Vehicles (%) | 0% | 0% | 0% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | | | | Split | | Prot | Prot | | | | | Perm |
| Protected Phases | | | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | 6 |
| Actuated Green, G (s) | | | | | 7.8 | 7.8 | | 53.8 | | | 53.8 | 53.8 |
| Effective Green, g (s) | | | | | 7.8 | 7.8 | | 53.8 | | | 53.8 | 53.8 |
| Actuated g/C Ratio | | | | | 0.11 | 0.11 | | 0.77 | | | 0.77 | 0.77 |
| Clearance Time (s) | | | | | 4.2 | 4.2 | | 4.2 | | | 4.2 | 4.2 |
| Vehicle Extension (s) | | | | | 2.0 | 2.0 | | 3.0 | | | 3.5 | 3.5 |
| Lane Grp Cap (vph) | | | | | 200 | 178 | | 1604 | | | 2589 | 1158 |
| v/s Ratio Prot | | | | | c0.11 | 0.06 | | | | | 0.20 | |
| v/s Ratio Perm | | | | | | | | c0.77 | | | | 0.29 |
| v/c Ratio | | | | | 0.99 | 0.53 | | 1.00 | | | 0.27 | 0.37 |
| Uniform Delay, d1 | | | | | 31.1 | 29.4 | | 8.1 | | | 2.4 | 2.6 |
| Progression Factor | | | | | 1.00 | 1.00 | | 0.82 | | | 0.88 | 0.87 |
| Incremental Delay, d2 | | | | | 60.5 | 1.3 | | 17.6 | | | 0.2 | 0.8 |
| Delay (s) | | | | | 91.6 | 30.7 | | 24.2 | | | 2.3 | 3.1 |
| Level of Service | | | | | F | C | | C | | | A | A |
| Approach Delay (s) | | 0.0 | | | 72.0 | | | 24.2 | | | 2.6 | |
| Approach LOS | | A | | | E | | | C | | | A | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 20.8 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 1.00 | | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 8.4 | |
| Intersection Capacity Utilization | 85.4% | ICU Level of Service | E | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 917 | 2 | 94 | 0 | 0 | 0 | 0 | 564 | 190 | 452 | 331 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 4.2 | 4.2 | | | | | | 4.2 | | | 4.2 | |
| Lane Util. Factor | 0.95 | 0.95 | | | | | | 0.95 | | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | | | | 0.97 | | | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.97 | | | | | | 0.96 | | | 1.00 | |
| Flt Protected | 0.95 | 0.96 | | | | | | 1.00 | | | 0.97 | |
| Satd. Flow (prot) | 1698 | 1669 | | | | | | 3077 | | | 3275 | |
| Flt Permitted | 0.95 | 0.96 | | | | | | 1.00 | | | 0.54 | |
| Satd. Flow (perm) | 1698 | 1669 | | | | | | 3077 | | | 1809 | |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 | 0.83 | 0.83 | 0.83 |
| Adj. Flow (vph) | 1008 | 2 | 103 | 0 | 0 | 0 | 0 | 634 | 213 | 545 | 399 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 564 | 549 | 0 | 0 | 0 | 0 | 0 | 847 | 0 | 0 | 944 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 | 12 | | 47 | | | 12 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Split | | | | | | | | | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | 22.8 | 22.8 | | | | | | 38.8 | | | 38.8 | |
| Effective Green, g (s) | 22.8 | 22.8 | | | | | | 38.8 | | | 38.8 | |
| Actuated g/C Ratio | 0.33 | 0.33 | | | | | | 0.55 | | | 0.55 | |
| Clearance Time (s) | 4.2 | 4.2 | | | | | | 4.2 | | | 4.2 | |
| Vehicle Extension (s) | 2.0 | 2.0 | | | | | | 3.5 | | | 3.0 | |
| Lane Grp Cap (vph) | 553 | 544 | | | | | | 1706 | | | 1003 | |
| v/s Ratio Prot | c0.33 | 0.33 | | | | | | 0.28 | | | | |
| v/s Ratio Perm | | | | | | | | | | | c0.52 | |
| v/c Ratio | 1.02 | 1.01 | | | | | | 0.50 | | | 0.94 | |
| Uniform Delay, d1 | 23.6 | 23.6 | | | | | | 9.6 | | | 14.5 | |
| Progression Factor | 1.00 | 1.00 | | | | | | 1.00 | | | 1.04 | |
| Incremental Delay, d2 | 43.4 | 40.9 | | | | | | 1.0 | | | 15.2 | |
| Delay (s) | 67.0 | 64.5 | | | | | | 10.6 | | | 30.4 | |
| Level of Service | E | E | | | | | | B | | | C | |
| Approach Delay (s) | | 65.8 | | | 0.0 | | | 10.6 | | | 30.4 | |
| Approach LOS | | E | | | A | | | B | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 38.2 | HCM Level of Service | D | |
| HCM Volume to Capacity ratio | 0.97 | | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 8.4 | |
| Intersection Capacity Utilization | 93.1% | ICU Level of Service | F | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 9 | 47 | 97 | 0 | 0 | 0 | 138 | 793 | 166 | 15 | 966 | 16 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.2 | 4.2 | | | | | 4.2 | | | 4.2 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | | | 0.95 | |
| Frt | | 1.00 | 0.85 | | | | | 0.98 | | | 1.00 | |
| Flt Protected | | 0.99 | 1.00 | | | | | 0.99 | | | 1.00 | |
| Satd. Flow (prot) | | 1725 | 1478 | | | | | 3272 | | | 3293 | |
| Flt Permitted | | 0.99 | 1.00 | | | | | 0.67 | | | 0.93 | |
| Satd. Flow (perm) | | 1725 | 1478 | | | | | 2210 | | | 3073 | |
| Peak-hour factor, PHF | 0.86 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 10 | 55 | 113 | 0 | 0 | 0 | 144 | 826 | 173 | 17 | 1085 | 18 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 65 | 113 | 0 | 0 | 0 | 0 | 1143 | 0 | 0 | 1120 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | Perm | | Perm | | | | Perm | | | Perm | | |
| Protected Phases | | 4 | | | | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 8.7 | 8.7 | | | | | 52.9 | | | 52.9 | |
| Effective Green, g (s) | | 8.7 | 8.7 | | | | | 52.9 | | | 52.9 | |
| Actuated g/C Ratio | | 0.12 | 0.12 | | | | | 0.76 | | | 0.76 | |
| Clearance Time (s) | | 4.2 | 4.2 | | | | | 4.2 | | | 4.2 | |
| Vehicle Extension (s) | | 2.0 | 2.0 | | | | | 3.0 | | | 3.0 | |
| Lane Grp Cap (vph) | | 214 | 184 | | | | | 1670 | | | 2322 | |
| v/s Ratio Prot | | | | | | | | | | | | |
| v/s Ratio Perm | | 0.04 | c0.08 | | | | | c0.52 | | | 0.36 | |
| v/c Ratio | | 0.30 | 0.61 | | | | | 0.68 | | | 0.48 | |
| Uniform Delay, d1 | | 27.9 | 29.1 | | | | | 4.3 | | | 3.3 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 0.42 | | | 1.00 | |
| Incremental Delay, d2 | | 0.3 | 4.2 | | | | | 0.2 | | | 0.7 | |
| Delay (s) | | 28.2 | 33.3 | | | | | 2.0 | | | 4.0 | |
| Level of Service | | C | C | | | | | A | | | A | |
| Approach Delay (s) | | 31.4 | | | 0.0 | | | 2.0 | | | 4.0 | |
| Approach LOS | | C | | | A | | | A | | | A | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 5.1 | HCM Level of Service | A | |
| HCM Volume to Capacity ratio | 0.67 | | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 8.4 | |
| Intersection Capacity Utilization | 72.7% | ICU Level of Service | C | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 13 | 173 | 663 | 9 | 64 | 437 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.79 | 0.79 | 0.84 | 0.84 | 0.80 | 0.80 |
| Hourly flow rate (vph) | 16 | 219 | 789 | 11 | 80 | 546 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | 449 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1228 | 400 | | | 800 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1228 | 400 | | | 800 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 89 | 63 | | | 90 | |
| cM capacity (veh/h) | 154 | 600 | | | 819 | |

| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|
| Volume Total | 235 | 526 | 274 | 262 | 364 |
| Volume Left | 16 | 0 | 0 | 80 | 0 |
| Volume Right | 219 | 0 | 11 | 0 | 0 |
| cSH | 499 | 1700 | 1700 | 819 | 1700 |
| Volume to Capacity | 0.47 | 0.31 | 0.16 | 0.10 | 0.21 |
| Queue Length 95th (ft) | 62 | 0 | 0 | 8 | 0 |
| Control Delay (s) | 18.5 | 0.0 | 0.0 | 3.8 | 0.0 |
| Lane LOS | C | | | A | |
| Approach Delay (s) | 18.5 | 0.0 | | 1.6 | |
| Approach LOS | C | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.2 | | |
| Intersection Capacity Utilization | 54.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 335 | 344 | 37 | 0 | 0 | 99 |
| Sign Control | Free | | Stop | | | Stop |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.97 | 0.97 | 0.58 | 0.58 | 0.77 | 0.77 |
| Hourly flow rate (vph) | 345 | 355 | 64 | 0 | 0 | 129 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | | 1045 | 0 | 900 | 868 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 0 | | 1045 | 0 | 900 | 868 |
| tC, single (s) | 4.1 | | 6.5 | 6.2 | 7.1 | 6.5 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | 4.0 | 3.3 | 3.5 | 4.0 |
| p0 queue free % | 79 | | 65 | 100 | 100 | 44 |
| cM capacity (veh/h) | 1623 | | 180 | 1085 | 159 | 229 |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 700 | 64 | 129 |
| Volume Left | 345 | 0 | 0 |
| Volume Right | 355 | 0 | 0 |
| cSH | 1623 | 180 | 229 |
| Volume to Capacity | 0.21 | 0.35 | 0.56 |
| Queue Length 95th (ft) | 20 | 37 | 77 |
| Control Delay (s) | 4.9 | 35.6 | 39.2 |
| Lane LOS | A | E | E |
| Approach Delay (s) | 4.9 | 35.6 | 39.2 |
| Approach LOS | | E | E |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 12.1 | |
| Intersection Capacity Utilization | | 51.5% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 4 | 240 | 1 | 1037 | 278 | 1 | 0 | 0 | 0 | 2 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 11 | 11 | 11 |
| Total Lost time (s) | | 5.3 | | 5.3 | 5.3 | | | | | | 4.2 | |
| Lane Util. Factor | | 0.95 | | 1.00 | 1.00 | | | | | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | | 1.00 | 1.00 | | | | | | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | 1.00 | 1.00 | | | | | | 1.00 | |
| Frt | | 1.00 | | 1.00 | 1.00 | | | | | | 1.00 | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | | | | 0.97 | |
| Satd. Flow (prot) | | 3417 | | 1711 | 1800 | | | | | | 1748 | |
| Flt Permitted | | 1.00 | | 0.95 | 1.00 | | | | | | 0.97 | |
| Satd. Flow (perm) | | 3417 | | 1711 | 1800 | | | | | | 1748 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.73 | 0.88 | 0.88 | 0.88 | 0.92 | 0.92 | 0.92 | 0.63 | 0.63 | 0.63 |
| Adj. Flow (vph) | 5 | 329 | 1 | 1178 | 316 | 1 | 0 | 0 | 0 | 3 | 2 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 335 | 0 | 1178 | 317 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 3 | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | Split | | | Split | | | | | | Split | | |
| Protected Phases | 5 | 5 | | 6 | 6 | | | | | 8 | 8 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | | 16.7 | | 97.3 | 97.3 | | | | | | 1.2 | |
| Effective Green, g (s) | | 16.7 | | 97.3 | 97.3 | | | | | | 1.2 | |
| Actuated g/C Ratio | | 0.13 | | 0.75 | 0.75 | | | | | | 0.01 | |
| Clearance Time (s) | | 5.3 | | 5.3 | 5.3 | | | | | | 4.2 | |
| Vehicle Extension (s) | | 1.5 | | 3.0 | 3.0 | | | | | | 2.0 | |
| Lane Grp Cap (vph) | | 439 | | 1281 | 1347 | | | | | | 16 | |
| v/s Ratio Prot | | c0.10 | | c0.69 | 0.18 | | | | | | c0.00 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | | 0.76 | | 0.92 | 0.24 | | | | | | 0.31 | |
| Uniform Delay, d1 | | 54.7 | | 13.2 | 5.0 | | | | | | 64.0 | |
| Progression Factor | | 1.00 | | 0.81 | 0.41 | | | | | | 1.00 | |
| Incremental Delay, d2 | | 6.9 | | 10.8 | 0.4 | | | | | | 4.0 | |
| Delay (s) | | 61.7 | | 21.5 | 2.4 | | | | | | 68.0 | |
| Level of Service | | E | | C | A | | | | | | E | |
| Approach Delay (s) | | 61.7 | | | 17.5 | | | 0.0 | | | 68.0 | |
| Approach LOS | | E | | | B | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 14.8 |
| Intersection Capacity Utilization | 80.7% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 58 | 0 | 98 | 249 | 221 | 170 | 766 | 771 | 0 | 0 | 484 | 168 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 5.3 | | 3.7 | 5.3 | 5.3 | 5.3 | 3.7 | 4.5 | | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | | 1.00 | 0.91 | 0.91 | 1.00 | 0.97 | 0.95 | | | 0.95 | 1.00 |
| Frt | 1.00 | | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | | 1.00 | 0.95 | 0.98 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | 1711 | | 1531 | 1557 | 3228 | 1531 | 3351 | 3455 | | | 3421 | 1531 |
| Flt Permitted | 0.95 | | 1.00 | 0.95 | 0.98 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | 1711 | | 1531 | 1557 | 3228 | 1531 | 3351 | 3455 | | | 3421 | 1531 |
| Peak-hour factor, PHF | 0.89 | 0.89 | 0.89 | 0.88 | 0.88 | 0.88 | 0.91 | 0.91 | 0.91 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 65 | 0 | 110 | 283 | 251 | 193 | 842 | 847 | 0 | 0 | 544 | 189 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 65 | 0 | 110 | 173 | 361 | 193 | 842 | 847 | 0 | 0 | 544 | 189 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 1% | 1% | 1% | 2% | 2% | 2% |
| Turn Type | Prot | | Over | Split | | Perm | Prot | | | | | Perm |
| Protected Phases | 7 | | 6 | 8 | 8 | | 6 | 2 | | | 5 | |
| Permitted Phases | | | | | | 8 | | | | | | 5 |
| Actuated Green, G (s) | 7.3 | | 61.5 | 17.9 | 17.9 | 17.9 | 61.5 | 89.7 | | | 24.5 | 24.5 |
| Effective Green, g (s) | 7.3 | | 61.5 | 17.9 | 17.9 | 17.9 | 61.5 | 89.7 | | | 24.5 | 24.5 |
| Actuated g/C Ratio | 0.06 | | 0.47 | 0.14 | 0.14 | 0.14 | 0.47 | 0.69 | | | 0.19 | 0.19 |
| Clearance Time (s) | 5.3 | | 3.7 | 5.3 | 5.3 | 5.3 | 3.7 | 4.5 | | | 4.5 | 4.5 |
| Vehicle Extension (s) | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| Lane Grp Cap (vph) | 96 | | 724 | 214 | 444 | 211 | 1585 | 2384 | | | 645 | 289 |
| v/s Ratio Prot | c0.04 | | 0.07 | 0.11 | 0.11 | | c0.25 | 0.25 | | | c0.16 | |
| v/s Ratio Perm | | | | | | c0.13 | | | | | | 0.12 |
| v/c Ratio | 0.68 | | 0.15 | 0.81 | 0.81 | 0.91 | 0.53 | 0.36 | | | 0.84 | 0.65 |
| Uniform Delay, d1 | 60.2 | | 19.4 | 54.4 | 54.4 | 55.3 | 24.1 | 8.3 | | | 50.9 | 48.8 |
| Progression Factor | 1.87 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.63 | 0.22 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 12.8 | | 0.4 | 18.7 | 10.3 | 38.3 | 0.6 | 0.2 | | | 9.4 | 4.0 |
| Delay (s) | 125.3 | | 19.9 | 73.1 | 64.8 | 93.6 | 15.8 | 2.1 | | | 60.3 | 52.8 |
| Level of Service | F | | B | E | E | F | B | A | | | E | D |
| Approach Delay (s) | | 59.1 | | | 74.4 | | | 8.9 | | | 58.4 | |
| Approach LOS | | E | | | E | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 36.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 18.8 |
| Intersection Capacity Utilization | 62.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 307 | 0 | 127 | 0 | 0 | 0 | 0 | 1230 | 206 | 444 | 473 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.2 | 4.2 | | | | | | 4.5 | 4.5 | 3.7 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | | | | | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1805 | 1615 | | | | | | 3455 | 1514 | 3351 | 3455 | |
| Flt Permitted | 0.95 | 1.00 | | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1805 | 1615 | | | | | | 3455 | 1514 | 3351 | 3455 | |
| Peak-hour factor, PHF | 0.79 | 0.79 | 0.79 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.84 | 0.84 | 0.84 |
| Adj. Flow (vph) | 389 | 0 | 161 | 0 | 0 | 0 | 0 | 1398 | 234 | 529 | 563 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 389 | 161 | 0 | 0 | 0 | 0 | 0 | 1398 | 234 | 529 | 563 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | 4 | | | 2 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 1% | 1% | 1% |
| Turn Type | Split | | | | | | | | Perm | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Actuated Green, G (s) | 27.8 | 27.8 | | | | | | 64.9 | 64.9 | 24.9 | 93.5 | |
| Effective Green, g (s) | 27.8 | 27.8 | | | | | | 64.9 | 64.9 | 24.9 | 93.5 | |
| Actuated g/C Ratio | 0.21 | 0.21 | | | | | | 0.50 | 0.50 | 0.19 | 0.72 | |
| Clearance Time (s) | 4.2 | 4.2 | | | | | | 4.5 | 4.5 | 3.7 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 386 | 345 | | | | | | 1725 | 756 | 642 | 2485 | |
| v/s Ratio Prot | c0.22 | 0.10 | | | | | | c0.40 | | c0.16 | 0.16 | |
| v/s Ratio Perm | | | | | | | | | 0.15 | | | |
| v/c Ratio | 1.01 | 0.47 | | | | | | 0.81 | 0.31 | 0.82 | 0.23 | |
| Uniform Delay, d1 | 51.1 | 44.6 | | | | | | 27.4 | 19.3 | 50.4 | 6.1 | |
| Progression Factor | 1.00 | 1.00 | | | | | | 0.79 | 0.84 | 0.93 | 0.57 | |
| Incremental Delay, d2 | 47.8 | 1.0 | | | | | | 0.4 | 0.1 | 6.3 | 0.2 | |
| Delay (s) | 98.9 | 45.6 | | | | | | 21.9 | 16.4 | 53.0 | 3.7 | |
| Level of Service | F | D | | | | | | C | B | D | A | |
| Approach Delay (s) | | 83.3 | | | 0.0 | | | 21.1 | | | 27.6 | |
| Approach LOS | | F | | | A | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 33.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 12.4 |
| Intersection Capacity Utilization | 74.3% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 240 | 132 | 109 | 21 | 145 | 360 | 148 | 870 | 23 | 174 | 289 | 86 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 4.5 | 4.5 | 4.2 | 4.5 | | 4.2 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1711 | 3408 | | 1728 | 3336 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1711 | 3408 | | 1728 | 3336 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.73 | 0.86 | 0.86 | 0.86 | 0.77 | 0.77 | 0.77 | 0.81 | 0.81 | 0.81 |
| Adj. Flow (vph) | 329 | 181 | 149 | 24 | 169 | 419 | 192 | 1130 | 30 | 215 | 357 | 106 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 329 | 181 | 149 | 24 | 169 | 419 | 192 | 1160 | 0 | 215 | 463 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 1% | 1% | 1% |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Actuated Green, G (s) | 10.8 | 24.7 | 24.7 | 4.4 | 19.1 | 19.1 | 15.6 | 66.9 | | 15.8 | 67.1 | |
| Effective Green, g (s) | 10.8 | 24.7 | 24.7 | 4.4 | 19.1 | 19.1 | 15.6 | 66.9 | | 15.8 | 67.1 | |
| Actuated g/C Ratio | 0.08 | 0.19 | 0.19 | 0.03 | 0.15 | 0.15 | 0.12 | 0.51 | | 0.12 | 0.52 | |
| Clearance Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 4.5 | 4.5 | 4.2 | 4.5 | | 4.2 | 4.5 | |
| Vehicle Extension (s) | 2.0 | 2.5 | 2.5 | 2.0 | 2.5 | 2.5 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 142 | 342 | 291 | 58 | 265 | 225 | 205 | 1754 | | 210 | 1722 | |
| v/s Ratio Prot | c0.19 | 0.10 | | 0.01 | 0.09 | | 0.11 | c0.34 | | c0.12 | 0.14 | |
| v/s Ratio Perm | | | 0.10 | | | c0.27 | | | | | | |
| v/c Ratio | 2.32 | 0.53 | 0.51 | 0.41 | 0.64 | 1.86 | 0.94 | 0.66 | | 1.02 | 0.27 | |
| Uniform Delay, d1 | 59.6 | 47.4 | 47.2 | 61.5 | 52.2 | 55.4 | 56.7 | 23.2 | | 57.1 | 17.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 0.83 | 1.51 | |
| Incremental Delay, d2 | 614.1 | 1.1 | 1.1 | 1.7 | 4.4 | 404.6 | 44.4 | 2.0 | | 67.6 | 0.4 | |
| Delay (s) | 673.7 | 48.5 | 48.4 | 63.3 | 56.5 | 460.0 | 101.1 | 25.2 | | 114.9 | 27.0 | |
| Level of Service | F | D | D | E | E | F | F | C | | F | C | |
| Approach Delay (s) | | 360.6 | | | 333.0 | | | 36.0 | | | 54.9 | |
| Approach LOS | | F | | | F | | | D | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 159.7 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.07 | | |
| Actuated Cycle Length (s) | 130.0 | Sum of lost time (s) | 17.4 |
| Intersection Capacity Utilization | 71.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 159 | 167 | 95 | 97 | 150 | 29 | 405 | 194 | 80 | 61 | 89 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 3.7 | 4.9 | | 3.7 | 5.3 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.95 | | 1.00 | 0.98 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1787 | 3380 | | 1805 | 3509 | | 1665 | 1721 | 1568 | 1715 | 1799 | 1615 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1787 | 3380 | | 1805 | 3509 | | 1665 | 1721 | 1568 | 1715 | 1799 | 1615 |
| Peak-hour factor, PHF | 0.84 | 0.84 | 0.84 | 0.82 | 0.82 | 0.82 | 0.91 | 0.91 | 0.91 | 0.75 | 0.75 | 0.75 |
| Adj. Flow (vph) | 189 | 199 | 113 | 118 | 183 | 35 | 445 | 213 | 88 | 81 | 119 | 24 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 189 | 312 | 0 | 118 | 218 | 0 | 325 | 333 | 88 | 73 | 127 | 24 |
| Confl. Peds. (#/hr) | | | | | | 3 | | | | | | |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 3% | 3% | 3% | 0% | 0% | 0% |
| Turn Type | Prot | | | Prot | | | Split | | Perm | Split | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | | 4 | 4 | |
| Permitted Phases | | | | | | | | | 3 | | | 4 |
| Actuated Green, G (s) | 14.3 | 15.0 | | 9.8 | 10.1 | | 20.1 | 20.1 | 20.1 | 10.3 | 10.3 | 10.3 |
| Effective Green, g (s) | 14.3 | 15.0 | | 9.8 | 10.1 | | 20.1 | 20.1 | 20.1 | 10.3 | 10.3 | 10.3 |
| Actuated g/C Ratio | 0.20 | 0.21 | | 0.13 | 0.14 | | 0.28 | 0.28 | 0.28 | 0.14 | 0.14 | 0.14 |
| Clearance Time (s) | 3.7 | 4.9 | | 3.7 | 5.3 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lane Grp Cap (vph) | 351 | 696 | | 243 | 487 | | 460 | 475 | 433 | 243 | 255 | 228 |
| v/s Ratio Prot | c0.11 | c0.09 | | 0.07 | 0.06 | | c0.20 | 0.19 | | 0.04 | c0.07 | |
| v/s Ratio Perm | | | | | | | | | 0.06 | | | 0.01 |
| v/c Ratio | 0.54 | 0.45 | | 0.49 | 0.45 | | 0.71 | 0.70 | 0.20 | 0.30 | 0.50 | 0.11 |
| Uniform Delay, d1 | 26.3 | 25.3 | | 29.2 | 28.8 | | 23.7 | 23.7 | 20.2 | 28.0 | 28.9 | 27.2 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.8 | 0.2 | | 0.6 | 0.2 | | 4.0 | 3.8 | 0.1 | 0.3 | 0.6 | 0.1 |
| Delay (s) | 27.1 | 25.4 | | 29.7 | 29.0 | | 27.7 | 27.5 | 20.3 | 28.3 | 29.4 | 27.3 |
| Level of Service | C | C | | C | C | | C | C | C | C | C | C |
| Approach Delay (s) | | 26.1 | | | 29.3 | | | 26.7 | | | 28.8 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 27.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 72.8 | Sum of lost time (s) | 12.7 |
| Intersection Capacity Utilization | 51.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 435 | 5 | 92 | 0 | 0 | 0 | 0 | 504 | 240 | 318 | 456 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.0 | 4.5 | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | | | | | 0.95 | 1.00 | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 0.99 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1698 | 1704 | 1599 | | | | | 3539 | 1563 | 3433 | 1863 | |
| Flt Permitted | 0.95 | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1698 | 1704 | 1599 | | | | | 3539 | 1563 | 3433 | 1863 | |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.92 | 0.92 | 0.92 | 0.87 | 0.87 | 0.87 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 478 | 5 | 101 | 0 | 0 | 0 | 0 | 579 | 276 | 346 | 496 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 239 | 244 | 101 | 0 | 0 | 0 | 0 | 579 | 276 | 346 | 496 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 3 | | 1 | | | 3 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | Perm | Prot | | |
| Protected Phases | 8 | 8 | | | | | | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | 6 | | | |
| Actuated Green, G (s) | 12.5 | 12.5 | 12.5 | | | | | 15.4 | 15.4 | 10.3 | 29.7 | |
| Effective Green, g (s) | 12.5 | 12.5 | 12.5 | | | | | 15.4 | 15.4 | 10.3 | 29.7 | |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.24 | | | | | 0.30 | 0.30 | 0.20 | 0.58 | |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.0 | 4.5 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 415 | 416 | 390 | | | | | 1064 | 470 | 691 | 1081 | |
| v/s Ratio Prot | 0.14 | c0.14 | | | | | | 0.16 | | 0.10 | c0.27 | |
| v/s Ratio Perm | | | 0.06 | | | | | | c0.18 | | | |
| v/c Ratio | 0.58 | 0.59 | 0.26 | | | | | 0.54 | 0.59 | 0.50 | 0.46 | |
| Uniform Delay, d1 | 17.0 | 17.1 | 15.6 | | | | | 15.0 | 15.2 | 18.2 | 6.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.2 | 1.4 | 0.1 | | | | | 0.3 | 1.2 | 0.2 | 0.1 | |
| Delay (s) | 18.2 | 18.4 | 15.7 | | | | | 15.3 | 16.4 | 18.4 | 6.3 | |
| Level of Service | B | B | B | | | | | B | B | B | A | |
| Approach Delay (s) | | 17.9 | | | 0.0 | | | 15.6 | | | 11.2 | |
| Approach LOS | | B | | | A | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 14.6 | HCM Level of Service | B | |
| HCM Volume to Capacity ratio | 0.58 | | | |
| Actuated Cycle Length (s) | 51.2 | Sum of lost time (s) | 13.5 | |
| Intersection Capacity Utilization | 47.1% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 299 | 169 | 510 | 197 | 53 | 475 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.5 | 3.5 | 4.1 | 4.1 | 3.5 | 4.1 |
| Lane Util. Factor | 0.97 | 0.91 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frt | 0.99 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.96 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3335 | 1407 | 3421 | 1531 | 1711 | 3421 |
| Flt Permitted | 0.96 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3335 | 1407 | 3421 | 1531 | 1711 | 3421 |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.86 | 0.86 | 0.90 | 0.90 |
| Adj. Flow (vph) | 344 | 194 | 593 | 229 | 59 | 528 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 371 | 167 | 593 | 229 | 59 | 528 |
| Heavy Vehicles (%) | 1% | 1% | 2% | 2% | 2% | 2% |
| Turn Type | | Perm | | Perm | Prot | |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | 2 | | |
| Actuated Green, G (s) | 10.1 | 10.1 | 17.4 | 17.4 | 3.0 | 23.9 |
| Effective Green, g (s) | 10.1 | 10.1 | 17.4 | 17.4 | 3.0 | 23.9 |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.42 | 0.42 | 0.07 | 0.57 |
| Clearance Time (s) | 3.5 | 3.5 | 4.1 | 4.1 | 3.5 | 4.1 |
| Vehicle Extension (s) | 2.0 | 2.0 | 3.5 | 3.5 | 0.5 | 3.5 |
| Lane Grp Cap (vph) | 810 | 342 | 1431 | 640 | 123 | 1965 |
| v/s Ratio Prot | 0.11 | | c0.17 | | c0.03 | 0.15 |
| v/s Ratio Perm | | c0.12 | | 0.15 | | |
| v/c Ratio | 0.46 | 0.49 | 0.41 | 0.36 | 0.48 | 0.27 |
| Uniform Delay, d1 | 13.4 | 13.5 | 8.5 | 8.3 | 18.5 | 4.5 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.2 | 0.4 | 0.2 | 0.4 | 1.1 | 0.1 |
| Delay (s) | 13.6 | 13.9 | 8.7 | 8.7 | 19.6 | 4.5 |
| Level of Service | B | B | A | A | B | A |
| Approach Delay (s) | 13.7 | | 8.7 | | | 6.1 |
| Approach LOS | B | | A | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.3 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.45 | | |
| Actuated Cycle Length (s) | 41.6 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 37.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 29 | 505 | 0 | 0 | 646 | 137 | 189 | 598 | 50 | 149 | 0 | 34 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 3.7 | 5.3 | | | 4.5 | 4.5 | 5.3 | 5.3 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.91 | 1.00 | 1.00 | 0.95 | | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.94 | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | |
| Satd. Flow (prot) | 1787 | 3574 | | | 5136 | 1567 | 1787 | 3533 | | 1698 | 1634 | |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.97 | |
| Satd. Flow (perm) | 1787 | 3574 | | | 5136 | 1567 | 1787 | 3533 | | 1698 | 1634 | |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.85 | 0.85 | 0.85 | 0.91 | 0.91 | 0.91 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 33 | 580 | 0 | 0 | 760 | 161 | 208 | 657 | 55 | 189 | 0 | 43 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 33 | 580 | 0 | 0 | 760 | 161 | 208 | 712 | 0 | 119 | 113 | 0 |
| Confl. Peds. (#/hr) | | | 6 | 6 | | 7 | | | | | | |
| Heavy Vehicles (%) | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% |
| Turn Type | Prot | | | | | Perm | Split | | | Split | | |
| Protected Phases | 1 | 6 | | | 2 | | 3 | 3 | | 4 | 4 | |
| Permitted Phases | | | | | | 2 | | | | | | |
| Actuated Green, G (s) | 3.6 | 24.8 | | | 18.3 | 18.3 | 21.5 | 21.5 | | 10.8 | 10.8 | |
| Effective Green, g (s) | 3.6 | 24.8 | | | 18.3 | 18.3 | 21.5 | 21.5 | | 10.8 | 10.8 | |
| Actuated g/C Ratio | 0.05 | 0.34 | | | 0.25 | 0.25 | 0.30 | 0.30 | | 0.15 | 0.15 | |
| Clearance Time (s) | 3.7 | 5.3 | | | 4.5 | 4.5 | 5.3 | 5.3 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 89 | 1228 | | | 1302 | 397 | 532 | 1052 | | 254 | 244 | |
| v/s Ratio Prot | 0.02 | c0.16 | | | c0.15 | | 0.12 | c0.20 | | c0.07 | 0.07 | |
| v/s Ratio Perm | | | | | | 0.10 | | | | | | |
| v/c Ratio | 0.37 | 0.47 | | | 0.58 | 0.41 | 0.39 | 0.68 | | 0.47 | 0.46 | |
| Uniform Delay, d1 | 33.2 | 18.6 | | | 23.6 | 22.4 | 20.1 | 22.3 | | 28.1 | 28.1 | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.0 | 0.1 | | | 0.4 | 0.2 | 0.2 | 1.4 | | 0.5 | 0.5 | |
| Delay (s) | 34.2 | 18.7 | | | 24.0 | 22.7 | 20.3 | 23.7 | | 28.6 | 28.6 | |
| Level of Service | C | B | | | C | C | C | C | | C | C | |
| Approach Delay (s) | | 19.5 | | | 23.8 | | | 22.9 | | | 28.6 | |
| Approach LOS | | B | | | C | | | C | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 22.9 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.62 | | | |
| Actuated Cycle Length (s) | 72.2 | Sum of lost time (s) | 19.6 | |
| Intersection Capacity Utilization | 54.5% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 534 | 410 | 459 | 0 | 0 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.87 | 0.87 | 0.90 | 0.90 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 614 | 456 | 510 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 164 | | | |
| pX, platoon unblocked | 0.88 | | | | 0.88 | 0.88 |
| vC, conflicting volume | 966 | | | | 762 | 228 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 678 | | | | 446 | 0 |
| tC, single (s) | 4.1 | | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 100 | | | | 100 | 100 |
| cM capacity (veh/h) | 797 | | | | 478 | 956 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 |
|---|---|---|---|---|---|
| Volume Total | 307 | 307 | 304 | 322 | 340 |
| Volume Left | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 170 | 340 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.18 | 0.18 | 0.18 | 0.19 | 0.20 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.0 | | |
| Intersection Capacity Utilization | 22.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 36 | 157 | 112 | 190 | 202 | 295 | 67 | 417 | 171 | 108 | 639 | 106 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.5 | 5.8 | 5.8 | 4.5 | 5.8 | 5.8 | 3.7 | 5.7 | | 3.7 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1711 | 3272 | | 1711 | 3348 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1711 | 3272 | | 1711 | 3348 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.86 | 0.86 | 0.86 | 0.80 | 0.80 | 0.80 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 39 | 171 | 122 | 221 | 235 | 343 | 84 | 521 | 214 | 124 | 734 | 122 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 39 | 171 | 122 | 221 | 235 | 343 | 84 | 735 | 0 | 124 | 856 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Actuated Green, G (s) | 3.5 | 17.1 | 17.1 | 15.9 | 29.5 | 29.5 | 7.7 | 27.4 | | 11.0 | 31.9 | |
| Effective Green, g (s) | 3.5 | 17.1 | 17.1 | 15.9 | 29.5 | 29.5 | 7.7 | 27.4 | | 11.0 | 31.9 | |
| Actuated g/C Ratio | 0.04 | 0.19 | 0.19 | 0.17 | 0.32 | 0.32 | 0.08 | 0.30 | | 0.12 | 0.35 | |
| Clearance Time (s) | 4.5 | 5.8 | 5.8 | 4.5 | 5.8 | 5.8 | 3.7 | 5.7 | | 3.7 | 4.5 | |
| Vehicle Extension (s) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 66 | 338 | 287 | 299 | 583 | 496 | 145 | 984 | | 207 | 1172 | |
| v/s Ratio Prot | 0.02 | 0.09 | | c0.13 | 0.13 | | 0.05 | 0.22 | | c0.07 | c0.26 | |
| v/s Ratio Perm | | | 0.08 | | | c0.22 | | | | | | |
| v/c Ratio | 0.59 | 0.51 | 0.43 | 0.74 | 0.40 | 0.69 | 0.58 | 0.75 | | 0.60 | 0.73 | |
| Uniform Delay, d1 | 43.1 | 33.2 | 32.7 | 35.6 | 24.0 | 26.8 | 40.1 | 28.7 | | 38.0 | 25.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 9.1 | 0.4 | 0.4 | 8.0 | 0.2 | 3.4 | 3.5 | 2.7 | | 3.1 | 2.0 | |
| Delay (s) | 52.2 | 33.6 | 33.0 | 43.6 | 24.1 | 30.2 | 43.6 | 31.5 | | 41.1 | 27.9 | |
| Level of Service | D | C | C | D | C | C | D | C | | D | C | |
| Approach Delay (s) | | 35.6 | | | 32.1 | | | 32.7 | | | 29.6 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.8 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 91.1 | Sum of lost time (s) | 12.7 |
| Intersection Capacity Utilization | 59.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 645 | 10 | 36 | 527 | 0 | 2 | 0 | 5 | 454 | 4 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | | 3.7 | 5.3 | | | 4.2 | | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | | 0.95 | 0.95 | 1.00 |
| Frpb, ped/bikes | | 1.00 | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | | 1.00 | 1.00 | | | 0.90 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.99 | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3529 | | 1770 | 3539 | | | 1653 | | 1715 | 1720 | 1615 |
| Flt Permitted | | 1.00 | | 0.95 | 1.00 | | | 0.99 | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3529 | | 1770 | 3539 | | | 1653 | | 1715 | 1720 | 1615 |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.92 | 0.90 | 0.90 | 0.90 | 0.88 | 0.88 | 0.88 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 0 | 709 | 11 | 40 | 586 | 0 | 2 | 0 | 6 | 510 | 4 | 17 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 720 | 0 | 40 | 586 | 0 | 0 | 8 | 0 | 255 | 259 | 17 |
| Confl. Peds. (#/hr) | 6 | | 5 | | | 6 | | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | | | | Prot | | | Split | | | Split | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | | 18.4 | | 3.5 | 25.6 | | | 0.7 | | 13.5 | 13.5 | 13.5 |
| Effective Green, g (s) | | 18.4 | | 3.5 | 25.6 | | | 0.7 | | 13.5 | 13.5 | 13.5 |
| Actuated g/C Ratio | | 0.34 | | 0.07 | 0.48 | | | 0.01 | | 0.25 | 0.25 | 0.25 |
| Clearance Time (s) | | 5.3 | | 3.7 | 5.3 | | | 4.2 | | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | | 1.5 | | 2.0 | 1.5 | | | 1.5 | | 1.5 | 1.5 | 1.5 |
| Lane Grp Cap (vph) | | 1207 | | 115 | 1684 | | | 22 | | 430 | 432 | 405 |
| v/s Ratio Prot | | c0.20 | | 0.02 | c0.17 | | | c0.00 | | 0.15 | c0.15 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.01 |
| v/c Ratio | | 0.60 | | 0.35 | 0.35 | | | 0.36 | | 0.59 | 0.60 | 0.04 |
| Uniform Delay, d1 | | 14.6 | | 24.1 | 8.9 | | | 26.3 | | 17.7 | 17.8 | 15.3 |
| Progression Factor | | 1.00 | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.5 | | 0.7 | 0.0 | | | 3.7 | | 1.5 | 1.5 | 0.0 |
| Delay (s) | | 15.2 | | 24.7 | 8.9 | | | 30.0 | | 19.2 | 19.3 | 15.3 |
| Level of Service | | B | | C | A | | | C | | B | B | B |
| Approach Delay (s) | | 15.2 | | | 9.9 | | | 30.0 | | | 19.1 | |
| Approach LOS | | B | | | A | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 14.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.61 | | |
| Actuated Cycle Length (s) | 53.8 | Sum of lost time (s) | 19.3 |
| Intersection Capacity Utilization | 52.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 670 | 193 | 670 | 408 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.91 | 0.91 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 0 | 0 | 736 | 212 | 779 | 474 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | Raised | | | Raised |
| Median storage veh) | | | 1 | | | 1 |
| Upstream signal (ft) | | | 132 | | | 350 |
| pX, platoon unblocked | 0.85 | | | | | |
| vC, conflicting volume | 2769 | 368 | | | 948 | |
| vC1, stage 1 conf vol | 736 | | | | | |
| vC2, stage 2 conf vol | 2033 | | | | | |
| vCu, unblocked vol | 2993 | 368 | | | 948 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 0 | 100 | | | 0 | |
| cM capacity (veh/h) | 0 | 635 | | | 720 | |

| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 368 | 368 | 212 | 390 | 390 | 474 |
| Volume Left | 0 | 0 | 0 | 390 | 390 | 0 |
| Volume Right | 0 | 0 | 212 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 720 | 720 | 1700 |
| Volume to Capacity | 0.22 | 0.22 | 0.12 | 1.08 | 1.08 | 0.28 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 530 | 530 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 81.3 | 81.3 | 0.0 |
| Lane LOS | | | | F | F | |
| Approach Delay (s) | 0.0 | | | 50.5 | | |
| Approach LOS | | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 28.8 | | |
| Intersection Capacity Utilization | 44.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 18 | 147 | 2 | 305 | 103 | 4 | 199 | 15 | 23 | 76 | 36 | 21 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.94 | 0.94 | 0.94 | 0.72 | 0.72 | 0.72 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 21 | 175 | 2 | 324 | 110 | 4 | 276 | 21 | 32 | 83 | 39 | 23 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total (vph) | 199 | 438 | 297 | 32 | 145 |
| Volume Left (vph) | 21 | 324 | 276 | 0 | 83 |
| Volume Right (vph) | 2 | 4 | 0 | 32 | 23 |
| Hadj (s) | 0.05 | 0.16 | 0.50 | -0.67 | 0.02 |
| Departure Headway (s) | 6.6 | 6.2 | 7.4 | 6.2 | 7.0 |
| Degree Utilization, x | 0.37 | 0.75 | 0.61 | 0.05 | 0.28 |
| Capacity (veh/h) | 488 | 565 | 460 | 543 | 439 |
| Control Delay (s) | 13.4 | 25.5 | 20.0 | 8.4 | 12.7 |
| Approach Delay (s) | 13.4 | 25.5 | 18.9 | | 12.7 |
| Approach LOS | B | D | C | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 19.7 | | |
| HCM Level of Service | C | | |
| Intersection Capacity Utilization | 59.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 451 | 6 | 44 | 311 | 548 | 0 | 0 | 608 | 135 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 4.2 | 4.2 | 4.2 | 3.7 | 4.5 | | | 4.5 | |
| Lane Util. Factor | | | | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | | | 0.95 | |
| Frpb, ped/bikes | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 0.99 | |
| Flpb, ped/bikes | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | |
| Frt | | | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 0.97 | |
| Flt Protected | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (prot) | | | | 1715 | 1721 | 1615 | 1787 | 3574 | | | 3480 | |
| Flt Permitted | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (perm) | | | | 1715 | 1721 | 1615 | 1787 | 3574 | | | 3480 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.86 | 0.86 | 0.86 |
| Adj. Flow (vph) | 0 | 0 | 0 | 518 | 7 | 51 | 357 | 630 | 0 | 0 | 707 | 157 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 264 | 261 | 51 | 357 | 630 | 0 | 0 | 864 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 17 | 17 | | 13 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 0% | 0% | 0% |
| Turn Type | | | | Split | | Perm | Prot | | | | | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Actuated Green, G (s) | | | | 13.8 | 13.8 | 13.8 | 21.9 | 67.5 | | | 41.9 | |
| Effective Green, g (s) | | | | 13.8 | 13.8 | 13.8 | 21.9 | 67.5 | | | 41.9 | |
| Actuated g/C Ratio | | | | 0.15 | 0.15 | 0.15 | 0.24 | 0.75 | | | 0.47 | |
| Clearance Time (s) | | | | 4.2 | 4.2 | 4.2 | 3.7 | 4.5 | | | 4.5 | |
| Vehicle Extension (s) | | | | 3.5 | 3.5 | 3.5 | 2.5 | 3.0 | | | 3.5 | |
| Lane Grp Cap (vph) | | | | 263 | 264 | 248 | 435 | 2681 | | | 1620 | |
| v/s Ratio Prot | | | | c0.15 | 0.15 | | c0.20 | 0.18 | | | c0.25 | |
| v/s Ratio Perm | | | | | | 0.03 | | | | | | |
| v/c Ratio | | | | 1.00 | 0.99 | 0.21 | 0.82 | 0.23 | | | 0.53 | |
| Uniform Delay, d1 | | | | 38.1 | 38.0 | 33.3 | 32.2 | 3.4 | | | 17.1 | |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 0.78 | 1.32 | | | 1.20 | |
| Incremental Delay, d2 | | | | 56.5 | 51.8 | 0.5 | 8.0 | 0.1 | | | 1.2 | |
| Delay (s) | | | | 94.6 | 89.8 | 33.8 | 33.2 | 4.6 | | | 21.8 | |
| Level of Service | | | | F | F | C | C | A | | | C | |
| Approach Delay (s) | | 0.0 | | | 87.0 | | | 15.0 | | | 21.8 | |
| Approach LOS | | A | | | F | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 34.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 12.4 |
| Intersection Capacity Utilization | 80.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 302 | 6 | 108 | 0 | 0 | 0 | 0 | 557 | 439 | 308 | 751 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.2 | | | | | | 4.5 | | 4.2 | 4.5 | |
| Lane Util. Factor | | 0.95 | | | | | | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | | | | 0.98 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | | | | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.96 | | | | | | 0.93 | | 1.00 | 1.00 | |
| Flt Protected | | 0.97 | | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3315 | | | | | | 3233 | | 1805 | 3610 | |
| Flt Permitted | | 0.97 | | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 3315 | | | | | | 3233 | | 1805 | 3610 | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 343 | 7 | 123 | 0 | 0 | 0 | 0 | 633 | 499 | 354 | 863 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 473 | 0 | 0 | 0 | 0 | 0 | 1132 | 0 | 354 | 863 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 13 | | 17 | 17 | | 13 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Split | | | | | | | | | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | | 16.9 | | | | | | 39.4 | | 20.8 | 64.4 | |
| Effective Green, g (s) | | 16.9 | | | | | | 39.4 | | 20.8 | 64.4 | |
| Actuated g/C Ratio | | 0.19 | | | | | | 0.44 | | 0.23 | 0.72 | |
| Clearance Time (s) | | 4.2 | | | | | | 4.5 | | 4.2 | 4.5 | |
| Vehicle Extension (s) | | 2.0 | | | | | | 4.0 | | 2.5 | 3.0 | |
| Lane Grp Cap (vph) | | 622 | | | | | | 1415 | | 417 | 2583 | |
| v/s Ratio Prot | | c0.14 | | | | | | c0.35 | | c0.20 | 0.24 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | | 1.02dl | | | | | | 0.80 | | 0.85 | 0.33 | |
| Uniform Delay, d1 | | 34.6 | | | | | | 21.9 | | 33.1 | 4.8 | |
| Progression Factor | | 1.00 | | | | | | 1.00 | | 1.09 | 1.46 | |
| Incremental Delay, d2 | | 4.9 | | | | | | 4.8 | | 10.3 | 0.2 | |
| Delay (s) | | 39.6 | | | | | | 26.7 | | 46.2 | 7.2 | |
| Level of Service | | D | | | | | | C | | D | A | |
| Approach Delay (s) | | 39.6 | | | 0.0 | | | 26.7 | | | 18.6 | |
| Approach LOS | | D | | | A | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 12.9 |
| Intersection Capacity Utilization | 80.8% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |
| dl Defacto Left Lane. Recode with 1 though lane as a left lane. | | | |
| c Critical Lane Group | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 37 | 64 | 120 | 190 | 34 | 28 | 150 | 336 | 186 | 56 | 421 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 5.5 | 5.5 | 4.5 | 5.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 0.97 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 0.95 | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 3299 | | 3433 | 3350 | | 1770 | 3525 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 3299 | | 3433 | 3350 | | 1770 | 3525 | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.85 | 0.85 | 0.85 |
| Adj. Flow (vph) | 42 | 73 | 136 | 229 | 41 | 34 | 181 | 405 | 224 | 66 | 495 | 14 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 42 | 73 | 136 | 229 | 75 | 0 | 181 | 629 | 0 | 66 | 509 | 0 |
| Turn Type | Prot | | Prot | Prot | | | Prot | | | Prot | | |
| Protected Phases | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | 3.7 | 12.1 | 12.1 | 14.5 | 22.9 | | 10.3 | 38.3 | | 6.1 | 34.1 | |
| Effective Green, g (s) | 3.7 | 12.1 | 12.1 | 14.5 | 22.9 | | 10.3 | 38.3 | | 6.1 | 34.1 | |
| Actuated g/C Ratio | 0.04 | 0.13 | 0.13 | 0.16 | 0.25 | | 0.11 | 0.43 | | 0.07 | 0.38 | |
| Clearance Time (s) | 4.5 | 5.5 | 5.5 | 4.5 | 5.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 1.0 | 2.0 | 2.0 | 1.0 | 2.0 | | 1.0 | 3.0 | | 1.0 | 3.0 | |
| Lane Grp Cap (vph) | 73 | 250 | 213 | 285 | 839 | | 393 | 1426 | | 120 | 1336 | |
| v/s Ratio Prot | 0.02 | 0.04 | c0.09 | c0.13 | 0.02 | | 0.05 | c0.19 | | c0.04 | 0.14 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | 0.58 | 0.29 | 0.64 | 0.80 | 0.09 | | 0.46 | 0.44 | | 0.55 | 0.38 | |
| Uniform Delay, d1 | 42.4 | 35.1 | 36.9 | 36.4 | 25.6 | | 37.3 | 18.3 | | 40.6 | 20.3 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 0.68 | 0.46 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 6.7 | 0.2 | 4.6 | 14.2 | 0.0 | | 0.3 | 1.0 | | 3.1 | 0.8 | |
| Delay (s) | 49.0 | 35.3 | 41.4 | 50.6 | 25.6 | | 25.6 | 9.4 | | 43.7 | 21.1 | |
| Level of Service | D | D | D | D | C | | C | A | | D | C | |
| Approach Delay (s) | | 40.9 | | | 44.4 | | | 13.0 | | | 23.7 | |
| Approach LOS | | D | | | D | | | B | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 24.7 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.56 | | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 19.0 | |
| Intersection Capacity Utilization | 48.7% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 426 | 3 | 100 | 249 | 419 | 0 | 0 | 885 | 358 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 4.2 | 4.2 | 4.2 | 3.7 | 5.3 | | | 5.3 | 5.3 |
| Lane Util. Factor | | | | 0.95 | 0.91 | 0.95 | 1.00 | 0.95 | | | 0.95 | 1.00 |
| Frpb, ped/bikes | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 0.98 |
| Flpb, ped/bikes | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | | | | 1.00 | 0.99 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.96 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1715 | 1640 | 1534 | 1787 | 3574 | | | 3610 | 1584 |
| Flt Permitted | | | | 0.95 | 0.96 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1715 | 1640 | 1534 | 1787 | 3574 | | | 3610 | 1584 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.87 | 0.87 | 0.87 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 0 | 0 | 0 | 463 | 3 | 109 | 286 | 482 | 0 | 0 | 952 | 385 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 241 | 236 | 98 | 286 | 482 | 0 | 0 | 952 | 385 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | 2 | | 5 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 0% | 0% | 0% |
| Turn Type | | | | Split | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | 15.0 | 15.0 | 15.0 | 17.8 | 65.5 | | | 44.0 | 44.0 |
| Effective Green, g (s) | | | | 15.0 | 15.0 | 15.0 | 17.8 | 65.5 | | | 44.0 | 44.0 |
| Actuated g/C Ratio | | | | 0.17 | 0.17 | 0.17 | 0.20 | 0.73 | | | 0.49 | 0.49 |
| Clearance Time (s) | | | | 4.2 | 4.2 | 4.2 | 3.7 | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 | | | 2.5 | 2.5 |
| Lane Grp Cap (vph) | | | | 286 | 273 | 256 | 353 | 2601 | | | 1765 | 774 |
| v/s Ratio Prot | | | | 0.14 | c0.14 | | c0.16 | 0.13 | | | c0.26 | |
| v/s Ratio Perm | | | | | | 0.06 | | | | | | 0.24 |
| v/c Ratio | | | | 0.84 | 0.86 | 0.38 | 0.81 | 0.19 | | | 0.54 | 0.50 |
| Uniform Delay, d1 | | | | 36.4 | 36.5 | 33.4 | 34.5 | 3.9 | | | 16.0 | 15.5 |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 0.81 | 0.89 | | | 0.81 | 0.82 |
| Incremental Delay, d2 | | | | 18.9 | 22.9 | 0.3 | 10.4 | 0.1 | | | 1.1 | 2.1 |
| Delay (s) | | | | 55.3 | 59.4 | 33.7 | 38.5 | 3.6 | | | 14.1 | 14.9 |
| Level of Service | | | | E | E | C | D | A | | | B | B |
| Approach Delay (s) | | 0.0 | | | 53.3 | | | 16.6 | | | 14.3 | |
| Approach LOS | | A | | | D | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 23.3 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.67 | | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 13.2 | |
| Intersection Capacity Utilization | 63.4% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 191 | 2 | 186 | 0 | 0 | 0 | 0 | 477 | 189 | 571 | 740 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.2 | 4.2 | | | | | | 5.3 | 5.3 | 3.7 | 5.3 | |
| Lane Util. Factor | 0.95 | 0.95 | | | | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.86 | | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1681 | 1524 | | | | | | 3539 | 1558 | 1805 | 3610 | |
| Flt Permitted | 0.95 | 1.00 | | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1681 | 1524 | | | | | | 3539 | 1558 | 1805 | 3610 | |
| Peak-hour factor, PHF | 0.82 | 0.82 | 0.82 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 |
| Adj. Flow (vph) | 233 | 2 | 227 | 0 | 0 | 0 | 0 | 518 | 205 | 627 | 813 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 210 | 252 | 0 | 0 | 0 | 0 | 0 | 518 | 205 | 627 | 813 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 5 | | 2 | | | 5 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Split | | | | | | | | Perm | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Actuated Green, G (s) | 12.8 | 12.8 | | | | | | 28.5 | 28.5 | 35.5 | 67.7 | |
| Effective Green, g (s) | 12.8 | 12.8 | | | | | | 28.5 | 28.5 | 35.5 | 67.7 | |
| Actuated g/C Ratio | 0.14 | 0.14 | | | | | | 0.32 | 0.32 | 0.39 | 0.75 | |
| Clearance Time (s) | 4.2 | 4.2 | | | | | | 5.3 | 5.3 | 3.7 | 5.3 | |
| Vehicle Extension (s) | 2.0 | 2.0 | | | | | | 2.5 | 2.5 | 2.0 | 2.5 | |
| Lane Grp Cap (vph) | 239 | 217 | | | | | | 1121 | 493 | 712 | 2716 | |
| v/s Ratio Prot | 0.12 | c0.17 | | | | | | c0.15 | | c0.35 | 0.23 | |
| v/s Ratio Perm | | | | | | | | | 0.13 | | | |
| v/c Ratio | 0.88 | 1.16 | | | | | | 0.46 | 0.42 | 0.88 | 0.30 | |
| Uniform Delay, d1 | 37.8 | 38.6 | | | | | | 24.6 | 24.2 | 25.3 | 3.6 | |
| Progression Factor | 1.00 | 1.00 | | | | | | 1.00 | 1.00 | 0.83 | 0.16 | |
| Incremental Delay, d2 | 27.7 | 111.5 | | | | | | 1.4 | 2.6 | 9.7 | 0.2 | |
| Delay (s) | 65.6 | 150.1 | | | | | | 26.0 | 26.8 | 30.8 | 0.8 | |
| Level of Service | E | F | | | | | | C | C | C | A | |
| Approach Delay (s) | | 111.7 | | | 0.0 | | | 26.2 | | | 13.9 | |
| Approach LOS | | F | | | A | | | C | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 34.5 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.77 | | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 13.2 | |
| Intersection Capacity Utilization | 63.4% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 65 | 187 | 342 | 385 | 820 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 0.88 | 0.97 | 0.95 | 0.95 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1770 | 2787 | 3467 | 3574 | 3509 | |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1770 | 2787 | 3467 | 3574 | 3509 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.85 | 0.85 | 0.80 | 0.80 |
| Adj. Flow (vph) | 69 | 199 | 402 | 453 | 1025 | 62 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 69 | 199 | 402 | 453 | 1087 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 1% | 1% | 2% | 2% |
| Turn Type | | Perm | Prot | | | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Actuated Green, G (s) | 9.9 | 9.9 | 13.8 | 71.1 | 52.3 | |
| Effective Green, g (s) | 9.9 | 9.9 | 13.8 | 71.1 | 52.3 | |
| Actuated g/C Ratio | 0.11 | 0.11 | 0.15 | 0.79 | 0.58 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lane Grp Cap (vph) | 195 | 307 | 532 | 2823 | 2039 | |
| v/s Ratio Prot | 0.04 | | c0.12 | 0.13 | c0.31 | |
| v/s Ratio Perm | | c0.07 | | | | |
| v/c Ratio | 0.35 | 0.65 | 0.76 | 0.16 | 0.53 | |
| Uniform Delay, d1 | 37.1 | 38.4 | 36.5 | 2.3 | 11.4 | |
| Progression Factor | 1.00 | 1.00 | 0.74 | 1.06 | 1.00 | |
| Incremental Delay, d2 | 0.4 | 3.5 | 5.4 | 0.1 | 1.0 | |
| Delay (s) | 37.5 | 41.9 | 32.3 | 2.5 | 12.4 | |
| Level of Service | D | D | C | A | B | |
| Approach Delay (s) | 40.8 | | | 16.5 | 12.4 | |
| Approach LOS | D | | | B | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.5 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 14.0 |
| Intersection Capacity Utilization | 49.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 407 | 0 | 87 | 0 | 722 | 428 | 0 | 0 | 0 | 0 | 138 | 979 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.0 | | 5.7 | 5.7 | | | | | 4.5 | 4.0 |
| Lane Util. Factor | 0.97 | | 1.00 | | 1.00 | 1.00 | | | | | 1.00 | 0.88 |
| Frt | 1.00 | | 0.85 | | 1.00 | 0.85 | | | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | | 1.00 | | 1.00 | 1.00 | | | | | 1.00 | 1.00 |
| Satd. Flow (prot) | 3433 | | 1583 | | 1881 | 1599 | | | | | 1863 | 2787 |
| Flt Permitted | 0.36 | | 1.00 | | 1.00 | 1.00 | | | | | 1.00 | 1.00 |
| Satd. Flow (perm) | 1289 | | 1583 | | 1881 | 1599 | | | | | 1863 | 2787 |
| Peak-hour factor, PHF | 0.82 | 0.82 | 0.82 | 0.88 | 0.88 | 0.88 | 0.92 | 0.92 | 0.92 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 496 | 0 | 106 | 0 | 820 | 486 | 0 | 0 | 0 | 0 | 148 | 1053 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 496 | 0 | 106 | 0 | 820 | 486 | 0 | 0 | 0 | 0 | 148 | 1053 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | custom | | Free | | | custom | | | | | | Free |
| Protected Phases | | | | | 2 | 2 3 | | | | | 3 | |
| Permitted Phases | 4 | | Free | | | 2 | | | | | | Free |
| Actuated Green, G (s) | 46.3 | | 120.0 | | 49.3 | 64.7 | | | | | 9.7 | 120.0 |
| Effective Green, g (s) | 46.3 | | 120.0 | | 49.3 | 64.7 | | | | | 9.7 | 120.0 |
| Actuated g/C Ratio | 0.39 | | 1.00 | | 0.41 | 0.54 | | | | | 0.08 | 1.00 |
| Clearance Time (s) | 4.5 | | | | 5.7 | | | | | | 4.5 | |
| Vehicle Extension (s) | 1.5 | | | | 1.5 | | | | | | 1.5 | |
| Lane Grp Cap (vph) | 497 | | 1583 | | 773 | 862 | | | | | 151 | 2787 |
| v/s Ratio Prot | | | | | c0.44 | 0.30 | | | | | c0.08 | |
| v/s Ratio Perm | c0.38 | | 0.07 | | | | | | | | | 0.38 |
| v/c Ratio | 1.00 | | 0.07 | | 1.06 | 0.56 | | | | | 0.98 | 0.38 |
| Uniform Delay, d1 | 36.8 | | 0.0 | | 35.3 | 18.3 | | | | | 55.1 | 0.0 |
| Progression Factor | 1.00 | | 1.00 | | 1.00 | 1.00 | | | | | 1.05 | 1.00 |
| Incremental Delay, d2 | 39.9 | | 0.1 | | 49.7 | 0.5 | | | | | 61.9 | 0.3 |
| Delay (s) | 76.7 | | 0.1 | | 85.1 | 18.8 | | | | | 119.9 | 0.3 |
| Level of Service | E | | A | | F | B | | | | | F | A |
| Approach Delay (s) | | 63.2 | | | 60.4 | | | 0.0 | | | 15.1 | |
| Approach LOS | | E | | | E | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 43.4 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 1.03 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 14.7 |
| Intersection Capacity Utilization | 68.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 27 | 82 | 291 | 176 | 93 | 9 | 249 | 483 | 123 | 55 | 518 | 27 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.97 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.98 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 3433 | 1839 | | | 3480 | 1583 | 1770 | 3513 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.57 | 1.00 | 0.36 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 3433 | 1839 | | | 2033 | 1583 | 676 | 3513 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.86 | 0.86 | 0.86 | 0.96 | 0.96 | 0.96 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 29 | 89 | 316 | 205 | 108 | 10 | 259 | 503 | 128 | 63 | 595 | 31 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 29 | 89 | 316 | 205 | 118 | 0 | 0 | 762 | 128 | 63 | 626 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | Perm | Perm | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | 4 | | | | | | 2 | 6 | | |
| Actuated Green, G (s) | 4.5 | 27.5 | 27.5 | 11.6 | 34.6 | | | 67.4 | 67.4 | 55.9 | 55.9 | |
| Effective Green, g (s) | 4.5 | 27.5 | 27.5 | 11.6 | 34.6 | | | 67.4 | 67.4 | 55.9 | 55.9 | |
| Actuated g/C Ratio | 0.04 | 0.23 | 0.23 | 0.10 | 0.29 | | | 0.56 | 0.56 | 0.47 | 0.47 | |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 66 | 427 | 363 | 332 | 530 | | | 1226 | 889 | 315 | 1636 | |
| v/s Ratio Prot | 0.02 | 0.05 | | c0.06 | 0.06 | | | c0.04 | | | 0.18 | |
| v/s Ratio Perm | | | c0.20 | | | | | c0.31 | 0.08 | 0.09 | | |
| v/c Ratio | 0.44 | 0.21 | 0.87 | 0.62 | 0.22 | | | 2.51dl | 0.14 | 0.20 | 0.38 | |
| Uniform Delay, d1 | 56.5 | 37.4 | 44.5 | 52.1 | 32.5 | | | 17.7 | 12.5 | 18.9 | 20.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 0.58 | 0.65 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 4.6 | 0.2 | 19.7 | 3.4 | 0.2 | | | 0.6 | 0.2 | 1.4 | 0.7 | |
| Delay (s) | 61.1 | 37.7 | 64.3 | 55.5 | 32.7 | | | 10.9 | 8.3 | 20.3 | 21.5 | |
| Level of Service | E | D | E | E | C | | | B | A | C | C | |
| Approach Delay (s) | | 58.6 | | | 47.1 | | | 10.5 | | | 21.4 | |
| Approach LOS | | E | | | D | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 27.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.68 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 58.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 166 | 2 | 197 | 0 | 0 | 0 | 0 | 333 | 71 | 576 | 1125 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.2 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frt | | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1792 | 1599 | | | | | 3539 | 1583 | 3433 | 3539 | |
| Flt Permitted | | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1792 | 1599 | | | | | 3539 | 1583 | 3433 | 3539 | |
| Peak-hour factor, PHF | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 198 | 2 | 235 | 0 | 0 | 0 | 0 | 351 | 75 | 606 | 1184 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 200 | 235 | 0 | 0 | 0 | 0 | 351 | 75 | 606 | 1184 | 0 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Prot | | | | | | Perm | Prot | | |
| Protected Phases | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 13.3 | 13.3 | | | | | 10.9 | 10.9 | 14.7 | 29.8 | |
| Effective Green, g (s) | | 13.3 | 13.3 | | | | | 10.9 | 10.9 | 14.7 | 29.8 | |
| Actuated g/C Ratio | | 0.26 | 0.26 | | | | | 0.21 | 0.21 | 0.28 | 0.57 | |
| Clearance Time (s) | | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.2 | 4.5 | |
| Vehicle Extension (s) | | 2.0 | 2.0 | | | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | 457 | 408 | | | | | 740 | 331 | 969 | 2024 | |
| v/s Ratio Prot | | 0.11 | c0.15 | | | | | 0.10 | | 0.18 | c0.33 | |
| v/s Ratio Perm | | | | | | | | | 0.05 | | | |
| v/c Ratio | | 0.44 | 0.58 | | | | | 0.47 | 0.23 | 0.63 | 0.58 | |
| Uniform Delay, d1 | | 16.3 | 16.9 | | | | | 18.1 | 17.1 | 16.3 | 7.2 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.2 | 1.2 | | | | | 0.2 | 0.1 | 0.9 | 0.3 | |
| Delay (s) | | 16.5 | 18.2 | | | | | 18.3 | 17.2 | 17.2 | 7.5 | |
| Level of Service | | B | B | | | | | B | B | B | A | |
| Approach Delay (s) | | 17.4 | | | 0.0 | | | 18.1 | | | 10.8 | |
| Approach LOS | | B | | | A | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 13.0 | HCM Level of Service | B | |
| HCM Volume to Capacity ratio | 0.58 | | | |
| Actuated Cycle Length (s) | 52.1 | Sum of lost time (s) | 9.0 | |
| Intersection Capacity Utilization | 50.8% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 786 | 2 | 31 | 54 | 199 | 0 | 0 | 386 | 65 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 4.5 | 4.5 | | 3.5 | 5.3 | | | 5.3 | |
| Lane Util. Factor | | | | 0.95 | 0.95 | | 1.00 | 0.95 | | | 0.95 | |
| Frt | | | | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.98 | |
| Flt Protected | | | | 0.95 | 0.96 | | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (prot) | | | | 1715 | 1706 | | 1805 | 3539 | | | 3463 | |
| Flt Permitted | | | | 0.95 | 0.96 | | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (perm) | | | | 1715 | 1706 | | 1805 | 3539 | | | 3463 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.87 | 0.87 | 0.87 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 0 | 0 | 0 | 903 | 2 | 36 | 60 | 221 | 0 | 0 | 429 | 72 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 470 | 471 | 0 | 60 | 221 | 0 | 0 | 501 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | | | | Split | | | Prot | | | | | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | | | | 26.5 | 26.5 | | 9.2 | 53.7 | | | 41.0 | |
| Effective Green, g (s) | | | | 26.5 | 26.5 | | 9.2 | 53.7 | | | 41.0 | |
| Actuated g/C Ratio | | | | 0.29 | 0.29 | | 0.10 | 0.60 | | | 0.46 | |
| Clearance Time (s) | | | | 4.5 | 4.5 | | 3.5 | 5.3 | | | 5.3 | |
| Vehicle Extension (s) | | | | 2.0 | 2.0 | | 2.0 | 2.5 | | | 2.5 | |
| Lane Grp Cap (vph) | | | | 505 | 502 | | 185 | 2112 | | | 1578 | |
| v/s Ratio Prot | | | | 0.27 | c0.28 | | c0.03 | 0.06 | | | c0.14 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | | | | 0.93 | 0.94 | | 0.32 | 0.10 | | | 0.32 | |
| Uniform Delay, d1 | | | | 30.9 | 31.0 | | 37.5 | 7.8 | | | 15.6 | |
| Progression Factor | | | | 1.00 | 1.00 | | 0.82 | 0.57 | | | 1.00 | |
| Incremental Delay, d2 | | | | 23.7 | 25.0 | | 0.4 | 0.1 | | | 0.5 | |
| Delay (s) | | | | 54.6 | 56.0 | | 31.2 | 4.6 | | | 16.1 | |
| Level of Service | | | | D | E | | C | A | | | B | |
| Approach Delay (s) | | 0.0 | | | 55.3 | | | 10.3 | | | 16.1 | |
| Approach LOS | | A | | | E | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 36.6 | HCM Level of Service | D | |
| HCM Volume to Capacity ratio | 0.53 | | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 13.3 | |
| Intersection Capacity Utilization | 61.3% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

## HCM Signalized Intersection Capacity Analysis
## 91: SB On/Off Ramps & Los Carneros Rd

Existing - AM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 99 | 4 | 147 | 0 | 0 | 0 | 0 | 154 | 279 | 88 | 1084 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.5 | 4.5 | | | | | 5.3 | | 3.7 | 5.3 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | | 1.00 | 0.95 | |
| Frt | | 1.00 | 0.85 | | | | | 0.90 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1813 | 1615 | | | | | 3197 | | 1770 | 3539 | |
| Flt Permitted | | 0.95 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1813 | 1615 | | | | | 3197 | | 1770 | 3539 | |
| Peak-hour factor, PHF | 0.70 | 0.70 | 0.70 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.86 | 0.86 | 0.86 |
| Adj. Flow (vph) | 141 | 6 | 210 | 0 | 0 | 0 | 0 | 169 | 307 | 102 | 1260 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 147 | 210 | 0 | 0 | 0 | 0 | 476 | 0 | 102 | 1260 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Actuated Green, G (s) | | 14.1 | 14.1 | | | | | 53.8 | | 8.6 | 66.1 | |
| Effective Green, g (s) | | 14.1 | 14.1 | | | | | 53.8 | | 8.6 | 66.1 | |
| Actuated g/C Ratio | | 0.16 | 0.16 | | | | | 0.60 | | 0.10 | 0.73 | |
| Clearance Time (s) | | 4.5 | 4.5 | | | | | 5.3 | | 3.7 | 5.3 | |
| Vehicle Extension (s) | | 2.0 | 2.0 | | | | | 2.5 | | 2.0 | 2.5 | |
| Lane Grp Cap (vph) | | 284 | 253 | | | | | 1911 | | 169 | 2599 | |
| v/s Ratio Prot | | 0.08 | | | | | | 0.15 | | c0.06 | c0.36 | |
| v/s Ratio Perm | | | c0.13 | | | | | | | | | |
| v/c Ratio | | 0.52 | 0.83 | | | | | 0.25 | | 0.60 | 0.48 | |
| Uniform Delay, d1 | | 34.8 | 36.8 | | | | | 8.6 | | 39.1 | 4.9 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 1.00 | | 0.66 | 2.24 | |
| Incremental Delay, d2 | | 0.7 | 19.3 | | | | | 0.3 | | 2.9 | 0.5 | |
| Delay (s) | | 35.5 | 56.1 | | | | | 8.9 | | 28.8 | 11.5 | |
| Level of Service | | D | E | | | | | A | | C | B | |
| Approach Delay (s) | | 47.6 | | | 0.0 | | | 8.9 | | | 12.8 | |
| Approach LOS | | D | | | A | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 17.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.54 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 8.2 |
| Intersection Capacity Utilization | 61.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



## HCM Unsignalized Intersection Capacity Analysis
## 92: Calle Real & Los Carneros Rd

Existing - AM Peak
12/15/2009

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 232 | 8 | 95 | 159 | 21 | 263 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.84 | 0.84 | 0.88 | 0.88 | 0.82 | 0.82 |
| Hourly flow rate (vph) | 276 | 10 | 108 | 181 | 26 | 321 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 554 | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 480 | 108 | | | 289 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 480 | 108 | | | 289 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 48 | 99 | | | 98 | |
| cM capacity (veh/h) | 534 | 946 | | | 1273 | |

| Direction, Lane # | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 276 | 10 | 108 | 181 | 26 | 321 |
| Volume Left | 276 | 0 | 0 | 0 | 26 | 0 |
| Volume Right | 0 | 10 | 0 | 181 | 0 | 0 |
| cSH | 534 | 946 | 1700 | 1700 | 1273 | 1700 |
| Volume to Capacity | 0.52 | 0.01 | 0.06 | 0.11 | 0.02 | 0.19 |
| Queue Length 95th (ft) | 74 | 1 | 0 | 0 | 2 | 0 |
| Control Delay (s) | 18.7 | 8.8 | 0.0 | 0.0 | 7.9 | 0.0 |
| Lane LOS | C | A | | | A | |
| Approach Delay (s) | 18.4 | | 0.0 | | 0.6 | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.9 | | |
| Intersection Capacity Utilization | 33.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 37 | 4 | 690 | 632 | 292 | 280 | 201 | 150 | 55 | 11 | 546 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 5.3 | 5.3 | | 5.2 | 5.3 | | 4.2 | 5.3 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 0.91 | 0.91 | | 0.97 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.85 | 0.85 | 1.00 | 0.95 | | 1.00 | 0.96 | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 0.99 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1507 | 1504 | 1579 | 3106 | | 3433 | 3397 | | 1770 | 3530 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 0.99 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1507 | 1504 | 1579 | 3106 | | 3433 | 3397 | | 1770 | 3530 | |
| Peak-hour factor, PHF | 0.83 | 0.83 | 0.83 | 0.85 | 0.85 | 0.85 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 |
| Adj. Flow (vph) | 45 | 5 | 831 | 744 | 344 | 329 | 251 | 188 | 69 | 14 | 682 | 12 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 45 | 421 | 415 | 484 | 933 | 0 | 251 | 257 | 0 | 14 | 694 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 4% | 4% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | Split | | | Prot | | | Prot | | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Actuated Green, G (s) | 10.5 | 10.5 | 10.5 | 14.7 | 14.7 | | 6.8 | 44.4 | | 1.1 | 37.7 | |
| Effective Green, g (s) | 10.5 | 10.5 | 10.5 | 14.7 | 14.7 | | 6.8 | 44.4 | | 1.1 | 37.7 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | | 0.08 | 0.49 | | 0.01 | 0.42 | |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 5.3 | 5.3 | | 5.2 | 5.3 | | 4.2 | 5.3 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 1.0 | 2.0 | | 1.0 | 2.0 | |
| Lane Grp Cap (vph) | 207 | 176 | 175 | 258 | 507 | | 259 | 1676 | | 22 | 1479 | |
| v/s Ratio Prot | 0.03 | c0.28 | | c0.31 | 0.30 | | c0.07 | 0.08 | | 0.01 | c0.20 | |
| v/s Ratio Perm | | | 0.28 | | | | | | | | | |
| v/c Ratio | 0.22 | 2.39 | 2.37 | 1.88 | 1.84 | | 0.97 | 0.15 | | 0.64 | 0.47 | |
| Uniform Delay, d1 | 36.0 | 39.8 | 39.8 | 37.6 | 37.6 | | 41.5 | 12.5 | | 44.3 | 18.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.20 | 0.79 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.2 | 643.5 | 634.4 | 408.6 | 385.7 | | 46.3 | 0.2 | | 36.7 | 1.1 | |
| Delay (s) | 36.2 | 683.3 | 674.2 | 446.3 | 423.4 | | 96.0 | 10.1 | | 81.0 | 20.0 | |
| Level of Service | D | F | F | F | F | | F | B | | F | B | |
| Approach Delay (s) | | 645.9 | | | 431.2 | | | 52.6 | | | 21.2 | |
| Approach LOS | | F | | | F | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 347.7 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 1.10 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 20.3 |
| Intersection Capacity Utilization | 80.1% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 125 | 0 | 467 | 442 | 30 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.81 | 0.81 | 0.84 | 0.84 | 0.83 | 0.83 |
| Hourly flow rate (vph) | 0 | 154 | 0 | 556 | 533 | 36 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 287 | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 829 | 284 | 569 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 829 | 284 | 569 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 78 | 100 | | | |
| cM capacity (veh/h) | 309 | 713 | 1000 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|
| Volume Total | 154 | 278 | 278 | 355 | 214 |
| Volume Left | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 154 | 0 | 0 | 0 | 36 |
| cSH | 713 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.22 | 0.16 | 0.16 | 0.21 | 0.13 |
| Queue Length 95th (ft) | 20 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 11.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | | | | |
| Approach Delay (s) | 11.4 | 0.0 | | 0.0 | |
| Approach LOS | B | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.4 | | |
| Intersection Capacity Utilization | 27.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 38 | 1 | 203 | 0 | 0 | 0 | 0 | 368 | 802 | 949 | 919 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.0 | 4.0 | | | | | 4.8 | 4.0 | 3.7 | 4.8 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frt | | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1794 | 1599 | | | | | 3539 | 1583 | 3433 | 3539 | |
| Flt Permitted | | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1794 | 1599 | | | | | 3539 | 1583 | 3433 | 3539 | |
| Peak-hour factor, PHF | 0.59 | 0.59 | 0.59 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 64 | 2 | 344 | 0 | 0 | 0 | 0 | 400 | 872 | 1054 | 1021 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 66 | 344 | 0 | 0 | 0 | 0 | 400 | 872 | 1054 | 1021 | 0 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | Free | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | Free | | | |
| Actuated Green, G (s) | | 16.0 | 16.0 | | | | | 45.2 | 90.0 | 16.3 | 65.2 | |
| Effective Green, g (s) | | 16.0 | 16.0 | | | | | 45.2 | 90.0 | 16.3 | 65.2 | |
| Actuated g/C Ratio | | 0.18 | 0.18 | | | | | 0.50 | 1.00 | 0.18 | 0.72 | |
| Clearance Time (s) | | 4.0 | 4.0 | | | | | 4.8 | | 3.7 | 4.8 | |
| Vehicle Extension (s) | | 1.5 | 1.5 | | | | | 1.5 | | 1.0 | 1.5 | |
| Lane Grp Cap (vph) | | 319 | 284 | | | | | 1777 | 1583 | 622 | 2564 | |
| v/s Ratio Prot | | 0.04 | | | | | | 0.11 | | c0.31 | 0.29 | |
| v/s Ratio Perm | | | c0.22 | | | | | | c0.55 | | | |
| v/c Ratio | | 0.21 | 1.21 | | | | | 0.23 | 0.55 | 1.69 | 0.40 | |
| Uniform Delay, d1 | | 31.6 | 37.0 | | | | | 12.6 | 0.0 | 36.8 | 4.8 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.66 | 1.59 | |
| Incremental Delay, d2 | | 0.1 | 123.1 | | | | | 0.3 | 1.4 | 313.2 | 0.0 | |
| Delay (s) | | 31.7 | 160.1 | | | | | 12.9 | 1.4 | 337.4 | 7.7 | |
| Level of Service | | C | F | | | | | B | A | F | A | |
| Approach Delay (s) | | 139.5 | | | 0.0 | | | 5.0 | | | 175.2 | |
| Approach LOS | | F | | | A | | | A | | | F | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 113.6 | HCM Level of Service | F | |
| HCM Volume to Capacity ratio | 0.91 | | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 7.7 | |
| Intersection Capacity Utilization | 51.2% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 41 | 99 | 437 | 35 | 41 | 124 |
| Sign Control | Stop | | | Stop | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.86 | 0.86 | 0.52 | 0.52 |
| Hourly flow rate (vph) | 46 | 110 | 508 | 41 | 79 | 238 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 396 | 0 | 410 | 277 | 0 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 396 | 0 | 410 | 277 | 0 | |
| tC, single (s) | 6.5 | 6.2 | 7.1 | 6.5 | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 4.0 | 3.3 | 3.5 | 4.0 | 2.2 | |
| p0 queue free % | 91 | 90 | 0 | 93 | 95 | |
| cM capacity (veh/h) | 515 | 1085 | 446 | 600 | 1623 | |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 156 | 549 | 317 |
| Volume Left | 0 | 508 | 79 |
| Volume Right | 110 | 0 | 238 |
| cSH | 819 | 454 | 1623 |
| Volume to Capacity | 0.19 | 1.21 | 0.05 |
| Queue Length 95th (ft) | 17 | 535 | 4 |
| Control Delay (s) | 10.4 | 140.3 | 2.1 |
| Lane LOS | B | F | A |
| Approach Delay (s) | 10.4 | 140.3 | 2.1 |
| Approach LOS | B | F | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 77.6 | | |
| Intersection Capacity Utilization | 54.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 62 | 1 | 99 | 0 | 0 | 0 | 0 | 132 | 139 | 254 | 234 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.71 | 0.71 | 0.71 | 0.92 | 0.92 | 0.92 | 0.75 | 0.75 | 0.75 | 0.84 | 0.84 | 0.84 |
| Hourly flow rate (vph) | 87 | 1 | 139 | 0 | 0 | 0 | 0 | 176 | 185 | 302 | 279 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | 2 | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 1059 | 1059 | 279 | 1060 | 1059 | 176 | 279 | | | 176 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 1059 | 1059 | 279 | 1060 | 1059 | 176 | 279 | | | 176 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 48 | 99 | 82 | 100 | 100 | 100 | 100 | | | 78 | | |
| cM capacity (veh/h) | 169 | 177 | 763 | 138 | 177 | 872 | 1284 | | | 1400 | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|
| Volume Total | 228 | 176 | 185 | 581 |
| Volume Left | 87 | 0 | 0 | 302 |
| Volume Right | 139 | 0 | 185 | 0 |
| cSH | 436 | 1700 | 1700 | 1400 |
| Volume to Capacity | 0.52 | 0.10 | 0.11 | 0.22 |
| Queue Length 95th (ft) | 74 | 0 | 0 | 21 |
| Control Delay (s) | 25.1 | 0.0 | 0.0 | 5.3 |
| Lane LOS | D | | | A |
| Approach Delay (s) | 25.1 | 0.0 | | 5.3 |
| Approach LOS | D | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 7.5 | | |
| Intersection Capacity Utilization | | 48.5% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | | Stop | |
| Volume (vph) | 59 | 0 | 122 | 92 | 0 | 157 |
| Peak Hour Factor | 0.67 | 0.67 | 0.89 | 0.89 | 0.82 | 0.82 |
| Hourly flow rate (vph) | 88 | 0 | 137 | 103 | 0 | 191 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 88 | 240 | 191 |
| Volume Left (vph) | 88 | 0 | 0 |
| Volume Right (vph) | 0 | 103 | 191 |
| Hadj (s) | 0.23 | -0.17 | -0.57 |
| Departure Headway (s) | 4.8 | 4.3 | 4.1 |
| Degree Utilization, x | 0.12 | 0.28 | 0.22 |
| Capacity (veh/h) | 699 | 806 | 824 |
| Control Delay (s) | 8.5 | 8.9 | 8.2 |
| Approach Delay (s) | 8.5 | 8.9 | 8.2 |
| Approach LOS | A | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 8.6 | | |
| HCM Level of Service | | A | | |
| Intersection Capacity Utilization | | 28.4% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 400 | 498 | 47 | 354 | 610 | 0 | 0 | 626 | 52 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 |
| Total Lost time (s) | | | | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | |
| Lane Util. Factor | | | | 0.91 | 0.91 | | 0.97 | 1.00 | | | 0.95 | |
| Frt | | | | 1.00 | 0.99 | | 1.00 | 1.00 | | | 0.99 | |
| Flt Protected | | | | 0.95 | 0.99 | | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (prot) | | | | 1557 | 3218 | | 3433 | 1863 | | | 3498 | |
| Flt Permitted | | | | 0.95 | 0.99 | | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (perm) | | | | 1557 | 3218 | | 3433 | 1863 | | | 3498 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 0 | 0 | 0 | 417 | 519 | 49 | 389 | 670 | 0 | 0 | 659 | 55 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 321 | 655 | 0 | 389 | 670 | 0 | 0 | 704 | 0 |
| Turn Type | | | | Split | | | Prot | | | | | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | | | | 18.0 | 18.0 | | 9.6 | 33.0 | | | 18.9 | |
| Effective Green, g (s) | | | | 18.0 | 18.0 | | 9.6 | 33.0 | | | 18.9 | |
| Actuated g/C Ratio | | | | 0.30 | 0.30 | | 0.16 | 0.55 | | | 0.32 | |
| Clearance Time (s) | | | | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | |
| Vehicle Extension (s) | | | | 5.0 | 5.0 | | 1.5 | 5.0 | | | 5.0 | |
| Lane Grp Cap (vph) | | | | 467 | 965 | | 549 | 1025 | | | 1102 | |
| v/s Ratio Prot | | | | c0.21 | 0.20 | | 0.11 | c0.36 | | | 0.20 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | | | | 0.69 | 0.68 | | 0.71 | 0.65 | | | 0.64 | |
| Uniform Delay, d1 | | | | 18.5 | 18.5 | | 23.9 | 9.5 | | | 17.6 | |
| Progression Factor | | | | 1.00 | 1.00 | | 1.16 | 0.33 | | | 1.00 | |
| Incremental Delay, d2 | | | | 5.4 | 2.5 | | 3.3 | 3.2 | | | 2.8 | |
| Delay (s) | | | | 23.9 | 21.0 | | 30.9 | 6.3 | | | 20.5 | |
| Level of Service | | | | C | C | | C | A | | | C | |
| Approach Delay (s) | | 0.0 | | | 21.9 | | | 15.3 | | | 20.5 | |
| Approach LOS | | A | | | C | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 58.2% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 552 | 146 | 46 | 9 | 124 | 143 | 52 | 255 | 5 | 55 | 347 | 603 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.2 | 4.2 | | 3.7 | 4.2 | 4.2 | 3.7 | 4.2 | | 3.7 | 4.2 | 4.2 |
| Lane Util. Factor | 0.97 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3319 | 1736 | | 1711 | 1801 | 1531 | 1711 | 3411 | | 1711 | 1801 | 1531 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3319 | 1736 | | 1711 | 1801 | 1531 | 1711 | 3411 | | 1711 | 1801 | 1531 |
| Peak-hour factor, PHF | 0.89 | 0.89 | 0.89 | 0.77 | 0.77 | 0.77 | 0.86 | 0.86 | 0.86 | 0.81 | 0.81 | 0.81 |
| Adj. Flow (vph) | 620 | 164 | 52 | 12 | 161 | 186 | 60 | 297 | 6 | 68 | 428 | 744 |
| RTOR Reduction (vph) | 0 | 9 | 0 | 0 | 0 | 159 | 0 | 1 | 0 | 0 | 0 | 365 |
| Lane Group Flow (vph) | 620 | 207 | 0 | 12 | 161 | 27 | 60 | 302 | 0 | 68 | 428 | 379 |
| Turn Type | Prot | | | Prot | | Perm | Prot | | | Prot | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | 6 |
| Actuated Green, G (s) | 20.8 | 35.5 | | 2.6 | 16.8 | 16.8 | 6.4 | 54.5 | | 6.6 | 54.7 | 54.7 |
| Effective Green, g (s) | 20.8 | 35.5 | | 2.6 | 16.8 | 16.8 | 6.4 | 54.5 | | 6.6 | 54.7 | 54.7 |
| Actuated g/C Ratio | 0.18 | 0.31 | | 0.02 | 0.15 | 0.15 | 0.06 | 0.47 | | 0.06 | 0.48 | 0.48 |
| Clearance Time (s) | 4.2 | 4.2 | | 3.7 | 4.2 | 4.2 | 3.7 | 4.2 | | 3.7 | 4.2 | 4.2 |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Lane Grp Cap (vph) | 600 | 536 | | 39 | 263 | 224 | 95 | 1617 | | 98 | 857 | 728 |
| v/s Ratio Prot | c0.19 | 0.12 | | 0.01 | c0.09 | | 0.04 | 0.09 | | c0.04 | 0.24 | |
| v/s Ratio Perm | | | | | | 0.02 | | | | | | c0.25 |
| v/c Ratio | 1.03 | 0.39 | | 0.31 | 0.61 | 0.12 | 0.63 | 0.19 | | 0.69 | 0.50 | 0.52 |
| Uniform Delay, d1 | 47.1 | 31.2 | | 55.3 | 46.0 | 42.7 | 53.1 | 17.5 | | 53.2 | 20.7 | 21.0 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 0.92 | 0.93 | 2.71 |
| Incremental Delay, d2 | 45.6 | 0.2 | | 1.6 | 3.0 | 0.1 | 9.6 | 0.3 | | 15.1 | 2.0 | 2.5 |
| Delay (s) | 92.7 | 31.4 | | 56.9 | 49.0 | 42.8 | 62.8 | 17.7 | | 64.1 | 21.3 | 59.6 |
| Level of Service | F | C | | E | D | D | E | B | | E | C | E |
| Approach Delay (s) | | 76.8 | | | 46.0 | | | 25.2 | | | 46.6 | |
| Approach LOS | | E | | | D | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 115.0 | Sum of lost time (s) | 12.1 |
| Intersection Capacity Utilization | 57.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 290 | 140 | 26 | 60 | 133 | 125 | 17 | 797 | 58 | 59 | 502 | 104 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.0 | 4.0 | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Lane Util. Factor | 0.95 | 0.95 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.97 | |
| Flt Protected | 0.95 | 0.99 | | | 0.98 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1569 | 1601 | | | 1712 | 1478 | 1652 | 3270 | | 1652 | 3218 | |
| Flt Permitted | 0.95 | 0.99 | | | 0.98 | 1.00 | 0.33 | 1.00 | | 0.22 | 1.00 | |
| Satd. Flow (perm) | 1569 | 1601 | | | 1712 | 1478 | 572 | 3270 | | 389 | 3218 | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.91 | 0.91 | 0.91 | 0.93 | 0.93 | 0.93 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 330 | 159 | 30 | 66 | 146 | 137 | 18 | 857 | 62 | 68 | 577 | 120 |
| RTOR Reduction (vph) | 0 | 5 | 0 | 0 | 0 | 101 | 0 | 4 | 0 | 0 | 14 | 0 |
| Lane Group Flow (vph) | 257 | 257 | 0 | 0 | 212 | 36 | 18 | 915 | 0 | 68 | 684 | 0 |
| Turn Type | Split | | | Split | | Perm | Perm | | | Perm | | |
| Protected Phases | 4 | 4 | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | 21.2 | 21.2 | | | 17.3 | 17.3 | 46.0 | 46.0 | | 46.0 | 46.0 | |
| Effective Green, g (s) | 21.2 | 21.2 | | | 17.3 | 17.3 | 46.0 | 46.0 | | 46.0 | 46.0 | |
| Actuated g/C Ratio | 0.21 | 0.21 | | | 0.17 | 0.17 | 0.46 | 0.46 | | 0.46 | 0.46 | |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.0 | 4.0 | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Vehicle Extension (s) | 2.5 | 2.5 | | | 2.5 | 2.5 | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Lane Grp Cap (vph) | 333 | 339 | | | 296 | 256 | 263 | 1504 | | 179 | 1480 | |
| v/s Ratio Prot | c0.16 | 0.16 | | | c0.12 | | | c0.28 | | | 0.21 | |
| v/s Ratio Perm | | | | | | 0.02 | 0.03 | | | 0.17 | | |
| v/c Ratio | 0.77 | 0.76 | | | 0.72 | 0.14 | 0.07 | 0.61 | | 0.38 | 0.46 | |
| Uniform Delay, d1 | 37.1 | 37.0 | | | 39.0 | 35.1 | 15.1 | 20.2 | | 17.7 | 18.5 | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.11 | 1.12 | |
| Incremental Delay, d2 | 10.2 | 9.0 | | | 7.5 | 0.2 | 0.5 | 1.8 | | 5.9 | 1.0 | |
| Delay (s) | 47.3 | 46.0 | | | 46.5 | 35.2 | 15.6 | 22.1 | | 25.5 | 21.8 | |
| Level of Service | D | D | | | D | D | B | C | | C | C | |
| Approach Delay (s) | | 46.6 | | | 42.1 | | | 22.0 | | | 22.2 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.7 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.67 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 15.5 |
| Intersection Capacity Utilization | 77.9% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Volume (vph) | 254 | 119 | 137 | 525 | 328 | 141 |
| Peak Hour Factor | 0.81 | 0.81 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 314 | 147 | 149 | 571 | 357 | 153 |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total (vph) | 314 | 147 | 149 | 571 | 357 | 153 |
| Volume Left (vph) | 314 | 0 | 149 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 147 | 0 | 0 | 0 | 153 |
| Hadj (s) | 0.53 | -0.67 | 0.53 | 0.03 | 0.03 | -0.67 |
| Departure Headway (s) | 8.0 | 6.8 | 7.6 | 7.1 | 7.3 | 6.6 |
| Degree Utilization, x | 0.70 | 0.28 | 0.32 | 1.13 | 0.72 | 0.28 |
| Capacity (veh/h) | 435 | 515 | 461 | 516 | 485 | 535 |
| Control Delay (s) | 26.2 | 11.2 | 12.9 | 103.8 | 25.5 | 10.9 |
| Approach Delay (s) | 21.4 | | 84.9 | | 21.1 | |
| Approach LOS | C | | F | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 48.4 | | |
| HCM Level of Service | E | | |
| Intersection Capacity Utilization | 48.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 19 | 24 | 51 | 54 | 30 | 86 | 71 | 966 | 52 | 68 | 1071 | 39 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.7 | 3.7 | | 3.7 | 3.7 | | 3.5 | 4.1 | | 3.5 | 4.1 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.90 | | 1.00 | 0.89 | | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1617 | | 1711 | 1601 | | 1711 | 3395 | | 1711 | 3403 | |
| Flt Permitted | 0.68 | 1.00 | | 0.69 | 1.00 | | 0.16 | 1.00 | | 0.20 | 1.00 | |
| Satd. Flow (perm) | 1221 | 1617 | | 1243 | 1601 | | 297 | 3395 | | 365 | 3403 | |
| Peak-hour factor, PHF | 0.73 | 0.73 | 0.73 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 26 | 33 | 70 | 57 | 32 | 91 | 76 | 1028 | 55 | 73 | 1152 | 42 |
| RTOR Reduction (vph) | 0 | 59 | 0 | 0 | 76 | 0 | 0 | 5 | 0 | 0 | 4 | 0 |
| Lane Group Flow (vph) | 26 | 44 | 0 | 57 | 47 | 0 | 76 | 1078 | 0 | 73 | 1190 | 0 |
| Turn Type | Perm | | | Perm | | | pm+pt | | | pm+pt | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 7.9 | 7.9 | | 7.9 | 7.9 | | 30.3 | 26.9 | | 30.1 | 26.8 | |
| Effective Green, g (s) | 7.9 | 7.9 | | 7.9 | 7.9 | | 30.3 | 26.9 | | 30.1 | 26.8 | |
| Actuated g/C Ratio | 0.16 | 0.16 | | 0.16 | 0.16 | | 0.61 | 0.54 | | 0.61 | 0.54 | |
| Clearance Time (s) | 3.7 | 3.7 | | 3.7 | 3.7 | | 3.5 | 4.1 | | 3.5 | 4.1 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 195 | 259 | | 199 | 256 | | 279 | 1849 | | 312 | 1846 | |
| v/s Ratio Prot | | 0.03 | | | 0.03 | | c0.02 | 0.32 | | 0.02 | c0.35 | |
| v/s Ratio Perm | 0.02 | | | c0.05 | | | 0.15 | | | 0.13 | | |
| v/c Ratio | 0.13 | 0.17 | | 0.29 | 0.18 | | 0.27 | 0.58 | | 0.23 | 0.64 | |
| Uniform Delay, d1 | 17.8 | 17.9 | | 18.3 | 18.0 | | 4.7 | 7.5 | | 4.4 | 8.0 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.3 | 0.3 | | 0.8 | 0.3 | | 0.5 | 0.5 | | 0.4 | 0.8 | |
| Delay (s) | 18.1 | 18.2 | | 19.1 | 18.3 | | 5.2 | 8.0 | | 4.8 | 8.7 | |
| Level of Service | B | B | | B | B | | A | A | | A | A | |
| Approach Delay (s) | | 18.2 | | | 18.5 | | | 7.8 | | | 8.5 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 9.3 | HCM Level of Service | A |
| HCM Volume to Capacity ratio | 0.54 | | |
| Actuated Cycle Length (s) | 49.4 | Sum of lost time (s) | 11.3 |
| Intersection Capacity Utilization | 54.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | Stop | | | Stop |
| Volume (vph) | 158 | 34 | 357 | 134 | 14 | 185 |
| Peak Hour Factor | 0.81 | 0.81 | 0.93 | 0.93 | 0.98 | 0.98 |
| Hourly flow rate (vph) | 195 | 42 | 384 | 144 | 14 | 189 |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 237 | 528 | 203 |
| Volume Left (vph) | 195 | 0 | 14 |
| Volume Right (vph) | 42 | 144 | 0 |
| Hadj (s) | 0.09 | -0.13 | 0.05 |
| Departure Headway (s) | 5.8 | 4.8 | 5.4 |
| Degree Utilization, x | 0.38 | 0.71 | 0.30 |
| Capacity (veh/h) | 572 | 726 | 630 |
| Control Delay (s) | 12.3 | 18.5 | 10.7 |
| Approach Delay (s) | 12.3 | 18.5 | 10.7 |
| Approach LOS | B | C | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 15.4 | | |
| HCM Level of Service | C | | |
| Intersection Capacity Utilization | 44.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 821 | 284 | 3 | 0 | 368 | 42 | 1 | 0 | 4 | 214 | 0 | 194 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.2 | 5.3 | | | 5.3 | 5.3 | | 4.2 | | | 4.5 | 4.5 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | | 0.73 | | | 1.00 | 0.97 |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.89 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | 0.99 | | | 0.95 | 1.00 |
| Satd. Flow (prot) | 3433 | 3531 | | | 3539 | 1583 | | 1200 | | | 1770 | 1539 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | 0.99 | | | 0.95 | 1.00 |
| Satd. Flow (perm) | 3433 | 3531 | | | 3539 | 1583 | | 1200 | | | 1770 | 1539 |
| Peak-hour factor, PHF | 0.89 | 0.89 | 0.89 | 0.86 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 | 0.68 | 0.68 | 0.68 |
| Adj. Flow (vph) | 922 | 319 | 3 | 0 | 428 | 49 | 1 | 0 | 4 | 315 | 0 | 285 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 922 | 322 | 0 | 0 | 428 | 49 | 0 | 5 | 0 | 0 | 315 | 285 |
| Confl. Peds. (#/hr) | | | 13 | 13 | | | | | 17 | | | 15 |
| Turn Type | Prot | | | Perm | | Perm | Split | | | Split | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 1 | | 2 | 2 | |
| Permitted Phases | | | | 4 | | 4 | | | | | | 2 |
| Actuated Green, G (s) | 31.0 | 52.9 | | | 17.7 | 17.7 | | 0.8 | | | 23.5 | 23.5 |
| Effective Green, g (s) | 31.0 | 52.9 | | | 17.7 | 17.7 | | 0.8 | | | 23.5 | 23.5 |
| Actuated g/C Ratio | 0.34 | 0.58 | | | 0.19 | 0.19 | | 0.01 | | | 0.26 | 0.26 |
| Clearance Time (s) | 4.2 | 5.3 | | | 5.3 | 5.3 | | 4.2 | | | 4.5 | 4.5 |
| Vehicle Extension (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | | 2.0 | | | 1.5 | 1.5 |
| Lane Grp Cap (vph) | 1167 | 2048 | | | 687 | 307 | | 11 | | | 456 | 397 |
| v/s Ratio Prot | c0.27 | 0.09 | | | c0.12 | | | c0.00 | | | 0.18 | |
| v/s Ratio Perm | | | | | | 0.03 | | | | | | c0.19 |
| v/c Ratio | 0.79 | 0.16 | | | 0.62 | 0.16 | | 0.45 | | | 0.69 | 0.72 |
| Uniform Delay, d1 | 27.2 | 8.8 | | | 33.7 | 30.6 | | 45.0 | | | 30.6 | 30.8 |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.5 | 0.0 | | | 1.3 | 0.1 | | 10.5 | | | 3.6 | 5.1 |
| Delay (s) | 30.6 | 8.9 | | | 35.0 | 30.7 | | 55.4 | | | 34.2 | 35.9 |
| Level of Service | C | A | | | C | C | | E | | | C | D |
| Approach Delay (s) | | 25.0 | | | 34.5 | | | 55.4 | | | 35.0 | |
| Approach LOS | | C | | | C | | | E | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 91.2 | Sum of lost time (s) | 18.2 |
| Intersection Capacity Utilization | 65.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 21 | 0 | 4 | 26 | 16 | 0 | 0 | 8 | 3 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.69 | 0.69 | 0.69 | 0.63 | 0.63 | 0.63 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 30 | 0 | 6 | 41 | 25 | 0 | 0 | 9 | 3 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 124 | 118 | 10 | 118 | 120 | 25 | 12 | | | 25 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 124 | 118 | 10 | 118 | 120 | 25 | 12 | | | 25 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 96 | 100 | 99 | 97 | | | 100 | | |
| cM capacity (veh/h) | 834 | 756 | 1077 | 846 | 754 | 1056 | 1620 | | | 1602 | | |

| Direction, Lane # | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 30 | 6 | 67 | 12 |
| Volume Left | 30 | 0 | 41 | 0 |
| Volume Right | 0 | 6 | 0 | 3 |
| cSH | 846 | 1056 | 1620 | 1700 |
| Volume to Capacity | 0.04 | 0.01 | 0.03 | 0.01 |
| Queue Length 95th (ft) | 3 | 0 | 2 | 0 |
| Control Delay (s) | 9.4 | 8.4 | 4.6 | 0.0 |
| Lane LOS | A | A | A | |
| Approach Delay (s) | 9.3 | | 4.6 | 0.0 |
| Approach LOS | A | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 5.6 | |
| Intersection Capacity Utilization | | 18.9% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 32 | 9 | 0 | 22 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.92 | 0.92 | 0.92 | 0.85 | 0.85 | 0.85 | 0.66 | 0.66 | 0.66 |
| Hourly flow rate (vph) | 13 | 1 | 0 | 0 | 0 | 0 | 0 | 38 | 11 | 0 | 33 | 0 |
| Pedestrians | | | | | 1 | | | | | | | |
| Lane Width (ft) | | | | | 0.0 | | | | | | | |
| Walking Speed (ft/s) | | | | | 4.0 | | | | | | | |
| Percent Blockage | | | | | 0 | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 76 | 83 | 33 | 78 | 77 | 44 | 33 | | | 49 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 76 | 83 | 33 | 78 | 77 | 44 | 33 | | | 49 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 99 | 100 | 100 | 100 | 100 | 100 | 100 | | | 100 | | |
| cM capacity (veh/h) | 918 | 811 | 1046 | 915 | 817 | 1032 | 1578 | | | 1571 | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 13 | 1 | 48 | 33 |
| Volume Left | 13 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 11 | 0 |
| cSH | 918 | 811 | 1700 | 1571 |
| Volume to Capacity | 0.01 | 0.00 | 0.03 | 0.00 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 0 |
| Control Delay (s) | 9.0 | 9.4 | 0.0 | 0.0 |
| Lane LOS | A | A | | |
| Approach Delay (s) | 9.0 | | 0.0 | 0.0 |
| Approach LOS | A | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 1.4 | |
| Intersection Capacity Utilization | | 13.7% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 22 | 1 | 31 | 8 | 222 | 0 | 0 | 237 | 96 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.71 | 0.71 | 0.71 | 0.87 | 0.87 | 0.87 | 0.82 | 0.82 | 0.82 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 31 | 1 | 44 | 9 | 255 | 0 | 0 | 289 | 117 |
| Pedestrians | | 3 | | | | | | 2 | | | | |
| Lane Width (ft) | | 0.0 | | | | | | 12.0 | | | | |
| Walking Speed (ft/s) | | 4.0 | | | | | | 4.0 | | | | |
| Percent Blockage | | 0 | | | | | | 0 | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 668 | 624 | 353 | 623 | 566 | 255 | 292 | | | 255 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 668 | 624 | 353 | 623 | 566 | 255 | 292 | | | 255 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 92 | 100 | 94 | 99 | | | 100 | | |
| cM capacity (veh/h) | 351 | 401 | 694 | 398 | 433 | 788 | 1270 | | | 1322 | | |

| Direction, Lane # | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 32 | 44 | 264 | 406 |
| Volume Left | 31 | 0 | 9 | 0 |
| Volume Right | 0 | 44 | 0 | 117 |
| cSH | 399 | 778 | 1270 | 1700 |
| Volume to Capacity | 0.08 | 0.06 | 0.01 | 0.24 |
| Queue Length 95th (ft) | 6 | 5 | 1 | 0 |
| Control Delay (s) | 14.8 | 9.9 | 0.3 | 0.0 |
| Lane LOS | B | A | A | |
| Approach Delay (s) | 11.9 | | 0.3 | 0.0 |
| Approach LOS | B | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 1.3 | | |
| Intersection Capacity Utilization | 33.0% | ICU Level of Service | A | |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 170 | 7 | 9 | 0 | 0 | 0 | 0 | 60 | 139 | 224 | 35 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 | 0.78 | 0.78 | 0.78 | 0.87 | 0.87 | 0.87 |
| Hourly flow rate (vph) | 198 | 8 | 10 | 0 | 0 | 0 | 0 | 77 | 178 | 257 | 40 | 0 |
| Pedestrians | | 3 | | | | | | | | | | |
| Lane Width (ft) | | 12.0 | | | | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | | | | | | | | |
| Percent Blockage | | 0 | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 724 | 813 | 43 | 736 | 724 | 166 | 43 | | | 255 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 724 | 813 | 43 | 736 | 724 | 166 | 43 | | | 255 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 32 | 97 | 99 | 100 | 100 | 100 | 100 | | | 81 | | |
| cM capacity (veh/h) | 290 | 252 | 1027 | 277 | 285 | 884 | 1561 | | | 1322 | | |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 202 | 15 | 255 | 298 |
| Volume Left | 198 | 0 | 0 | 257 |
| Volume Right | 0 | 10 | 178 | 0 |
| cSH | 289 | 552 | 1700 | 1322 |
| Volume to Capacity | 0.70 | 0.03 | 0.15 | 0.19 |
| Queue Length 95th (ft) | 120 | 2 | 0 | 18 |
| Control Delay (s) | 41.9 | 11.7 | 0.0 | 7.5 |
| Lane LOS | E | B | | A |
| Approach Delay (s) | 39.9 | | 0.0 | 7.5 |
| Approach LOS | E | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 14.1 | | |
| Intersection Capacity Utilization | 45.4% | ICU Level of Service | A | |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 40 | 0 | 206 | 4 | 0 | 1 | 24 | 225 | 4 | 1 | 123 | 8 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.69 | 0.69 | 0.69 | 0.42 | 0.42 | 0.42 | 0.99 | 0.99 | 0.99 | 0.81 | 0.81 | 0.81 |
| Hourly flow rate (vph) | 58 | 0 | 299 | 10 | 0 | 2 | 24 | 227 | 4 | 1 | 152 | 10 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | 2 | | | 2 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 438 | 439 | 157 | 586 | 442 | 229 | 162 | | | 231 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 438 | 439 | 157 | 586 | 442 | 229 | 162 | | | 231 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 89 | 100 | 66 | 97 | 100 | 100 | 98 | | | 100 | | |
| cM capacity (veh/h) | 520 | 502 | 889 | 276 | 501 | 810 | 1417 | | | 1336 | | |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 357 | 12 | 256 | 163 |
| Volume Left | 58 | 10 | 24 | 1 |
| Volume Right | 299 | 2 | 4 | 10 |
| cSH | 1061 | 345 | 1417 | 1336 |
| Volume to Capacity | 0.34 | 0.03 | 0.02 | 0.00 |
| Queue Length 95th (ft) | 37 | 3 | 1 | 0 |
| Control Delay (s) | 11.4 | 16.7 | 0.9 | 0.1 |
| Lane LOS | B | C | A | A |
| Approach Delay (s) | 11.4 | 16.7 | 0.9 | 0.1 |
| Approach LOS | B | C | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 5.7 | | |
| Intersection Capacity Utilization | 39.3% | ICU Level of Service | A | |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 192 | 7 | 7 | 7 | 6 | 38 |
| Sign Control | | Yield | Yield | | Free | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.58 | 0.58 | 0.79 | 0.79 |
| Hourly flow rate (vph) | 209 | 8 | 12 | 12 | 8 | 48 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 57 | 39 | 63 | 0 | 0 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 57 | 39 | 63 | 0 | 0 | |
| tC, single (s) | 7.1 | 6.5 | 6.5 | 6.2 | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 4.0 | 4.0 | 3.3 | 2.2 | |
| p0 queue free % | 77 | 99 | 99 | 99 | 100 | |
| cM capacity (veh/h) | 915 | 849 | 824 | 1085 | 1623 | |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 216 | 24 | 56 |
| Volume Left | 209 | 0 | 8 |
| Volume Right | 0 | 12 | 48 |
| cSH | 913 | 936 | 1623 |
| Volume to Capacity | 0.24 | 0.03 | 0.00 |
| Queue Length 95th (ft) | 23 | 2 | 0 |
| Control Delay (s) | 10.2 | 8.9 | 1.0 |
| Lane LOS | B | A | A |
| Approach Delay (s) | 10.2 | 8.9 | 1.0 |
| Approach LOS | B | A | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 8.3 | | |
| Intersection Capacity Utilization | 27.7% | ICU Level of Service | A | |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 34 | 2 | 31 | 108 | 384 | 0 | 0 | 220 | 344 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.81 | 0.81 | 0.81 | 0.87 | 0.87 | 0.87 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 42 | 2 | 38 | 124 | 441 | 0 | 0 | 239 | 374 |
| Pedestrians | | | | | 35 | | | 7 | | | 1 | |
| Lane Width (ft) | | | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | | | | 3 | | | 1 | | | 0 | |
| Right turn flare (veh) | | | | | | 2 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 950 | 964 | 246 | 971 | 1338 | 477 | 613 | | | 476 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 950 | 964 | 246 | 971 | 1338 | 477 | 613 | | | 476 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 79 | 98 | 93 | 87 | | | 100 | | |
| cM capacity (veh/h) | 196 | 218 | 793 | 198 | 130 | 570 | 976 | | | 1059 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 83 | 566 | 239 | 374 |
| Volume Left | 42 | 124 | 0 | 0 |
| Volume Right | 38 | 0 | 0 | 374 |
| cSH | 361 | 976 | 1700 | 1700 |
| Volume to Capacity | 0.23 | 0.13 | 0.14 | 0.22 |
| Queue Length 95th (ft) | 22 | 11 | 0 | 0 |
| Control Delay (s) | 21.0 | 3.3 | 0.0 | 0.0 |
| Lane LOS | C | A | | |
| Approach Delay (s) | 21.0 | 3.3 | 0.0 | |
| Approach LOS | C | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 2.8 | | |
| Intersection Capacity Utilization | | 61.1% | ICU Level of Service | B |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 216 | 3 | 29 | 0 | 0 | 0 | 0 | 276 | 98 | 42 | 212 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.92 | 0.92 | 0.92 | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 240 | 3 | 32 | 0 | 0 | 0 | 0 | 329 | 117 | 46 | 230 | 0 |
| Pedestrians | | | | | 32 | | | | | | | |
| Lane Width (ft) | | | | | 0.0 | | | | | | | |
| Walking Speed (ft/s) | | | | | 4.0 | | | | | | | |
| Percent Blockage | | | | | 0 | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 709 | 799 | 230 | 775 | 741 | 419 | 230 | | | 477 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 709 | 799 | 230 | 775 | 741 | 419 | 230 | | | 477 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 29 | 99 | 96 | 100 | 100 | 100 | 100 | | | 96 | | |
| cM capacity (veh/h) | 339 | 306 | 811 | 293 | 332 | 639 | 1337 | | | 1085 | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 276 | 445 | 276 |
| Volume Left | 240 | 0 | 46 |
| Volume Right | 32 | 117 | 0 |
| cSH | 363 | 1700 | 1085 |
| Volume to Capacity | 0.76 | 0.26 | 0.04 |
| Queue Length 95th (ft) | 151 | 0 | 3 |
| Control Delay (s) | 40.1 | 0.0 | 1.7 |
| Lane LOS | E | | A |
| Approach Delay (s) | 40.1 | 0.0 | 1.7 |
| Approach LOS | E | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 11.6 | | |
| Intersection Capacity Utilization | | 58.6% | ICU Level of Service | B |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 4 | 9 | 101 | 386 | 9 | 8 | 149 | 119 | 147 | 2 | 77 | 4 |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.86 | 0.86 | 0.86 | 0.96 | 0.96 | 0.96 | 0.84 | 0.84 | 0.84 |
| Hourly flow rate (vph) | 5 | 11 | 125 | 449 | 10 | 9 | 155 | 124 | 153 | 2 | 92 | 5 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|---|
| Volume Total (vph) | 16 | 125 | 459 | 9 | 279 | 153 | 94 | 5 |
| Volume Left (vph) | 5 | 0 | 449 | 0 | 155 | 0 | 2 | 0 |
| Volume Right (vph) | 0 | 125 | 0 | 9 | 0 | 153 | 0 | 5 |
| Hadj (s) | 0.19 | -0.67 | 0.52 | -0.67 | 0.28 | -0.70 | 0.01 | -0.70 |
| Departure Headway (s) | 7.1 | 6.2 | 6.8 | 5.6 | 6.9 | 5.9 | 7.2 | 6.5 |
| Degree Utilization, x | 0.03 | 0.21 | 0.87 | 0.01 | 0.53 | 0.25 | 0.19 | 0.01 |
| Capacity (veh/h) | 472 | 539 | 459 | 611 | 496 | 575 | 464 | 510 |
| Control Delay (s) | 9.1 | 9.7 | 38.2 | 7.5 | 16.3 | 9.7 | 10.6 | 8.3 |
| Approach Delay (s) | 9.6 | | 37.5 | | 14.0 | | 10.5 | |
| Approach LOS | A | | E | | B | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | 22.8 | |
| HCM Level of Service | | C | |
| Intersection Capacity Utilization | | 56.4% | ICU Level of Service B |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 280 | 158 | 6 | 3 | 75 | 80 | 4 | 14 | 4 | 38 | 6 | 197 |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.67 | 0.67 | 0.67 | 0.55 | 0.55 | 0.55 | 0.76 | 0.76 | 0.76 |
| Hourly flow rate (vph) | 341 | 193 | 7 | 4 | 112 | 119 | 7 | 25 | 7 | 50 | 8 | 259 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 541 | 236 | 40 | 317 |
| Volume Left (vph) | 341 | 4 | 7 | 50 |
| Volume Right (vph) | 7 | 119 | 7 | 259 |
| Hadj (s) | 0.15 | -0.27 | -0.04 | -0.42 |
| Departure Headway (s) | 5.6 | 5.7 | 6.8 | 5.7 |
| Degree Utilization, x | 0.84 | 0.37 | 0.08 | 0.50 |
| Capacity (veh/h) | 541 | 585 | 453 | 590 |
| Control Delay (s) | 30.5 | 12.0 | 10.4 | 14.4 |
| Approach Delay (s) | 30.5 | 12.0 | 10.4 | 14.4 |
| Approach LOS | D | B | B | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | 21.4 | |
| HCM Level of Service | | C | |
| Intersection Capacity Utilization | | 61.9% | ICU Level of Service B |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 0 | 0 | 127 | 132 | 45 | 68 | 217 | 191 | 0 | 0 | 220 | 81 |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.85 | 0.85 | 0.85 | 0.88 | 0.88 | 0.88 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 157 | 155 | 53 | 80 | 247 | 217 | 0 | 0 | 239 | 88 |

| Direction, Lane # | EB 1 | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|---|
| Volume Total (vph) | 157 | 208 | 80 | 464 | 327 |
| Volume Left (vph) | 0 | 155 | 0 | 247 | 0 |
| Volume Right (vph) | 157 | 0 | 80 | 0 | 88 |
| Hadj (s) | -0.57 | 0.41 | -0.67 | 0.14 | -0.13 |
| Departure Headway (s) | 6.8 | 7.8 | 6.7 | 6.3 | 6.3 |
| Degree Utilization, x | 0.29 | 0.45 | 0.15 | 0.81 | 0.57 |
| Capacity (veh/h) | 468 | 415 | 486 | 558 | 529 |
| Control Delay (s) | 12.6 | 15.7 | 9.6 | 30.2 | 17.4 |
| Approach Delay (s) | 12.6 | 14.0 | | 30.2 | 17.4 |
| Approach LOS | B | B | | D | C |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 20.8 | | |
| HCM Level of Service | | C | | |
| Intersection Capacity Utilization | | 70.4% | ICU Level of Service | C |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 250 | 87 | 111 | 13 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.79 | 0.79 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 0 | 0 | 316 | 110 | 125 | 15 |
| Pedestrians | | 4 | | | 2 | |
| Lane Width (ft) | | 0.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | |
| Percent Blockage | | 0 | | | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 429 | | | | 374 | 378 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 429 | | | | 374 | 378 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 100 | | | | 80 | 98 |
| cM capacity (veh/h) | 1140 | | | | 626 | 668 |

| Direction, Lane # | WB 1 | SB 1 |
|---|---|---|
| Volume Total | 427 | 139 |
| Volume Left | 0 | 125 |
| Volume Right | 110 | 15 |
| cSH | 1700 | 631 |
| Volume to Capacity | 0.25 | 0.22 |
| Queue Length 95th (ft) | 0 | 21 |
| Control Delay (s) | 0.0 | 12.3 |
| Lane LOS | | B |
| Approach Delay (s) | 0.0 | 12.3 |
| Approach LOS | | B |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 3.0 | | |
| Intersection Capacity Utilization | | 33.0% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

## HCM Unsignalized Intersection Capacity Analysis
## 13: SB On/Off Ramps & Casitas Pass Rd

Existing - PM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 70 | 0 | 255 | 0 | 0 | 0 | 0 | 338 | 303 | 157 | 322 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 | 0.98 | 0.98 | 0.98 |
| Hourly flow rate (vph) | 75 | 0 | 274 | 0 | 0 | 0 | 0 | 380 | 340 | 160 | 329 | 0 |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total (vph) | 75 | 274 | 380 | 340 | 489 |
| Volume Left (vph) | 75 | 0 | 0 | 0 | 160 |
| Volume Right (vph) | 0 | 274 | 0 | 340 | 0 |
| Hadj (s) | 0.52 | -0.68 | 0.02 | -0.68 | 0.07 |
| Departure Headway (s) | 8.0 | 6.8 | 6.6 | 5.9 | 6.6 |
| Degree Utilization, x | 0.17 | 0.52 | 0.69 | 0.55 | 0.90 |
| Capacity (veh/h) | 439 | 518 | 534 | 602 | 535 |
| Control Delay (s) | 11.4 | 15.6 | 21.9 | 14.7 | 43.9 |
| Approach Delay (s) | 14.7 | | 18.5 | | 43.9 |
| Approach LOS | B | | C | | E |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 25.6 | | |
| HCM Level of Service | | D | | |
| Intersection Capacity Utilization | | 64.9% | ICU Level of Service | C |
| Analysis Period (min) | | 15 | | |



## HCM Signalized Intersection Capacity Analysis
## 14: Carpinteria Ave & Casitas Pass Rd

Existing - PM Peak
12/15/2009

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 314 | 480 | 381 | 98 | 254 | 172 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 5.0 | 5.0 | 5.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1583 | 1787 | 1599 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1583 | 1787 | 1599 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.87 | 0.87 | 0.81 | 0.81 |
| Adj. Flow (vph) | 338 | 516 | 438 | 113 | 314 | 212 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 338 | 516 | 438 | 113 | 314 | 212 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 1% | 1% |
| Turn Type | Prot | | | Perm | | Perm |
| Protected Phases | 7 | 4 | 8 | | 6 | |
| Permitted Phases | | | | 8 | | 6 |
| Actuated Green, G (s) | 20.0 | 47.8 | 23.8 | 23.8 | 19.4 | 19.4 |
| Effective Green, g (s) | 20.0 | 47.8 | 23.8 | 23.8 | 19.4 | 19.4 |
| Actuated g/C Ratio | 0.26 | 0.63 | 0.31 | 0.31 | 0.25 | 0.25 |
| Clearance Time (s) | 4.0 | 5.0 | 5.0 | 5.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lane Grp Cap (vph) | 465 | 1169 | 582 | 494 | 455 | 407 |
| v/s Ratio Prot | c0.19 | 0.28 | c0.24 | | c0.18 | |
| v/s Ratio Perm | | | | 0.07 | | 0.13 |
| v/c Ratio | 0.73 | 0.44 | 0.75 | 0.23 | 0.69 | 0.52 |
| Uniform Delay, d1 | 25.6 | 7.3 | 23.6 | 19.4 | 25.7 | 24.4 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.8 | 0.1 | 4.9 | 0.1 | 3.6 | 0.6 |
| Delay (s) | 30.4 | 7.4 | 28.4 | 19.5 | 29.3 | 25.0 |
| Level of Service | C | A | C | B | C | C |
| Approach Delay (s) | | 16.5 | 26.6 | | 27.6 | |
| Approach LOS | | B | C | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.73 | | |
| Actuated Cycle Length (s) | 76.2 | Sum of lost time (s) | 13.0 |
| Intersection Capacity Utilization | 62.4% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 235 | 190 | 21 | 137 | 0 | 0 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 255 | 207 | 23 | 149 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 255 | | 450 | 255 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 255 | | 450 | 255 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 98 | | 100 | 100 |
| cM capacity (veh/h) | | | 1310 | | 557 | 783 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 |
|---|---|---|---|
| Volume Total | 255 | 207 | 172 |
| Volume Left | 0 | 0 | 23 |
| Volume Right | 0 | 207 | 0 |
| cSH | 1700 | 1700 | 1310 |
| Volume to Capacity | 0.15 | 0.12 | 0.02 |
| Queue Length 95th (ft) | 0 | 0 | 1 |
| Control Delay (s) | 0.0 | 0.0 | 1.2 |
| Lane LOS | | | A |
| Approach Delay (s) | 0.0 | | 1.2 |
| Approach LOS | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 0.3 | |
| Intersection Capacity Utilization | | 27.4% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 56 | 81 | 345 | 281 | 144 | 222 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.76 | 0.76 | 0.86 | 0.86 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 74 | 107 | 401 | 327 | 157 | 241 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | 1 | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 956 | 401 | | | 401 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 956 | 401 | | | 401 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 71 | 84 | | | 86 | |
| cM capacity (veh/h) | 250 | 653 | | | 1157 | |

| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|
| Volume Total | 180 | 401 | 327 | 398 |
| Volume Left | 74 | 0 | 0 | 157 |
| Volume Right | 107 | 0 | 327 | 0 |
| cSH | 502 | 1700 | 1700 | 1157 |
| Volume to Capacity | 0.36 | 0.24 | 0.19 | 0.14 |
| Queue Length 95th (ft) | 40 | 0 | 0 | 12 |
| Control Delay (s) | 16.1 | 0.0 | 0.0 | 4.2 |
| Lane LOS | C | | | A |
| Approach Delay (s) | 16.1 | 0.0 | | 4.2 |
| Approach LOS | C | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 3.5 | |
| Intersection Capacity Utilization | | 51.1% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 123 | 138 | 0 | 503 | 278 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.81 | 0.81 | 0.92 | 0.92 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 152 | 170 | 0 | 547 | 309 | 0 |
| Pedestrians | | | | 53 | | |
| Lane Width (ft) | | | | 12.0 | | |
| Walking Speed (ft/s) | | | | 4.0 | | |
| Percent Blockage | | | | 4 | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 856 | 362 | 309 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 856 | 362 | 309 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 54 | 74 | 100 | | | |
| cM capacity (veh/h) | 331 | 657 | 1252 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 322 | 547 | 309 |
| Volume Left | 152 | 0 | 0 |
| Volume Right | 170 | 0 | 0 |
| cSH | 449 | 1700 | 1700 |
| Volume to Capacity | 0.72 | 0.32 | 0.18 |
| Queue Length 95th (ft) | 141 | 0 | 0 |
| Control Delay (s) | 30.9 | 0.0 | 0.0 |
| Lane LOS | D | | |
| Approach Delay (s) | 30.9 | 0.0 | 0.0 |
| Approach LOS | D | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 8.5 | | |
| Intersection Capacity Utilization | 50.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 36 | 16 | 17 | 453 | 400 | 36 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.68 | 0.68 | 0.94 | 0.94 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 53 | 24 | 18 | 482 | 435 | 39 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 972 | 454 | 474 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 972 | 454 | 474 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 81 | 96 | 98 | | | |
| cM capacity (veh/h) | 275 | 606 | 1088 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 76 | 500 | 474 |
| Volume Left | 53 | 18 | 0 |
| Volume Right | 24 | 0 | 39 |
| cSH | 331 | 1088 | 1700 |
| Volume to Capacity | 0.23 | 0.02 | 0.28 |
| Queue Length 95th (ft) | 22 | 1 | 0 |
| Control Delay (s) | 19.1 | 0.5 | 0.0 |
| Lane LOS | C | A | |
| Approach Delay (s) | 19.1 | 0.5 | 0.0 |
| Approach LOS | C | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 47.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

## HCM Unsignalized Intersection Capacity Analysis
## 19: Carpinteria Ave & SB On/Off Ramps

Existing - PM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 194 | 347 | 3 | 20 | 251 | 28 | 2 | 11 | 34 | 20 | 11 | 58 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.86 | 0.86 | 0.86 | 0.59 | 0.59 | 0.59 | 0.89 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 209 | 373 | 3 | 23 | 292 | 33 | 3 | 19 | 58 | 22 | 12 | 65 |
| Pedestrians | | 23 | | | 12 | | | 14 | | | 49 | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | 2 | | | 1 | | | 1 | | | 4 | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | 316 | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 373 | | | 390 | | | 1239 | 1226 | 401 | 1273 | 1211 | 380 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 373 | | | 390 | | | 1239 | 1226 | 401 | 1273 | 1211 | 380 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 82 | | | 98 | | | 97 | 86 | 91 | 76 | 91 | 90 |
| cM capacity (veh/h) | 1142 | | | 1160 | | | 102 | 137 | 640 | 92 | 140 | 632 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|
| Volume Total | 209 | 376 | 23 | 324 | 80 | 100 |
| Volume Left | 209 | 0 | 23 | 0 | 3 | 22 |
| Volume Right | 0 | 3 | 0 | 33 | 58 | 65 |
| cSH | 1142 | 1700 | 1160 | 1700 | 307 | 230 |
| Volume to Capacity | 0.18 | 0.22 | 0.02 | 0.19 | 0.26 | 0.44 |
| Queue Length 95th (ft) | 17 | 0 | 2 | 0 | 25 | 51 |
| Control Delay (s) | 8.9 | 0.0 | 8.2 | 0.0 | 20.8 | 32.2 |
| Lane LOS | A | | A | | C | D |
| Approach Delay (s) | 3.2 | | 0.5 | | 20.8 | 32.2 |
| Approach LOS | | | | | C | D |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 6.2 | | |
| Intersection Capacity Utilization | | 49.4% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |



## HCM Signalized Intersection Capacity Analysis
## 20: Carpinteria Ave & Santan Ynez Ave

Existing - PM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 121 | 198 | 32 | 0 | 71 | 244 | 24 | 109 | 3 | 343 | 83 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 3.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 | | 1.00 | 0.85 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | | 1900 | 1615 | | 1846 | 1583 | 1770 | 1828 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | | 1900 | 1615 | | 1846 | 1583 | 1770 | 1828 | |
| Peak-hour factor, PHF | 0.75 | 0.75 | 0.75 | 0.82 | 0.82 | 0.82 | 0.81 | 0.81 | 0.81 | 0.83 | 0.83 | 0.83 |
| Adj. Flow (vph) | 161 | 264 | 43 | 0 | 87 | 298 | 30 | 135 | 4 | 413 | 100 | 14 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 161 | 264 | 43 | 0 | 87 | 298 | 0 | 165 | 4 | 413 | 114 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Prot | | Perm | | | Perm | Split | | Perm | Split | | |
| Protected Phases | 7 | 4 | | | 8 | | 2 | 2 | | 6 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | |
| Actuated Green, G (s) | 6.7 | 28.4 | 28.4 | | 18.2 | 18.2 | | 11.7 | 11.7 | 22.3 | 22.3 | |
| Effective Green, g (s) | 6.7 | 28.4 | 28.4 | | 18.2 | 18.2 | | 11.7 | 11.7 | 22.3 | 22.3 | |
| Actuated g/C Ratio | 0.09 | 0.37 | 0.37 | | 0.24 | 0.24 | | 0.15 | 0.15 | 0.29 | 0.29 | |
| Clearance Time (s) | 3.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 1.5 | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.5 | 2.5 | 2.8 | 2.8 | |
| Lane Grp Cap (vph) | 156 | 697 | 592 | | 456 | 387 | | 285 | 244 | 520 | 537 | |
| v/s Ratio Prot | c0.09 | 0.14 | | | 0.05 | | | c0.09 | | c0.23 | 0.06 | |
| v/s Ratio Perm | | | 0.03 | | | c0.18 | | | 0.00 | | | |
| v/c Ratio | 1.03 | 0.38 | 0.07 | | 0.19 | 0.77 | | 0.58 | 0.02 | 0.79 | 0.21 | |
| Uniform Delay, d1 | 34.6 | 17.3 | 15.3 | | 23.0 | 26.9 | | 29.8 | 27.2 | 24.7 | 20.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 80.8 | 0.3 | 0.0 | | 0.1 | 8.8 | | 2.3 | 0.0 | 8.1 | 0.2 | |
| Delay (s) | 115.4 | 17.6 | 15.3 | | 23.1 | 35.7 | | 32.1 | 27.2 | 32.8 | 20.4 | |
| Level of Service | F | B | B | | C | D | | C | C | C | C | |
| Approach Delay (s) | | 51.0 | | | 32.8 | | | 32.0 | | | 30.1 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | | 37.3 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | | 0.77 | | |
| Actuated Cycle Length (s) | | 75.9 | Sum of lost time (s) | 17.0 |
| Intersection Capacity Utilization | | 46.5% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 33 | 363 | 13 | 152 | 145 | 45 | 81 | 38 | 80 | 107 | 44 | 13 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.89 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 36 | 399 | 14 | 175 | 167 | 52 | 93 | 44 | 92 | 120 | 49 | 15 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | SB 1 |
|---|---|---|---|---|---|---|
| Volume Total (vph) | 435 | 14 | 341 | 52 | 229 | 184 |
| Volume Left (vph) | 36 | 0 | 175 | 0 | 93 | 120 |
| Volume Right (vph) | 0 | 14 | 0 | 52 | 92 | 15 |
| Hadj (s) | 0.05 | -0.57 | 0.29 | -0.67 | -0.14 | 0.12 |
| Departure Headway (s) | 6.5 | 3.2 | 7.2 | 6.2 | 7.0 | 7.4 |
| Degree Utilization, x | 0.78 | 0.01 | 0.68 | 0.09 | 0.44 | 0.38 |
| Capacity (veh/h) | 537 | 1121 | 478 | 548 | 445 | 429 |
| Control Delay (s) | 28.8 | 6.2 | 22.9 | 8.6 | 15.4 | 14.8 |
| Approach Delay (s) | 28.1 | | 21.0 | | 15.4 | 14.8 |
| Approach LOS | D | | C | | C | B |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 21.6 | | |
| HCM Level of Service | | C | | |
| Intersection Capacity Utilization | 61.5% | | ICU Level of Service | B |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 15 | 1 | 50 | 36 | 187 | 0 | 0 | 240 | 77 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.72 | 0.72 | 0.72 | 0.86 | 0.86 | 0.86 | 0.76 | 0.76 | 0.76 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 21 | 1 | 69 | 42 | 217 | 0 | 0 | 316 | 101 |
| Pedestrians | | | | | 3 | | | | | | 2 | |
| Lane Width (ft) | | | | | 12.0 | | | | | | 12.0 | |
| Walking Speed (ft/s) | | | | | 4.0 | | | | | | 4.0 | |
| Percent Blockage | | | | | 0 | | | | | | 0 | |
| Right turn flare (veh) | | | | | | 2 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 705 | 671 | 366 | 671 | 721 | 222 | 417 | | | 220 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 705 | 671 | 366 | 671 | 721 | 222 | 417 | | | 220 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 94 | 100 | 92 | 96 | | | 100 | | |
| cM capacity (veh/h) | 313 | 366 | 683 | 361 | 342 | 819 | 1147 | | | 1351 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 92 | 259 | 417 |
| Volume Left | 21 | 42 | 0 |
| Volume Right | 69 | 0 | 101 |
| cSH | 1081 | 1147 | 1700 |
| Volume to Capacity | 0.08 | 0.04 | 0.25 |
| Queue Length 95th (ft) | 7 | 3 | 0 |
| Control Delay (s) | 11.2 | 1.6 | 0.0 |
| Lane LOS | B | A | |
| Approach Delay (s) | 11.2 | 1.6 | 0.0 |
| Approach LOS | B | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 1.9 | | |
| Intersection Capacity Utilization | | 43.3% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 112 | 175 | 142 | 75 | 72 | 165 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 133 | 208 | 169 | 89 | 79 | 181 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 342 | | 561 | 133 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 342 | | 561 | 133 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 86 | | 81 | 80 |
| cM capacity (veh/h) | | | 1217 | | 423 | 918 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 |
|---|---|---|---|---|
| Volume Total | 133 | 208 | 258 | 260 |
| Volume Left | 0 | 0 | 169 | 79 |
| Volume Right | 0 | 208 | 0 | 181 |
| cSH | 1700 | 1700 | 1217 | 677 |
| Volume to Capacity | 0.08 | 0.12 | 0.14 | 0.38 |
| Queue Length 95th (ft) | 0 | 0 | 12 | 45 |
| Control Delay (s) | 0.0 | 0.0 | 5.9 | 13.6 |
| Lane LOS | | | A | B |
| Approach Delay (s) | 0.0 | | 5.9 | 13.6 |
| Approach LOS | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 5.9 | |
| Intersection Capacity Utilization | | 39.3% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 165 | 71 | 1 | 4 | 0 | 45 | 0 | 13 | 26 | 247 | 8 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.61 | 0.61 | 0.61 | 0.81 | 0.81 | 0.81 | 0.89 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 204 | 88 | 1 | 7 | 0 | 74 | 0 | 16 | 32 | 278 | 9 | 0 |
| Pedestrians | | | | | 4 | | | | | | | |
| Lane Width (ft) | | | | | 12.0 | | | | | | | |
| Walking Speed (ft/s) | | | | | 4.0 | | | | | | | |
| Percent Blockage | | | | | 0 | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 654 | 616 | 9 | 629 | 584 | 20 | 9 | | | 52 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 654 | 616 | 9 | 629 | 584 | 20 | 9 | | | 52 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 33 | 74 | 100 | 98 | 100 | 93 | 100 | | | 82 | | |
| cM capacity (veh/h) | 304 | 332 | 1073 | 271 | 347 | 1054 | 1611 | | | 1555 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|---|
| Volume Total | 204 | 89 | 80 | 16 | 32 | 287 |
| Volume Left | 204 | 0 | 7 | 0 | 0 | 278 |
| Volume Right | 0 | 1 | 74 | 0 | 32 | 0 |
| cSH | 304 | 336 | 853 | 1700 | 1700 | 1555 |
| Volume to Capacity | 0.67 | 0.26 | 0.09 | 0.01 | 0.02 | 0.18 |
| Queue Length 95th (ft) | 112 | 26 | 8 | 0 | 0 | 16 |
| Control Delay (s) | 37.9 | 19.5 | 9.7 | 0.0 | 0.0 | 7.6 |
| Lane LOS | E | C | A | | | A |
| Approach Delay (s) | 32.3 | | 9.7 | 0.0 | | 7.6 |
| Approach LOS | D | | A | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 17.5 | |
| Intersection Capacity Utilization | | 43.2% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 3 | 1 | 25 | 44 | 144 | 0 | 0 | 71 | 151 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.73 | 0.73 | 0.73 | 0.81 | 0.81 | 0.81 | 0.80 | 0.80 | 0.80 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 4 | 1 | 34 | 54 | 178 | 0 | 0 | 89 | 189 |
| Pedestrians | | 3 | | | | | | | | | | |
| Lane Width (ft) | | 0.0 | | | | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | | | | | | | | |
| Percent Blockage | | 0 | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 507 | 473 | 186 | 470 | 567 | 178 | 280 | | | 178 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 507 | 473 | 186 | 470 | 567 | 178 | 280 | | | 178 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 99 | 100 | 96 | 96 | | | 100 | | |
| cM capacity (veh/h) | 444 | 472 | 861 | 491 | 418 | 870 | 1294 | | | 1410 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 40 | 232 | 278 |
| Volume Left | 4 | 54 | 0 |
| Volume Right | 34 | 0 | 189 |
| cSH | 779 | 1294 | 1700 |
| Volume to Capacity | 0.05 | 0.04 | 0.16 |
| Queue Length 95th (ft) | 4 | 3 | 0 |
| Control Delay (s) | 9.9 | 2.1 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.9 | 2.1 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 1.6 | | |
| Intersection Capacity Utilization | 36.6% | ICU Level of Service | A | |
| Analysis Period (min) | | 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 58 | 49 | 173 | 63 | 29 | 140 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.80 | 0.80 | 0.89 | 0.89 | 0.83 | 0.83 |
| Hourly flow rate (vph) | 72 | 61 | 194 | 71 | 35 | 169 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 134 | | 563 | 103 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 134 | | 563 | 103 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 87 | | 92 | 82 |
| cM capacity (veh/h) | | | 1451 | | 425 | 957 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 134 | 265 | 204 |
| Volume Left | 0 | 194 | 35 |
| Volume Right | 61 | 0 | 169 |
| cSH | 1700 | 1451 | 788 |
| Volume to Capacity | 0.08 | 0.13 | 0.26 |
| Queue Length 95th (ft) | 0 | 12 | 26 |
| Control Delay (s) | 0.0 | 6.1 | 11.2 |
| Lane LOS | | A | B |
| Approach Delay (s) | 0.0 | 6.1 | 11.2 |
| Approach LOS | | | B |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 6.4 | | |
| Intersection Capacity Utilization | 36.5% | ICU Level of Service | A | |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 161 | 30 | 43 | 0 | 0 | 0 | 0 | 27 | 6 | 58 | 16 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.92 | 0.92 | 0.92 | 0.63 | 0.63 | 0.63 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 189 | 35 | 51 | 0 | 0 | 0 | 0 | 43 | 10 | 63 | 17 | 0 |
| Pedestrians | | 3 | | | | | | | | | | |
| Lane Width (ft) | | 12.0 | | | | | | | | | | |
| Walking Speed (ft/s) | | 4.0 | | | | | | | | | | |
| Percent Blockage | | 0 | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 194 | 199 | 20 | 259 | 194 | 48 | 20 | | | 52 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 194 | 199 | 20 | 259 | 194 | 48 | 20 | | | 52 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 74 | 95 | 95 | 100 | 100 | 100 | 100 | | | 96 | | |
| cM capacity (veh/h) | 743 | 671 | 1060 | 617 | 675 | 1027 | 1592 | | | 1566 | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 275 | 52 | 80 |
| Volume Left | 189 | 0 | 63 |
| Volume Right | 51 | 10 | 0 |
| cSH | 775 | 1700 | 1566 |
| Volume to Capacity | 0.36 | 0.03 | 0.04 |
| Queue Length 95th (ft) | 40 | 0 | 3 |
| Control Delay (s) | 12.2 | 0.0 | 5.9 |
| Lane LOS | B | | A |
| Approach Delay (s) | 12.2 | 0.0 | 5.9 |
| Approach LOS | B | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 9.4 | | |
| Intersection Capacity Utilization | 30.8% | | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 201 | 0 | 0 | 172 | 0 | 0 | 2 | 0 | 0 | 0 | 4 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.94 | 0.94 | 0.94 | 0.90 | 0.90 | 0.90 | 0.25 | 0.25 | 0.25 |
| Hourly flow rate (vph) | 0 | 228 | 0 | 0 | 183 | 0 | 0 | 2 | 0 | 0 | 0 | 16 |
| Pedestrians | | 8 | | | 9 | | | 1 | | | 5 | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | 1 | | | 1 | | | 0 | | | 0 | |
| Right turn flare (veh) | | | | | | | | | 2 | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 188 | | | 229 | | | 436 | 417 | 238 | 426 | 417 | 196 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 188 | | | 229 | | | 436 | 417 | 238 | 426 | 417 | 196 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 100 | | | 100 | 100 | 100 | 100 | 100 | 98 |
| cM capacity (veh/h) | 1386 | | | 1343 | | | 518 | 527 | 799 | 532 | 527 | 841 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 228 | 183 | 2 | 16 |
| Volume Left | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 16 |
| cSH | 1386 | 1700 | 376 | 841 |
| Volume to Capacity | 0.00 | 0.11 | 0.01 | 0.02 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 1 |
| Control Delay (s) | 0.0 | 0.0 | 14.6 | 9.4 |
| Lane LOS | | | B | A |
| Approach Delay (s) | 0.0 | 0.0 | 14.6 | 9.4 |
| Approach LOS | | | B | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 0.4 | | |
| Intersection Capacity Utilization | 32.3% | | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 2 | 88 | 62 | 34 | 169 | 28 | 36 | 39 | 106 | 13 | 16 | 32 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | 0.87 | 0.87 | 0.87 | 0.94 | 0.94 | 0.94 | 0.76 | 0.76 | 0.76 |
| Hourly flow rate (vph) | 2 | 104 | 73 | 39 | 194 | 32 | 38 | 41 | 113 | 17 | 21 | 42 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 179 | 266 | 193 | 80 |
| Volume Left (vph) | 2 | 39 | 38 | 17 |
| Volume Right (vph) | 73 | 32 | 113 | 42 |
| Hadj (s) | -0.21 | -0.03 | -0.28 | -0.24 |
| Departure Headway (s) | 4.7 | 4.8 | 4.8 | 5.0 |
| Degree Utilization, x | 0.24 | 0.35 | 0.26 | 0.11 |
| Capacity (veh/h) | 700 | 707 | 684 | 635 |
| Control Delay (s) | 9.2 | 10.4 | 9.5 | 8.7 |
| Approach Delay (s) | 9.2 | 10.4 | 9.5 | 8.7 |
| Approach LOS | A | B | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 9.7 | | |
| HCM Level of Service | | A | | |
| Intersection Capacity Utilization | | 44.8% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | WBL | WBR | SBL2 | SBL | NWR |
|---|---|---|---|---|---|
| Lane Configurations | | | | | |
| Volume (veh/h) | 153 | 80 | 156 | 23 | 0 |
| Sign Control | Free | | | Stop | Stop |
| Grade | 0% | | | 0% | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.86 | 0.86 | 0.92 |
| Hourly flow rate (vph) | 170 | 89 | 181 | 27 | 0 |
| Pedestrians | 7 | | | 2 | 1 |
| Lane Width (ft) | 12.0 | | | 12.0 | 0.0 |
| Walking Speed (ft/s) | 4.0 | | | 4.0 | 4.0 |
| Percent Blockage | 1 | | | 0 | 0 |
| Right turn flare (veh) | | | | | |
| Median type | None | | | | |
| Median storage veh) | | | | | |
| Upstream signal (ft) | | | | | |
| pX, platoon unblocked | | | | | |
| vC, conflicting volume | 1 | | 393 | 387 | 432 |
| vC1, stage 1 conf vol | | | | | |
| vC2, stage 2 conf vol | | | | | |
| vCu, unblocked vol | 1 | | 393 | 387 | 432 |
| tC, single (s) | 4.1 | | 7.1 | 6.5 | 6.5 |
| tC, 2 stage (s) | | | | | |
| tF (s) | 2.2 | | 3.5 | 4.0 | 4.0 |
| p0 queue free % | 90 | | 65 | 95 | 100 |
| cM capacity (veh/h) | 1622 | | 516 | 489 | 464 |

| Direction, Lane # | WB 1 | SB 1 | SB 2 |
|---|---|---|---|
| Volume Total | 259 | 181 | 27 |
| Volume Left | 170 | 181 | 0 |
| Volume Right | 89 | 0 | 0 |
| cSH | 1622 | 516 | 489 |
| Volume to Capacity | 0.10 | 0.35 | 0.05 |
| Queue Length 95th (ft) | 9 | 39 | 4 |
| Control Delay (s) | 5.2 | 15.7 | 12.8 |
| Lane LOS | A | C | B |
| Approach Delay (s) | 5.2 | 15.3 | |
| Approach LOS | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 9.7 | | |
| Intersection Capacity Utilization | | 37.4% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 153 | 22 | 10 | 0 | 0 | 13 | 0 | 15 | 8 | 95 | 17 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.65 | 0.65 | 0.65 | 0.69 | 0.69 | 0.69 | 0.78 | 0.78 | 0.78 |
| Hourly flow rate (vph) | 204 | 29 | 13 | 0 | 0 | 20 | 0 | 22 | 12 | 122 | 22 | 0 |
| Pedestrians | | 2 | | | 2 | | | 1 | | | | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | 12.0 | | | | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | 4.0 | | | | |
| Percent Blockage | | 0 | | | 0 | | | 0 | | | | |
| Right turn flare (veh) | | | 2 | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 315 | 303 | 25 | 317 | 297 | 30 | 24 | | | 35 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 315 | 303 | 25 | 317 | 297 | 30 | 24 | | | 35 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 65 | 95 | 99 | 100 | 100 | 98 | 100 | | | 92 | | |
| cM capacity (veh/h) | 588 | 563 | 1052 | 564 | 565 | 1043 | 1588 | | | 1573 | | |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 247 | 20 | 33 | 144 |
| Volume Left | 204 | 0 | 0 | 122 |
| Volume Right | 13 | 20 | 12 | 0 |
| cSH | 618 | 1043 | 1700 | 1573 |
| Volume to Capacity | 0.40 | 0.02 | 0.02 | 0.08 |
| Queue Length 95th (ft) | 48 | 1 | 0 | 6 |
| Control Delay (s) | 14.8 | 8.5 | 0.0 | 6.4 |
| Lane LOS | B | A | | A |
| Approach Delay (s) | 14.8 | 8.5 | 0.0 | 6.4 |
| Approach LOS | B | A | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 10.7 | | |
| Intersection Capacity Utilization | | 35.8% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 2 | 0 | 52 | 1 | 137 | 0 | 0 | 96 | 216 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.81 | 0.81 | 0.81 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 2 | 0 | 62 | 1 | 163 | 0 | 0 | 119 | 267 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | 6 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 315 | 284 | 119 | 284 | 551 | 163 | 385 | | | 163 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 315 | 284 | 119 | 284 | 551 | 163 | 385 | | | 163 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 100 | 100 | 93 | 100 | | | 100 | | |
| cM capacity (veh/h) | 596 | 628 | 939 | 672 | 445 | 887 | 1184 | | | 1428 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 64 | 164 | 119 | 267 |
| Volume Left | 2 | 1 | 0 | 0 |
| Volume Right | 62 | 0 | 0 | 267 |
| cSH | 921 | 1184 | 1700 | 1700 |
| Volume to Capacity | 0.07 | 0.00 | 0.07 | 0.16 |
| Queue Length 95th (ft) | 6 | 0 | 0 | 0 |
| Control Delay (s) | 9.4 | 0.1 | 0.0 | 0.0 |
| Lane LOS | A | A | | |
| Approach Delay (s) | 9.4 | 0.1 | 0.0 | |
| Approach LOS | A | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 1.0 | | |
| Intersection Capacity Utilization | | 34.0% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 138 | 0 | 0 | 0 | 98 | 0 |
| Sign Control | | Stop | Stop | | Free | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 150 | 0 | 0 | 0 | 107 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 213 | 213 | 213 | 0 | 0 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 213 | 213 | 213 | 0 | 0 | |
| tC, single (s) | 7.1 | 6.5 | 6.5 | 6.2 | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 4.0 | 4.0 | 3.3 | 2.2 | |
| p0 queue free % | 79 | 100 | 100 | 100 | 93 | |
| cM capacity (veh/h) | 706 | 640 | 643 | 1091 | 1623 | |

| Direction, Lane # | EB 1 | SB 1 |
|---|---|---|
| Volume Total | 150 | 107 |
| Volume Left | 150 | 107 |
| Volume Right | 0 | 0 |
| cSH | 706 | 1623 |
| Volume to Capacity | 0.21 | 0.07 |
| Queue Length 95th (ft) | 20 | 5 |
| Control Delay (s) | 11.5 | 7.4 |
| Lane LOS | B | A |
| Approach Delay (s) | 11.5 | 7.4 |
| Approach LOS | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 9.8 | | |
| Intersection Capacity Utilization | 19.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 81 | 24 | 288 | 40 | 22 | 167 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.73 | 0.73 | 0.92 | 0.92 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 111 | 33 | 313 | 43 | 24 | 186 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | 1 |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 111 | | 781 | 111 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 111 | | 781 | 111 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 79 | | 92 | 80 |
| cM capacity (veh/h) | | | 1479 | | 289 | 948 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 |
|---|---|---|---|---|
| Volume Total | 111 | 33 | 357 | 210 |
| Volume Left | 0 | 0 | 313 | 24 |
| Volume Right | 0 | 33 | 0 | 186 |
| cSH | 1700 | 1700 | 1479 | 1073 |
| Volume to Capacity | 0.07 | 0.02 | 0.21 | 0.20 |
| Queue Length 95th (ft) | 0 | 0 | 20 | 18 |
| Control Delay (s) | 0.0 | 0.0 | 7.3 | 10.8 |
| Lane LOS | | | A | B |
| Approach Delay (s) | 0.0 | | 7.3 | 10.8 |
| Approach LOS | | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 6.9 | | |
| Intersection Capacity Utilization | 34.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 0 | 0 | 0 | 24 | 5 | 70 | 80 | 225 | 0 | 0 | 170 | 373 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.81 | 0.81 | 0.81 | 0.91 | 0.91 | 0.91 | 0.88 | 0.88 | 0.88 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 30 | 6 | 86 | 88 | 247 | 0 | 0 | 193 | 424 |
| Pedestrians | | 1 | | | 2 | | | 3 | | | 2 | |
| Lane Width (ft) | | 0.0 | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | 0 | | | 0 | | | 0 | | | 0 | |
| Right turn flare (veh) | | | | | | 2 | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 666 | 619 | 197 | 621 | 1043 | 251 | 618 | | | 249 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 666 | 619 | 197 | 621 | 1043 | 251 | 618 | | | 249 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 100 | 100 | 100 | 92 | 97 | 89 | 91 | | | 100 | | |
| cM capacity (veh/h) | 304 | 370 | 847 | 373 | 210 | 790 | 972 | | | 1326 | | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 | SB 2 |
|---|---|---|---|---|
| Volume Total | 122 | 335 | 193 | 424 |
| Volume Left | 30 | 88 | 0 | 0 |
| Volume Right | 86 | 0 | 0 | 424 |
| cSH | 1117 | 972 | 1700 | 1700 |
| Volume to Capacity | 0.11 | 0.09 | 0.11 | 0.25 |
| Queue Length 95th (ft) | 9 | 7 | 0 | 0 |
| Control Delay (s) | 12.0 | 3.1 | 0.0 | 0.0 |
| Lane LOS | B | A | | |
| Approach Delay (s) | 12.0 | 3.1 | 0.0 | |
| Approach LOS | B | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 2.3 | |
| Intersection Capacity Utilization | | 53.5% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 64 | 113 | 44 | 67 | 49 | 11 | 16 | 247 | 32 | 15 | 432 | 65 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.94 | 0.94 | 0.94 | 0.93 | 0.93 | 0.93 | 0.88 | 0.88 | 0.88 |
| Hourly flow rate (vph) | 70 | 124 | 48 | 71 | 52 | 12 | 17 | 266 | 34 | 17 | 491 | 74 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|---|
| Volume Total (vph) | 195 | 48 | 123 | 12 | 283 | 34 | 508 | 74 |
| Volume Left (vph) | 70 | 0 | 71 | 0 | 17 | 0 | 17 | 0 |
| Volume Right (vph) | 0 | 48 | 0 | 12 | 0 | 34 | 0 | 74 |
| Hadj (s) | 0.21 | -0.67 | 0.32 | -0.67 | 0.03 | -0.70 | 0.05 | -0.67 |
| Departure Headway (s) | 7.5 | 6.6 | 7.8 | 6.9 | 6.7 | 6.0 | 6.4 | 5.7 |
| Degree Utilization, x | 0.40 | 0.09 | 0.27 | 0.02 | 0.53 | 0.06 | 0.90 | 0.12 |
| Capacity (veh/h) | 459 | 512 | 433 | 488 | 509 | 566 | 508 | 612 |
| Control Delay (s) | 14.3 | 9.1 | 12.5 | 8.8 | 15.8 | 8.2 | 41.3 | 8.2 |
| Approach Delay (s) | 13.2 | | 12.2 | | 15.0 | | 37.1 | |
| Approach LOS | B | | B | | C | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | 24.4 | |
| HCM Level of Service | | C | |
| Intersection Capacity Utilization | | 57.7% | ICU Level of Service B |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 198 | 12 | 51 | 6 | 0 | 27 | 0 | 80 | 20 | 121 | 73 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.55 | 0.55 | 0.55 | 0.86 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 251 | 15 | 65 | 11 | 0 | 49 | 0 | 93 | 23 | 132 | 79 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 496 | 459 | 79 | 519 | 447 | 105 | 79 | | | 116 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 496 | 459 | 79 | 519 | 447 | 105 | 79 | | | 116 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 42 | 97 | 93 | 97 | 100 | 95 | 100 | | | 91 | | |
| cM capacity (veh/h) | 431 | 457 | 987 | 397 | 462 | 950 | 1519 | | | 1485 | | |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 251 | 80 | 60 | 116 | 211 |
| Volume Left | 251 | 0 | 11 | 0 | 132 |
| Volume Right | 0 | 65 | 49 | 23 | 0 |
| cSH | 431 | 808 | 758 | 1700 | 1485 |
| Volume to Capacity | 0.58 | 0.10 | 0.08 | 0.07 | 0.09 |
| Queue Length 95th (ft) | 90 | 8 | 6 | 0 | 7 |
| Control Delay (s) | 24.3 | 9.9 | 10.2 | 0.0 | 5.0 |
| Lane LOS | C | A | B | | A |
| Approach Delay (s) | 20.9 | | 10.2 | 0.0 | 5.0 |
| Approach LOS | C | | B | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 11.9 | | |
| Intersection Capacity Utilization | | 41.5% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 32 | 6 | 2 | 68 | 76 | 54 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.80 | 0.80 | 0.89 | 0.89 |
| Hourly flow rate (vph) | 35 | 7 | 2 | 85 | 85 | 61 |
| Pedestrians | 1 | | | 2 | 1 | |
| Lane Width (ft) | 12.0 | | | 12.0 | 12.0 | |
| Walking Speed (ft/s) | 4.0 | | | 4.0 | 4.0 | |
| Percent Blockage | 0 | | | 0 | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 208 | 119 | 147 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 208 | 119 | 147 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 96 | 99 | 100 | | | |
| cM capacity (veh/h) | 778 | 931 | 1434 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 41 | 88 | 146 |
| Volume Left | 35 | 2 | 0 |
| Volume Right | 7 | 0 | 61 |
| cSH | 799 | 1434 | 1700 |
| Volume to Capacity | 0.05 | 0.00 | 0.09 |
| Queue Length 95th (ft) | 4 | 0 | 0 |
| Control Delay (s) | 9.8 | 0.2 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.8 | 0.2 | 0.0 |
| Approach LOS | A | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 1.5 | | |
| Intersection Capacity Utilization | | 18.2% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 0 | 0 | 0 | 32 | 73 | 58 | 150 | 291 | 0 | 0 | 166 | 172 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.83 | 0.83 | 0.83 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 35 | 79 | 63 | 181 | 351 | 0 | 0 | 180 | 187 |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 177 | 531 | 367 |
| Volume Left (vph) | 35 | 181 | 0 |
| Volume Right (vph) | 63 | 0 | 187 |
| Hadj (s) | -0.14 | 0.09 | -0.27 |
| Departure Headway (s) | 5.9 | 5.0 | 4.9 |
| Degree Utilization, x | 0.29 | 0.74 | 0.50 |
| Capacity (veh/h) | 547 | 698 | 707 |
| Control Delay (s) | 11.3 | 21.0 | 12.7 |
| Approach Delay (s) | 11.3 | 21.0 | 12.7 |
| Approach LOS | B | C | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | | 16.6 |
| HCM Level of Service | | | C |
| Intersection Capacity Utilization | | | 64.0% |
| Analysis Period (min) | | | 15 |

ICU Level of Service C





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 227 | 264 | 75 | 0 | 0 | 0 | 0 | 214 | 49 | 123 | 75 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.86 | 0.86 | 0.86 |
| Hourly flow rate (vph) | 247 | 287 | 82 | 0 | 0 | 0 | 0 | 243 | 56 | 143 | 87 | 0 |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 247 | 368 | 299 | 230 |
| Volume Left (vph) | 247 | 0 | 0 | 143 |
| Volume Right (vph) | 0 | 82 | 56 | 0 |
| Hadj (s) | 0.52 | -0.14 | -0.11 | 0.12 |
| Departure Headway (s) | 6.6 | 5.9 | 5.7 | 6.1 |
| Degree Utilization, x | 0.45 | 0.60 | 0.48 | 0.39 |
| Capacity (veh/h) | 532 | 586 | 593 | 563 |
| Control Delay (s) | 13.6 | 16.3 | 13.9 | 12.9 |
| Approach Delay (s) | 15.2 | | 13.9 | 12.9 |
| Approach LOS | C | | B | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | | 14.4 |
| HCM Level of Service | | | B |
| Intersection Capacity Utilization | | | 54.1% |
| Analysis Period (min) | | | 15 |

ICU Level of Service A

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 152 | 4 | 6 | 0 | 0 | 8 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.76 | 0.76 | 0.38 | 0.38 | 0.40 | 0.40 |
| Hourly flow rate (vph) | 200 | 5 | 16 | 0 | 0 | 20 |
| Pedestrians | 1 | | | 6 | 2 | |
| Lane Width (ft) | 12.0 | | | 12.0 | 12.0 | |
| Walking Speed (ft/s) | 4.0 | | | 4.0 | 4.0 | |
| Percent Blockage | 0 | | | 0 | 0 | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 207 | | 235 | 208 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 207 | | 235 | 208 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 99 | | 100 | 98 |
| cM capacity (veh/h) | | | 1362 | | 743 | 827 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 |
|---|---|---|---|---|
| Volume Total | 200 | 5 | 16 | 20 |
| Volume Left | 0 | 0 | 16 | 0 |
| Volume Right | 0 | 5 | 0 | 20 |
| cSH | 1700 | 1700 | 1362 | 827 |
| Volume to Capacity | 0.12 | 0.00 | 0.01 | 0.02 |
| Queue Length 95th (ft) | 0 | 0 | 1 | 2 |
| Control Delay (s) | 0.0 | 0.0 | 7.7 | 9.5 |
| Lane LOS | | | A | A |
| Approach Delay (s) | 0.0 | | 7.7 | 9.5 |
| Approach LOS | | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.3 | | |
| Intersection Capacity Utilization | 20.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 92 | 64 | 1 | 199 | 150 | 5 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.87 | 0.87 | 0.94 | 0.94 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 106 | 74 | 1 | 212 | 167 | 6 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 383 | 169 | 172 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 383 | 169 | 172 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 83 | 92 | 100 | | | |
| cM capacity (veh/h) | 619 | 874 | 1405 | | | |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 179 | 213 | 172 |
| Volume Left | 106 | 1 | 0 |
| Volume Right | 74 | 0 | 6 |
| cSH | 703 | 1405 | 1700 |
| Volume to Capacity | 0.25 | 0.00 | 0.10 |
| Queue Length 95th (ft) | 25 | 0 | 0 |
| Control Delay (s) | 11.9 | 0.0 | 0.0 |
| Lane LOS | B | A | |
| Approach Delay (s) | 11.9 | 0.0 | 0.0 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.8 | | |
| Intersection Capacity Utilization | 26.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 13 | 520 | 0 | 0 | 541 | 18 | 53 | 7 | 13 | 29 | 0 | 18 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.87 | 0.87 | 0.87 | 0.63 | 0.63 | 0.63 | 0.62 | 0.62 | 0.62 |
| Hourly flow rate (vph) | 14 | 571 | 0 | 0 | 622 | 21 | 84 | 11 | 21 | 47 | 0 | 29 |
| Pedestrians | | 2 | | | 13 | | | 8 | | | 19 | |
| Lane Width (ft) | | 12.0 | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | 0 | | | 1 | | | 1 | | | 2 | |
| Right turn flare (veh) | | | | | | | | | 1 | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 662 | | | 579 | | | 1271 | 1270 | 592 | 1280 | 1259 | 653 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 662 | | | 579 | | | 1271 | 1270 | 592 | 1280 | 1259 | 653 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 98 | | | 100 | | | 36 | 93 | 96 | 62 | 100 | 94 |
| cM capacity (veh/h) | 912 | | | 988 | | | 132 | 163 | 501 | 123 | 164 | 459 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total | 586 | 643 | 84 | 32 | 76 |
| Volume Left | 14 | 0 | 84 | 0 | 47 |
| Volume Right | 0 | 21 | 0 | 21 | 29 |
| cSH | 912 | 1700 | 132 | 467 | 170 |
| Volume to Capacity | 0.02 | 0.38 | 0.64 | 0.07 | 0.44 |
| Queue Length 95th (ft) | 1 | 0 | 84 | 5 | 51 |
| Control Delay (s) | 0.4 | 0.0 | 71.3 | 18.2 | 42.0 |
| Lane LOS | A | | F | C | E |
| Approach Delay (s) | 0.4 | 0.0 | 56.7 | | 42.0 |
| Approach LOS | | | F | | E |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 7.0 | | |
| Intersection Capacity Utilization | | 54.2% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 294 | 0 | 2 | 188 | 0 | 3 | 0 | 363 | 273 | 111 | 243 | 0 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.71 | 0.71 | 0.71 | 0.82 | 0.82 | 0.82 | 0.79 | 0.79 | 0.79 |
| Hourly flow rate (vph) | 350 | 0 | 2 | 265 | 0 | 4 | 0 | 443 | 333 | 141 | 308 | 0 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|---|
| Volume Total (vph) | 350 | 2 | 269 | 443 | 333 | 141 | 308 |
| Volume Left (vph) | 350 | 0 | 265 | 0 | 0 | 141 | 0 |
| Volume Right (vph) | 0 | 2 | 4 | 0 | 333 | 0 | 0 |
| Hadj (s) | 0.52 | -0.68 | 0.20 | 0.02 | -0.68 | 0.52 | 0.02 |
| Departure Headway (s) | 9.3 | 8.2 | 9.3 | 8.7 | 8.0 | 9.3 | 8.8 |
| Degree Utilization, x | 0.91 | 0.01 | 0.69 | 1.07 | 0.74 | 0.36 | 0.76 |
| Capacity (veh/h) | 380 | 429 | 375 | 421 | 443 | 365 | 396 |
| Control Delay (s) | 55.6 | 10.0 | 30.6 | 92.4 | 28.9 | 16.4 | 33.4 |
| Approach Delay (s) | 55.3 | | 30.6 | 65.1 | | 28.1 | |
| Approach LOS | F | | D | F | | D | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | | 49.2 | | |
| HCM Level of Service | | E | | |
| Intersection Capacity Utilization | | 52.5% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 354 | 670 | 71 | 589 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.90 | 0.90 | 0.96 | 0.96 |
| Hourly flow rate (vph) | 0 | 0 | 393 | 744 | 74 | 614 |
| Pedestrians | 16 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 0 | | 1547 | 0 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 0 | | 1547 | 0 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 76 | | 23 | 44 |
| cM capacity (veh/h) | | | 1623 | | 96 | 1088 |

| Direction, Lane # | WB 1 | WB 2 | NB 1 | NB 2 |
|---|---|---|---|---|
| Volume Total | 393 | 744 | 74 | 614 |
| Volume Left | 393 | 0 | 74 | 0 |
| Volume Right | 0 | 0 | 0 | 614 |
| cSH | 1623 | 1700 | 96 | 1088 |
| Volume to Capacity | 0.24 | 0.44 | 0.77 | 0.56 |
| Queue Length 95th (ft) | 24 | 0 | 102 | 91 |
| Control Delay (s) | 7.9 | 0.0 | 116.6 | 12.5 |
| Lane LOS | A | | F | B |
| Approach Delay (s) | 2.7 | | 23.7 | |
| Approach LOS | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 10.6 | | |
| Intersection Capacity Utilization | 45.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Yield | | Yield | |
| Volume (vph) | 0 | 0 | 0 | 208 | 0 | 269 |
| Peak Hour Factor | 0.92 | 0.92 | 0.87 | 0.87 | 0.93 | 0.93 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 239 | 0 | 289 |

| Direction, Lane # | WB 1 | SB 1 |
|---|---|---|
| Volume Total (vph) | 239 | 289 |
| Volume Left (vph) | 0 | 0 |
| Volume Right (vph) | 239 | 289 |
| Hadj (s) | -0.58 | -0.57 |
| Departure Headway (s) | 3.2 | 3.2 |
| Degree Utilization, x | 0.21 | 0.26 |
| Capacity (veh/h) | 1122 | 1112 |
| Control Delay (s) | 7.1 | 7.3 |
| Approach Delay (s) | 7.1 | 7.3 |
| Approach LOS | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 7.2 | | |
| HCM Level of Service | A | | |
| Intersection Capacity Utilization | 20.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBT | WBR | WBR2 | NBL | NBT | NBR | SBL2 | SBL | SBT | SBR | SWL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Right Turn Channelized | | | | | | | | | | | | |
| Volume (veh/h) | 52 | 9 | 238 | 55 | 220 | 677 | 415 | 15 | 106 | 721 | 499 | 124 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 57 | 10 | 259 | 60 | 239 | 736 | 451 | 16 | 115 | 784 | 542 | 135 |
| Approach Volume (veh/h) | | 385 | | | | 1426 | | | | 1458 | | 450 |
| Crossing Volume (veh/h) | | 1442# | | | | 132 | | | | 651 | | 1300# |
| High Capacity (veh/h) | | 431 | | | | 1250 | | | | 827 | | 486 |
| High v/c (veh/h) | | 0.89 | | | | 1.14 | | | | 1.76 | | 0.93 |
| Low Capacity (veh/h) | | 321 | | | | 1038 | | | | 660 | | 367 |
| Low v/c (veh/h) | | 1.20 | | | | 1.37 | | | | 2.21 | | 1.23 |

| Intersection Summary | | | |
|---|---|---|---|
| Maximum v/c High | 1.76 | | |
| Maximum v/c Low | 2.21 | | |
| Intersection Capacity Utilization | Err% | ICU Level of Service | H |

# Crossing flow exceeds 1200, method is not applicable

Description: NB On/Off-Ramps & Milpas St

| Movement | SWR | SWR2 |
|---|---|---|
| Right Turn Channelized | | |
| Volume (veh/h) | 194 | 96 |
| Peak Hour Factor | 0.92 | 0.92 |
| Hourly flow rate (vph) | 211 | 104 |
| Approach Volume (veh/h) | | |
| Crossing Volume (veh/h) | | |
| High Capacity (veh/h) | | |
| High v/c (veh/h) | | |
| Low Capacity (veh/h) | | |
| Low v/c (veh/h) | | |

Intersection Summary





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 660 | 487 | 0 | 652 | 897 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 11 | 11 | 12 |
| Total Lost time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 0.97 | 1.00 | | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 0.98 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | 1.00 | 1.00 | |
| Satd. Flow (prot) | 3502 | 1576 | | 3490 | 3490 | |
| Flt Permitted | 0.95 | 1.00 | | 1.00 | 1.00 | |
| Satd. Flow (perm) | 3502 | 1576 | | 3490 | 3490 | |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.82 | 0.82 | 0.99 | 0.99 |
| Adj. Flow (vph) | 725 | 535 | 0 | 795 | 906 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 725 | 535 | 0 | 795 | 906 | 0 |
| Confl. Peds. (#/hr) | | 11 | 30 | | | 30 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | | Perm | | | | |
| Protected Phases | 4 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Actuated Green, G (s) | 25.2 | 25.2 | | 25.8 | 25.8 | |
| Effective Green, g (s) | 25.2 | 25.2 | | 25.8 | 25.8 | |
| Actuated g/C Ratio | 0.42 | 0.42 | | 0.43 | 0.43 | |
| Clearance Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 1471 | 662 | | 1501 | 1501 | |
| v/s Ratio Prot | 0.21 | | | 0.23 | c0.26 | |
| v/s Ratio Perm | | c0.34 | | | | |
| v/c Ratio | 0.49 | 0.81 | | 0.53 | 0.60 | |
| Uniform Delay, d1 | 12.7 | 15.3 | | 12.6 | 13.2 | |
| Progression Factor | 1.00 | 1.00 | | 0.41 | 1.00 | |
| Incremental Delay, d2 | 0.3 | 7.2 | | 1.3 | 1.8 | |
| Delay (s) | 13.0 | 22.5 | | 6.5 | 15.0 | |
| Level of Service | B | C | | A | B | |
| Approach Delay (s) | 17.0 | | | 6.5 | 15.0 | |
| Approach LOS | B | | | A | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 13.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 63.6% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | WBL | WBR | NBT | NBR | NBR2 | SBL2 | SBL | SBT | SWL | SWR |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 445 | 0 | 52 | 15 | 870 | 355 | 5 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 |
| Total Lost time (s) | | | 4.5 | | | | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | | | 0.95 | | | | 0.97 | 1.00 | 1.00 | |
| Frt | | | 0.98 | | | | 1.00 | 1.00 | 0.94 | |
| Flt Protected | | | 1.00 | | | | 0.95 | 1.00 | 0.97 | |
| Satd. Flow (prot) | | | 3368 | | | | 3385 | 1837 | 1701 | |
| Flt Permitted | | | 1.00 | | | | 0.95 | 1.00 | 0.97 | |
| Satd. Flow (perm) | | | 3368 | | | | 3385 | 1837 | 1701 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 | 0.93 | 0.93 | 0.93 | 0.72 | 0.72 |
| Adj. Flow (vph) | 0 | 0 | 500 | 0 | 58 | 16 | 935 | 382 | 7 | 6 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 558 | 0 | 0 | 0 | 951 | 382 | 13 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% |
| Turn Type | | | | | | Prot | Prot | | | |
| Protected Phases | | | 2 | | | 1 | 1 | 6 | 4 | |
| Permitted Phases | | | | | | | | | | |
| Actuated Green, G (s) | | | 19.4 | | | | 25.7 | 49.6 | 1.4 | |
| Effective Green, g (s) | | | 19.4 | | | | 25.7 | 49.6 | 1.4 | |
| Actuated g/C Ratio | | | 0.32 | | | | 0.43 | 0.83 | 0.02 | |
| Clearance Time (s) | | | 4.5 | | | | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | | | 3.0 | | | | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | | | 1089 | | | | 1450 | 1519 | 40 | |
| v/s Ratio Prot | | | c0.17 | | | | c0.28 | 0.21 | c0.01 | |
| v/s Ratio Perm | | | | | | | | | | |
| v/c Ratio | | | 0.51 | | | | 0.66 | 0.25 | 0.32 | |
| Uniform Delay, d1 | | | 16.5 | | | | 13.6 | 1.1 | 28.8 | |
| Progression Factor | | | 1.00 | | | | 1.02 | 2.08 | 1.00 | |
| Incremental Delay, d2 | | | 1.7 | | | | 0.8 | 0.3 | 4.7 | |
| Delay (s) | | | 18.2 | | | | 14.7 | 2.7 | 33.5 | |
| Level of Service | | | B | | | | B | A | C | |
| Approach Delay (s) | 0.0 | | 18.2 | | | | | 11.3 | 33.5 | |
| Approach LOS | A | | B | | | | | B | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 13.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 60.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 56.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| Description: SB On-Ramp & Milpas St | | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 114 | 4 | 76 | 344 | 551 | 0 | 0 | 831 | 444 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | | 4.2 | 4.2 | 3.7 | 4.2 | | | 4.2 | 4.2 |
| Lane Util. Factor | | | | | 1.00 | 1.00 | 1.00 | 0.95 | | | 0.95 | 1.00 |
| Frt | | | | | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | | 1777 | 1583 | 1770 | 3539 | | | 3539 | 1583 |
| Flt Permitted | | | | | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | | 1777 | 1583 | 1770 | 3539 | | | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.77 | 0.77 | 0.77 | 0.91 | 0.91 | 0.91 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 0 | 0 | 0 | 148 | 5 | 99 | 378 | 605 | 0 | 0 | 875 | 467 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 153 | 99 | 378 | 605 | 0 | 0 | 875 | 467 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | | | | Split | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | | 7.7 | 7.7 | 16.3 | 55.9 | | | 35.9 | 35.9 |
| Effective Green, g (s) | | | | | 7.7 | 7.7 | 16.3 | 55.9 | | | 35.9 | 35.9 |
| Actuated g/C Ratio | | | | | 0.11 | 0.11 | 0.23 | 0.78 | | | 0.50 | 0.50 |
| Clearance Time (s) | | | | | 4.2 | 4.2 | 3.7 | 4.2 | | | 4.2 | 4.2 |
| Vehicle Extension (s) | | | | | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| Lane Grp Cap (vph) | | | | | 190 | 169 | 401 | 2748 | | | 1765 | 789 |
| v/s Ratio Prot | | | | | c0.09 | | c0.21 | 0.17 | | | 0.25 | |
| v/s Ratio Perm | | | | | | 0.06 | | | | | | c0.29 |
| v/c Ratio | | | | | 0.81 | 0.59 | 0.94 | 0.22 | | | 0.50 | 0.59 |
| Uniform Delay, d1 | | | | | 31.4 | 30.6 | 27.4 | 2.2 | | | 12.0 | 12.8 |
| Progression Factor | | | | | 1.00 | 1.00 | 0.92 | 0.49 | | | 1.23 | 1.19 |
| Incremental Delay, d2 | | | | | 20.3 | 3.3 | 22.5 | 0.1 | | | 0.5 | 1.6 |
| Delay (s) | | | | | 51.8 | 33.9 | 47.7 | 1.2 | | | 15.2 | 16.9 |
| Level of Service | | | | | D | C | D | A | | | B | B |
| Approach Delay (s) | | 0.0 | | | 44.8 | | | 19.1 | | | 15.8 | |
| Approach LOS | | A | | | D | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 19.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.71 | | |
| Actuated Cycle Length (s) | 72.0 | Sum of lost time (s) | 12.1 |
| Intersection Capacity Utilization | 66.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 22 | 0 | 1 | 197 | 0 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.61 | 0.61 | 0.85 | 0.85 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 36 | 0 | 1 | 232 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 118 | 0 | 0 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 118 | 0 | 0 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 96 | 100 | 100 | | | |
| cM capacity (veh/h) | 864 | 1084 | 1622 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 |
|---|---|---|---|
| Volume Total | 36 | 78 | 155 |
| Volume Left | 36 | 1 | 0 |
| Volume Right | 0 | 0 | 0 |
| cSH | 864 | 1622 | 1700 |
| Volume to Capacity | 0.04 | 0.00 | 0.09 |
| Queue Length 95th (ft) | 3 | 0 | 0 |
| Control Delay (s) | 9.3 | 0.1 | 0.0 |
| Lane LOS | A | A | |
| Approach Delay (s) | 9.3 | 0.0 | |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.3 | | |
| Intersection Capacity Utilization | 15.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 350 | 24 | 94 | 0 | 0 | 0 | 0 | 545 | 47 | 478 | 467 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.2 | 4.2 | 4.2 | | | | | 4.2 | | 4.2 | 4.2 | |
| Lane Util. Factor | 0.95 | 0.91 | 0.95 | | | | | 0.95 | | 0.97 | 1.00 | |
| Frt | 1.00 | 0.99 | 0.85 | | | | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 0.96 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1715 | 1648 | 1534 | | | | | 3497 | | 3433 | 1863 | |
| Flt Permitted | 0.95 | 0.96 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1715 | 1648 | 1534 | | | | | 3497 | | 3433 | 1863 | |
| Peak-hour factor, PHF | 0.82 | 0.82 | 0.82 | 0.92 | 0.92 | 0.92 | 0.93 | 0.93 | 0.93 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 427 | 29 | 115 | 0 | 0 | 0 | 0 | 586 | 51 | 520 | 508 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 235 | 233 | 103 | 0 | 0 | 0 | 0 | 637 | 0 | 520 | 508 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Actuated Green, G (s) | 7.8 | 7.8 | 7.8 | | | | | 36.4 | | 15.2 | 55.8 | |
| Effective Green, g (s) | 7.8 | 7.8 | 7.8 | | | | | 36.4 | | 15.2 | 55.8 | |
| Actuated g/C Ratio | 0.11 | 0.11 | 0.11 | | | | | 0.51 | | 0.21 | 0.77 | |
| Clearance Time (s) | 4.2 | 4.2 | 4.2 | | | | | 4.2 | | 4.2 | 4.2 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 186 | 179 | 166 | | | | | 1768 | | 725 | 1444 | |
| v/s Ratio Prot | 0.14 | c0.14 | | | | | | 0.18 | | c0.15 | c0.27 | |
| v/s Ratio Perm | | | 0.07 | | | | | | | | | |
| v/c Ratio | 1.26 | 1.30 | 0.62 | | | | | 0.36 | | 0.72 | 0.35 | |
| Uniform Delay, d1 | 32.1 | 32.1 | 30.7 | | | | | 10.8 | | 26.4 | 2.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 1.04 | | 0.74 | 3.46 | |
| Incremental Delay, d2 | 154.2 | 170.3 | 5.1 | | | | | 0.3 | | 2.4 | 0.6 | |
| Delay (s) | 186.3 | 202.4 | 35.8 | | | | | 11.4 | | 22.0 | 9.2 | |
| Level of Service | F | F | D | | | | | B | | C | A | |
| Approach Delay (s) | | 165.7 | | | 0.0 | | | 11.4 | | | 15.7 | |
| Approach LOS | | F | | | A | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 52.8 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 72.0 | Sum of lost time (s) | 8.4 |
| Intersection Capacity Utilization | 66.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 268 | 147 | 22 | 10 | 99 | 171 | 8 | 134 | 5 | 174 | 235 | 128 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 |
| Total Lost time (s) | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1770 | 3522 | | 1770 | 3352 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1770 | 3522 | | 1770 | 3352 | |
| Peak-hour factor, PHF | 0.89 | 0.89 | 0.89 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 301 | 165 | 25 | 11 | 108 | 186 | 9 | 146 | 5 | 187 | 253 | 138 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 301 | 165 | 25 | 11 | 108 | 186 | 9 | 151 | 0 | 187 | 391 | 0 |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Actuated Green, G (s) | 8.5 | 24.7 | 24.7 | 1.3 | 17.5 | 17.5 | 1.3 | 19.7 | | 11.3 | 29.7 | |
| Effective Green, g (s) | 8.5 | 24.7 | 24.7 | 1.3 | 17.5 | 17.5 | 1.3 | 19.7 | | 11.3 | 29.7 | |
| Actuated g/C Ratio | 0.12 | 0.34 | 0.34 | 0.02 | 0.24 | 0.24 | 0.02 | 0.27 | | 0.16 | 0.41 | |
| Clearance Time (s) | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | |
| Vehicle Extension (s) | 3.0 | 4.0 | 4.0 | 3.0 | 4.0 | 4.0 | 3.0 | 4.0 | | 3.0 | 4.0 | |
| Lane Grp Cap (vph) | 202 | 618 | 525 | 31 | 438 | 372 | 32 | 964 | | 278 | 1383 | |
| v/s Ratio Prot | c0.18 | 0.09 | | 0.01 | 0.06 | | 0.01 | 0.04 | | c0.11 | c0.12 | |
| v/s Ratio Perm | | | 0.02 | | | c0.12 | | | | | | |
| v/c Ratio | 1.49 | 0.27 | 0.05 | 0.35 | 0.25 | 0.50 | 0.28 | 0.16 | | 0.67 | 0.28 | |
| Uniform Delay, d1 | 31.8 | 17.1 | 15.8 | 34.9 | 21.9 | 23.5 | 34.9 | 19.8 | | 28.6 | 14.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 0.57 | 1.16 | |
| Incremental Delay, d2 | 244.9 | 0.3 | 0.1 | 6.9 | 0.4 | 1.4 | 4.8 | 0.3 | | 5.8 | 0.5 | |
| Delay (s) | 276.7 | 17.4 | 15.8 | 41.8 | 22.3 | 24.9 | 39.7 | 20.2 | | 22.0 | 16.8 | |
| Level of Service | F | B | B | D | C | C | D | C | | C | B | |
| Approach Delay (s) | | 176.3 | | | 24.6 | | | 21.3 | | | 18.5 | |
| Approach LOS | | F | | | C | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 70.5 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 0.58 | | |
| Actuated Cycle Length (s) | 72.0 | Sum of lost time (s) | 11.0 |
| Intersection Capacity Utilization | 47.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 12 | 27 | 0 | 0 | 15 | 60 | 8 | 378 | 30 | 20 | 0 | 9 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.77 | 0.77 | 0.77 | 0.63 | 0.63 | 0.63 | 0.90 | 0.90 | 0.90 | 0.62 | 0.62 | 0.62 |
| Hourly flow rate (vph) | 16 | 35 | 0 | 0 | 24 | 95 | 9 | 420 | 33 | 32 | 0 | 15 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | 229 | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 633 | 543 | 7 | 544 | 533 | 437 | 15 | | | 453 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 633 | 543 | 7 | 544 | 533 | 437 | 15 | | | 453 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 95 | 92 | 100 | 100 | 95 | 85 | 99 | | | 97 | | |
| cM capacity (veh/h) | 310 | 432 | 1075 | 411 | 437 | 620 | 1617 | | | 1107 | | |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 51 | 119 | 462 | 47 |
| Volume Left | 16 | 0 | 9 | 32 |
| Volume Right | 0 | 95 | 33 | 15 |
| cSH | 385 | 572 | 1617 | 1107 |
| Volume to Capacity | 0.13 | 0.21 | 0.01 | 0.03 |
| Queue Length 95th (ft) | 11 | 19 | 0 | 2 |
| Control Delay (s) | 15.8 | 12.9 | 0.2 | 5.8 |
| Lane LOS | C | B | A | A |
| Approach Delay (s) | 15.8 | 12.9 | 0.2 | 5.8 |
| Approach LOS | C | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.0 | | |
| Intersection Capacity Utilization | 37.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 455 | 239 | 9 | 516 | 74 | 480 | 27 | 254 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | | | | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 |
| Lane Util. Factor | | | | 0.97 | 1.00 | | 1.00 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Frt | | | | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 3319 | 1791 | | 1711 | 1801 | 1531 | | 3405 | 1531 |
| Flt Permitted | | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 3319 | 1791 | | 1711 | 1801 | 1531 | | 3405 | 1531 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.91 | 0.91 | 0.91 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 0 | 0 | 0 | 474 | 249 | 9 | 567 | 81 | 527 | 28 | 267 | 95 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 474 | 258 | 0 | 567 | 81 | 527 | 0 | 295 | 95 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | | | | Split | | | Split | | Perm | Split | | Perm |
| Protected Phases | | | | 4 | 4 | | 2 | 2 | | 3 | 3 | |
| Permitted Phases | | | | | | | | | 2 | | | 3 |
| Actuated Green, G (s) | | | | 10.8 | 10.8 | | 62.9 | 62.9 | 62.9 | | 13.7 | 13.7 |
| Effective Green, g (s) | | | | 10.8 | 10.8 | | 62.9 | 62.9 | 62.9 | | 13.7 | 13.7 |
| Actuated g/C Ratio | | | | 0.11 | 0.11 | | 0.63 | 0.63 | 0.63 | | 0.14 | 0.14 |
| Clearance Time (s) | | | | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 |
| Vehicle Extension (s) | | | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 2.5 | 2.5 |
| Lane Grp Cap (vph) | | | | 358 | 193 | | 1076 | 1133 | 963 | | 466 | 210 |
| v/s Ratio Prot | | | | 0.14 | c0.14 | | 0.33 | 0.04 | | | c0.09 | |
| v/s Ratio Perm | | | | | | | | | c0.34 | | | 0.06 |
| v/c Ratio | | | | 1.32 | 1.34 | | 0.53 | 0.07 | 0.55 | | 0.63 | 0.45 |
| Uniform Delay, d1 | | | | 44.6 | 44.6 | | 10.3 | 7.2 | 10.5 | | 40.8 | 39.7 |
| Progression Factor | | | | 1.00 | 1.00 | | 0.47 | 0.60 | 0.46 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | | | 164.1 | 182.3 | | 1.6 | 0.1 | 1.9 | | 2.5 | 1.1 |
| Delay (s) | | | | 208.7 | 226.9 | | 6.4 | 4.4 | 6.8 | | 43.2 | 40.8 |
| Level of Service | | | | F | F | | A | A | A | | D | D |
| Approach Delay (s) | | 0.0 | | | 215.1 | | | 6.4 | | | 42.6 | |
| Approach LOS | | A | | | F | | | A | | | D | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 79.1 | HCM Level of Service | E | |
| HCM Volume to Capacity ratio | 0.66 | | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 12.6 | |
| Intersection Capacity Utilization | 60.0% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 115 | 357 | 30 | 11 | 429 | 43 | 265 | 137 | 62 | 0 | 0 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Lane Util. Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | | |
| Frt | 1.00 | 0.99 | | | 1.00 | 0.85 | | 0.98 | | | | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | 0.97 | | | | |
| Satd. Flow (prot) | 1711 | 1779 | | | 1798 | 1531 | | 1719 | | | | |
| Flt Permitted | 0.33 | 1.00 | | | 0.99 | 1.00 | | 0.97 | | | | |
| Satd. Flow (perm) | 589 | 1779 | | | 1778 | 1531 | | 1719 | | | | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 | 0.93 | 0.93 | 0.93 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 125 | 388 | 33 | 12 | 482 | 48 | 285 | 147 | 67 | 0 | 0 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 125 | 421 | 0 | 0 | 494 | 48 | 0 | 499 | 0 | 0 | 0 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Perm | | | Perm | | Perm | Perm | | | | | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | | |
| Permitted Phases | 4 | | | 8 | | 8 | 2 | | | | | |
| Actuated Green, G (s) | 18.4 | 18.4 | | | 18.4 | 18.4 | | 18.6 | | | | |
| Effective Green, g (s) | 18.4 | 18.4 | | | 18.4 | 18.4 | | 18.6 | | | | |
| Actuated g/C Ratio | 0.40 | 0.40 | | | 0.40 | 0.40 | | 0.40 | | | | |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | 3.0 | 3.0 | | 3.0 | | | | |
| Lane Grp Cap (vph) | 236 | 712 | | | 711 | 612 | | 695 | | | | |
| v/s Ratio Prot | | 0.24 | | | | | | | | | | |
| v/s Ratio Perm | 0.21 | | | | c0.28 | 0.03 | | 0.29 | | | | |
| v/c Ratio | 0.53 | 0.59 | | | 0.69 | 0.08 | | 0.72 | | | | |
| Uniform Delay, d1 | 10.5 | 10.8 | | | 11.5 | 8.5 | | 11.5 | | | | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | | |
| Incremental Delay, d2 | 2.1 | 1.3 | | | 3.0 | 0.1 | | 3.6 | | | | |
| Delay (s) | 12.6 | 12.2 | | | 14.4 | 8.6 | | 15.1 | | | | |
| Level of Service | B | B | | | B | A | | B | | | | |
| Approach Delay (s) | | 12.3 | | | 13.9 | | | 15.1 | | | 0.0 | |
| Approach LOS | | B | | | B | | | B | | | A | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 13.7 | HCM Level of Service | B | |
| HCM Volume to Capacity ratio | 0.71 | | | |
| Actuated Cycle Length (s) | 46.0 | Sum of lost time (s) | 9.0 | |
| Intersection Capacity Utilization | 80.7% | ICU Level of Service | D | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 189 | 4 | 388 | 0 | 0 | 0 | 0 | 881 | 82 | 107 | 602 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | | 4.2 | 4.2 | | | | | 4.2 | | 4.2 | 4.2 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | | 1.00 | 1.00 | |
| Frt | | 1.00 | 0.85 | | | | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1811 | 1615 | | | | | 3439 | | 1711 | 1801 | |
| Flt Permitted | | 0.95 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1811 | 1615 | | | | | 3439 | | 1711 | 1801 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 210 | 4 | 431 | 0 | 0 | 0 | 0 | 927 | 86 | 120 | 676 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 214 | 431 | 0 | 0 | 0 | 0 | 1013 | 0 | 120 | 676 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 0% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | | Prot | | |
| Protected Phases | 8 | 8 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 8 | | | | | | | | | |
| Actuated Green, G (s) | | 30.9 | 30.9 | | | | | 48.8 | | 7.7 | 60.7 | |
| Effective Green, g (s) | | 30.9 | 30.9 | | | | | 48.8 | | 7.7 | 60.7 | |
| Actuated g/C Ratio | | 0.31 | 0.31 | | | | | 0.49 | | 0.08 | 0.61 | |
| Clearance Time (s) | | 4.2 | 4.2 | | | | | 4.2 | | 4.2 | 4.2 | |
| Vehicle Extension (s) | | 3.5 | 3.5 | | | | | 5.0 | | 2.0 | 5.0 | |
| Lane Grp Cap (vph) | | 560 | 499 | | | | | 1678 | | 132 | 1093 | |
| v/s Ratio Prot | | 0.12 | | | | | | 0.29 | | c0.07 | c0.38 | |
| v/s Ratio Perm | | | c0.27 | | | | | | | | | |
| v/c Ratio | | 0.38 | 0.86 | | | | | 0.60 | | 0.91 | 0.62 | |
| Uniform Delay, d1 | | 27.1 | 32.6 | | | | | 18.6 | | 45.8 | 12.4 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 1.30 | | 0.47 | 1.60 | |
| Incremental Delay, d2 | | 0.5 | 14.7 | | | | | 1.3 | | 26.8 | 1.1 | |
| Delay (s) | | 27.6 | 47.2 | | | | | 25.4 | | 48.1 | 20.8 | |
| Level of Service | | C | D | | | | | C | | D | C | |
| Approach Delay (s) | | 40.7 | | | 0.0 | | | 25.4 | | | 24.9 | |
| Approach LOS | | D | | | A | | | C | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 29.3 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.71 | | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 8.4 | |
| Intersection Capacity Utilization | 62.7% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 420 | 0 | 179 | 267 | 1249 | 0 | 0 | 1007 | 550 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | | | 4.2 | 4.2 | | 3.7 | 4.2 | | | 4.2 | 4.2 |
| Lane Util. Factor | | | | 0.95 | 0.95 | | 1.00 | 0.95 | | | 0.95 | 1.00 |
| Frpb, ped/bikes | | | | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 0.92 |
| Flpb, ped/bikes | | | | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | | | | 1.00 | 0.91 | | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.98 | | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1698 | 1591 | | 1685 | 3369 | | | 3303 | 1353 |
| Flt Permitted | | | | 0.95 | 0.98 | | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1698 | 1591 | | 1685 | 3369 | | | 3303 | 1353 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.95 | 0.95 | 0.95 | 0.96 | 0.96 | 0.96 |
| Adj. Flow (vph) | 0 | 0 | 0 | 447 | 0 | 190 | 281 | 1315 | 0 | 0 | 1049 | 573 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 331 | 306 | 0 | 281 | 1315 | 0 | 0 | 1049 | 573 |
| Confl. Peds. (#/hr) | | | | | | | | | 24 | 24 | | 31 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | | | | Split | | | Prot | | | | | Perm |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | 6 |
| Actuated Green, G (s) | | | | 15.4 | 15.4 | | 14.7 | 48.2 | | | 29.8 | 29.8 |
| Effective Green, g (s) | | | | 15.4 | 15.4 | | 14.7 | 48.2 | | | 29.8 | 29.8 |
| Actuated g/C Ratio | | | | 0.21 | 0.21 | | 0.20 | 0.67 | | | 0.41 | 0.41 |
| Clearance Time (s) | | | | 4.2 | 4.2 | | 3.7 | 4.2 | | | 4.2 | 4.2 |
| Vehicle Extension (s) | | | | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | 2.0 |
| Lane Grp Cap (vph) | | | | 363 | 340 | | 344 | 2255 | | | 1367 | 560 |
| v/s Ratio Prot | | | | c0.19 | 0.19 | | c0.17 | 0.39 | | | 0.32 | |
| v/s Ratio Perm | | | | | | | | | | | | c0.42 |
| v/c Ratio | | | | 0.91 | 0.90 | | 0.82 | 0.58 | | | 0.77 | 1.02 |
| Uniform Delay, d1 | | | | 27.6 | 27.6 | | 27.4 | 6.5 | | | 18.1 | 21.1 |
| Progression Factor | | | | 1.00 | 1.00 | | 1.08 | 0.42 | | | 0.85 | 0.81 |
| Incremental Delay, d2 | | | | 26.0 | 25.1 | | 8.1 | 0.6 | | | 3.6 | 41.2 |
| Delay (s) | | | | 53.6 | 52.6 | | 37.7 | 3.4 | | | 18.9 | 58.4 |
| Level of Service | | | | D | D | | D | A | | | B | E |
| Approach Delay (s) | | 0.0 | | | 53.1 | | | 9.4 | | | 32.9 | |
| Approach LOS | | A | | | D | | | A | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 26.5 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.94 | | | |
| Actuated Cycle Length (s) | 72.0 | Sum of lost time (s) | 12.1 | |
| Intersection Capacity Utilization | 97.9% | ICU Level of Service | F | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 846 | 3 | 433 | 0 | 0 | 0 | 0 | 670 | 160 | 254 | 1173 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 4.2 | 4.2 | 4.2 | | | | | 4.2 | 4.2 | 3.7 | 4.2 | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | | | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.99 | | | | | 1.00 | 0.87 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1698 | 1703 | 1578 | | | | | 3369 | 1311 | 1668 | 3336 | |
| Flt Permitted | 0.95 | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1698 | 1703 | 1578 | | | | | 3369 | 1311 | 1668 | 3336 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Adj. Flow (vph) | 900 | 3 | 461 | 0 | 0 | 0 | 0 | 736 | 176 | 279 | 1289 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 450 | 453 | 461 | 0 | 0 | 0 | 0 | 736 | 176 | 279 | 1289 | 0 |
| Confl. Peds. (#/hr) | | | 1 | 1 | | 12 | 34 | | 53 | | | 34 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% |
| Turn Type | Split | | Perm | | | | | | Perm | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | 2 | | | |
| Actuated Green, G (s) | 20.8 | 20.8 | 20.8 | | | | | 24.4 | 24.4 | 14.7 | 42.8 | |
| Effective Green, g (s) | 20.8 | 20.8 | 20.8 | | | | | 24.4 | 24.4 | 14.7 | 42.8 | |
| Actuated g/C Ratio | 0.29 | 0.29 | 0.29 | | | | | 0.34 | 0.34 | 0.20 | 0.59 | |
| Clearance Time (s) | 4.2 | 4.2 | 4.2 | | | | | 4.2 | 4.2 | 3.7 | 4.2 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 491 | 492 | 456 | | | | | 1142 | 444 | 341 | 1983 | |
| v/s Ratio Prot | 0.27 | 0.27 | | | | | | 0.22 | | c0.17 | c0.39 | |
| v/s Ratio Perm | | | c0.29 | | | | | | 0.13 | | | |
| v/c Ratio | 0.92 | 0.92 | 1.01 | | | | | 0.64 | 0.40 | 0.82 | 0.65 | |
| Uniform Delay, d1 | 24.8 | 24.8 | 25.6 | | | | | 20.1 | 18.2 | 27.4 | 9.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 0.84 | 0.82 | 0.85 | 1.42 | |
| Incremental Delay, d2 | 21.5 | 22.4 | 44.9 | | | | | 2.6 | 2.5 | 8.8 | 1.0 | |
| Delay (s) | 46.2 | 47.2 | 70.5 | | | | | 19.5 | 17.3 | 32.1 | 14.8 | |
| Level of Service | D | D | E | | | | | B | B | C | B | |
| Approach Delay (s) | | 54.7 | | | 0.0 | | | 19.1 | | | 17.9 | |
| Approach LOS | | D | | | A | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.79 | | |
| Actuated Cycle Length (s) | 72.0 | Sum of lost time (s) | 7.9 |
| Intersection Capacity Utilization | 97.9% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 91 | 219 | 191 | 0 | 0 | 0 | 0 | 1344 | 144 | 45 | 1453 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | | | | 5.6 | | 3.5 | 5.6 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | | | | 0.95 | | 1.00 | 0.91 | |
| Frt | 1.00 | 1.00 | 0.85 | | | | | 0.99 | | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1652 | 1739 | 1478 | | | | | 3255 | | 1652 | 4746 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1652 | 1739 | 1478 | | | | | 3255 | | 1652 | 4746 | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 103 | 249 | 217 | 0 | 0 | 0 | 0 | 1400 | 150 | 49 | 1579 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 103 | 249 | 217 | 0 | 0 | 0 | 0 | 1550 | 0 | 49 | 1579 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Perm | | Perm | | | | | | | Prot | | |
| Protected Phases | | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | | | | | | | | | |
| Actuated Green, G (s) | 16.9 | 16.9 | 16.9 | | | | | 38.9 | | 2.6 | 45.0 | |
| Effective Green, g (s) | 16.9 | 16.9 | 16.9 | | | | | 38.9 | | 2.6 | 45.0 | |
| Actuated g/C Ratio | 0.23 | 0.23 | 0.23 | | | | | 0.54 | | 0.04 | 0.62 | |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | | | | 5.6 | | 3.5 | 5.6 | |
| Vehicle Extension (s) | 4.0 | 4.0 | 4.0 | | | | | 5.0 | | 3.0 | 3.5 | |
| Lane Grp Cap (vph) | 388 | 408 | 347 | | | | | 1759 | | 60 | 2966 | |
| v/s Ratio Prot | | 0.14 | | | | | | c0.48 | | c0.03 | 0.33 | |
| v/s Ratio Perm | 0.06 | | c0.15 | | | | | | | | | |
| v/c Ratio | 0.27 | 0.61 | 0.63 | | | | | 0.88 | | 0.82 | 0.53 | |
| Uniform Delay, d1 | 22.5 | 24.6 | 24.7 | | | | | 14.5 | | 34.5 | 7.6 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 0.87 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.5 | 3.1 | 4.0 | | | | | 5.5 | | 55.6 | 0.7 | |
| Delay (s) | 23.0 | 27.7 | 28.7 | | | | | 18.1 | | 90.0 | 8.3 | |
| Level of Service | C | C | C | | | | | B | | F | A | |
| Approach Delay (s) | | 27.2 | | | 0.0 | | | 18.1 | | | 10.7 | |
| Approach LOS | | C | | | A | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 16.3 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 72.0 | Sum of lost time (s) | 13.6 |
| Intersection Capacity Utilization | 61.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 1 | 195 | 745 | 47 | 302 | 1290 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.91 | 0.91 | 0.95 | 0.95 | 0.96 | 0.96 |
| Hourly flow rate (vph) | 1 | 214 | 784 | 49 | 315 | 1344 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 551 | | | 492 |
| pX, platoon unblocked | 0.85 | 0.93 | | | 0.93 | |
| vC, conflicting volume | 2110 | 417 | | | 834 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1554 | 211 | | | 661 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 71 | | | 63 | |
| cM capacity (veh/h) | 56 | 739 | | | 855 | |

| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 215 | 523 | 311 | 315 | 672 | 672 |
| Volume Left | 1 | 0 | 0 | 315 | 0 | 0 |
| Volume Right | 214 | 0 | 49 | 0 | 0 | 0 |
| cSH | 696 | 1700 | 1700 | 855 | 1700 | 1700 |
| Volume to Capacity | 0.31 | 0.31 | 0.18 | 0.37 | 0.40 | 0.40 |
| Queue Length 95th (ft) | 33 | 0 | 0 | 43 | 0 | 0 |
| Control Delay (s) | 12.5 | 0.0 | 0.0 | 11.6 | 0.0 | 0.0 |
| Lane LOS | B | | | B | | |
| Approach Delay (s) | 12.5 | 0.0 | | 2.2 | | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 2.3 | |
| Intersection Capacity Utilization | | 60.9% | ICU Level of Service B |
| Analysis Period (min) | | 15 | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 16 | 282 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 496 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 |
| Hourly flow rate (vph) | 20 | 348 | 78 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 545 | 0 |
| Pedestrians | | 5 | | | 8 | | | 23 | | | 12 | |
| Lane Width (ft) | | 10.0 | | | 0.0 | | | 12.0 | | | 10.0 | |
| Walking Speed (ft/s) | | 4.0 | | | 4.0 | | | 4.0 | | | 4.0 | |
| Percent Blockage | | 0 | | | 0 | | | 2 | | | 1 | |
| Right turn flare (veh) | | | | | | | | | | | | |
| Median type | | None | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 12 | | | 449 | | | 688 | 423 | 379 | 408 | 500 | 17 |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 12 | | | 449 | | | 688 | 423 | 379 | 408 | 500 | 17 |
| tC, single (s) | 4.1 | | | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 99 | | | 100 | | | 0 | 100 | 100 | 94 | 0 | 100 |
| cM capacity (veh/h) | 1607 | | | 1101 | | | 0 | 505 | 659 | 535 | 455 | 1052 |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total | 368 | 78 | 0 | 577 |
| Volume Left | 20 | 0 | 0 | 32 |
| Volume Right | 0 | 78 | 0 | 0 |
| cSH | 1607 | 1700 | 1700 | 459 |
| Volume to Capacity | 0.01 | 0.05 | 0.00 | 1.26 |
| Queue Length 95th (ft) | 1 | 0 | 0 | 596 |
| Control Delay (s) | 0.5 | 0.0 | 0.0 | 158.8 |
| Lane LOS | A | | A | F |
| Approach Delay (s) | 0.4 | | 0.0 | 158.8 |
| Approach LOS | | | A | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 89.8 | |
| Intersection Capacity Utilization | | 56.8% | ICU Level of Service B |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 176 | 4 | 125 | 308 | 798 | 0 | 0 | 687 | 416 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | | | | 4.2 | 4.2 | | 4.2 | | | 4.2 | 4.2 |
| Lane Util. Factor | | | | | 1.00 | 1.00 | | 0.95 | | | 0.95 | 1.00 |
| Frpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Flpb, ped/bikes | | | | | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Frt | | | | | 1.00 | 0.85 | | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | | 0.95 | 1.00 | | 0.99 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | | 1793 | 1599 | | 3323 | | | 3369 | 1507 |
| Flt Permitted | | | | | 0.95 | 1.00 | | 0.61 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | | 1793 | 1599 | | 2057 | | | 3369 | 1507 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.74 | 0.74 | 0.74 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Adj. Flow (vph) | 0 | 0 | 0 | 238 | 5 | 169 | 350 | 907 | 0 | 0 | 781 | 473 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 243 | 169 | 0 | 1257 | 0 | 0 | 781 | 473 |
| Confl. Peds. (#/hr) | 17 | | 10 | | | | | | | | | |
| Heavy Vehicles (%) | 0% | 0% | 0% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | | | | Split | | Prot | Prot | | | | | Perm |
| Protected Phases | | | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | 6 |
| Actuated Green, G (s) | | | | | 10.7 | 10.7 | | 50.9 | | | 50.9 | 50.9 |
| Effective Green, g (s) | | | | | 10.7 | 10.7 | | 50.9 | | | 50.9 | 50.9 |
| Actuated g/C Ratio | | | | | 0.15 | 0.15 | | 0.73 | | | 0.73 | 0.73 |
| Clearance Time (s) | | | | | 4.2 | 4.2 | | 4.2 | | | 4.2 | 4.2 |
| Vehicle Extension (s) | | | | | 2.0 | 2.0 | | 3.0 | | | 3.5 | 3.5 |
| Lane Grp Cap (vph) | | | | | 274 | 244 | | 1496 | | | 2450 | 1096 |
| v/s Ratio Prot | | | | | c0.14 | 0.11 | | | | | 0.23 | |
| v/s Ratio Perm | | | | | | | | c0.61 | | | | 0.31 |
| v/c Ratio | | | | | 0.89 | 0.69 | | 0.84 | | | 0.32 | 0.43 |
| Uniform Delay, d1 | | | | | 29.1 | 28.1 | | 6.7 | | | 3.4 | 3.8 |
| Progression Factor | | | | | 1.00 | 1.00 | | 0.62 | | | 0.97 | 0.93 |
| Incremental Delay, d2 | | | | | 26.5 | 6.7 | | 3.0 | | | 0.3 | 1.0 |
| Delay (s) | | | | | 55.6 | 34.8 | | 7.2 | | | 3.6 | 4.6 |
| Level of Service | | | | | E | C | | A | | | A | A |
| Approach Delay (s) | | 0.0 | | | 47.1 | | | 7.2 | | | 4.0 | |
| Approach LOS | | A | | | D | | | A | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.4 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.85 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 8.4 |
| Intersection Capacity Utilization | 77.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 690 | 3 | 267 | 0 | 0 | 0 | 0 | 416 | 125 | 387 | 476 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 4.2 | 4.2 | | | | | | 4.2 | | | 4.2 | |
| Lane Util. Factor | 0.95 | 0.95 | | | | | | 0.95 | | | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | | | | 0.97 | | | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | | | 1.00 | |
| Frt | 1.00 | 0.91 | | | | | | 0.97 | | | 1.00 | |
| Flt Protected | 0.95 | 0.98 | | | | | | 1.00 | | | 0.98 | |
| Satd. Flow (prot) | 1698 | 1599 | | | | | | 3095 | | | 3295 | |
| Flt Permitted | 0.95 | 0.98 | | | | | | 1.00 | | | 0.58 | |
| Satd. Flow (perm) | 1698 | 1599 | | | | | | 3095 | | | 1961 | |
| Peak-hour factor, PHF | 0.95 | 0.95 | 0.95 | 0.92 | 0.92 | 0.92 | 0.82 | 0.82 | 0.82 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 726 | 3 | 281 | 0 | 0 | 0 | 0 | 507 | 152 | 435 | 535 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 523 | 487 | 0 | 0 | 0 | 0 | 0 | 659 | 0 | 0 | 970 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 6 | | 47 | | | 6 |
| Heavy Vehicles (%) | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Split | | | | | | | | | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | 22.5 | 22.5 | | | | | | 39.1 | | | 39.1 | |
| Effective Green, g (s) | 22.5 | 22.5 | | | | | | 39.1 | | | 39.1 | |
| Actuated g/C Ratio | 0.32 | 0.32 | | | | | | 0.56 | | | 0.56 | |
| Clearance Time (s) | 4.2 | 4.2 | | | | | | 4.2 | | | 4.2 | |
| Vehicle Extension (s) | 2.0 | 2.0 | | | | | | 3.5 | | | 3.0 | |
| Lane Grp Cap (vph) | 546 | 514 | | | | | | 1729 | | | 1095 | |
| v/s Ratio Prot | c0.31 | 0.30 | | | | | | 0.21 | | | | |
| v/s Ratio Perm | | | | | | | | | | | c0.49 | |
| v/c Ratio | 0.96 | 0.95 | | | | | | 0.38 | | | 0.89 | |
| Uniform Delay, d1 | 23.3 | 23.2 | | | | | | 8.7 | | | 13.5 | |
| Progression Factor | 1.00 | 1.00 | | | | | | 1.00 | | | 0.95 | |
| Incremental Delay, d2 | 27.7 | 26.5 | | | | | | 0.6 | | | 7.9 | |
| Delay (s) | 51.0 | 49.7 | | | | | | 9.3 | | | 20.7 | |
| Level of Service | D | D | | | | | | A | | | C | |
| Approach Delay (s) | | 50.4 | | | 0.0 | | | 9.3 | | | 20.7 | |
| Approach LOS | | D | | | A | | | A | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 29.2 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 8.4 |
| Intersection Capacity Utilization | 78.6% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

## HCM Signalized Intersection Capacity Analysis
## 65: Castillo St & Mission St

Existing - PM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 16 | 90 | 117 | 0 | 0 | 0 | 77 | 670 | 229 | 27 | 1095 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | | 4.2 | 4.2 | | | | | 4.2 | | | 4.2 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | | | 0.95 | |
| Frt | | 1.00 | 0.85 | | | | | 0.96 | | | 1.00 | |
| Flt Protected | | 0.99 | 1.00 | | | | | 1.00 | | | 1.00 | |
| Satd. Flow (prot) | | 1726 | 1478 | | | | | 3238 | | | 3291 | |
| Flt Permitted | | 0.99 | 1.00 | | | | | 0.76 | | | 0.92 | |
| Satd. Flow (perm) | | 1726 | 1478 | | | | | 2467 | | | 3017 | |
| Peak-hour factor, PHF | 0.89 | 0.89 | 0.89 | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 18 | 101 | 131 | 0 | 0 | 0 | 81 | 705 | 241 | 29 | 1177 | 22 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 119 | 131 | 0 | 0 | 0 | 0 | 1027 | 0 | 0 | 1228 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | Perm | | Perm | | | | Perm | | | Perm | | |
| Protected Phases | | 4 | | | | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | | | | 2 | | | 6 | | |
| Actuated Green, G (s) | | 11.4 | 11.4 | | | | | 50.2 | | | 50.2 | |
| Effective Green, g (s) | | 11.4 | 11.4 | | | | | 50.2 | | | 50.2 | |
| Actuated g/C Ratio | | 0.16 | 0.16 | | | | | 0.72 | | | 0.72 | |
| Clearance Time (s) | | 4.2 | 4.2 | | | | | 4.2 | | | 4.2 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | | | | 3.0 | | | 3.0 | |
| Lane Grp Cap (vph) | | 281 | 241 | | | | | 1769 | | | 2164 | |
| v/s Ratio Prot | | | | | | | | | | | | |
| v/s Ratio Perm | | 0.07 | c0.09 | | | | | c0.42 | | | 0.41 | |
| v/c Ratio | | 0.42 | 0.54 | | | | | 0.58 | | | 0.57 | |
| Uniform Delay, d1 | | 26.3 | 26.9 | | | | | 4.8 | | | 4.7 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 0.60 | | | 1.00 | |
| Incremental Delay, d2 | | 1.0 | 2.5 | | | | | 0.1 | | | 1.1 | |
| Delay (s) | | 27.4 | 29.4 | | | | | 3.0 | | | 5.8 | |
| Level of Service | | C | C | | | | | A | | | A | |
| Approach Delay (s) | | 28.4 | | | 0.0 | | | 3.0 | | | 5.8 | |
| Approach LOS | | C | | | A | | | A | | | A | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 6.9 | HCM Level of Service | A | |
| HCM Volume to Capacity ratio | 0.57 | | | |
| Actuated Cycle Length (s) | 70.0 | Sum of lost time (s) | 8.4 | |
| Intersection Capacity Utilization | 75.9% | ICU Level of Service | D | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |



## HCM Unsignalized Intersection Capacity Analysis
## 66: San Pascual St & Mission St

Existing - PM Peak
12/15/2009

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 12 | 111 | 517 | 27 | 156 | 613 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.87 | 0.87 | 0.97 | 0.97 | 0.88 | 0.88 |
| Hourly flow rate (vph) | 14 | 128 | 533 | 28 | 177 | 697 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | 449 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1250 | 280 | | | 561 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1250 | 280 | | | 561 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 90 | 82 | | | 82 | |
| cM capacity (veh/h) | 136 | 717 | | | 1006 | |

| Direction, Lane # | WB 1 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|
| Volume Total | 141 | 355 | 205 | 409 | 464 |
| Volume Left | 14 | 0 | 0 | 177 | 0 |
| Volume Right | 128 | 0 | 28 | 0 | 0 |
| cSH | 506 | 1700 | 1700 | 1006 | 1700 |
| Volume to Capacity | 0.28 | 0.21 | 0.12 | 0.18 | 0.27 |
| Queue Length 95th (ft) | 28 | 0 | 0 | 16 | 0 |
| Control Delay (s) | 14.9 | 0.0 | 0.0 | 5.1 | 0.0 |
| Lane LOS | B | | | A | |
| Approach Delay (s) | 14.9 | 0.0 | | 2.4 | |
| Approach LOS | B | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.7 | | |
| Intersection Capacity Utilization | 54.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 377 | 178 | 25 | 0 | 0 | 184 |
| Sign Control | Free | | Stop | | | Stop |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.89 | 0.89 | 0.69 | 0.69 | 0.84 | 0.84 |
| Hourly flow rate (vph) | 424 | 200 | 36 | 0 | 0 | 219 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | | 1047 | 0 | 965 | 947 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 0 | | 1047 | 0 | 965 | 947 |
| tC, single (s) | 4.1 | | 6.5 | 6.2 | 7.1 | 6.5 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | 4.0 | 3.3 | 3.5 | 4.0 |
| p0 queue free % | 74 | | 79 | 100 | 100 | 0 |
| cM capacity (veh/h) | 1630 | | 169 | 1085 | 158 | 193 |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 624 | 36 | 219 |
| Volume Left | 424 | 0 | 0 |
| Volume Right | 200 | 0 | 0 |
| cSH | 1630 | 169 | 193 |
| Volume to Capacity | 0.26 | 0.21 | 1.13 |
| Queue Length 95th (ft) | 26 | 20 | 270 |
| Control Delay (s) | 6.2 | 32.1 | 155.7 |
| Lane LOS | A | D | F |
| Approach Delay (s) | 6.2 | 32.1 | 155.7 |
| Approach LOS | | D | F |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 44.5 | | |
| Intersection Capacity Utilization | 48.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 16 | 457 | 2 | 626 | 427 | 47 | 0 | 0 | 0 | 1 | 7 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 11 | 11 | 11 |
| Total Lost time (s) | | 5.3 | | 5.3 | 5.3 | | | | | | 4.2 | |
| Lane Util. Factor | | 0.95 | | 1.00 | 1.00 | | | | | | 1.00 | |
| Frpb, ped/bikes | | 1.00 | | 1.00 | 1.00 | | | | | | 0.95 | |
| Flpb, ped/bikes | | 1.00 | | 1.00 | 1.00 | | | | | | 1.00 | |
| Frt | | 1.00 | | 1.00 | 0.98 | | | | | | 0.93 | |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | | | | 1.00 | |
| Satd. Flow (prot) | | 3414 | | 1711 | 1770 | | | | | | 1583 | |
| Flt Permitted | | 1.00 | | 0.95 | 1.00 | | | | | | 1.00 | |
| Satd. Flow (perm) | | 3414 | | 1711 | 1770 | | | | | | 1583 | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.93 | 0.93 | 0.93 | 0.92 | 0.92 | 0.92 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 18 | 519 | 2 | 673 | 459 | 51 | 0 | 0 | 0 | 1 | 9 | 11 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 539 | 0 | 673 | 510 | 0 | 0 | 0 | 0 | 0 | 21 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 | 4 | | | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | Split | | | Split | | | | | | Split | | |
| Protected Phases | 5 | 5 | | 6 | 6 | | | | | 8 | 8 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | | 23.8 | | 79.4 | 79.4 | | | | | | 3.0 | |
| Effective Green, g (s) | | 23.8 | | 79.4 | 79.4 | | | | | | 3.0 | |
| Actuated g/C Ratio | | 0.20 | | 0.66 | 0.66 | | | | | | 0.02 | |
| Clearance Time (s) | | 5.3 | | 5.3 | 5.3 | | | | | | 4.2 | |
| Vehicle Extension (s) | | 1.5 | | 3.0 | 3.0 | | | | | | 2.0 | |
| Lane Grp Cap (vph) | | 672 | | 1123 | 1161 | | | | | | 39 | |
| v/s Ratio Prot | | c0.16 | | c0.39 | 0.29 | | | | | | c0.01 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | | 0.80 | | 0.60 | 0.44 | | | | | | 0.54 | |
| Uniform Delay, d1 | | 46.4 | | 11.8 | 10.0 | | | | | | 58.3 | |
| Progression Factor | | 1.00 | | 0.59 | 0.49 | | | | | | 1.00 | |
| Incremental Delay, d2 | | 6.5 | | 2.0 | 1.0 | | | | | | 7.0 | |
| Delay (s) | | 52.8 | | 9.0 | 6.0 | | | | | | 65.3 | |
| Level of Service | | D | | A | A | | | | | | E | |
| Approach Delay (s) | | 52.8 | | | 7.7 | | | 0.0 | | | 65.3 | |
| Approach LOS | | D | | | A | | | A | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 22.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.64 | | |
| Actuated Cycle Length (s) | 121.0 | Sum of lost time (s) | 14.8 |
| Intersection Capacity Utilization | 64.8% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 84 | 0 | 198 | 366 | 405 | 259 | 454 | 693 | 0 | 0 | 555 | 146 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 5.3 | | 3.7 | 5.3 | 5.3 | 5.3 | 3.7 | 4.5 | | | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | | 1.00 | 0.91 | 0.91 | 1.00 | 0.97 | 0.95 | | | 0.95 | 1.00 |
| Frt | 1.00 | | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | | 1.00 | 0.95 | 0.99 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | 1711 | | 1531 | 1557 | 3241 | 1531 | 3385 | 3490 | | | 3421 | 1531 |
| Flt Permitted | 0.95 | | 1.00 | 0.95 | 0.99 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | 1711 | | 1531 | 1557 | 3241 | 1531 | 3385 | 3490 | | | 3421 | 1531 |
| Peak-hour factor, PHF | 0.86 | 0.86 | 0.86 | 0.90 | 0.90 | 0.90 | 0.92 | 0.92 | 0.92 | 0.86 | 0.86 | 0.86 |
| Adj. Flow (vph) | 98 | 0 | 230 | 407 | 450 | 288 | 493 | 753 | 0 | 0 | 645 | 170 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 98 | 0 | 230 | 277 | 580 | 288 | 493 | 753 | 0 | 0 | 645 | 170 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | Prot | | Over | Split | | Perm | Prot | | | | | Perm |
| Protected Phases | 7 | | 6 | 8 | 8 | | 6 | 2 | | | 5 | |
| Permitted Phases | | | | | | 8 | | | | | | 5 |
| Actuated Green, G (s) | 11.3 | | 38.3 | 28.1 | 28.1 | 28.1 | 38.3 | 66.5 | | | 24.5 | 24.5 |
| Effective Green, g (s) | 11.3 | | 38.3 | 28.1 | 28.1 | 28.1 | 38.3 | 66.5 | | | 24.5 | 24.5 |
| Actuated g/C Ratio | 0.09 | | 0.32 | 0.23 | 0.23 | 0.23 | 0.32 | 0.55 | | | 0.20 | 0.20 |
| Clearance Time (s) | 5.3 | | 3.7 | 5.3 | 5.3 | 5.3 | 3.7 | 4.5 | | | 4.5 | 4.5 |
| Vehicle Extension (s) | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 |
| Lane Grp Cap (vph) | 160 | | 485 | 362 | 753 | 356 | 1071 | 1918 | | | 693 | 310 |
| v/s Ratio Prot | c0.06 | | c0.15 | 0.18 | 0.18 | | 0.15 | 0.22 | | | c0.19 | |
| v/s Ratio Perm | | | | | | c0.19 | | | | | | 0.11 |
| v/c Ratio | 0.61 | | 0.47 | 0.77 | 0.77 | 0.81 | 0.46 | 0.39 | | | 0.93 | 0.55 |
| Uniform Delay, d1 | 52.7 | | 33.3 | 43.4 | 43.4 | 43.9 | 33.1 | 15.7 | | | 47.4 | 43.3 |
| Progression Factor | 1.70 | | 1.15 | 1.00 | 1.00 | 1.00 | 1.13 | 0.65 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.4 | | 3.0 | 8.4 | 4.5 | 12.0 | 1.0 | 0.4 | | | 19.0 | 1.1 |
| Delay (s) | 94.1 | | 41.2 | 51.8 | 47.9 | 55.9 | 38.5 | 10.5 | | | 66.4 | 44.4 |
| Level of Service | F | | D | D | D | E | D | B | | | E | D |
| Approach Delay (s) | | 57.0 | | | 50.9 | | | 21.6 | | | 61.8 | |
| Approach LOS | | E | | | D | | | C | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 43.6 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.69 | | |
| Actuated Cycle Length (s) | 121.0 | Sum of lost time (s) | 18.8 |
| Intersection Capacity Utilization | 62.3% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 481 | 0 | 270 | 0 | 0 | 0 | 0 | 666 | 73 | 504 | 791 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.2 | 4.2 | | | | | | 4.5 | 4.5 | 3.7 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | | | | | | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.85 | | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1805 | 1615 | | | | | | 3490 | 1533 | 3385 | 3490 | |
| Flt Permitted | 0.95 | 1.00 | | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1805 | 1615 | | | | | | 3490 | 1533 | 3385 | 3490 | |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 512 | 0 | 287 | 0 | 0 | 0 | 0 | 709 | 78 | 542 | 851 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 512 | 287 | 0 | 0 | 0 | 0 | 0 | 709 | 78 | 542 | 851 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 31 | | 3 | | | 31 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Split | | | | | | | | Perm | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Actuated Green, G (s) | 30.8 | 30.8 | | | | | | 53.6 | 53.6 | 24.2 | 81.5 | |
| Effective Green, g (s) | 30.8 | 30.8 | | | | | | 53.6 | 53.6 | 24.2 | 81.5 | |
| Actuated g/C Ratio | 0.25 | 0.25 | | | | | | 0.44 | 0.44 | 0.20 | 0.67 | |
| Clearance Time (s) | 4.2 | 4.2 | | | | | | 4.5 | 4.5 | 3.7 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 459 | 411 | | | | | | 1546 | 679 | 677 | 2351 | |
| v/s Ratio Prot | c0.28 | 0.18 | | | | | | c0.20 | | c0.16 | 0.24 | |
| v/s Ratio Perm | | | | | | | | | 0.05 | | | |
| v/c Ratio | 1.12 | 0.70 | | | | | | 0.46 | 0.11 | 0.80 | 0.36 | |
| Uniform Delay, d1 | 45.1 | 40.9 | | | | | | 23.6 | 19.8 | 46.1 | 8.5 | |
| Progression Factor | 1.00 | 1.00 | | | | | | 1.14 | 1.07 | 0.93 | 0.76 | |
| Incremental Delay, d2 | 77.4 | 5.1 | | | | | | 0.6 | 0.2 | 4.3 | 0.3 | |
| Delay (s) | 122.5 | 46.0 | | | | | | 27.6 | 21.5 | 47.1 | 6.8 | |
| Level of Service | F | D | | | | | | C | C | D | A | |
| Approach Delay (s) | | 95.0 | | | 0.0 | | | 27.0 | | | 22.5 | |
| Approach LOS | | F | | | A | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 43.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 121.0 | Sum of lost time (s) | 12.4 |
| Intersection Capacity Utilization | 70.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 210 | 193 | 91 | 15 | 87 | 128 | 160 | 515 | 43 | 239 | 759 | 135 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 4.5 | 4.5 | 4.2 | 4.5 | | 4.2 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1711 | 3382 | | 1745 | 3411 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1801 | 1531 | 1711 | 1801 | 1531 | 1711 | 3382 | | 1745 | 3411 | |
| Peak-hour factor, PHF | 0.86 | 0.86 | 0.86 | 0.85 | 0.85 | 0.85 | 0.90 | 0.90 | 0.90 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph) | 244 | 224 | 106 | 18 | 102 | 151 | 178 | 572 | 48 | 246 | 782 | 139 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 244 | 224 | 106 | 18 | 102 | 151 | 178 | 620 | 0 | 246 | 921 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Prot | | Perm | Prot | | Perm | Prot | | | Prot | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Actuated Green, G (s) | 10.8 | 25.0 | 25.0 | 2.9 | 17.9 | 17.9 | 10.0 | 54.2 | | 20.7 | 64.9 | |
| Effective Green, g (s) | 10.8 | 25.0 | 25.0 | 2.9 | 17.9 | 17.9 | 10.0 | 54.2 | | 20.7 | 64.9 | |
| Actuated g/C Ratio | 0.09 | 0.21 | 0.21 | 0.02 | 0.15 | 0.15 | 0.08 | 0.45 | | 0.17 | 0.54 | |
| Clearance Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 4.5 | 4.5 | 4.2 | 4.5 | | 4.2 | 4.5 | |
| Vehicle Extension (s) | 2.0 | 2.5 | 2.5 | 2.0 | 2.5 | 2.5 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 153 | 372 | 316 | 41 | 266 | 226 | 141 | 1515 | | 299 | 1830 | |
| v/s Ratio Prot | c0.14 | 0.12 | | 0.01 | 0.06 | | c0.10 | 0.18 | | c0.14 | c0.27 | |
| v/s Ratio Perm | | | 0.07 | | | c0.10 | | | | | | |
| v/c Ratio | 1.59 | 0.60 | 0.34 | 0.44 | 0.38 | 0.67 | 1.26 | 0.41 | | 0.82 | 0.50 | |
| Uniform Delay, d1 | 55.1 | 43.5 | 40.9 | 58.2 | 46.6 | 48.7 | 55.5 | 22.6 | | 48.4 | 17.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.17 | 0.71 | |
| Incremental Delay, d2 | 296.2 | 2.3 | 0.5 | 2.7 | 0.7 | 6.6 | 162.7 | 0.8 | | 14.6 | 0.9 | |
| Delay (s) | 351.3 | 45.8 | 41.4 | 61.0 | 47.2 | 55.3 | 218.2 | 23.4 | | 71.3 | 13.6 | |
| Level of Service | F | D | D | E | D | E | F | C | | E | B | |
| Approach Delay (s) | | 174.8 | | | 52.7 | | | 66.8 | | | 25.7 | |
| Approach LOS | | F | | | D | | | E | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 70.5 | HCM Level of Service | E | |
| HCM Volume to Capacity ratio | 0.72 | | | |
| Actuated Cycle Length (s) | 121.0 | Sum of lost time (s) | 12.9 | |
| Intersection Capacity Utilization | 64.1% | ICU Level of Service | C | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 146 | 270 | 88 | 151 | 218 | 52 | 401 | 216 | 95 | 118 | 127 | 27 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 3.7 | 4.9 | | 3.7 | 5.3 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 1.00 | 0.95 | | 1.00 | 0.95 | | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 0.97 | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1805 | 3476 | | 1787 | 3453 | | 1698 | 1760 | 1599 | 1715 | 1797 | 1615 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 0.98 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1805 | 3476 | | 1787 | 3453 | | 1698 | 1760 | 1599 | 1715 | 1797 | 1615 |
| Peak-hour factor, PHF | 0.93 | 0.93 | 0.93 | 0.89 | 0.89 | 0.89 | 0.94 | 0.94 | 0.94 | 0.81 | 0.81 | 0.81 |
| Adj. Flow (vph) | 157 | 290 | 95 | 170 | 245 | 58 | 427 | 230 | 101 | 146 | 157 | 33 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 157 | 385 | 0 | 170 | 303 | 0 | 325 | 332 | 101 | 131 | 172 | 33 |
| Confl. Peds. (#/hr) | | | | | | 4 | | | | | | |
| Heavy Vehicles (%) | 0% | 0% | 0% | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% |
| Turn Type | Prot | | | Prot | | | Split | | Prot | Split | | Prot |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 3 | 3 | 4 | 4 | 4 |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | 12.1 | 14.2 | | 13.2 | 14.9 | | 21.4 | 21.4 | 21.4 | 12.9 | 12.9 | 12.9 |
| Effective Green, g (s) | 12.1 | 14.2 | | 13.2 | 14.9 | | 21.4 | 21.4 | 21.4 | 12.9 | 12.9 | 12.9 |
| Actuated g/C Ratio | 0.15 | 0.18 | | 0.17 | 0.19 | | 0.27 | 0.27 | 0.27 | 0.16 | 0.16 | 0.16 |
| Clearance Time (s) | 3.7 | 4.9 | | 3.7 | 5.3 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lane Grp Cap (vph) | 275 | 622 | | 297 | 649 | | 458 | 475 | 432 | 279 | 292 | 263 |
| v/s Ratio Prot | 0.09 | c0.11 | | c0.10 | 0.09 | | c0.19 | 0.19 | 0.06 | 0.08 | c0.10 | 0.02 |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | 0.57 | 0.62 | | 0.57 | 0.47 | | 0.71 | 0.70 | 0.23 | 0.47 | 0.59 | 0.13 |
| Uniform Delay, d1 | 31.2 | 30.1 | | 30.4 | 28.7 | | 26.1 | 26.1 | 22.6 | 30.1 | 30.7 | 28.4 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.8 | 1.3 | | 1.7 | 0.2 | | 4.1 | 3.6 | 0.1 | 0.5 | 2.0 | 0.1 |
| Delay (s) | 33.0 | 31.3 | | 32.1 | 28.9 | | 30.2 | 29.7 | 22.7 | 30.6 | 32.7 | 28.5 |
| Level of Service | C | C | | C | C | | C | C | C | C | C | C |
| Approach Delay (s) | | 31.8 | | | 30.0 | | | 29.0 | | | 31.4 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 30.3 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.63 | | | |
| Actuated Cycle Length (s) | 79.3 | Sum of lost time (s) | 17.6 | |
| Intersection Capacity Utilization | 57.0% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 657 | 2 | 68 | 0 | 0 | 0 | 0 | 344 | 119 | 537 | 443 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.0 | 4.5 | |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | | | | | 0.95 | 1.00 | 0.97 | 1.00 | |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 0.98 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1715 | 1720 | 1615 | | | | | 3539 | 1557 | 3433 | 1863 | |
| Flt Permitted | 0.95 | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1715 | 1720 | 1615 | | | | | 3539 | 1557 | 3433 | 1863 | |
| Peak-hour factor, PHF | 0.66 | 0.66 | 0.66 | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 | 0.65 | 0.65 | 0.65 |
| Adj. Flow (vph) | 995 | 3 | 103 | 0 | 0 | 0 | 0 | 387 | 134 | 826 | 682 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 497 | 501 | 103 | 0 | 0 | 0 | 0 | 387 | 134 | 826 | 682 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 2 | | 3 | | | 2 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | Perm | Prot | | |
| Protected Phases | 8 | 8 | | | | | | 6 | | 5 | 2 | |
| Permitted Phases | | | 8 | | | | | | 6 | | | |
| Actuated Green, G (s) | 26.6 | 26.6 | 26.6 | | | | | 13.4 | 13.4 | 22.6 | 40.0 | |
| Effective Green, g (s) | 26.6 | 26.6 | 26.6 | | | | | 13.4 | 13.4 | 22.6 | 40.0 | |
| Actuated g/C Ratio | 0.35 | 0.35 | 0.35 | | | | | 0.18 | 0.18 | 0.30 | 0.53 | |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.0 | 4.5 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 603 | 605 | 568 | | | | | 627 | 276 | 1026 | 986 | |
| v/s Ratio Prot | 0.29 | c0.29 | | | | | | 0.11 | | c0.24 | c0.37 | |
| v/s Ratio Perm | | | 0.06 | | | | | | 0.09 | | | |
| v/c Ratio | 0.82 | 0.83 | 0.18 | | | | | 0.62 | 0.49 | 0.81 | 0.69 | |
| Uniform Delay, d1 | 22.4 | 22.4 | 17.0 | | | | | 28.7 | 28.0 | 24.5 | 13.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 8.5 | 8.7 | 0.1 | | | | | 1.3 | 0.5 | 4.4 | 1.7 | |
| Delay (s) | 30.9 | 31.1 | 17.0 | | | | | 30.0 | 28.5 | 28.9 | 14.9 | |
| Level of Service | C | C | B | | | | | C | C | C | B | |
| Approach Delay (s) | | 29.7 | | | 0.0 | | | 29.6 | | | 22.6 | |
| Approach LOS | | C | | | A | | | C | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 26.3 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.76 | | | |
| Actuated Cycle Length (s) | 75.6 | Sum of lost time (s) | 8.5 | |
| Intersection Capacity Utilization | 54.2% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 381 | 204 | 551 | 212 | 122 | 599 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.5 | 3.5 | 4.1 | 4.1 | 3.5 | 4.1 |
| Lane Util. Factor | 0.97 | 0.91 | 0.95 | 1.00 | 1.00 | 0.95 |
| Frt | 0.99 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 3340 | 1407 | 3421 | 1531 | 1711 | 3421 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 3340 | 1407 | 3421 | 1531 | 1711 | 3421 |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.93 | 0.93 | 0.84 | 0.84 |
| Adj. Flow (vph) | 419 | 224 | 592 | 228 | 145 | 713 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 444 | 199 | 592 | 228 | 145 | 713 |
| Heavy Vehicles (%) | 1% | 1% | 2% | 2% | 2% | 2% |
| Turn Type | | Perm | | Perm | Prot | |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | 2 | | |
| Actuated Green, G (s) | 12.5 | 12.5 | 18.5 | 18.5 | 6.5 | 28.5 |
| Effective Green, g (s) | 12.5 | 12.5 | 18.5 | 18.5 | 6.5 | 28.5 |
| Actuated g/C Ratio | 0.26 | 0.26 | 0.38 | 0.38 | 0.13 | 0.59 |
| Clearance Time (s) | 3.5 | 3.5 | 4.1 | 4.1 | 3.5 | 4.1 |
| Vehicle Extension (s) | 2.0 | 2.0 | 3.5 | 3.5 | 0.5 | 3.5 |
| Lane Grp Cap (vph) | 859 | 362 | 1302 | 583 | 229 | 2006 |
| v/s Ratio Prot | 0.13 | | c0.17 | | c0.08 | 0.21 |
| v/s Ratio Perm | | c0.14 | | 0.15 | | |
| v/c Ratio | 0.52 | 0.55 | 0.45 | 0.39 | 0.63 | 0.36 |
| Uniform Delay, d1 | 15.5 | 15.6 | 11.3 | 11.0 | 19.9 | 5.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 0.2 | 0.9 | 0.3 | 0.5 | 4.2 | 0.1 |
| Delay (s) | 15.7 | 16.5 | 11.6 | 11.5 | 24.1 | 5.4 |
| Level of Service | B | B | B | B | C | A |
| Approach Delay (s) | 15.9 | | 11.5 | | | 8.5 |
| Approach LOS | B | | B | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 11.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.52 | | |
| Actuated Cycle Length (s) | 48.6 | Sum of lost time (s) | 11.1 |
| Intersection Capacity Utilization | 45.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 41 | 574 | 0 | 0 | 728 | 271 | 222 | 631 | 76 | 188 | 0 | 11 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 3.7 | 5.3 | | | 4.5 | 4.5 | 5.3 | 5.3 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 0.95 | | | 0.91 | 1.00 | 1.00 | 0.95 | | 0.95 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 0.98 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | |
| Satd. Flow (prot) | 1787 | 3574 | | | 5136 | 1564 | 1805 | 3552 | | 1715 | 1700 | |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 0.96 | |
| Satd. Flow (perm) | 1787 | 3574 | | | 5136 | 1564 | 1805 | 3552 | | 1715 | 1700 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.85 | 0.85 | 0.85 | 0.95 | 0.95 | 0.95 | 0.88 | 0.88 | 0.88 |
| Adj. Flow (vph) | 45 | 624 | 0 | 0 | 856 | 319 | 234 | 664 | 80 | 214 | 0 | 12 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 45 | 624 | 0 | 0 | 856 | 319 | 234 | 744 | 0 | 113 | 113 | 0 |
| Confl. Peds. (#/hr) | | | 5 | 5 | | 11 | | | | | | |
| Heavy Vehicles (%) | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | Prot | | | | | Perm | Split | | | Split | | |
| Protected Phases | 1 | 6 | | | 2 | | 3 | 3 | | 4 | 4 | |
| Permitted Phases | | | | | | 2 | | | | | | |
| Actuated Green, G (s) | 4.3 | 34.5 | | | 27.3 | 27.3 | 24.2 | 24.2 | | 11.0 | 11.0 | |
| Effective Green, g (s) | 4.3 | 34.5 | | | 27.3 | 27.3 | 24.2 | 24.2 | | 11.0 | 11.0 | |
| Actuated g/C Ratio | 0.05 | 0.41 | | | 0.32 | 0.32 | 0.29 | 0.29 | | 0.13 | 0.13 | |
| Clearance Time (s) | 3.7 | 5.3 | | | 4.5 | 4.5 | 5.3 | 5.3 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 91 | 1454 | | | 1653 | 504 | 515 | 1014 | | 222 | 221 | |
| v/s Ratio Prot | 0.03 | c0.17 | | | 0.17 | | 0.13 | c0.21 | | 0.07 | c0.07 | |
| v/s Ratio Perm | | | | | | c0.20 | | | | | | |
| v/c Ratio | 0.49 | 0.43 | | | 0.52 | 0.63 | 0.45 | 0.73 | | 0.51 | 0.51 | |
| Uniform Delay, d1 | 39.2 | 18.1 | | | 23.4 | 24.5 | 24.9 | 27.4 | | 34.4 | 34.4 | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.5 | 0.1 | | | 0.1 | 1.9 | 0.2 | 2.4 | | 0.7 | 0.8 | |
| Delay (s) | 40.7 | 18.1 | | | 23.5 | 26.4 | 25.1 | 29.8 | | 35.1 | 35.2 | |
| Level of Service | D | B | | | C | C | C | C | | D | D | |
| Approach Delay (s) | | 19.7 | | | 24.3 | | | 28.7 | | | 35.1 | |
| Approach LOS | | B | | | C | | | C | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 25.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.66 | | |
| Actuated Cycle Length (s) | 84.8 | Sum of lost time (s) | 19.6 |
| Intersection Capacity Utilization | 58.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 615 | 498 | 468 | 0 | 0 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.93 | 0.93 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 668 | 535 | 503 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 164 | | | |
| pX, platoon unblocked | 0.87 | | | | 0.87 | 0.87 |
| vC, conflicting volume | 1039 | | | | 870 | 268 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 743 | | | | 549 | 0 |
| tC, single (s) | 4.1 | | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 100 | | | | 100 | 100 |
| cM capacity (veh/h) | 747 | | | | 409 | 948 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | WB 3 |
|---|---|---|---|---|---|
| Volume Total | 334 | 334 | 357 | 346 | 335 |
| Volume Left | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 168 | 335 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.20 | 0.20 | 0.21 | 0.20 | 0.20 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.0 | | |
| Intersection Capacity Utilization | 22.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 64 | 143 | 90 | 176 | 246 | 231 | 75 | 371 | 92 | 79 | 433 | 58 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.8 | 4.8 | 4.8 | 4.0 | 4.0 | 4.0 | 3.7 | 5.2 | | 3.7 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 | | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1837 | 1531 | 1711 | 1801 | 1531 | 1711 | 3319 | | 1711 | 3361 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1711 | 1837 | 1531 | 1711 | 1801 | 1531 | 1711 | 3319 | | 1711 | 3361 | |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.87 | 0.87 | 0.87 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 73 | 162 | 102 | 200 | 280 | 262 | 86 | 426 | 106 | 83 | 456 | 61 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 73 | 162 | 102 | 200 | 280 | 262 | 86 | 532 | 0 | 83 | 517 | 0 |
| Heavy Vehicles (%) | 2% | 0% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | Split | | Perm | Prot | | | Prot | | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 3 | | | | | | |
| Actuated Green, G (s) | 11.7 | 11.7 | 11.7 | 18.9 | 18.9 | 18.9 | 7.0 | 17.9 | | 6.9 | 19.0 | |
| Effective Green, g (s) | 11.7 | 11.7 | 11.7 | 18.9 | 18.9 | 18.9 | 7.0 | 17.9 | | 6.9 | 19.0 | |
| Actuated g/C Ratio | 0.16 | 0.16 | 0.16 | 0.26 | 0.26 | 0.26 | 0.10 | 0.24 | | 0.09 | 0.26 | |
| Clearance Time (s) | 4.8 | 4.8 | 4.8 | 4.0 | 4.0 | 4.0 | 3.7 | 5.2 | | 3.7 | 4.0 | |
| Vehicle Extension (s) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | 274 | 294 | 245 | 442 | 466 | 396 | 164 | 813 | | 162 | 874 | |
| v/s Ratio Prot | 0.04 | c0.09 | | 0.12 | 0.16 | | c0.05 | c0.16 | | 0.05 | 0.15 | |
| v/s Ratio Perm | | | 0.07 | | | c0.17 | | | | | | |
| v/c Ratio | 0.27 | 0.55 | 0.42 | 0.45 | 0.60 | 0.66 | 0.52 | 0.65 | | 0.51 | 0.59 | |
| Uniform Delay, d1 | 26.9 | 28.3 | 27.6 | 22.8 | 23.8 | 24.2 | 31.5 | 24.8 | | 31.5 | 23.7 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.2 | 1.3 | 0.4 | 0.3 | 1.5 | 3.2 | 1.4 | 1.5 | | 1.1 | 0.7 | |
| Delay (s) | 27.1 | 29.5 | 28.0 | 23.0 | 25.3 | 27.4 | 32.9 | 26.3 | | 32.6 | 24.4 | |
| Level of Service | C | C | C | C | C | C | C | C | | C | C | |
| Approach Delay (s) | | 28.6 | | | 25.4 | | | 27.2 | | | 25.5 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 26.4 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.57 | | |
| Actuated Cycle Length (s) | 73.1 | Sum of lost time (s) | 12.5 |
| Intersection Capacity Utilization | 51.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 582 | 12 | 52 | 496 | 0 | 15 | 0 | 28 | 575 | 12 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | | 3.7 | 5.3 | | | 4.2 | | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | | 0.95 | | 1.00 | 0.95 | | | 1.00 | | 0.95 | 0.95 | 1.00 |
| Frpb, ped/bikes | | 1.00 | | 1.00 | 1.00 | | | 0.96 | | 1.00 | 1.00 | 0.98 |
| Flpb, ped/bikes | | 1.00 | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | | 1.00 | 1.00 | | | 0.91 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | | 1.00 | | 0.95 | 1.00 | | | 0.98 | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3528 | | 1770 | 3539 | | | 1608 | | 1715 | 1722 | 1590 |
| Flt Permitted | | 1.00 | | 0.95 | 1.00 | | | 0.98 | | 0.95 | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3528 | | 1770 | 3539 | | | 1608 | | 1715 | 1722 | 1590 |
| Peak-hour factor, PHF | 0.86 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 | 0.83 | 0.83 | 0.83 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 677 | 14 | 57 | 539 | 0 | 18 | 0 | 34 | 625 | 13 | 5 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 691 | 0 | 57 | 539 | 0 | 0 | 52 | 0 | 319 | 319 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | 9 | | | 4 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | | | | Prot | | | Split | | | Split | | Perm |
| Protected Phases | | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Actuated Green, G (s) | | 21.1 | | 5.8 | 30.6 | | | 4.0 | | 18.5 | 18.5 | 18.5 |
| Effective Green, g (s) | | 21.1 | | 5.8 | 30.6 | | | 4.0 | | 18.5 | 18.5 | 18.5 |
| Actuated g/C Ratio | | 0.31 | | 0.09 | 0.46 | | | 0.06 | | 0.28 | 0.28 | 0.28 |
| Clearance Time (s) | | 5.3 | | 3.7 | 5.3 | | | 4.2 | | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | | 1.5 | | 2.0 | 1.5 | | | 1.5 | | 1.5 | 1.5 | 1.5 |
| Lane Grp Cap (vph) | | 1109 | | 153 | 1614 | | | 96 | | 473 | 475 | 438 |
| v/s Ratio Prot | | c0.20 | | 0.03 | c0.15 | | | c0.03 | | c0.19 | 0.19 | |
| v/s Ratio Perm | | | | | | | | | | | | 0.00 |
| v/c Ratio | | 0.62 | | 0.37 | 0.33 | | | 0.54 | | 0.67 | 0.67 | 0.01 |
| Uniform Delay, d1 | | 19.6 | | 28.9 | 11.7 | | | 30.7 | | 21.6 | 21.6 | 17.7 |
| Progression Factor | | 1.00 | | 1.00 | 1.00 | | | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | | 0.6 | 0.0 | | | 3.3 | | 3.0 | 2.9 | 0.0 |
| Delay (s) | | 20.4 | | 29.5 | 11.8 | | | 34.0 | | 24.6 | 24.5 | 17.7 |
| Level of Service | | C | | C | B | | | C | | C | C | B |
| Approach Delay (s) | | 20.4 | | | 13.5 | | | 34.0 | | | 24.5 | |
| Approach LOS | | C | | | B | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.63 | | |
| Actuated Cycle Length (s) | 67.1 | Sum of lost time (s) | 19.3 |
| Intersection Capacity Utilization | 54.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 0 | 585 | 185 | 667 | 198 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 636 | 201 | 725 | 215 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | Raised | | | Raised |
| Median storage veh) | | | 1 | | | 1 |
| Upstream signal (ft) | | | 132 | | | 350 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2301 | 318 | | | 837 | |
| vC1, stage 1 conf vol | 636 | | | | | |
| vC2, stage 2 conf vol | 1665 | | | | | |
| vCu, unblocked vol | 2301 | 318 | | | 837 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 9 | |
| cM capacity (veh/h) | 11 | 684 | | | 793 | |

| Direction, Lane # | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|---|
| Volume Total | 318 | 318 | 201 | 362 | 362 | 215 |
| Volume Left | 0 | 0 | 0 | 362 | 362 | 0 |
| Volume Right | 0 | 0 | 201 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 793 | 793 | 1700 |
| Volume to Capacity | 0.19 | 0.19 | 0.12 | 0.91 | 0.91 | 0.13 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 320 | 320 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 37.6 | 37.6 | 0.0 |
| Lane LOS | | | | E | E | |
| Approach Delay (s) | 0.0 | | | 29.0 | | |
| Approach LOS | | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 15.3 | | |
| Intersection Capacity Utilization | 41.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Volume (vph) | 49 | 352 | 5 | 201 | 83 | 19 | 110 | 22 | 58 | 38 | 22 | 19 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.89 | 0.89 | 0.89 | 0.86 | 0.86 | 0.86 | 0.79 | 0.79 | 0.79 |
| Hourly flow rate (vph) | 54 | 387 | 5 | 226 | 93 | 21 | 128 | 26 | 67 | 48 | 28 | 24 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|---|
| Volume Total (vph) | 446 | 340 | 153 | 67 | 100 |
| Volume Left (vph) | 54 | 226 | 128 | 0 | 48 |
| Volume Right (vph) | 5 | 21 | 0 | 67 | 24 |
| Hadj (s) | 0.03 | 0.11 | 0.43 | -0.68 | -0.05 |
| Departure Headway (s) | 5.6 | 5.9 | 7.4 | 6.3 | 6.8 |
| Degree Utilization, x | 0.70 | 0.56 | 0.32 | 0.12 | 0.19 |
| Capacity (veh/h) | 446 | 581 | 438 | 513 | 439 |
| Control Delay (s) | 20.6 | 16.0 | 12.6 | 8.9 | 11.4 |
| Approach Delay (s) | 20.6 | 16.0 | 11.5 | | 11.4 |
| Approach LOS | C | C | B | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 16.5 | | |
| HCM Level of Service | C | | |
| Intersection Capacity Utilization | 60.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 447 | 10 | 163 | 213 | 666 | 0 | 0 | 492 | 138 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 4.2 | 4.2 | 4.2 | 3.7 | 4.5 | | | 4.5 | |
| Lane Util. Factor | | | | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | | | 0.95 | |
| Frpb, ped/bikes | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 0.99 | |
| Flpb, ped/bikes | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | |
| Frt | | | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 0.97 | |
| Flt Protected | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (prot) | | | | 1715 | 1723 | 1615 | 1805 | 3610 | | | 3433 | |
| Flt Permitted | | | | 0.95 | 0.95 | 1.00 | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (perm) | | | | 1715 | 1723 | 1615 | 1805 | 3610 | | | 3433 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.86 | 0.86 | 0.86 | 0.89 | 0.89 | 0.89 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 0 | 0 | 0 | 520 | 12 | 190 | 239 | 748 | 0 | 0 | 518 | 145 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 265 | 267 | 190 | 239 | 748 | 0 | 0 | 663 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 7 | 7 | | 7 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% |
| Turn Type | | | | Split | | Perm | Prot | | | | | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Actuated Green, G (s) | | | | 13.1 | 13.1 | 13.1 | 14.3 | 43.2 | | | 25.2 | |
| Effective Green, g (s) | | | | 13.1 | 13.1 | 13.1 | 14.3 | 43.2 | | | 25.2 | |
| Actuated g/C Ratio | | | | 0.20 | 0.20 | 0.20 | 0.22 | 0.66 | | | 0.39 | |
| Clearance Time (s) | | | | 4.2 | 4.2 | 4.2 | 3.7 | 4.5 | | | 4.5 | |
| Vehicle Extension (s) | | | | 3.5 | 3.5 | 3.5 | 2.5 | 3.0 | | | 3.5 | |
| Lane Grp Cap (vph) | | | | 346 | 347 | 325 | 397 | 2399 | | | 1331 | |
| v/s Ratio Prot | | | | 0.15 | c0.15 | | c0.13 | 0.21 | | | c0.19 | |
| v/s Ratio Perm | | | | | | 0.12 | | | | | | |
| v/c Ratio | | | | 0.77 | 0.77 | 0.58 | 0.60 | 0.31 | | | 0.50 | |
| Uniform Delay, d1 | | | | 24.5 | 24.5 | 23.5 | 22.8 | 4.6 | | | 15.1 | |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 1.48 | 2.24 | | | 0.90 | |
| Incremental Delay, d2 | | | | 10.0 | 10.2 | 2.9 | 1.6 | 0.2 | | | 0.1 | |
| Delay (s) | | | | 34.5 | 34.7 | 26.3 | 35.3 | 10.6 | | | 13.8 | |
| Level of Service | | | | C | C | C | D | B | | | B | |
| Approach Delay (s) | | 0.0 | | | 32.4 | | | 16.5 | | | 13.8 | |
| Approach LOS | | A | | | C | | | B | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 20.6 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.4 |
| Intersection Capacity Utilization | 70.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 358 | 7 | 142 | 0 | 0 | 0 | 0 | 521 | 193 | 267 | 672 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.2 | | | | | | 4.5 | | 4.2 | 4.5 | |
| Lane Util. Factor | | 0.95 | | | | | | 0.95 | | 1.00 | 0.95 | |
| Frpb, ped/bikes | | 1.00 | | | | | | 0.99 | | 1.00 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | | | | | | 1.00 | | 1.00 | 1.00 | |
| Frt | | 0.96 | | | | | | 0.96 | | 1.00 | 1.00 | |
| Flt Protected | | 0.97 | | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 3340 | | | | | | 3373 | | 1805 | 3610 | |
| Flt Permitted | | 0.97 | | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 3340 | | | | | | 3373 | | 1805 | 3610 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 398 | 8 | 158 | 0 | 0 | 0 | 0 | 573 | 212 | 297 | 747 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 564 | 0 | 0 | 0 | 0 | 0 | 785 | 0 | 297 | 747 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 5 | | 8 | | | 5 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Split | | | | | | | | | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | | 13.3 | | | | | | 25.0 | | 13.8 | 43.0 | |
| Effective Green, g (s) | | 13.3 | | | | | | 25.0 | | 13.8 | 43.0 | |
| Actuated g/C Ratio | | 0.20 | | | | | | 0.38 | | 0.21 | 0.66 | |
| Clearance Time (s) | | 4.2 | | | | | | 4.5 | | 4.2 | 4.5 | |
| Vehicle Extension (s) | | 2.0 | | | | | | 4.0 | | 2.5 | 3.0 | |
| Lane Grp Cap (vph) | | 683 | | | | | | 1297 | | 383 | 2388 | |
| v/s Ratio Prot | | c0.17 | | | | | | c0.23 | | c0.16 | 0.21 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | | 1.08dl | | | | | | 0.61 | | 0.78 | 0.31 | |
| Uniform Delay, d1 | | 24.7 | | | | | | 16.0 | | 24.1 | 4.7 | |
| Progression Factor | | 1.00 | | | | | | 1.00 | | 0.72 | 0.01 | |
| Incremental Delay, d2 | | 7.7 | | | | | | 2.1 | | 7.3 | 0.3 | |
| Delay (s) | | 32.4 | | | | | | 18.1 | | 24.6 | 0.3 | |
| Level of Service | | C | | | | | | B | | C | A | |
| Approach Delay (s) | | 32.4 | | | 0.0 | | | 18.1 | | | 7.2 | |
| Approach LOS | | C | | | A | | | B | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 16.7 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.71 | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 12.9 |
| Intersection Capacity Utilization | 70.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 29 | 41 | 89 | 305 | 56 | 46 | 303 | 412 | 167 | 46 | 309 | 34 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 5.5 | 5.5 | 4.5 | 5.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 0.97 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.93 | | 1.00 | 0.96 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 3300 | | 3433 | 3386 | | 1770 | 3487 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 1770 | 3300 | | 3433 | 3386 | | 1770 | 3487 | |
| Peak-hour factor, PHF | 0.89 | 0.89 | 0.89 | 0.78 | 0.78 | 0.78 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 33 | 46 | 100 | 391 | 72 | 59 | 340 | 463 | 188 | 52 | 347 | 38 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 33 | 46 | 100 | 391 | 131 | 0 | 340 | 651 | 0 | 52 | 385 | 0 |
| Turn Type | Prot | | Prot | Prot | | | Prot | | | Prot | | |
| Protected Phases | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | 2.4 | 8.5 | 8.5 | 4.3 | 10.4 | | 5.3 | 29.3 | | 3.9 | 27.9 | |
| Effective Green, g (s) | 2.4 | 8.5 | 8.5 | 4.3 | 10.4 | | 5.3 | 29.3 | | 3.9 | 27.9 | |
| Actuated g/C Ratio | 0.04 | 0.13 | 0.13 | 0.07 | 0.16 | | 0.08 | 0.45 | | 0.06 | 0.43 | |
| Clearance Time (s) | 4.5 | 5.5 | 5.5 | 4.5 | 5.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Vehicle Extension (s) | 1.0 | 2.0 | 2.0 | 1.0 | 2.0 | | 1.0 | 3.0 | | 1.0 | 3.0 | |
| Lane Grp Cap (vph) | 65 | 244 | 207 | 117 | 528 | | 280 | 1526 | | 106 | 1497 | |
| v/s Ratio Prot | 0.02 | 0.02 | c0.06 | c0.22 | 0.04 | | c0.10 | c0.19 | | c0.03 | 0.11 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | 0.51 | 0.19 | 0.48 | 3.34 | 0.25 | | 1.21 | 0.43 | | 0.49 | 0.26 | |
| Uniform Delay, d1 | 30.7 | 25.2 | 26.2 | 30.4 | 23.9 | | 29.8 | 12.1 | | 29.6 | 11.9 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.13 | 1.57 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.3 | 0.1 | 0.6 | 1075.4 | 0.1 | | 123.6 | 0.8 | | 1.3 | 0.4 | |
| Delay (s) | 33.0 | 25.3 | 26.9 | 1105.7 | 24.0 | | 157.5 | 19.9 | | 30.9 | 12.3 | |
| Level of Service | C | C | C | F | C | | F | B | | C | B | |
| Approach Delay (s) | | 27.6 | | | 834.2 | | | 67.1 | | | 14.5 | |
| Approach LOS | | C | | | F | | | E | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 241.1 | HCM Level of Service | F | |
| HCM Volume to Capacity ratio | 0.87 | | | |
| Actuated Cycle Length (s) | 65.0 | Sum of lost time (s) | 23.5 | |
| Intersection Capacity Utilization | 56.5% | ICU Level of Service | B | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 270 | 2 | 209 | 396 | 1005 | 0 | 0 | 805 | 165 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 4.2 | 4.2 | 4.2 | 3.7 | 5.3 | | | 5.3 | 5.3 |
| Lane Util. Factor | | | | 0.95 | 0.91 | 0.95 | 1.00 | 0.95 | | | 0.95 | 1.00 |
| Frpb, ped/bikes | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 0.97 |
| Flpb, ped/bikes | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 |
| Frt | | | | 1.00 | 0.95 | 0.85 | 1.00 | 1.00 | | | 1.00 | 0.85 |
| Flt Protected | | | | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (prot) | | | | 1715 | 1586 | 1534 | 1805 | 3610 | | | 3610 | 1566 |
| Flt Permitted | | | | 0.95 | 0.97 | 1.00 | 0.95 | 1.00 | | | 1.00 | 1.00 |
| Satd. Flow (perm) | | | | 1715 | 1586 | 1534 | 1805 | 3610 | | | 3610 | 1566 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.87 | 0.87 | 0.87 | 0.89 | 0.89 | 0.89 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 0 | 0 | 0 | 310 | 2 | 240 | 445 | 1129 | 0 | 0 | 856 | 176 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 192 | 187 | 173 | 445 | 1129 | 0 | 0 | 856 | 176 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | 4 | | 4 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Turn Type | | | | Split | | Perm | Prot | | | | | Perm |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | 6 |
| Actuated Green, G (s) | | | | 14.1 | 14.1 | 14.1 | 26.9 | 71.4 | | | 40.8 | 40.8 |
| Effective Green, g (s) | | | | 14.1 | 14.1 | 14.1 | 26.9 | 71.4 | | | 40.8 | 40.8 |
| Actuated g/C Ratio | | | | 0.15 | 0.15 | 0.15 | 0.28 | 0.75 | | | 0.43 | 0.43 |
| Clearance Time (s) | | | | 4.2 | 4.2 | 4.2 | 3.7 | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 | | | 2.5 | 2.5 |
| Lane Grp Cap (vph) | | | | 255 | 235 | 228 | 511 | 2713 | | | 1550 | 673 |
| v/s Ratio Prot | | | | 0.11 | c0.12 | | c0.25 | 0.31 | | | c0.24 | |
| v/s Ratio Perm | | | | | | 0.11 | | | | | | 0.11 |
| v/c Ratio | | | | 0.75 | 0.80 | 0.76 | 0.87 | 0.42 | | | 0.55 | 0.26 |
| Uniform Delay, d1 | | | | 38.8 | 39.1 | 38.8 | 32.4 | 4.3 | | | 20.3 | 17.4 |
| Progression Factor | | | | 1.00 | 1.00 | 1.00 | 1.14 | 0.96 | | | 0.49 | 0.48 |
| Incremental Delay, d2 | | | | 10.6 | 15.8 | 12.1 | 6.3 | 0.2 | | | 1.4 | 0.9 |
| Delay (s) | | | | 49.4 | 54.8 | 50.9 | 43.4 | 4.3 | | | 11.3 | 9.3 |
| Level of Service | | | | D | D | D | D | A | | | B | A |
| Approach Delay (s) | | 0.0 | | | 51.7 | | | 15.3 | | | 11.0 | |
| Approach LOS | | A | | | D | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 20.3 | HCM Level of Service | C | |
| HCM Volume to Capacity ratio | 0.70 | | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 13.2 | |
| Intersection Capacity Utilization | 75.0% | ICU Level of Service | D | |
| Analysis Period (min) | 15 | | | |
| c Critical Lane Group | | | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 560 | 2 | 52 | 0 | 0 | 0 | 0 | 841 | 186 | 463 | 612 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.2 | 4.2 | | | | | | 5.3 | 5.3 | 3.7 | 5.3 | |
| Lane Util. Factor | 0.95 | 0.95 | | | | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | 0.97 | 1.00 | 1.00 | |
| Flpb, ped/bikes | 1.00 | 1.00 | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 0.97 | | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | 0.95 | 0.96 | | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1715 | 1689 | | | | | | 3539 | 1531 | 1805 | 3610 | |
| Flt Permitted | 0.95 | 0.96 | | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1715 | 1689 | | | | | | 3539 | 1531 | 1805 | 3610 | |
| Peak-hour factor, PHF | 0.81 | 0.81 | 0.81 | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 691 | 2 | 64 | 0 | 0 | 0 | 0 | 876 | 194 | 487 | 644 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 380 | 377 | 0 | 0 | 0 | 0 | 0 | 876 | 194 | 487 | 644 | 0 |
| Confl. Peds. (#/hr) | | | | | | | 4 | | 4 | | | 4 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 0% | 0% | 0% |
| Turn Type | Split | | | | | | | | Perm | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Actuated Green, G (s) | 15.8 | 15.8 | | | | | | 39.7 | 39.7 | 26.3 | 69.7 | |
| Effective Green, g (s) | 15.8 | 15.8 | | | | | | 39.7 | 39.7 | 26.3 | 69.7 | |
| Actuated g/C Ratio | 0.17 | 0.17 | | | | | | 0.42 | 0.42 | 0.28 | 0.73 | |
| Clearance Time (s) | 4.2 | 4.2 | | | | | | 5.3 | 5.3 | 3.7 | 5.3 | |
| Vehicle Extension (s) | 2.0 | 2.0 | | | | | | 2.5 | 2.5 | 2.0 | 2.5 | |
| Lane Grp Cap (vph) | 285 | 281 | | | | | | 1479 | 640 | 500 | 2649 | |
| v/s Ratio Prot | 0.22 | c0.22 | | | | | | c0.25 | | c0.27 | 0.18 | |
| v/s Ratio Perm | | | | | | | | | 0.13 | | | |
| v/c Ratio | 1.33 | 1.34 | | | | | | 0.59 | 0.30 | 0.97 | 0.24 | |
| Uniform Delay, d1 | 39.6 | 39.6 | | | | | | 21.4 | 18.4 | 34.0 | 4.1 | |
| Progression Factor | 1.00 | 1.00 | | | | | | 1.00 | 1.00 | 0.67 | 2.37 | |
| Incremental Delay, d2 | 172.0 | 175.7 | | | | | | 1.8 | 1.2 | 29.5 | 0.2 | |
| Delay (s) | 211.6 | 215.3 | | | | | | 23.1 | 19.6 | 52.1 | 9.9 | |
| Level of Service | F | F | | | | | | C | B | D | A | |
| Approach Delay (s) | | 213.5 | | | 0.0 | | | 22.5 | | | 28.1 | |
| Approach LOS | | F | | | A | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 73.5 | HCM Level of Service | E |
| HCM Volume to Capacity ratio | 0.86 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 13.2 |
| Intersection Capacity Utilization | 75.0% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (vph) | 182 | 197 | 769 | 764 | 515 | 60 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Lane Util. Factor | 1.00 | 0.88 | 0.97 | 0.95 | 0.95 | |
| Frt | 1.00 | 0.85 | 1.00 | 1.00 | 0.98 | |
| Flt Protected | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1770 | 2787 | 3502 | 3610 | 3484 | |
| Flt Permitted | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1770 | 2787 | 3502 | 3610 | 3484 | |
| Peak-hour factor, PHF | 0.84 | 0.84 | 0.77 | 0.77 | 0.89 | 0.89 |
| Adj. Flow (vph) | 217 | 235 | 999 | 992 | 579 | 67 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 217 | 235 | 999 | 992 | 646 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 0% | 0% | 2% | 2% |
| Turn Type | | Perm | Prot | | | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Actuated Green, G (s) | 15.2 | 15.2 | 24.0 | 70.8 | 41.8 | |
| Effective Green, g (s) | 15.2 | 15.2 | 24.0 | 70.8 | 41.8 | |
| Actuated g/C Ratio | 0.16 | 0.16 | 0.25 | 0.75 | 0.44 | |
| Clearance Time (s) | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | |
| Vehicle Extension (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lane Grp Cap (vph) | 283 | 446 | 885 | 2690 | 1533 | |
| v/s Ratio Prot | c0.12 | | c0.29 | 0.27 | c0.19 | |
| v/s Ratio Perm | | 0.08 | | | | |
| v/c Ratio | 0.77 | 0.53 | 1.13 | 0.37 | 0.42 | |
| Uniform Delay, d1 | 38.2 | 36.6 | 35.5 | 4.3 | 18.3 | |
| Progression Factor | 1.00 | 1.00 | 0.98 | 0.92 | 1.00 | |
| Incremental Delay, d2 | 10.6 | 0.5 | 71.8 | 0.4 | 0.9 | |
| Delay (s) | 48.8 | 37.1 | 106.7 | 4.3 | 19.1 | |
| Level of Service | D | D | F | A | B | |
| Approach Delay (s) | 42.7 | | | 55.7 | 19.1 | |
| Approach LOS | D | | | E | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 46.1 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.70 | | |
| Actuated Cycle Length (s) | 95.0 | Sum of lost time (s) | 14.0 |
| Intersection Capacity Utilization | 59.8% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 791 | 0 | 162 | 0 | 303 | 488 | 0 | 0 | 0 | 0 | 268 | 676 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | | 4.0 | | 5.7 | 5.7 | | | | | 4.5 | 4.0 |
| Lane Util. Factor | 0.97 | | 1.00 | | 1.00 | 1.00 | | | | | 1.00 | 0.88 |
| Frt | 1.00 | | 0.85 | | 1.00 | 0.85 | | | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | | 1.00 | | 1.00 | 1.00 | | | | | 1.00 | 1.00 |
| Satd. Flow (prot) | 3433 | | 1583 | | 1881 | 1599 | | | | | 1863 | 2787 |
| Flt Permitted | 0.56 | | 1.00 | | 1.00 | 1.00 | | | | | 1.00 | 1.00 |
| Satd. Flow (perm) | 2031 | | 1583 | | 1881 | 1599 | | | | | 1863 | 2787 |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 909 | 0 | 186 | 0 | 329 | 530 | 0 | 0 | 0 | 0 | 291 | 735 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 909 | 0 | 186 | 0 | 329 | 530 | 0 | 0 | 0 | 0 | 291 | 735 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 1% | 1% | 1% | 0% | 0% | 0% | 2% | 2% | 2% |
| Turn Type | custom | | Free | | | custom | | | | | | Free |
| Protected Phases | | | | | 2 | 2 3 | | | | | 3 | |
| Permitted Phases | 4 | | Free | | | 2 | | | | | | Free |
| Actuated Green, G (s) | 36.8 | | 80.0 | | 15.1 | 34.2 | | | | | 13.4 | 80.0 |
| Effective Green, g (s) | 36.8 | | 80.0 | | 15.1 | 34.2 | | | | | 13.4 | 80.0 |
| Actuated g/C Ratio | 0.46 | | 1.00 | | 0.19 | 0.43 | | | | | 0.17 | 1.00 |
| Clearance Time (s) | 4.5 | | | | 5.7 | | | | | | 4.5 | |
| Vehicle Extension (s) | 1.5 | | | | 1.5 | | | | | | 1.5 | |
| Lane Grp Cap (vph) | 934 | | 1583 | | 355 | 684 | | | | | 312 | 2787 |
| v/s Ratio Prot | | | | | 0.17 | c0.33 | | | | | c0.16 | |
| v/s Ratio Perm | c0.45 | | 0.12 | | | | | | | | | 0.26 |
| v/c Ratio | 0.97 | | 0.12 | | 0.93 | 0.77 | | | | | 0.93 | 0.26 |
| Uniform Delay, d1 | 21.1 | | 0.0 | | 31.9 | 19.6 | | | | | 32.9 | 0.0 |
| Progression Factor | 1.00 | | 1.00 | | 1.00 | 1.00 | | | | | 0.90 | 1.00 |
| Incremental Delay, d2 | 23.6 | | 0.2 | | 29.1 | 5.0 | | | | | 29.0 | 0.2 |
| Delay (s) | 44.8 | | 0.2 | | 61.1 | 24.6 | | | | | 58.6 | 0.2 |
| Level of Service | D | | A | | E | C | | | | | E | A |
| Approach Delay (s) | | 37.2 | | | 38.6 | | | 0.0 | | | 16.7 | |
| Approach LOS | | D | | | D | | | A | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.5 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 80.0 | Sum of lost time (s) | 14.7 |
| Intersection Capacity Utilization | 64.5% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 45 | 220 | 245 | 292 | 261 | 43 | 386 | 443 | 471 | 130 | 373 | 37 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 0.97 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.98 | | | 1.00 | 0.85 | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.98 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 3433 | 1823 | | | 3459 | 1583 | 1770 | 3491 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.59 | 1.00 | 0.33 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1863 | 1583 | 3433 | 1823 | | | 2085 | 1583 | 612 | 3491 | |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.91 | 0.91 | 0.91 | 0.96 | 0.96 | 0.96 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 50 | 244 | 272 | 321 | 287 | 47 | 402 | 461 | 491 | 141 | 405 | 40 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 50 | 244 | 272 | 321 | 334 | 0 | 0 | 863 | 491 | 141 | 445 | 0 |
| Turn Type | Prot | | Perm | Prot | | | Prot | | Perm | Perm | | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | 4 | | | | | | 2 | 6 | | |
| Actuated Green, G (s) | 2.8 | 18.5 | 18.5 | 9.5 | 25.2 | | | 38.5 | 38.5 | 27.0 | 27.0 | |
| Effective Green, g (s) | 2.8 | 18.5 | 18.5 | 9.5 | 25.2 | | | 38.5 | 38.5 | 27.0 | 27.0 | |
| Actuated g/C Ratio | 0.03 | 0.23 | 0.23 | 0.12 | 0.32 | | | 0.48 | 0.48 | 0.34 | 0.34 | |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 62 | 431 | 366 | 408 | 574 | | | 1124 | 762 | 207 | 1178 | |
| v/s Ratio Prot | 0.03 | 0.13 | | c0.09 | 0.18 | | | c0.07 | | | 0.13 | |
| v/s Ratio Perm | | | c0.17 | | | | | c0.30 | 0.31 | 0.23 | | |
| v/c Ratio | 0.81 | 0.57 | 0.74 | 0.79 | 0.58 | | | 2.59dl | 0.64 | 0.68 | 0.38 | |
| Uniform Delay, d1 | 38.3 | 27.2 | 28.5 | 34.3 | 23.0 | | | 17.1 | 15.6 | 22.8 | 20.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 0.69 | 0.70 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 51.6 | 1.7 | 7.9 | 9.6 | 1.5 | | | 1.3 | 1.7 | 16.6 | 0.9 | |
| Delay (s) | 90.0 | 28.9 | 36.5 | 43.9 | 24.5 | | | 13.0 | 12.6 | 39.4 | 21.0 | |
| Level of Service | F | C | D | D | C | | | B | B | D | C | |
| Approach Delay (s) | | 37.9 | | | 34.0 | | | 12.9 | | | 25.5 | |
| Approach LOS | | D | | | C | | | B | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 24.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 80.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 69.9% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 209 | 2 | 56 | 0 | 0 | 0 | 0 | 744 | 283 | 383 | 596 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.2 | 4.5 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frt | | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1810 | 1615 | | | | | 3539 | 1583 | 3433 | 3539 | |
| Flt Permitted | | 0.95 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1810 | 1615 | | | | | 3539 | 1583 | 3433 | 3539 | |
| Peak-hour factor, PHF | 0.87 | 0.87 | 0.87 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.91 | 0.91 | 0.91 |
| Adj. Flow (vph) | 240 | 2 | 64 | 0 | 0 | 0 | 0 | 845 | 322 | 421 | 655 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 242 | 64 | 0 | 0 | 0 | 0 | 845 | 322 | 421 | 655 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Prot | | | | | | Perm | Prot | | |
| Protected Phases | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Actuated Green, G (s) | | 13.7 | 13.7 | | | | | 21.7 | 21.7 | 13.1 | 39.0 | |
| Effective Green, g (s) | | 13.7 | 13.7 | | | | | 21.7 | 21.7 | 13.1 | 39.0 | |
| Actuated g/C Ratio | | 0.22 | 0.22 | | | | | 0.35 | 0.35 | 0.21 | 0.63 | |
| Clearance Time (s) | | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.2 | 4.5 | |
| Vehicle Extension (s) | | 2.0 | 2.0 | | | | | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lane Grp Cap (vph) | | 402 | 359 | | | | | 1245 | 557 | 729 | 2237 | |
| v/s Ratio Prot | | c0.13 | 0.04 | | | | | c0.24 | | c0.12 | 0.19 | |
| v/s Ratio Perm | | | | | | | | | 0.20 | | | |
| v/c Ratio | | 0.60 | 0.18 | | | | | 0.68 | 0.58 | 0.58 | 0.29 | |
| Uniform Delay, d1 | | 21.6 | 19.4 | | | | | 17.0 | 16.3 | 21.8 | 5.1 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 1.7 | 0.1 | | | | | 1.2 | 0.9 | 0.7 | 0.0 | |
| Delay (s) | | 23.3 | 19.5 | | | | | 18.2 | 17.2 | 22.5 | 5.2 | |
| Level of Service | | C | B | | | | | B | B | C | A | |
| Approach Delay (s) | | 22.5 | | | 0.0 | | | 17.9 | | | 11.9 | |
| Approach LOS | | C | | | A | | | B | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 15.9 | HCM Level of Service | B | |
| HCM Volume to Capacity ratio | 0.63 | | | |
| Actuated Cycle Length (s) | 61.7 | Sum of lost time (s) | 13.2 | |
| Intersection Capacity Utilization | 54.2% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 518 | 2 | 65 | 216 | 575 | 0 | 0 | 276 | 96 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | | | 4.5 | 4.5 | | 3.5 | 5.3 | | | 5.3 | |
| Lane Util. Factor | | | | 0.95 | 0.95 | | 1.00 | 0.95 | | | 0.95 | |
| Frt | | | | 1.00 | 0.97 | | 1.00 | 1.00 | | | 0.96 | |
| Flt Protected | | | | 0.95 | 0.96 | | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (prot) | | | | 1715 | 1680 | | 1770 | 3539 | | | 3402 | |
| Flt Permitted | | | | 0.95 | 0.96 | | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (perm) | | | | 1715 | 1680 | | 1770 | 3539 | | | 3402 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.85 | 0.85 | 0.85 | 0.82 | 0.82 | 0.82 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph) | 0 | 0 | 0 | 609 | 2 | 76 | 263 | 701 | 0 | 0 | 285 | 99 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 347 | 340 | 0 | 263 | 701 | 0 | 0 | 384 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | | | | Split | | | Prot | | | | | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | | | | 18.6 | 18.6 | | 14.6 | 31.3 | | | 13.2 | |
| Effective Green, g (s) | | | | 18.6 | 18.6 | | 14.6 | 31.3 | | | 13.2 | |
| Actuated g/C Ratio | | | | 0.31 | 0.31 | | 0.24 | 0.52 | | | 0.22 | |
| Clearance Time (s) | | | | 4.5 | 4.5 | | 3.5 | 5.3 | | | 5.3 | |
| Vehicle Extension (s) | | | | 2.0 | 2.0 | | 2.0 | 2.5 | | | 2.5 | |
| Lane Grp Cap (vph) | | | | 534 | 523 | | 433 | 1855 | | | 752 | |
| v/s Ratio Prot | | | | 0.20 | c0.20 | | c0.15 | 0.20 | | | c0.11 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | | | | 0.65 | 0.65 | | 0.61 | 0.38 | | | 0.51 | |
| Uniform Delay, d1 | | | | 17.7 | 17.7 | | 20.0 | 8.4 | | | 20.4 | |
| Progression Factor | | | | 1.00 | 1.00 | | 1.00 | 1.00 | | | 1.00 | |
| Incremental Delay, d2 | | | | 2.0 | 2.2 | | 1.7 | 0.1 | | | 0.4 | |
| Delay (s) | | | | 19.8 | 19.9 | | 21.7 | 8.5 | | | 20.9 | |
| Level of Service | | | | B | B | | C | A | | | C | |
| Approach Delay (s) | | 0.0 | | | 19.9 | | | 12.1 | | | 20.9 | |
| Approach LOS | | A | | | B | | | B | | | C | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 16.4 | HCM Level of Service | B | |
| HCM Volume to Capacity ratio | 0.60 | | | |
| Actuated Cycle Length (s) | 59.7 | Sum of lost time (s) | 13.3 | |
| Intersection Capacity Utilization | 65.7% | ICU Level of Service | C | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 92 | 1 | 19 | 0 | 0 | 0 | 0 | 699 | 819 | 61 | 733 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.5 | 4.5 | | | | | 5.3 | | 3.7 | 5.3 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | | 1.00 | 0.95 | |
| Frt | | 1.00 | 0.85 | | | | | 0.92 | | 1.00 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1810 | 1615 | | | | | 3253 | | 1770 | 3539 | |
| Flt Permitted | | 0.95 | 1.00 | | | | | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1810 | 1615 | | | | | 3253 | | 1770 | 3539 | |
| Peak-hour factor, PHF | 0.81 | 0.81 | 0.81 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 114 | 1 | 23 | 0 | 0 | 0 | 0 | 768 | 900 | 66 | 788 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 115 | 23 | 0 | 0 | 0 | 0 | 1668 | 0 | 66 | 788 | 0 |
| Heavy Vehicles (%) | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Actuated Green, G (s) | | 8.9 | 8.9 | | | | | 43.1 | | 6.1 | 52.9 | |
| Effective Green, g (s) | | 8.9 | 8.9 | | | | | 43.1 | | 6.1 | 52.9 | |
| Actuated g/C Ratio | | 0.12 | 0.12 | | | | | 0.60 | | 0.09 | 0.74 | |
| Clearance Time (s) | | 4.5 | 4.5 | | | | | 5.3 | | 3.7 | 5.3 | |
| Vehicle Extension (s) | | 2.0 | 2.0 | | | | | 2.5 | | 2.0 | 2.5 | |
| Lane Grp Cap (vph) | | 225 | 201 | | | | | 1958 | | 151 | 2615 | |
| v/s Ratio Prot | | c0.06 | | | | | | c0.51 | | c0.04 | 0.22 | |
| v/s Ratio Perm | | | 0.01 | | | | | | | | | |
| v/c Ratio | | 0.51 | 0.11 | | | | | 0.92dr | | 0.44 | 0.30 | |
| Uniform Delay, d1 | | 29.3 | 27.8 | | | | | 11.6 | | 31.1 | 3.1 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 0.8 | 0.1 | | | | | 3.8 | | 0.7 | 0.0 | |
| Delay (s) | | 30.1 | 27.9 | | | | | 15.4 | | 31.9 | 3.2 | |
| Level of Service | | C | C | | | | | B | | C | A | |
| Approach Delay (s) | | 29.8 | | | 0.0 | | | 15.4 | | | 5.4 | |
| Approach LOS | | C | | | A | | | B | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 12.9 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.76 | | |
| Actuated Cycle Length (s) | 71.6 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 65.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 344 | 36 | 249 | 400 | 11 | 103 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.90 | 0.90 | 0.83 | 0.83 | 0.81 | 0.81 |
| Hourly flow rate (vph) | 382 | 40 | 300 | 482 | 14 | 127 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 554 | | | |
| pX, platoon unblocked | 0.99 | 0.99 | | | 0.99 | |
| vC, conflicting volume | 454 | 300 | | | 782 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 444 | 288 | | | 775 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 31 | 95 | | | 98 | |
| cM capacity (veh/h) | 557 | 744 | | | 833 | |

| Direction, Lane # | WB 1 | WB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 382 | 40 | 300 | 482 | 14 | 127 |
| Volume Left | 382 | 0 | 0 | 0 | 14 | 0 |
| Volume Right | 0 | 40 | 0 | 482 | 0 | 0 |
| cSH | 557 | 744 | 1700 | 1700 | 833 | 1700 |
| Volume to Capacity | 0.69 | 0.05 | 0.18 | 0.28 | 0.02 | 0.07 |
| Queue Length 95th (ft) | 132 | 4 | 0 | 0 | 1 | 0 |
| Control Delay (s) | 24.4 | 10.1 | 0.0 | 0.0 | 9.4 | 0.0 |
| Lane LOS | C | B | | | A | |
| Approach Delay (s) | 23.1 | | 0.0 | | 0.9 | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 7.3 | | |
| Intersection Capacity Utilization | 38.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

## HCM Signalized Intersection Capacity Analysis
## 93: NB On/Off Ramps & Glen Annie Rd

Existing - PM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 16 | 19 | 307 | 1105 | 388 | 150 | 268 | 251 | 173 | 18 | 374 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 5.3 | 5.3 | | 5.2 | 5.3 | | 4.2 | 5.3 | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 0.91 | 0.91 | | 0.97 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.87 | 0.85 | 1.00 | 0.98 | | 1.00 | 0.94 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 0.98 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1535 | 1504 | 1626 | 3270 | | 3433 | 3323 | | 1770 | 3519 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 0.98 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1535 | 1504 | 1626 | 3270 | | 3433 | 3323 | | 1770 | 3519 | |
| Peak-hour factor, PHF | 0.82 | 0.82 | 0.82 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.93 | 0.93 | 0.93 |
| Adj. Flow (vph) | 20 | 23 | 374 | 1242 | 436 | 169 | 301 | 282 | 194 | 19 | 402 | 16 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 20 | 199 | 198 | 621 | 1226 | 0 | 301 | 476 | 0 | 19 | 418 | 0 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | Split | | | Prot | | | Prot | | |
| Protected Phases | 4 | 4 | | 3 | 3 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Actuated Green, G (s) | 10.5 | 10.5 | 10.5 | 14.7 | 14.7 | | 6.8 | 43.2 | | 2.3 | 37.7 | |
| Effective Green, g (s) | 10.5 | 10.5 | 10.5 | 14.7 | 14.7 | | 6.8 | 43.2 | | 2.3 | 37.7 | |
| Actuated g/C Ratio | 0.12 | 0.12 | 0.12 | 0.16 | 0.16 | | 0.08 | 0.48 | | 0.03 | 0.42 | |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 5.3 | 5.3 | | 5.2 | 5.3 | | 4.2 | 5.3 | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 1.0 | 2.0 | | 1.0 | 2.0 | |
| Lane Grp Cap (vph) | 207 | 179 | 175 | 266 | 534 | | 259 | 1595 | | 45 | 1474 | |
| v/s Ratio Prot | 0.01 | 0.13 | | c0.38 | 0.37 | | c0.09 | c0.14 | | 0.01 | 0.12 | |
| v/s Ratio Perm | | | c0.13 | | | | | | | | | |
| v/c Ratio | 0.10 | 1.11 | 1.13 | 2.33 | 2.30 | | 1.16 | 0.30 | | 0.42 | 0.28 | |
| Uniform Delay, d1 | 35.5 | 39.8 | 39.8 | 37.6 | 37.6 | | 41.6 | 14.2 | | 43.2 | 17.2 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.30 | 0.63 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.1 | 100.4 | 107.7 | 612.2 | 589.1 | | 105.9 | 0.5 | | 2.3 | 0.5 | |
| Delay (s) | 35.6 | 140.1 | 147.5 | 649.8 | 626.7 | | 159.8 | 9.4 | | 45.5 | 17.7 | |
| Level of Service | D | F | F | F | F | | F | A | | D | B | |
| Approach Delay (s) | | 138.6 | | | 634.5 | | | 67.7 | | | 18.9 | |
| Approach LOS | | F | | | F | | | E | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 371.1 | HCM Level of Service | F |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 15.0 |
| Intersection Capacity Utilization | 74.5% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



## HCM Unsignalized Intersection Capacity Analysis
## 94: Del Norte Dr & Glen Annie Rd

Existing - PM Peak
12/15/2009

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 0 | 88 | 0 | 417 | 319 | 27 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.82 | 0.82 | 0.91 | 0.91 | 0.95 | 0.95 |
| Hourly flow rate (vph) | 0 | 107 | 0 | 458 | 336 | 28 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | 287 | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 579 | 182 | 364 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 579 | 182 | 364 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 87 | 100 | | | |
| cM capacity (veh/h) | 446 | 829 | 1191 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|
| Volume Total | 107 | 229 | 229 | 224 | 140 |
| Volume Left | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 107 | 0 | 0 | 0 | 28 |
| cSH | 829 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.13 | 0.13 | 0.13 | 0.13 | 0.08 |
| Queue Length 95th (ft) | 11 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | A | | | | |
| Approach Delay (s) | 10.0 | 0.0 | | 0.0 | |
| Approach LOS | A | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.2 | | |
| Intersection Capacity Utilization | 21.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 11 | 1 | 47 | 0 | 0 | 0 | 0 | 681 | 967 | 462 | 1324 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.0 | 4.0 | | | | | 4.8 | 4.0 | 3.7 | 4.8 | |
| Lane Util. Factor | | 1.00 | 1.00 | | | | | 0.95 | 1.00 | 0.97 | 0.95 | |
| Frt | | 1.00 | 0.85 | | | | | 1.00 | 0.85 | 1.00 | 1.00 | |
| Flt Protected | | 0.96 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | | 1748 | 1553 | | | | | 3539 | 1583 | 3433 | 3539 | |
| Flt Permitted | | 0.96 | 1.00 | | | | | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | | 1748 | 1553 | | | | | 3539 | 1583 | 3433 | 3539 | |
| Peak-hour factor, PHF | 0.60 | 0.60 | 0.60 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph) | 18 | 2 | 78 | 0 | 0 | 0 | 0 | 748 | 1063 | 476 | 1365 | 0 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 20 | 78 | 0 | 0 | 0 | 0 | 748 | 1063 | 476 | 1365 | 0 |
| Heavy Vehicles (%) | 4% | 4% | 4% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% |
| Turn Type | Split | | Perm | | | | | | Free | Prot | | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | Free | | | |
| Actuated Green, G (s) | | 7.6 | 7.6 | | | | | 54.0 | 90.0 | 15.9 | 73.6 | |
| Effective Green, g (s) | | 7.6 | 7.6 | | | | | 54.0 | 90.0 | 15.9 | 73.6 | |
| Actuated g/C Ratio | | 0.08 | 0.08 | | | | | 0.60 | 1.00 | 0.18 | 0.82 | |
| Clearance Time (s) | | 4.0 | 4.0 | | | | | 4.8 | | 3.7 | 4.8 | |
| Vehicle Extension (s) | | 1.5 | 1.5 | | | | | 1.5 | | 1.0 | 1.5 | |
| Lane Grp Cap (vph) | | 148 | 131 | | | | | 2123 | 1583 | 606 | 2894 | |
| v/s Ratio Prot | | 0.01 | | | | | | 0.21 | | 0.14 | 0.39 | |
| v/s Ratio Perm | | | 0.05 | | | | | | c0.67 | | | |
| v/c Ratio | | 0.14 | 0.60 | | | | | 0.35 | 0.67 | 0.79 | 0.47 | |
| Uniform Delay, d1 | | 38.2 | 39.7 | | | | | 9.1 | 0.0 | 35.4 | 2.4 | |
| Progression Factor | | 1.00 | 1.00 | | | | | 1.00 | 1.00 | 0.63 | 3.76 | |
| Incremental Delay, d2 | | 0.2 | 4.8 | | | | | 0.5 | 2.3 | 0.6 | 0.0 | |
| Delay (s) | | 38.3 | 44.5 | | | | | 9.6 | 2.3 | 22.9 | 9.2 | |
| Level of Service | | D | D | | | | | A | A | C | A | |
| Approach Delay (s) | | 43.2 | | | 0.0 | | | 5.3 | | | 12.7 | |
| Approach LOS | | D | | | A | | | A | | | B | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM Average Control Delay | 9.9 | HCM Level of Service | A | |
| HCM Volume to Capacity ratio | 0.67 | | | |
| Actuated Cycle Length (s) | 90.0 | Sum of lost time (s) | 0.0 | |
| Intersection Capacity Utilization | 47.3% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Volume (veh/h) | 16 | 51 | 326 | 44 | 175 | 150 |
| Sign Control | Stop | | | Stop | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 17 | 55 | 354 | 48 | 190 | 163 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 543 | 0 | 526 | 462 | 0 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 543 | 0 | 526 | 462 | 0 | |
| tC, single (s) | 6.5 | 6.2 | 7.1 | 6.5 | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 4.0 | 3.3 | 3.5 | 4.0 | 2.2 | |
| p0 queue free % | 96 | 95 | 8 | 89 | 88 | |
| cM capacity (veh/h) | 394 | 1085 | 386 | 438 | 1623 | |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 73 | 402 | 353 |
| Volume Left | 0 | 354 | 190 |
| Volume Right | 55 | 0 | 163 |
| cSH | 765 | 392 | 1623 |
| Volume to Capacity | 0.10 | 1.03 | 0.12 |
| Queue Length 95th (ft) | 8 | 324 | 10 |
| Control Delay (s) | 10.2 | 85.6 | 4.5 |
| Lane LOS | B | F | A |
| Approach Delay (s) | 10.2 | 85.6 | 4.5 |
| Approach LOS | B | F | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 44.4 | | |
| Intersection Capacity Utilization | 52.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 22 | 2 | 67 | 0 | 0 | 0 | 0 | 336 | 162 | 90 | 192 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |
| Grade | | 0% | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.92 | 0.92 | 0.92 | 0.93 | 0.93 | 0.93 | 0.85 | 0.85 | 0.85 |
| Hourly flow rate (vph) | 26 | 2 | 80 | 0 | 0 | 0 | 0 | 361 | 174 | 106 | 226 | 0 |
| Pedestrians | | | | | | | | | | | | |
| Lane Width (ft) | | | | | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | | | | | |
| Percent Blockage | | | | | | | | | | | | |
| Right turn flare (veh) | | | 2 | | | | | | | | | |
| Median type | | | | | | | | None | | | None | |
| Median storage veh) | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | | | | | | | |
| pX, platoon unblocked | | | | | | | | | | | | |
| vC, conflicting volume | 799 | 799 | 226 | 800 | 799 | 361 | 226 | | | 361 | | |
| vC1, stage 1 conf vol | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | |
| vCu, unblocked vol | 799 | 799 | 226 | 800 | 799 | 361 | 226 | | | 361 | | |
| tC, single (s) | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | 4.1 | | | 4.1 | | |
| tC, 2 stage (s) | | | | | | | | | | | | |
| tF (s) | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | 2.2 | | | 2.2 | | |
| p0 queue free % | 91 | 99 | 90 | 100 | 100 | 100 | 100 | | | 91 | | |
| cM capacity (veh/h) | 285 | 293 | 819 | 255 | 293 | 688 | 1343 | | | 1197 | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | SB 1 |
|---|---|---|---|---|
| Volume Total | 108 | 361 | 174 | 332 |
| Volume Left | 26 | 0 | 0 | 106 |
| Volume Right | 80 | 0 | 174 | 0 |
| cSH | 1084 | 1700 | 1700 | 1197 |
| Volume to Capacity | 0.10 | 0.21 | 0.10 | 0.09 |
| Queue Length 95th (ft) | 8 | 0 | 0 | 7 |
| Control Delay (s) | 12.3 | 0.0 | 0.0 | 3.2 |
| Lane LOS | B | | | A |
| Approach Delay (s) | 12.3 | 0.0 | | 3.2 |
| Approach LOS | B | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 2.5 | | |
| Intersection Capacity Utilization | | 46.1% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |





| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | | Stop | Stop | | Stop | |
| Volume (vph) | 77 | 0 | 170 | 208 | 0 | 135 |
| Peak Hour Factor | 0.88 | 0.88 | 0.77 | 0.77 | 0.87 | 0.87 |
| Hourly flow rate (vph) | 88 | 0 | 221 | 270 | 0 | 155 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 88 | 491 | 155 |
| Volume Left (vph) | 88 | 0 | 0 |
| Volume Right (vph) | 0 | 270 | 155 |
| Hadj (s) | 0.23 | -0.31 | -0.57 |
| Departure Headway (s) | 5.0 | 4.1 | 4.6 |
| Degree Utilization, x | 0.12 | 0.56 | 0.20 |
| Capacity (veh/h) | 669 | 856 | 699 |
| Control Delay (s) | 8.7 | 12.1 | 8.7 |
| Approach Delay (s) | 8.7 | 12.1 | 8.7 |
| Approach LOS | A | B | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | | 11.0 | |
| HCM Level of Service | | B | |
| Intersection Capacity Utilization | | 36.7% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 0 | 0 | 0 | 599 | 429 | 84 | 248 | 459 | 0 | 0 | 858 | 98 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 |
| Total Lost time (s) | | | | 4.5 | 4.5 | | 3.5 | 4.5 | | | 4.5 | |
| Lane Util. Factor | | | | 0.91 | 0.91 | | 0.97 | 1.00 | | | 0.95 | |
| Frt | | | | 1.00 | 0.98 | | 1.00 | 1.00 | | | 0.98 | |
| Flt Protected | | | | 0.95 | 0.98 | | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (prot) | | | | 1557 | 3172 | | 3433 | 1863 | | | 3485 | |
| Flt Permitted | | | | 0.95 | 0.98 | | 0.95 | 1.00 | | | 1.00 | |
| Satd. Flow (perm) | | | | 1557 | 3172 | | 3433 | 1863 | | | 3485 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.86 | 0.86 | 0.86 | 0.87 | 0.87 | 0.87 |
| Adj. Flow (vph) | 0 | 0 | 0 | 658 | 471 | 92 | 288 | 534 | 0 | 0 | 986 | 113 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 12 | 0 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 401 | 807 | 0 | 288 | 534 | 0 | 0 | 1087 | 0 |
| Turn Type | | | | Split | | | Prot | | | | | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Actuated Green, G (s) | | | | 26.8 | 26.8 | | 9.8 | 36.2 | | | 22.9 | |
| Effective Green, g (s) | | | | 26.8 | 26.8 | | 9.8 | 36.2 | | | 22.9 | |
| Actuated g/C Ratio | | | | 0.37 | 0.37 | | 0.14 | 0.50 | | | 0.32 | |
| Clearance Time (s) | | | | 4.5 | 4.5 | | 3.5 | 4.5 | | | 4.5 | |
| Vehicle Extension (s) | | | | 5.0 | 5.0 | | 1.5 | 5.0 | | | 5.0 | |
| Lane Grp Cap (vph) | | | | 580 | 1181 | | 467 | 937 | | | 1108 | |
| v/s Ratio Prot | | | | c0.26 | 0.25 | | 0.08 | c0.29 | | | c0.31 | |
| v/s Ratio Perm | | | | | | | | | | | | |
| v/c Ratio | | | | 0.69 | 0.68 | | 0.62 | 0.57 | | | 0.98 | |
| Uniform Delay, d1 | | | | 19.1 | 19.0 | | 29.3 | 12.5 | | | 24.3 | |
| Progression Factor | | | | 1.00 | 1.00 | | 0.79 | 1.10 | | | 1.00 | |
| Incremental Delay, d2 | | | | 4.5 | 2.1 | | 1.7 | 2.5 | | | 22.9 | |
| Delay (s) | | | | 23.6 | 21.2 | | 25.0 | 16.2 | | | 47.3 | |
| Level of Service | | | | C | C | | C | B | | | D | |
| Approach Delay (s) | | 0.0 | | | 22.0 | | | 19.3 | | | 47.3 | |
| Approach LOS | | A | | | C | | | B | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 30.1 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.81 | | |
| Actuated Cycle Length (s) | 72.0 | Sum of lost time (s) | 13.5 |
| Intersection Capacity Utilization | 66.0% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 554 | 171 | 72 | 19 | 167 | 191 | 87 | 287 | 14 | 167 | 417 | 643 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 4.2 | 4.2 | | 3.7 | 4.2 | 4.2 | 3.7 | 4.2 | | 3.7 | 4.2 | 4.2 |
| Lane Util. Factor | 0.97 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 0.96 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 3319 | 1720 | | 1711 | 1801 | 1531 | 1711 | 3397 | | 1711 | 1801 | 1531 |
| Flt Permitted | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 3319 | 1720 | | 1711 | 1801 | 1531 | 1711 | 3397 | | 1711 | 1801 | 1531 |
| Peak-hour factor, PHF | 0.94 | 0.94 | 0.94 | 0.91 | 0.91 | 0.91 | 0.90 | 0.90 | 0.90 | 0.91 | 0.91 | 0.91 |
| Adj. Flow (vph) | 589 | 182 | 77 | 21 | 184 | 210 | 97 | 319 | 16 | 184 | 458 | 707 |
| RTOR Reduction (vph) | 0 | 15 | 0 | 0 | 0 | 175 | 0 | 4 | 0 | 0 | 0 | 414 |
| Lane Group Flow (vph) | 589 | 244 | 0 | 21 | 184 | 35 | 97 | 331 | 0 | 184 | 458 | 293 |
| Turn Type | Prot | | | Prot | | Perm | Prot | | | Prot | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | 6 |
| Actuated Green, G (s) | 20.2 | 31.8 | | 5.5 | 16.6 | 16.6 | 8.6 | 35.6 | | 11.3 | 38.3 | 38.3 |
| Effective Green, g (s) | 20.2 | 31.8 | | 5.5 | 16.6 | 16.6 | 8.6 | 35.6 | | 11.3 | 38.3 | 38.3 |
| Actuated g/C Ratio | 0.20 | 0.32 | | 0.06 | 0.17 | 0.17 | 0.09 | 0.36 | | 0.11 | 0.38 | 0.38 |
| Clearance Time (s) | 4.2 | 4.2 | | 3.7 | 4.2 | 4.2 | 3.7 | 4.2 | | 3.7 | 4.2 | 4.2 |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 670 | 547 | | 94 | 299 | 254 | 147 | 1209 | | 193 | 690 | 586 |
| v/s Ratio Prot | c0.18 | 0.14 | | 0.01 | c0.10 | | 0.06 | 0.10 | | c0.11 | c0.25 | |
| v/s Ratio Perm | | | | | | 0.02 | | | | | | 0.19 |
| v/c Ratio | 0.88 | 0.45 | | 0.22 | 0.62 | 0.14 | 0.66 | 0.27 | | 0.95 | 0.66 | 0.50 |
| Uniform Delay, d1 | 38.7 | 27.1 | | 45.2 | 38.7 | 35.6 | 44.3 | 23.0 | | 44.1 | 25.5 | 23.5 |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 0.83 | 1.22 | 2.50 |
| Incremental Delay, d2 | 12.6 | 0.6 | | 1.2 | 3.7 | 0.2 | 10.2 | 0.6 | | 45.9 | 4.2 | 2.5 |
| Delay (s) | 51.3 | 27.7 | | 46.4 | 42.5 | 35.8 | 54.5 | 23.5 | | 82.7 | 35.4 | 61.3 |
| Level of Service | D | C | | D | D | D | D | C | | F | D | E |
| Approach Delay (s) | | 44.1 | | | 39.3 | | | 30.5 | | | 55.4 | |
| Approach LOS | | D | | | D | | | C | | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 46.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.75 | | |
| Actuated Cycle Length (s) | 100.0 | Sum of lost time (s) | 16.3 |
| Intersection Capacity Utilization | 65.2% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

## HCM Signalized Intersection Capacity Analysis
## 104: San Andres Rd & Carrillo St

Existing - PM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 213 | 146 | 35 | 42 | 163 | 70 | 26 | 509 | 53 | 114 | 879 | 298 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Lost time (s) | 4.5 | 4.5 | | | 4.0 | 4.0 | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Lane Util. Factor | 0.95 | 0.95 | | | 1.00 | 1.00 | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.97 | | | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 0.99 | | | 0.99 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1569 | 1601 | | | 1721 | 1478 | 1652 | 3256 | | 1652 | 3178 | |
| Flt Permitted | 0.95 | 0.99 | | | 0.99 | 1.00 | 0.14 | 1.00 | | 0.38 | 1.00 | |
| Satd. Flow (perm) | 1569 | 1601 | | | 1721 | 1478 | 245 | 3256 | | 667 | 3178 | |
| Peak-hour factor, PHF | 0.85 | 0.85 | 0.85 | 0.83 | 0.83 | 0.83 | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 251 | 172 | 41 | 51 | 196 | 84 | 28 | 553 | 58 | 128 | 988 | 335 |
| RTOR Reduction (vph) | 0 | 10 | 0 | 0 | 0 | 67 | 0 | 10 | 0 | 0 | 41 | 0 |
| Lane Group Flow (vph) | 226 | 228 | 0 | 0 | 247 | 17 | 28 | 601 | 0 | 128 | 1282 | 0 |
| Turn Type | Split | | | Split | | Perm | Perm | | | Perm | | |
| Protected Phases | 4 | 4 | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | 2 | | | 6 | | |
| Actuated Green, G (s) | 13.9 | 13.9 | | | 14.2 | 14.2 | 28.4 | 28.4 | | 28.4 | 28.4 | |
| Effective Green, g (s) | 13.9 | 13.9 | | | 14.2 | 14.2 | 28.4 | 28.4 | | 28.4 | 28.4 | |
| Actuated g/C Ratio | 0.19 | 0.19 | | | 0.20 | 0.20 | 0.39 | 0.39 | | 0.39 | 0.39 | |
| Clearance Time (s) | 4.5 | 4.5 | | | 4.0 | 4.0 | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Vehicle Extension (s) | 2.5 | 2.5 | | | 2.5 | 2.5 | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Lane Grp Cap (vph) | 303 | 309 | | | 339 | 291 | 97 | 1284 | | 263 | 1254 | |
| v/s Ratio Prot | c0.14 | 0.14 | | | c0.14 | | | 0.18 | | | c0.40 | |
| v/s Ratio Perm | | | | | | 0.01 | 0.11 | | | 0.19 | | |
| v/c Ratio | 0.75 | 0.74 | | | 0.73 | 0.06 | 0.29 | 0.47 | | 0.49 | 1.02 | |
| Uniform Delay, d1 | 27.4 | 27.3 | | | 27.1 | 23.5 | 14.9 | 16.2 | | 16.3 | 21.8 | |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | | 1.09 | 1.17 | |
| Incremental Delay, d2 | 9.1 | 8.3 | | | 7.2 | 0.1 | 7.4 | 1.2 | | 4.5 | 27.2 | |
| Delay (s) | 36.5 | 35.7 | | | 34.3 | 23.5 | 22.3 | 17.4 | | 22.3 | 52.8 | |
| Level of Service | D | D | | | C | C | C | B | | C | D | |
| Approach Delay (s) | | 36.1 | | | 31.5 | | | 17.6 | | | 50.1 | |
| Approach LOS | | D | | | C | | | B | | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 38.5 | HCM Level of Service | D |
| HCM Volume to Capacity ratio | 0.88 | | |
| Actuated Cycle Length (s) | 72.0 | Sum of lost time (s) | 15.5 |
| Intersection Capacity Utilization | 86.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



## HCM Unsignalized Intersection Capacity Analysis
## 105: Modoc St & Mission St

Existing - PM Peak
12/15/2009

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Volume (vph) | 197 | 173 | 164 | 360 | 532 | 238 |
| Peak Hour Factor | 0.88 | 0.88 | 0.98 | 0.98 | 0.93 | 0.93 |
| Hourly flow rate (vph) | 224 | 197 | 167 | 367 | 572 | 256 |

| Direction, Lane # | EB 1 | EB 2 | NB 1 | NB 2 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total (vph) | 224 | 197 | 167 | 367 | 572 | 256 |
| Volume Left (vph) | 224 | 0 | 167 | 0 | 0 | 0 |
| Volume Right (vph) | 0 | 197 | 0 | 0 | 0 | 256 |
| Hadj (s) | 0.53 | -0.67 | 0.53 | 0.03 | 0.03 | -0.67 |
| Departure Headway (s) | 8.1 | 6.9 | 7.6 | 7.1 | 7.0 | 6.2 |
| Degree Utilization, x | 0.51 | 0.38 | 0.36 | 0.73 | 1.11 | 0.44 |
| Capacity (veh/h) | 433 | 504 | 461 | 492 | 517 | 563 |
| Control Delay (s) | 18.0 | 12.9 | 13.6 | 25.8 | 96.2 | 12.9 |
| Approach Delay (s) | 15.6 | | 22.0 | | 70.5 | |
| Approach LOS | C | | C | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 43.0 | | |
| HCM Level of Service | E | | |
| Intersection Capacity Utilization | 58.0% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

## HCM Signalized Intersection Capacity Analysis
## 106: Quinientos St & Milpas St

Existing - PM Peak
12/15/2009

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 16 | 50 | 84 | 107 | 32 | 48 | 55 | 1076 | 64 | 173 | 782 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Total Lost time (s) | 3.7 | 3.7 | | 3.7 | 3.7 | | 3.5 | 4.1 | | 3.5 | 4.1 | |
| Lane Util. Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.95 | | 1.00 | 0.95 | |
| Frt | 1.00 | 0.91 | | 1.00 | 0.91 | | 1.00 | 0.99 | | 1.00 | 0.99 | |
| Flt Protected | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | |
| Satd. Flow (prot) | 1711 | 1632 | | 1711 | 1638 | | 1711 | 3392 | | 1711 | 3401 | |
| Flt Permitted | 0.69 | 1.00 | | 0.63 | 1.00 | | 0.32 | 1.00 | | 0.14 | 1.00 | |
| Satd. Flow (perm) | 1249 | 1632 | | 1142 | 1638 | | 583 | 3392 | | 261 | 3401 | |
| Peak-hour factor, PHF | 0.84 | 0.84 | 0.84 | 0.82 | 0.82 | 0.82 | 0.99 | 0.99 | 0.99 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 19 | 60 | 100 | 130 | 39 | 59 | 56 | 1087 | 65 | 182 | 823 | 33 |
| RTOR Reduction (vph) | 0 | 82 | 0 | 0 | 48 | 0 | 0 | 6 | 0 | 0 | 3 | 0 |
| Lane Group Flow (vph) | 19 | 78 | 0 | 130 | 50 | 0 | 56 | 1146 | 0 | 182 | 853 | 0 |
| Turn Type | Perm | | | Perm | | | pm+pt | | | pm+pt | | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | | 6 | | |
| Actuated Green, G (s) | 9.0 | 9.0 | | 9.0 | 9.0 | | 26.8 | 24.9 | | 32.4 | 27.7 | |
| Effective Green, g (s) | 9.0 | 9.0 | | 9.0 | 9.0 | | 26.8 | 24.9 | | 32.4 | 27.7 | |
| Actuated g/C Ratio | 0.18 | 0.18 | | 0.18 | 0.18 | | 0.54 | 0.50 | | 0.65 | 0.56 | |
| Clearance Time (s) | 3.7 | 3.7 | | 3.7 | 3.7 | | 3.5 | 4.1 | | 3.5 | 4.1 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 225 | 294 | | 206 | 295 | | 356 | 1693 | | 306 | 1888 | |
| v/s Ratio Prot | | 0.05 | | | 0.03 | | 0.01 | c0.34 | | c0.06 | 0.25 | |
| v/s Ratio Perm | 0.02 | | | c0.11 | | | 0.08 | | | 0.33 | | |
| v/c Ratio | 0.08 | 0.27 | | 0.63 | 0.17 | | 0.16 | 0.68 | | 0.59 | 0.45 | |
| Uniform Delay, d1 | 17.0 | 17.6 | | 18.9 | 17.3 | | 5.5 | 9.5 | | 5.6 | 6.6 | |
| Progression Factor | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 0.2 | 0.5 | | 6.2 | 0.3 | | 0.2 | 1.1 | | 3.1 | 0.2 | |
| Delay (s) | 17.2 | 18.1 | | 25.1 | 17.6 | | 5.7 | 10.5 | | 8.7 | 6.8 | |
| Level of Service | B | B | | C | B | | A | B | | A | A | |
| Approach Delay (s) | | 18.0 | | | 21.8 | | | 10.3 | | | 7.1 | |
| Approach LOS | | B | | | C | | | B | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 10.6 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.72 | | |
| Actuated Cycle Length (s) | 49.9 | Sum of lost time (s) | 14.8 |
| Intersection Capacity Utilization | 71.4% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



## HCM Unsignalized Intersection Capacity Analysis
## 391: N Jameson Ln & Olive Mill Rd

Existing - PM Peak
12/15/2009

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | Stop | | | Stop |
| Volume (vph) | 112 | 13 | 174 | 175 | 3 | 226 |
| Peak Hour Factor | 0.92 | 0.92 | 0.78 | 0.78 | 0.87 | 0.87 |
| Hourly flow rate (vph) | 122 | 14 | 223 | 224 | 3 | 260 |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 136 | 447 | 263 |
| Volume Left (vph) | 122 | 0 | 3 |
| Volume Right (vph) | 14 | 224 | 0 |
| Hadj (s) | 0.15 | -0.27 | 0.04 |
| Departure Headway (s) | 5.6 | 4.4 | 4.8 |
| Degree Utilization, x | 0.21 | 0.54 | 0.35 |
| Capacity (veh/h) | 574 | 802 | 711 |
| Control Delay (s) | 10.2 | 12.4 | 10.5 |
| Approach Delay (s) | 10.2 | 12.4 | 10.5 |
| Approach LOS | B | B | B |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 11.4 | | |
| HCM Level of Service | B | | |
| Intersection Capacity Utilization | 33.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 689 | 566 | 6 | 0 | 417 | 81 | 0 | 0 | 4 | 67 | 0 | 131 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.2 | 5.3 | | | 5.3 | 5.3 | | 4.2 | | | 4.5 | 4.5 |
| Lane Util. Factor | 0.97 | 0.95 | | | 0.95 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | | 0.93 | | | 1.00 | 0.98 |
| Flpb, ped/bikes | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | | | 1.00 | 0.85 | | 0.86 | | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | 0.95 | 1.00 |
| Satd. Flow (prot) | 3433 | 3530 | | | 3539 | 1583 | | 1497 | | | 1770 | 1558 |
| Flt Permitted | 0.95 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | 0.95 | 1.00 |
| Satd. Flow (perm) | 3433 | 3530 | | | 3539 | 1583 | | 1497 | | | 1770 | 1558 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 749 | 615 | 7 | 0 | 453 | 88 | 0 | 0 | 4 | 73 | 0 | 142 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 749 | 622 | 0 | 0 | 453 | 88 | 0 | 4 | 0 | 0 | 73 | 142 |
| Confl. Peds. (#/hr) | | | 17 | 17 | | | | | 3 | | | 5 |
| Turn Type | Prot | | | Perm | | Perm | Split | | | Split | | Perm |
| Protected Phases | 3 | 8 | | | 4 | | 1 | 1 | | 2 | 2 | |
| Permitted Phases | | | | 4 | | 4 | | | | | | 2 |
| Actuated Green, G (s) | 20.7 | 40.2 | | | 15.3 | 15.3 | | 0.7 | | | 11.9 | 11.9 |
| Effective Green, g (s) | 20.7 | 40.2 | | | 15.3 | 15.3 | | 0.7 | | | 11.9 | 11.9 |
| Actuated g/C Ratio | 0.31 | 0.60 | | | 0.23 | 0.23 | | 0.01 | | | 0.18 | 0.18 |
| Clearance Time (s) | 4.2 | 5.3 | | | 5.3 | 5.3 | | 4.2 | | | 4.5 | 4.5 |
| Vehicle Extension (s) | 2.0 | 2.0 | | | 2.0 | 2.0 | | 2.0 | | | 1.5 | 1.5 |
| Lane Grp Cap (vph) | 1064 | 2124 | | | 811 | 363 | | 16 | | | 315 | 278 |
| v/s Ratio Prot | c0.22 | 0.18 | | | c0.13 | | | c0.00 | | | 0.04 | |
| v/s Ratio Perm | | | | | | 0.06 | | | | | | c0.09 |
| v/c Ratio | 0.70 | 0.29 | | | 0.56 | 0.24 | | 0.25 | | | 0.23 | 0.51 |
| Uniform Delay, d1 | 20.3 | 6.4 | | | 22.8 | 21.0 | | 32.8 | | | 23.5 | 24.8 |
| Progression Factor | 1.00 | 1.00 | | | 1.00 | 1.00 | | 1.00 | | | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.7 | 0.0 | | | 0.5 | 0.1 | | 3.0 | | | 0.1 | 0.7 |
| Delay (s) | 22.1 | 6.5 | | | 23.2 | 21.1 | | 35.8 | | | 23.7 | 25.5 |
| Level of Service | C | A | | | C | C | | D | | | C | C |
| Approach Delay (s) | | 15.0 | | | 22.9 | | | 35.8 | | | 24.9 | |
| Approach LOS | | B | | | C | | | D | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 18.0 | HCM Level of Service | B |
| HCM Volume to Capacity ratio | 0.60 | | |
| Actuated Cycle Length (s) | 66.8 | Sum of lost time (s) | 18.2 |
| Intersection Capacity Utilization | 55.7% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

# APPENDIX B.

## TRAFFIX INTERSECTION LOS WORKSHEETS

## (ICU & ROUNDABOUTS)

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Scenario Report

| | |
|---|---|
| Scenario: | Existing AM |
| Command: | Existing AM |
| Volume: | Existing AM |
| Geometry: | Existing |
| Impact Fee: | Default Impact Fee |
| Trip Generation: | Existing |
| Trip Distribution: | Existing |
| Paths: | Existing |
| Routes: | Default Route |
| Configuration: | Default Configuration |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Scenario Report

| | |
|---|---|
| Scenario: | Existing PM |
| Command: | Existing PM |
| Volume: | Existing PM |
| Geometry: | Existing |
| Impact Fee: | Default Impact Fee |
| Trip Generation: | Existing |
| Trip Distribution: | Existing |
| Paths: | Existing |
| Routes: | Default Route |
| Configuration: | Default Configuration |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Impact Analysis Report
Level Of Service

| Intersection | Base LOS | Base Del/ Veh | Base V/ C | Future LOS | Future Del/ Veh | Future V/ C | Change in |
|---|---|---|---|---|---|---|---|
| # 14 Carpinteria Ave and Casitas Pa | A | xxxxx | 0.541 | A | xxxxx | 0.541 | + 0.000 V/C |
| # 20 Carpinteria Ave and Santa Ynez | A | xxxxx | 0.453 | A | xxxxx | 0.453 | + 0.000 V/C |
| # 48 Milpas St and US 101 SB Off Ra | A | xxxxx | 0.567 | A | xxxxx | 0.567 | + 0.000 V/C |
| # 49 Milpas St and US 101 SB On Ram | A | xxxxx | 0.343 | A | xxxxx | 0.343 | + 0.000 V/C |
| # 50 Garden St and US 101 NB On/Off | A | xxxxx | 0.479 | A | xxxxx | 0.479 | + 0.000 V/C |
| # 52 Garden St and US 101 SB On/Off | A | xxxxx | 0.540 | A | xxxxx | 0.540 | + 0.000 V/C |
| # 53 Garden St and Yanonali St | A | xxxxx | 0.439 | A | xxxxx | 0.439 | + 0.000 V/C |
| # 55 Castillo St and US 101 NB On R | A | xxxxx | 0.538 | A | xxxxx | 0.538 | + 0.000 V/C |
| # 56 Bath St and Haley St | A | xxxxx | 0.501 | A | xxxxx | 0.501 | + 0.000 V/C |
| # 57 Castillo St and US 101 SB On/O | B | xxxxx | 0.621 | B | xxxxx | 0.621 | + 0.000 V/C |
| # 58 Carrillo St and US 101 NB On/O | C | xxxxx | 0.702 | C | xxxxx | 0.702 | + 0.000 V/C |
| # 59 Carrillo St and US 101 SB On/O | D | xxxxx | 0.822 | D | xxxxx | 0.822 | + 0.000 V/C |
| # 60 Castillo St and Carrillo St | C | xxxxx | 0.723 | C | xxxxx | 0.723 | + 0.000 V/C |
| # 63 Mission St and US 101 NB On/Of | D | xxxxx | 0.829 | D | xxxxx | 0.829 | + 0.000 V/C |
| # 64 Mission St and US 101 SB On/Of | E | xxxxx | 0.935 | E | xxxxx | 0.935 | + 0.000 V/C |
| # 65 Mission St and Castillo St | A | xxxxx | 0.558 | A | xxxxx | 0.558 | + 0.000 V/C |
| # 68 Calle Real and US 101 NB Off R | D | xxxxx | 0.827 | D | xxxxx | 0.827 | + 0.000 V/C |
| # 69 Las Positas Rd and Calle Real | B | xxxxx | 0.658 | B | xxxxx | 0.658 | + 0.000 V/C |
| # 70 Las Positas Rd and US 101 SB O | D | xxxxx | 0.815 | D | xxxxx | 0.815 | + 0.000 V/C |
| # 71 Las Positas Rd and Modoc Rd | D | xxxxx | 0.863 | D | xxxxx | 0.863 | + 0.000 V/C |
| # 72 Hope Ave and Calle Real | A | xxxxx | 0.498 | A | xxxxx | 0.498 | + 0.000 V/C |
| # 73 La Cumbre Rd and US 101 SB On/ | A | xxxxx | 0.523 | A | xxxxx | 0.523 | + 0.000 V/C |
| # 74 La Cumbre Rd and Calle Real | A | xxxxx | 0.390 | A | xxxxx | 0.390 | + 0.000 V/C |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Impact Analysis Report
Level Of Service

| Intersection | Base LOS | Base Del/ Veh | Base V/ C | Future LOS | Future Del/ Veh | Future V/ C | Change in |
|---|---|---|---|---|---|---|---|
| # 14 Carpinteria Ave and Casitas Pa | B | xxxxx | 0.693 | B | xxxxx | 0.693 | + 0.000 V/C |
| # 20 Carpinteria Ave and Santa Ynez | B | xxxxx | 0.626 | B | xxxxx | 0.626 | + 0.000 V/C |
| # 48 Milpas St and US 101 SB Off Ra | B | xxxxx | 0.685 | B | xxxxx | 0.685 | + 0.000 V/C |
| # 49 Milpas St and US 101 SB On Ram | A | xxxxx | 0.532 | A | xxxxx | 0.532 | + 0.000 V/C |
| # 50 Garden St and US 101 NB On/Off | B | xxxxx | 0.666 | B | xxxxx | 0.666 | + 0.000 V/C |
| # 52 Garden St and US 101 SB On/Off | C | xxxxx | 0.747 | C | xxxxx | 0.747 | + 0.000 V/C |
| # 53 Garden St and Yanonali St | A | xxxxx | 0.527 | A | xxxxx | 0.527 | + 0.000 V/C |
| # 55 Castillo St and US 101 NB On R | B | xxxxx | 0.665 | B | xxxxx | 0.665 | + 0.000 V/C |
| # 56 Bath St and Haley St | C | xxxxx | 0.737 | C | xxxxx | 0.737 | + 0.000 V/C |
| # 57 Castillo St and US 101 SB On/O | C | xxxxx | 0.719 | C | xxxxx | 0.719 | + 0.000 V/C |
| # 58 Carrillo St and US 101 NB On/O | C | xxxxx | 0.798 | C | xxxxx | 0.798 | + 0.000 V/C |
| # 59 Carrillo St and US 101 SB On/O | C | xxxxx | 0.733 | C | xxxxx | 0.733 | + 0.000 V/C |
| # 60 Castillo St and Carrillo St | C | xxxxx | 0.730 | C | xxxxx | 0.730 | + 0.000 V/C |
| # 63 Mission St and US 101 NB On/Of | C | xxxxx | 0.711 | C | xxxxx | 0.711 | + 0.000 V/C |
| # 64 Mission St and US 101 SB On/Of | D | xxxxx | 0.811 | D | xxxxx | 0.811 | + 0.000 V/C |
| # 65 Mission St and Castillo St | A | xxxxx | 0.571 | A | xxxxx | 0.571 | + 0.000 V/C |
| # 68 Calle Real and US 101 NB Off R | B | xxxxx | 0.651 | B | xxxxx | 0.651 | + 0.000 V/C |
| # 69 Las Positas Rd and Calle Real | C | xxxxx | 0.701 | C | xxxxx | 0.701 | + 0.000 V/C |
| # 70 Las Positas Rd and US 101 SB O | C | xxxxx | 0.766 | C | xxxxx | 0.766 | + 0.000 V/C |
| # 71 Las Positas Rd and Modoc Rd | B | xxxxx | 0.691 | B | xxxxx | 0.691 | + 0.000 V/C |
| # 72 Hope Ave and Calle Real | A | xxxxx | 0.578 | A | xxxxx | 0.578 | + 0.000 V/C |
| # 73 La Cumbre Rd and US 101 SB On/ | A | xxxxx | 0.581 | A | xxxxx | 0.581 | + 0.000 V/C |
| # 74 La Cumbre Rd and Calle Real | A | xxxxx | 0.470 | A | xxxxx | 0.470 | + 0.000 V/C |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

| Intersection | Base LOS | Base Del/ Veh | Base V/ C | Future LOS | Future Del/ Veh | Future V/ C | Change in V/C |
|---|---|---|---|---|---|---|---|
| # 75 US 101 NB Off Ramp/Calle Real | A | xxxxx | 0.522 | A | xxxxx | 0.522 | + 0.000 |
| # 77 San Macros Pass and Calle Real | A | xxxxx | 0.592 | A | xxxxx | 0.592 | + 0.000 |
| # 78 US 101 SB Off Ramp and State S | A | xxxxx | 0.475 | A | xxxxx | 0.475 | + 0.000 |
| # 79 San Macros Pass and State St | B | xxxxx | 0.608 | B | xxxxx | 0.608 | + 0.000 |
| # 81 Turnpike Rd and US 101 NB On/O | B | xxxxx | 0.669 | B | xxxxx | 0.669 | + 0.000 |
| # 82 Turnpike Rd and US 101 SB On/O | C | xxxxx | 0.796 | C | xxxxx | 0.796 | + 0.000 |
| # 83 Turnpike Rd and Calle Real | A | xxxxx | 0.492 | A | xxxxx | 0.492 | + 0.000 |
| # 84 Patterson Ave and US 101 NB On | C | xxxxx | 0.720 | C | xxxxx | 0.720 | + 0.000 |
| # 85 Patterson Ave and US 101 SB On | C | xxxxx | 0.724 | C | xxxxx | 0.724 | + 0.000 |
| # 86 Patterson Ave and Calle Real | A | xxxxx | 0.537 | A | xxxxx | 0.537 | + 0.000 |
| # 87 Fairview Ave and US 101 NB On/ | C | xxxxx | 0.765 | C | xxxxx | 0.765 | + 0.000 |
| # 88 Fairview Ave and Calle Real | B | xxxxx | 0.663 | B | xxxxx | 0.663 | + 0.000 |
| # 89 Fairview Ave and US 101 SB On/ | A | xxxxx | 0.575 | A | xxxxx | 0.575 | + 0.000 |
| # 90 Los Carneros Rd and US 101 NB | A | xxxxx | 0.531 | A | xxxxx | 0.531 | + 0.000 |
| # 91 Los Carneros Rd and US 101 SB | A | xxxxx | 0.531 | A | xxxxx | 0.531 | + 0.000 |
| # 93 Glen Annie Rd and US 101 NB On | D | xxxxx | 0.805 | D | xxxxx | 0.805 | + 0.000 |
| # 95 Glen Annie Rd and US 101 SB On | B | xxxxx | 0.638 | B | xxxxx | 0.638 | + 0.000 |
| #102 Garden St / Gutierrez St | B | xxxxx | 0.679 | B | xxxxx | 0.679 | + 0.000 |
| #103 Castillo St and Montecito St | C | xxxxx | 0.771 | C | xxxxx | 0.771 | + 0.000 |
| #104 Carrillo St and San Andres St | C | xxxxx | 0.708 | C | xxxxx | 0.708 | + 0.000 |
| #106 Milpas St and Quinientos St | A | xxxxx | 0.572 | A | xxxxx | 0.572 | + 0.000 |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

| Intersection | Base LOS | Base Del/ Veh | Base V/ C | Future LOS | Future Del/ Veh | Future V/ C | Change in V/C |
|---|---|---|---|---|---|---|---|
| # 75 US 101 NB Off Ramp/Calle Real | A | xxxxx | 0.578 | A | xxxxx | 0.578 | + 0.000 |
| # 77 San Macros Pass and Calle Real | A | xxxxx | 0.500 | A | xxxxx | 0.500 | + 0.000 |
| # 78 US 101 SB Off Ramp and State S | A | xxxxx | 0.528 | A | xxxxx | 0.528 | + 0.000 |
| # 79 San Macros Pass and State St | A | xxxxx | 0.530 | A | xxxxx | 0.530 | + 0.000 |
| # 81 Turnpike Rd and US 101 NB On/O | A | xxxxx | 0.573 | A | xxxxx | 0.573 | + 0.000 |
| # 82 Turnpike Rd and US 101 SB On/O | C | xxxxx | 0.718 | C | xxxxx | 0.718 | + 0.000 |
| # 83 Turnpike Rd and Calle Real | A | xxxxx | 0.556 | A | xxxxx | 0.556 | + 0.000 |
| # 84 Patterson Ave and US 101 NB On | B | xxxxx | 0.699 | B | xxxxx | 0.699 | + 0.000 |
| # 85 Patterson Ave and US 101 SB On | D | xxxxx | 0.844 | D | xxxxx | 0.844 | + 0.000 |
| # 86 Patterson Ave and Calle Real | B | xxxxx | 0.634 | B | xxxxx | 0.634 | + 0.000 |
| # 87 Fairview Ave and US 101 NB On/ | D | xxxxx | 0.820 | D | xxxxx | 0.820 | + 0.000 |
| # 88 Fairview Ave and Calle Real | C | xxxxx | 0.714 | C | xxxxx | 0.714 | + 0.000 |
| # 89 Fairview Ave and US 101 SB On/ | A | xxxxx | 0.584 | A | xxxxx | 0.584 | + 0.000 |
| # 90 Los Carneros Rd and US 101 NB | A | xxxxx | 0.534 | A | xxxxx | 0.534 | + 0.000 |
| # 91 Los Carneros Rd and US 101 SB | C | xxxxx | 0.708 | C | xxxxx | 0.708 | + 0.000 |
| # 93 Glen Annie Rd and US 101 NB On | C | xxxxx | 0.753 | C | xxxxx | 0.753 | + 0.000 |
| # 95 Glen Annie Rd and US 101 SB On | A | xxxxx | 0.543 | A | xxxxx | 0.543 | + 0.000 |
| #102 Garden St / Gutierrez St | C | xxxxx | 0.708 | C | xxxxx | 0.708 | + 0.000 |
| #103 Castillo St and Montecito St | D | xxxxx | 0.849 | D | xxxxx | 0.849 | + 0.000 |
| #104 Carrillo St and San Andres St | C | xxxxx | 0.753 | C | xxxxx | 0.753 | + 0.000 |
| #106 Milpas St and Quinientos St | C | xxxxx | 0.715 | C | xxxxx | 0.715 | + 0.000 |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #14 Carpinteria Ave and Casitas Pass Rd

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.541 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | Casitas Pass Rd | | | | | | Carpinteria Ave | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 0 | 0 0 | 1 0 | 0 | 0 1 | 1 0 | 1 | 0 0 | 0 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 82 | 0 | 119 | 217 | 356 | 0 | 0 | 369 | 90 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 82 | 0 | 119 | 217 | 356 | 0 | 0 | 369 | 90 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 82 | 0 | 119 | 217 | 356 | 0 | 0 | 369 | 90 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 0 | 82 | 0 | 119 | 217 | 356 | 0 | 0 | 369 | 90 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 0 | 0 | 82 | 0 | 119 | 217 | 356 | 0 | 0 | 369 | 90 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Final Sat.: | 0 | 0 | 0 | 1600 | 0 | 1600 | 1600 | 1600 | 0 | 0 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.07 | 0.14 | 0.22 | 0.00 | 0.00 | 0.23 | 0.06 |
| Crit Moves: | | | | | | **** | **** | | | | **** | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #14 Carpinteria Ave and Casitas Pass Rd

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.693 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | B |

| Street Name: | Casitas Pass Rd | | | | | | Carpinteria Ave | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 0 | 0 0 | 1 0 | 0 | 0 1 | 1 0 | 1 | 0 0 | 0 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 254 | 0 | 172 | 314 | 480 | 0 | 0 | 381 | 98 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 254 | 0 | 172 | 314 | 480 | 0 | 0 | 381 | 98 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 254 | 0 | 172 | 314 | 480 | 0 | 0 | 381 | 98 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 0 | 254 | 0 | 172 | 314 | 480 | 0 | 0 | 381 | 98 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 0 | 0 | 254 | 0 | 172 | 314 | 480 | 0 | 0 | 381 | 98 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Final Sat.: | 0 | 0 | 0 | 1600 | 0 | 1600 | 1600 | 1600 | 0 | 0 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.11 | 0.20 | 0.30 | 0.00 | 0.00 | 0.24 | 0.06 |
| Crit Moves: | | | | **** | | | **** | | | | **** | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #20 Carpinteria Ave and Santa Ynez Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.453
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Santa Ynez Ave | | | | | | Carpinteria Ave | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 1 | 0 | 0 1 | 1 0 | 0 1 | 0 | 1 0 | 1 0 | 1 | 0 0 | 1 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 14 | 116 | 14 | 173 | 67 | 2 | 123 | 106 | 6 | 0 | 58 | 139 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 14 | 116 | 14 | 173 | 67 | 2 | 123 | 106 | 6 | 0 | 58 | 139 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 14 | 116 | 14 | 173 | 67 | 2 | 123 | 106 | 6 | 0 | 58 | 139 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 14 | 116 | 14 | 173 | 67 | 2 | 123 | 106 | 6 | 0 | 58 | 139 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 14 | 116 | 14 | 173 | 67 | 2 | 123 | 106 | 6 | 0 | 58 | 139 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.11 | 0.89 | 1.00 | 1.00 | 0.97 | 0.03 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Final Sat.: | 172 | 1428 | 1600 | 1600 | 1554 | 46 | 1600 | 1600 | 1600 | 0 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.08 | 0.08 | 0.01 | 0.11 | 0.04 | 0.04 | 0.08 | 0.07 | 0.00 | 0.00 | 0.04 | 0.09 |
| Crit Moves: | **** | | | **** | | | **** | | | | | **** |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #20 Carpinteria Ave and Santa Ynez Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.626
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: B

| Street Name: | Santa Ynez Ave | | | | | | Carpinteria Ave | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 1 | 0 | 0 1 | 1 0 | 0 1 | 0 | 1 0 | 1 0 | 1 | 0 0 | 1 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 24 | 109 | 3 | 343 | 83 | 12 | 121 | 198 | 32 | 0 | 71 | 244 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 24 | 109 | 3 | 343 | 83 | 12 | 121 | 198 | 32 | 0 | 71 | 244 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 24 | 109 | 3 | 343 | 83 | 12 | 121 | 198 | 32 | 0 | 71 | 244 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 24 | 109 | 3 | 343 | 83 | 12 | 121 | 198 | 32 | 0 | 71 | 244 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 24 | 109 | 3 | 343 | 83 | 12 | 121 | 198 | 32 | 0 | 71 | 244 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.18 | 0.82 | 1.00 | 1.00 | 0.87 | 0.13 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Final Sat.: | 289 | 1311 | 1600 | 1600 | 1398 | 202 | 1600 | 1600 | 1600 | 0 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.08 | 0.08 | 0.00 | 0.21 | 0.06 | 0.06 | 0.08 | 0.12 | 0.02 | 0.00 | 0.04 | 0.15 |
| Crit Moves: | **** | | | **** | | | **** | | | | | **** |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #48 Milpas St and US 101 SB Off Ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.567
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Milpas St | | | | | | US 101 SB Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 0 | 0 0 | 2 | 0 0 | 2 0 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 331 | 0 | 0 | 768 | 0 | 725 | 0 | 341 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 331 | 0 | 0 | 768 | 0 | 725 | 0 | 341 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 331 | 0 | 0 | 768 | 0 | 725 | 0 | 341 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 331 | 0 | 0 | 768 | 0 | 725 | 0 | 341 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 331 | 0 | 0 | 768 | 0 | 725 | 0 | 341 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 0 | 0 | 3200 | 0 | 3200 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.10 | 0.00 | 0.00 | 0.24 | 0.00 | 0.23 | 0.00 | 0.21 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | **** | | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #48 Milpas St and US 101 SB Off Ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.685
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: B

| Street Name: | Milpas St | | | | | | US 101 SB Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 0 | 0 0 | 2 | 0 0 | 2 0 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 652 | 0 | 0 | 897 | 0 | 660 | 0 | 487 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 652 | 0 | 0 | 897 | 0 | 660 | 0 | 487 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 652 | 0 | 0 | 897 | 0 | 660 | 0 | 487 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 652 | 0 | 0 | 897 | 0 | 660 | 0 | 487 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 652 | 0 | 0 | 897 | 0 | 660 | 0 | 487 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 0 | 0 | 3200 | 0 | 3200 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.20 | 0.00 | 0.00 | 0.28 | 0.00 | 0.21 | 0.00 | 0.30 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | | | **** | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #49 Milpas St and US 101 SB On Ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.343
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Milpas St | | | | | | US 101 SB Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 2 0 | 1 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 0 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 212 | 14 | 522 | 356 | 0 | 0 | 0 | 0 | 7 | 0 | 14 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 212 | 14 | 522 | 356 | 0 | 0 | 0 | 0 | 7 | 0 | 14 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 212 | 14 | 522 | 356 | 0 | 0 | 0 | 0 | 7 | 0 | 14 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 212 | 14 | 522 | 356 | 0 | 0 | 0 | 0 | 7 | 0 | 14 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 212 | 14 | 522 | 356 | 0 | 0 | 0 | 0 | 7 | 0 | 14 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.88 | 0.12 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 0 | 3002 | 198 | 3200 | 1600 | 0 | 0 | 0 | 0 | 1600 | 0 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.07 | 0.07 | 0.16 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Crit Moves: | | **** | | **** | | | | | | | | **** |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #49 Milpas St and US 101 SB On Ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.532
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Milpas St | | | | | | US 101 SB Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 2 0 | 1 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 0 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 445 | 52 | 885 | 355 | 0 | 0 | 0 | 0 | 5 | 0 | 18 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 445 | 52 | 885 | 355 | 0 | 0 | 0 | 0 | 5 | 0 | 18 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 445 | 52 | 885 | 355 | 0 | 0 | 0 | 0 | 5 | 0 | 18 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Reduced Vol: | 0 | 445 | 52 | 885 | 355 | 0 | 0 | 0 | 0 | 5 | 0 | 4 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 445 | 52 | 885 | 355 | 0 | 0 | 0 | 0 | 5 | 0 | 4 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.79 | 0.21 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 0 | 2865 | 335 | 3200 | 1600 | 0 | 0 | 0 | 0 | 1600 | 0 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.16 | 0.16 | 0.28 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | | | | | **** | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #50 Garden St and US 101 NB On/Off Ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.479
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Garden St | | | | | | US 101 NB On/Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 2 0 | 0 | 0 0 | 2 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 0 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 142 | 752 | 0 | 0 | 561 | 465 | 0 | 0 | 0 | 102 | 0 | 212 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 142 | 752 | 0 | 0 | 561 | 465 | 0 | 0 | 0 | 102 | 0 | 212 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 142 | 752 | 0 | 0 | 561 | 465 | 0 | 0 | 0 | 102 | 0 | 212 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 121 | 0 | 0 | 0 | 0 | 0 | 91 |
| Reduced Vol: | 142 | 752 | 0 | 0 | 561 | 344 | 0 | 0 | 0 | 102 | 0 | 121 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 142 | 752 | 0 | 0 | 561 | 344 | 0 | 0 | 0 | 102 | 0 | 121 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 3200 | 1600 | 0 | 0 | 0 | 1600 | 0 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.09 | 0.24 | 0.00 | 0.00 | 0.18 | 0.22 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.08 |
| Crit Moves: | **** | | | | | **** | | | | | | **** |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #50 Garden St and US 101 NB On/Off Ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.666
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: B

| Street Name: | Garden St | | | | | | US 101 NB On/Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 2 0 | 0 | 0 0 | 2 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 0 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 344 | 551 | 0 | 0 | 831 | 626 | 0 | 0 | 0 | 118 | 0 | 156 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 344 | 551 | 0 | 0 | 831 | 626 | 0 | 0 | 0 | 118 | 0 | 156 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 344 | 551 | 0 | 0 | 831 | 626 | 0 | 0 | 0 | 118 | 0 | 156 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 182 | 0 | 0 | 0 | 0 | 0 | 76 |
| Reduced Vol: | 344 | 551 | 0 | 0 | 831 | 444 | 0 | 0 | 0 | 118 | 0 | 80 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 344 | 551 | 0 | 0 | 831 | 444 | 0 | 0 | 0 | 118 | 0 | 80 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 3200 | 1600 | 0 | 0 | 0 | 1600 | 0 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.22 | 0.17 | 0.00 | 0.00 | 0.26 | 0.28 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.05 |
| Crit Moves: | **** | | | | | **** | | | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #52 Garden St and US 101 SB On/Off Ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.540
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Garden St | | | | | | US 101 SB On/Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 292 | 69 | 259 | 403 | 0 | 602 | 0 | 335 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 292 | 69 | 259 | 403 | 0 | 602 | 0 | 335 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 292 | 69 | 259 | 403 | 0 | 602 | 0 | 335 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 151 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 292 | 31 | 259 | 403 | 0 | 602 | 0 | 184 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 292 | 31 | 259 | 403 | 0 | 602 | 0 | 184 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.81 | 0.19 | 2.00 | 1.00 | 0.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 2893 | 307 | 3200 | 1600 | 0 | 3200 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.10 | 0.10 | 0.08 | 0.25 | 0.00 | 0.19 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | **** | | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #52 Garden St and US 101 SB On/Off Ramp

Cycle (sec): 100 Critical Vol./Cap.(X): 0.747
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Garden St | | | | | | US 101 SB On/Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 545 | 142 | 478 | 467 | 0 | 350 | 5 | 184 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 545 | 142 | 478 | 467 | 0 | 350 | 5 | 184 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 545 | 142 | 478 | 467 | 0 | 350 | 5 | 184 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 95 | 0 | 0 | 0 | 0 | 0 | 90 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 545 | 47 | 478 | 467 | 0 | 350 | 5 | 94 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 545 | 47 | 478 | 467 | 0 | 350 | 5 | 94 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.84 | 0.16 | 2.00 | 1.00 | 0.00 | 1.99 | 0.01 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 2946 | 254 | 3200 | 1600 | 0 | 3184 | 16 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.18 | 0.19 | 0.15 | 0.29 | 0.00 | 0.11 | 0.31 | 0.06 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | | **** | **** | | | | **** | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #53 Garden St and Yanonali St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.439 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | Garden St | | | | | | Yanonali St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 16 | 113 | 7 | 288 | 172 | 167 | 119 | 116 | 7 | 10 | 75 | 79 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 16 | 113 | 7 | 288 | 172 | 167 | 119 | 116 | 7 | 10 | 75 | 79 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 16 | 113 | 7 | 288 | 172 | 167 | 119 | 116 | 7 | 10 | 75 | 79 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 16 | 113 | 7 | 288 | 172 | 167 | 119 | 116 | 7 | 10 | 75 | 79 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 16 | 113 | 7 | 288 | 172 | 167 | 119 | 116 | 7 | 10 | 75 | 79 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.88 | 0.12 | 1.00 | 1.01 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 1600 | 3013 | 187 | 1600 | 1624 | 1576 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.01 | 0.04 | 0.04 | 0.18 | 0.11 | 0.11 | 0.07 | 0.07 | 0.00 | 0.01 | 0.05 | 0.05 |
| Crit Moves: | | **** | | **** | | | **** | | | | **** | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #53 Garden St and Yanonali St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.527 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | Garden St | | | | | | Yanonali St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 8 | 134 | 5 | 174 | 235 | 128 | 268 | 147 | 22 | 10 | 99 | 171 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 8 | 134 | 5 | 174 | 235 | 128 | 268 | 147 | 22 | 10 | 99 | 171 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 8 | 134 | 5 | 174 | 235 | 128 | 268 | 147 | 22 | 10 | 99 | 171 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 8 | 134 | 5 | 174 | 235 | 128 | 268 | 147 | 22 | 10 | 99 | 171 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 8 | 134 | 5 | 174 | 235 | 128 | 268 | 147 | 22 | 10 | 99 | 171 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.93 | 0.07 | 1.00 | 1.29 | 0.71 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 1600 | 3085 | 115 | 1600 | 2072 | 1128 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.01 | 0.04 | 0.04 | 0.11 | 0.11 | 0.11 | 0.17 | 0.09 | 0.01 | 0.01 | 0.06 | 0.11 |
| Crit Moves: | | **** | | **** | | | **** | | | | | **** |


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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #55 Castillo St and US 101 NB On Ramp/Haley St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.538 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | Castillo St | | | | | | US 101 NB On Ramp/Haley St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 0 0 | 0 0 | 0 | 2 0 | 0 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 451 | 56 | 376 | 9 | 196 | 82 | 0 | 0 | 0 | 296 | 111 | 10 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 451 | 56 | 376 | 9 | 196 | 82 | 0 | 0 | 0 | 296 | 111 | 10 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 451 | 56 | 376 | 9 | 196 | 82 | 0 | 0 | 0 | 296 | 111 | 10 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 2 |
| Reduced Vol: | 451 | 56 | 376 | 9 | 196 | 44 | 0 | 0 | 0 | 296 | 111 | 8 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 451 | 56 | 376 | 9 | 196 | 44 | 0 | 0 | 0 | 296 | 111 | 8 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.00 | 1.00 | 0.09 | 1.91 | 1.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.93 | 0.07 |
| Final Sat.: | 1600 | 1600 | 1600 | 140 | 3060 | 1600 | 0 | 0 | 0 | 3200 | 1492 | 108 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.28 | 0.04 | 0.24 | 0.06 | 0.06 | 0.03 | 0.00 | 0.00 | 0.00 | 0.09 | 0.07 | 0.07 |
| Crit Moves: | **** | | | **** | | | | | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #55 Castillo St and US 101 NB On Ramp/Haley St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.665 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | B |

| Street Name: | Castillo St | | | | | | US 101 NB On Ramp/Haley St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 0 0 | 0 0 | 0 | 2 0 | 0 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 516 | 74 | 480 | 27 | 254 | 148 | 0 | 0 | 0 | 455 | 239 | 13 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 516 | 74 | 480 | 27 | 254 | 148 | 0 | 0 | 0 | 455 | 239 | 13 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 516 | 74 | 480 | 27 | 254 | 148 | 0 | 0 | 0 | 455 | 239 | 13 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 0 | 0 | 0 | 4 |
| Reduced Vol: | 516 | 74 | 480 | 27 | 254 | 90 | 0 | 0 | 0 | 455 | 239 | 9 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 516 | 74 | 480 | 27 | 254 | 90 | 0 | 0 | 0 | 455 | 239 | 9 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.00 | 1.00 | 0.19 | 1.81 | 1.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.96 | 0.04 |
| Final Sat.: | 1600 | 1600 | 1600 | 307 | 2893 | 1600 | 0 | 0 | 0 | 3200 | 1542 | 58 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.32 | 0.05 | 0.30 | 0.09 | 0.09 | 0.06 | 0.00 | 0.00 | 0.00 | 0.14 | 0.16 | 0.15 |
| Crit Moves: | **** | | | | **** | | | | | | **** | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #56 Bath St and Haley St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.501
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Bath St | | | | | | Haley St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Permitted | | | Permitted | | | Permitted | | | Permitted | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 1 0 | 0 1 | 0 | 0 1 | 0 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 167 | 103 | 42 | 0 | 0 | 0 | 91 | 299 | 25 | 6 | 210 | 38 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 167 | 103 | 42 | 0 | 0 | 0 | 91 | 299 | 25 | 6 | 210 | 38 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 167 | 103 | 42 | 0 | 0 | 0 | 91 | 299 | 25 | 6 | 210 | 38 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 167 | 103 | 42 | 0 | 0 | 0 | 91 | 299 | 25 | 6 | 210 | 38 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 167 | 103 | 42 | 0 | 0 | 0 | 91 | 299 | 25 | 6 | 210 | 38 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.54 | 0.33 | 0.13 | 0.00 | 0.00 | 0.00 | 1.00 | 0.92 | 0.08 | 0.03 | 0.97 | 1.00 |
| Final Sat.: | 856 | 528 | 215 | 0 | 0 | 0 | 1600 | 1477 | 123 | 44 | 1556 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.10 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 | 0.06 | 0.20 | 0.20 | 0.00 | 0.13 | 0.02 |
| Crit Moves: | | **** | | | | | | **** | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #56 Bath St and Haley St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.737
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Bath St | | | | | | Haley St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Permitted | | | Permitted | | | Permitted | | | Permitted | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 1 0 | 0 1 | 0 | 0 1 | 0 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 265 | 137 | 62 | 0 | 0 | 0 | 115 | 357 | 30 | 11 | 429 | 43 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 265 | 137 | 62 | 0 | 0 | 0 | 115 | 357 | 30 | 11 | 429 | 43 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 265 | 137 | 62 | 0 | 0 | 0 | 115 | 357 | 30 | 11 | 429 | 43 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 265 | 137 | 62 | 0 | 0 | 0 | 115 | 357 | 30 | 11 | 429 | 43 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 265 | 137 | 62 | 0 | 0 | 0 | 115 | 357 | 30 | 11 | 429 | 43 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.57 | 0.30 | 0.13 | 0.00 | 0.00 | 0.00 | 1.00 | 0.92 | 0.08 | 0.02 | 0.98 | 1.00 |
| Final Sat.: | 914 | 472 | 214 | 0 | 0 | 0 | 1600 | 1476 | 124 | 40 | 1560 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.17 | 0.29 | 0.29 | 0.00 | 0.00 | 0.00 | 0.07 | 0.24 | 0.24 | 0.01 | 0.28 | 0.03 |
| Crit Moves: | | **** | | | | | | **** | | | **** | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #57 Castillo St and US 101 SB On/Off Ramp

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.621 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | B |

| Street Name: | Castillo St | | | | | | US 101 SB On/Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 1 | 0 0 | 1 0 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 661 | 289 | 79 | 413 | 0 | 223 | 0 | 594 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 661 | 289 | 79 | 413 | 0 | 223 | 0 | 594 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 661 | 289 | 79 | 413 | 0 | 223 | 0 | 594 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 107 | 0 | 0 | 0 | 0 | 0 | 261 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 661 | 182 | 79 | 413 | 0 | 223 | 0 | 333 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 661 | 182 | 79 | 413 | 0 | 223 | 0 | 333 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.57 | 0.43 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 2509 | 691 | 1600 | 1600 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.26 | 0.26 | 0.05 | 0.26 | 0.00 | 0.14 | 0.00 | 0.21 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | | | **** | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #57 Castillo St and US 101 SB On/Off Ramp

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.719 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | C |

| Street Name: | Castillo St | | | | | | US 101 SB On/Off Ramp | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 1 | 0 0 | 1 0 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 881 | 151 | 107 | 602 | 0 | 193 | 0 | 625 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 881 | 151 | 107 | 602 | 0 | 193 | 0 | 625 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 881 | 151 | 107 | 602 | 0 | 193 | 0 | 625 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 69 | 0 | 0 | 0 | 0 | 0 | 237 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 881 | 82 | 107 | 602 | 0 | 193 | 0 | 388 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 881 | 82 | 107 | 602 | 0 | 193 | 0 | 388 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.83 | 0.17 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 2928 | 272 | 1600 | 1600 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.30 | 0.30 | 0.07 | 0.38 | 0.00 | 0.12 | 0.00 | 0.24 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | | | **** | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #58 Carrillo St and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.702
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Carrillo St | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 2 0 | 0 | 0 0 | 2 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 1! 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 421 | 1533 | 0 | 0 | 406 | 429 | 0 | 0 | 0 | 269 | 0 | 179 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 421 | 1533 | 0 | 0 | 406 | 429 | 0 | 0 | 0 | 269 | 0 | 179 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 421 | 1533 | 0 | 0 | 406 | 429 | 0 | 0 | 0 | 269 | 0 | 179 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 154 | 0 | 0 | 0 | 0 | 0 | 54 |
| Reduced Vol: | 421 | 1533 | 0 | 0 | 406 | 275 | 0 | 0 | 0 | 269 | 0 | 125 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 421 | 1533 | 0 | 0 | 406 | 275 | 0 | 0 | 0 | 269 | 0 | 125 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.37 | 0.00 | 0.63 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 3200 | 1600 | 0 | 0 | 0 | 2185 | 0 | 1015 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.26 | 0.48 | 0.00 | 0.00 | 0.13 | 0.17 | 0.00 | 0.00 | 0.00 | 0.12 | 0.00 | 0.12 |
| Crit Moves: | | **** | | **** | | | | | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #58 Carrillo St and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.798
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 66 Level Of Service: C

| Street Name: | Carrillo St | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 2 0 | 0 | 0 0 | 2 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 1! 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 267 | 1249 | 0 | 0 | 1007 | 797 | 0 | 0 | 0 | 420 | 0 | 190 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 267 | 1249 | 0 | 0 | 1007 | 797 | 0 | 0 | 0 | 420 | 0 | 190 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 267 | 1249 | 0 | 0 | 1007 | 797 | 0 | 0 | 0 | 420 | 0 | 190 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 247 | 0 | 0 | 0 | 0 | 0 | 11 |
| Reduced Vol: | 267 | 1249 | 0 | 0 | 1007 | 550 | 0 | 0 | 0 | 420 | 0 | 179 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 267 | 1249 | 0 | 0 | 1007 | 550 | 0 | 0 | 0 | 420 | 0 | 179 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.40 | 0.00 | 0.60 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 3200 | 1600 | 0 | 0 | 0 | 2244 | 0 | 956 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.17 | 0.39 | 0.00 | 0.00 | 0.31 | 0.34 | 0.00 | 0.00 | 0.00 | 0.19 | 0.00 | 0.19 |
| Crit Moves: | **** | | | | | **** | | | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #59 Carrillo St and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.822
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 72 Level Of Service: D

| Street Name: | Carrillo St | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 1 | 1 0 | 2 | 0 0 | 1 1 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 882 | 473 | 176 | 199 | 0 | 1077 | 0 | 329 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 882 | 473 | 176 | 199 | 0 | 1077 | 0 | 329 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 882 | 473 | 176 | 199 | 0 | 1077 | 0 | 329 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 213 | 0 | 0 | 0 | 0 | 0 | 151 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 882 | 260 | 176 | 199 | 0 | 1077 | 0 | 178 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 882 | 260 | 176 | 199 | 0 | 1077 | 0 | 178 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 1.00 | 2.00 | 0.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 1600 | 3200 | 0 | 3200 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.28 | 0.16 | 0.11 | 0.06 | 0.00 | 0.34 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #59 Carrillo St and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.733
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Carrillo St | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 1 | 1 0 | 2 | 0 0 | 1 1 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 670 | 307 | 254 | 1173 | 0 | 849 | 0 | 528 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 670 | 307 | 254 | 1173 | 0 | 849 | 0 | 528 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 670 | 307 | 254 | 1173 | 0 | 849 | 0 | 528 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 147 | 0 | 0 | 0 | 0 | 0 | 92 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 670 | 160 | 254 | 1173 | 0 | 849 | 0 | 436 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 670 | 160 | 254 | 1173 | 0 | 849 | 0 | 436 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 1.00 | 2.00 | 0.00 | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 1600 | 3200 | 0 | 3200 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.21 | 0.10 | 0.16 | 0.37 | 0.00 | 0.27 | 0.00 | 0.27 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #60 Castillo St and Carrillo St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.723
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Carrillo St | | | | | | Castillo St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 3 0 | 0 | 1 0 | 1 0 | 1 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 1565 | 103 | 16 | 654 | 0 | 46 | 146 | 133 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 1565 | 103 | 16 | 654 | 0 | 46 | 146 | 133 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 1565 | 103 | 16 | 654 | 0 | 46 | 146 | 133 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 1565 | 103 | 16 | 654 | 0 | 46 | 146 | 133 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 1565 | 103 | 16 | 654 | 0 | 46 | 146 | 133 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.88 | 0.12 | 1.00 | 3.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3002 | 198 | 1600 | 4800 | 0 | 1600 | 1600 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.52 | 0.52 | 0.01 | 0.14 | 0.00 | 0.03 | 0.09 | 0.08 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | | **** | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #60 Castillo St and Carrillo St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.730
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Carrillo St | | | | | | Castillo St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 3 0 | 0 | 1 0 | 1 0 | 1 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 1344 | 144 | 45 | 1453 | 0 | 91 | 219 | 191 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 1344 | 144 | 45 | 1453 | 0 | 91 | 219 | 191 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 1344 | 144 | 45 | 1453 | 0 | 91 | 219 | 191 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 1344 | 144 | 45 | 1453 | 0 | 91 | 219 | 191 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 1344 | 144 | 45 | 1453 | 0 | 91 | 219 | 191 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.81 | 0.19 | 1.00 | 3.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 2890 | 310 | 1600 | 4800 | 0 | 1600 | 1600 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.47 | 0.46 | 0.03 | 0.30 | 0.00 | 0.06 | 0.14 | 0.12 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | | **** | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #63 Mission St and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.829
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 74 Level Of Service: D

| Street Name: | Mission St | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 486 | 995 | 0 | 0 | 612 | 510 | 0 | 0 | 0 | 172 | 0 | 155 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 486 | 995 | 0 | 0 | 612 | 510 | 0 | 0 | 0 | 172 | 0 | 155 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 486 | 995 | 0 | 0 | 612 | 510 | 0 | 0 | 0 | 172 | 0 | 155 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 127 | 0 | 0 | 0 | 0 | 0 | 72 |
| Reduced Vol: | 486 | 995 | 0 | 0 | 612 | 383 | 0 | 0 | 0 | 172 | 0 | 83 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 486 | 995 | 0 | 0 | 612 | 383 | 0 | 0 | 0 | 172 | 0 | 83 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.00 | 0.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1600 | 1600 | 0 | 0 | 3200 | 1600 | 0 | 0 | 0 | 1600 | 0 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.30 | 0.62 | 0.00 | 0.00 | 0.19 | 0.24 | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.05 |
| Crit Moves: | | **** | | **** | | | | | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #63 Mission St and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.711
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Mission St | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 308 | 798 | 0 | 0 | 687 | 586 | 0 | 0 | 0 | 180 | 0 | 167 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 308 | 798 | 0 | 0 | 687 | 586 | 0 | 0 | 0 | 180 | 0 | 167 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 308 | 798 | 0 | 0 | 687 | 586 | 0 | 0 | 0 | 180 | 0 | 167 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 170 | 0 | 0 | 0 | 0 | 0 | 42 |
| Reduced Vol: | 308 | 798 | 0 | 0 | 687 | 416 | 0 | 0 | 0 | 180 | 0 | 125 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 308 | 798 | 0 | 0 | 687 | 416 | 0 | 0 | 0 | 180 | 0 | 125 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.00 | 0.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Final Sat.: | 1600 | 1600 | 0 | 0 | 3200 | 1600 | 0 | 0 | 0 | 1600 | 0 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.19 | 0.50 | 0.00 | 0.00 | 0.21 | 0.26 | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.08 |
| Crit Moves: | | **** | | **** | | | | | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #64 Mission St and US 101 SB On/Off Ramps

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.935 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 121 | Level Of Service: | E |

| Street Name: | Mission St | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 1 | 0 0 | 1 0 | 1! | 0 0 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 564 | 272 | 452 | 331 | 0 | 917 | 2 | 170 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 564 | 272 | 452 | 331 | 0 | 917 | 2 | 170 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 564 | 272 | 452 | 331 | 0 | 917 | 2 | 170 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 82 | 0 | 0 | 0 | 0 | 0 | 76 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 564 | 190 | 452 | 331 | 0 | 917 | 2 | 94 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 564 | 190 | 452 | 331 | 0 | 917 | 2 | 94 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.50 | 0.50 | 1.00 | 1.00 | 0.00 | 1.81 | 0.01 | 0.18 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 2394 | 806 | 1600 | 1600 | 0 | 2897 | 6 | 297 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.24 | 0.24 | 0.28 | 0.21 | 0.00 | 0.32 | 0.32 | 0.32 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #64 Mission St and US 101 SB On/Off Ramps

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.811 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 69 | Level Of Service: | D |

| Street Name: | Mission St | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 1 | 0 0 | 1 0 | 1! | 0 0 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 416 | 212 | 387 | 476 | 0 | 690 | 3 | 293 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 416 | 212 | 387 | 476 | 0 | 690 | 3 | 293 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 416 | 212 | 387 | 476 | 0 | 690 | 3 | 293 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 87 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 416 | 125 | 387 | 476 | 0 | 690 | 3 | 267 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 416 | 125 | 387 | 476 | 0 | 690 | 3 | 267 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.54 | 0.46 | 1.00 | 1.00 | 0.00 | 1.44 | 0.01 | 0.55 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 2461 | 739 | 1600 | 1600 | 0 | 2300 | 10 | 890 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.17 | 0.17 | 0.24 | 0.30 | 0.00 | 0.30 | 0.30 | 0.30 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #65 Mission St and Castillo St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.558 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | Mission St | | | | | | Castillo St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Permitted | | | Permitted | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 138 | 793 | 166 | 15 | 966 | 16 | 0 | 56 | 97 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 138 | 793 | 166 | 15 | 966 | 16 | 0 | 56 | 97 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 138 | 793 | 166 | 15 | 966 | 16 | 0 | 56 | 97 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 138 | 793 | 166 | 15 | 966 | 16 | 0 | 56 | 97 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 138 | 793 | 166 | 15 | 966 | 16 | 0 | 56 | 97 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.25 | 1.45 | 0.30 | 0.03 | 1.94 | 0.03 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 403 | 2313 | 484 | 48 | 3101 | 51 | 0 | 1600 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.09 | 0.34 | 0.34 | 0.01 | 0.31 | 0.31 | 0.00 | 0.04 | 0.06 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | | | **** | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #65 Mission St and Castillo St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.571 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | Mission St | | | | | | Castillo St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Permitted | | | Permitted | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 77 | 670 | 229 | 27 | 1095 | 20 | 0 | 106 | 117 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 77 | 670 | 229 | 27 | 1095 | 20 | 0 | 106 | 117 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 77 | 670 | 229 | 27 | 1095 | 20 | 0 | 106 | 117 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 77 | 670 | 229 | 27 | 1095 | 20 | 0 | 106 | 117 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 77 | 670 | 229 | 27 | 1095 | 20 | 0 | 106 | 117 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.16 | 1.37 | 0.47 | 0.05 | 1.92 | 0.03 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 252 | 2197 | 751 | 76 | 3068 | 56 | 0 | 1600 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.05 | 0.31 | 0.31 | 0.02 | 0.36 | 0.36 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | | | **** | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #68 Calle Real and US 101 NB Off Ramp

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.827 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 73 | Level Of Service: | D |

| Street Name: | US 101 NB Off Ramp | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 0 | 0 0 | 0 0 | 1! 0 | 0 | 0 1 | 0 | 1 0 | 1 0 | 0 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 2 | 1 | 2 | 4 | 240 | 1 | 1037 | 278 | 2 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 2 | 1 | 2 | 4 | 240 | 1 | 1037 | 278 | 2 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 2 | 1 | 2 | 4 | 240 | 1 | 1037 | 278 | 2 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| Reduced Vol: | 0 | 0 | 0 | 2 | 1 | 0 | 4 | 240 | 1 | 1037 | 278 | 1 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 0 | 0 | 2 | 1 | 0 | 4 | 240 | 1 | 1037 | 278 | 1 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 0.67 | 0.33 | 0.00 | 0.03 | 1.96 | 0.01 | 1.00 | 0.99 | 0.01 |
| Final Sat.: | 0 | 0 | 0 | 1067 | 533 | 0 | 52 | 3135 | 13 | 1600 | 1594 | 6 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 | 0.08 | 0.65 | 0.17 | 0.17 |
| Crit Moves: | | | | | **** | | | | **** | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #68 Calle Real and US 101 NB Off Ramp

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.651 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | B |

| Street Name: | US 101 NB Off Ramp | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 0 | 0 0 | 0 0 | 1! 0 | 0 | 0 1 | 0 | 1 0 | 1 0 | 0 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 1 | 7 | 9 | 16 | 457 | 3 | 626 | 427 | 93 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 1 | 7 | 9 | 16 | 457 | 3 | 626 | 427 | 93 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 1 | 7 | 9 | 16 | 457 | 3 | 626 | 427 | 93 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 |
| Reduced Vol: | 0 | 0 | 0 | 1 | 7 | 9 | 16 | 457 | 3 | 626 | 427 | 47 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 0 | 0 | 1 | 7 | 9 | 16 | 457 | 3 | 626 | 427 | 47 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 0.06 | 0.41 | 0.53 | 0.07 | 1.92 | 0.01 | 1.00 | 0.90 | 0.10 |
| Final Sat.: | 0 | 0 | 0 | 94 | 659 | 847 | 108 | 3072 | 20 | 1600 | 1441 | 159 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.15 | 0.15 | 0.15 | 0.39 | 0.30 | 0.30 |
| Crit Moves: | | | | | | **** | | **** | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #69 Las Positas Rd and Calle Real

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.658 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | B |

| Street Name: | Las Positas Rd | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 766 | 771 | 0 | 0 | 484 | 168 | 58 | 0 | 98 | 249 | 221 | 170 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 766 | 771 | 0 | 0 | 484 | 168 | 58 | 0 | 98 | 249 | 221 | 170 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 766 | 771 | 0 | 0 | 484 | 168 | 58 | 0 | 98 | 249 | 221 | 170 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 766 | 771 | 0 | 0 | 484 | 168 | 58 | 0 | 98 | 249 | 221 | 170 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 766 | 771 | 0 | 0 | 484 | 168 | 58 | 0 | 98 | 249 | 221 | 170 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 2.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.59 | 1.41 | 1.00 |
| Final Sat.: | 3200 | 3200 | 0 | 0 | 3200 | 1600 | 1600 | 0 | 1600 | 2543 | 2257 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.24 | 0.24 | 0.00 | 0.00 | 0.15 | 0.11 | 0.04 | 0.00 | 0.06 | 0.10 | 0.10 | 0.11 |
| Crit Moves: | **** | | | | **** | | | | **** | | | **** |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #69 Las Positas Rd and Calle Real

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.701 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | C |

| Street Name: | Las Positas Rd | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 454 | 693 | 0 | 0 | 555 | 146 | 84 | 0 | 198 | 366 | 405 | 259 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 454 | 693 | 0 | 0 | 555 | 146 | 84 | 0 | 198 | 366 | 405 | 259 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 454 | 693 | 0 | 0 | 555 | 146 | 84 | 0 | 198 | 366 | 405 | 259 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 454 | 693 | 0 | 0 | 555 | 146 | 84 | 0 | 198 | 366 | 405 | 259 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 454 | 693 | 0 | 0 | 555 | 146 | 84 | 0 | 198 | 366 | 405 | 259 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 2.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.42 | 1.58 | 1.00 |
| Final Sat.: | 3200 | 3200 | 0 | 0 | 3200 | 1600 | 1600 | 0 | 1600 | 2279 | 2521 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.14 | 0.22 | 0.00 | 0.00 | 0.17 | 0.09 | 0.05 | 0.00 | 0.12 | 0.16 | 0.16 | 0.16 |
| Crit Moves: | **** | | | | **** | | | | **** | | | **** |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #70 Las Positas Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.815
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 70 Level Of Service: D

| Street Name: | Las Positas Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 0 | 1 | 2 0 | 2 0 | 0 | 1 0 | 0 1 | 0 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 1230 | 240 | 444 | 473 | 0 | 307 | 0 | 171 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 1230 | 240 | 444 | 473 | 0 | 307 | 0 | 171 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 1230 | 240 | 444 | 473 | 0 | 307 | 0 | 171 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 1230 | 206 | 444 | 473 | 0 | 307 | 0 | 127 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 1230 | 206 | 444 | 473 | 0 | 307 | 0 | 127 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 3200 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.38 | 0.13 | 0.14 | 0.15 | 0.00 | 0.19 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #70 Las Positas Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.766
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Las Positas Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 0 | 1 | 2 0 | 2 0 | 0 | 1 0 | 0 1 | 0 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 666 | 215 | 504 | 791 | 0 | 481 | 0 | 429 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 666 | 215 | 504 | 791 | 0 | 481 | 0 | 429 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 666 | 215 | 504 | 791 | 0 | 481 | 0 | 429 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 142 | 0 | 0 | 0 | 0 | 0 | 159 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 666 | 73 | 504 | 791 | 0 | 481 | 0 | 270 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 666 | 73 | 504 | 791 | 0 | 481 | 0 | 270 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 3200 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.21 | 0.05 | 0.16 | 0.25 | 0.00 | 0.30 | 0.00 | 0.17 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #71 Las Positas Rd and Modoc Rd

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.863 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 84 | Level Of Service: | D |

| Street Name: | Las Positas Rd | | | | | | Modoc Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 148 | 870 | 23 | 174 | 289 | 86 | 240 | 132 | 109 | 21 | 145 | 360 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 148 | 870 | 23 | 174 | 289 | 86 | 240 | 132 | 109 | 21 | 145 | 360 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 148 | 870 | 23 | 174 | 289 | 86 | 240 | 132 | 109 | 21 | 145 | 360 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 148 | 870 | 23 | 174 | 289 | 86 | 240 | 132 | 109 | 21 | 145 | 360 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 148 | 870 | 23 | 174 | 289 | 86 | 240 | 132 | 109 | 21 | 145 | 360 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.95 | 0.05 | 1.00 | 1.54 | 0.46 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 1600 | 3118 | 82 | 1600 | 2466 | 734 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.09 | 0.28 | 0.28 | 0.11 | 0.12 | 0.12 | 0.15 | 0.08 | 0.07 | 0.01 | 0.09 | 0.23 |
| Crit Moves: | | **** | | **** | | | **** | | | | | **** |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #71 Las Positas Rd and Modoc Rd

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.691 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | B |

| Street Name: | Las Positas Rd | | | | | | Modoc Rd | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 160 | 515 | 43 | 239 | 759 | 135 | 210 | 193 | 91 | 15 | 87 | 128 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 160 | 515 | 43 | 239 | 759 | 135 | 210 | 193 | 91 | 15 | 87 | 128 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 160 | 515 | 43 | 239 | 759 | 135 | 210 | 193 | 91 | 15 | 87 | 128 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 160 | 515 | 43 | 239 | 759 | 135 | 210 | 193 | 91 | 15 | 87 | 128 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 160 | 515 | 43 | 239 | 759 | 135 | 210 | 193 | 91 | 15 | 87 | 128 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.85 | 0.15 | 1.00 | 1.70 | 0.30 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 1600 | 2953 | 247 | 1600 | 2717 | 483 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.10 | 0.17 | 0.17 | 0.15 | 0.28 | 0.28 | 0.13 | 0.12 | 0.06 | 0.01 | 0.05 | 0.08 |
| Crit Moves: | **** | | | | **** | | **** | | | | | **** |


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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #72 Hope Ave and Calle Real

Cycle (sec): 100 Critical Vol./Cap.(X): 0.498
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Hope Ave | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 405 | 194 | 80 | 61 | 89 | 49 | 159 | 167 | 169 | 97 | 150 | 56 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 405 | 194 | 80 | 61 | 89 | 49 | 159 | 167 | 169 | 97 | 150 | 56 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 405 | 194 | 80 | 61 | 89 | 49 | 159 | 167 | 169 | 97 | 150 | 56 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 74 | 0 | 0 | 27 |
| Reduced Vol: | 405 | 194 | 80 | 61 | 89 | 19 | 159 | 167 | 95 | 97 | 150 | 29 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 405 | 194 | 80 | 61 | 89 | 19 | 159 | 167 | 95 | 97 | 150 | 29 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.35 | 0.65 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.27 | 0.73 | 1.00 | 1.68 | 0.32 |
| Final Sat.: | 2164 | 1036 | 1600 | 1600 | 1600 | 1600 | 1600 | 2040 | 1160 | 1600 | 2682 | 518 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.19 | 0.19 | 0.05 | 0.04 | 0.06 | 0.01 | 0.10 | 0.08 | 0.08 | 0.06 | 0.06 | 0.06 |
| Crit Moves: | **** | | | | **** | | **** | | | | **** | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #72 Hope Ave and Calle Real

Cycle (sec): 100 Critical Vol./Cap.(X): 0.578
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Hope Ave | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 401 | 216 | 95 | 118 | 127 | 80 | 146 | 270 | 140 | 151 | 218 | 67 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 401 | 216 | 95 | 118 | 127 | 80 | 146 | 270 | 140 | 151 | 218 | 67 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 401 | 216 | 95 | 118 | 127 | 80 | 146 | 270 | 140 | 151 | 218 | 67 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 53 | 0 | 0 | 52 | 0 | 0 | 15 |
| Reduced Vol: | 401 | 216 | 95 | 118 | 127 | 27 | 146 | 270 | 88 | 151 | 218 | 52 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 401 | 216 | 95 | 118 | 127 | 27 | 146 | 270 | 88 | 151 | 218 | 52 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.30 | 0.70 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.51 | 0.49 | 1.00 | 1.61 | 0.39 |
| Final Sat.: | 2080 | 1120 | 1600 | 1600 | 1600 | 1600 | 1600 | 2413 | 787 | 1600 | 2584 | 616 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.19 | 0.19 | 0.06 | 0.07 | 0.08 | 0.02 | 0.09 | 0.11 | 0.11 | 0.09 | 0.08 | 0.08 |
| Crit Moves: | **** | | | | **** | | | **** | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #73 La Cumbre Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.523
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | La Cumbre Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 1 | 2 0 | 1 | 0 0 | 1 1 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 504 | 240 | 318 | 456 | 0 | 435 | 5 | 168 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 504 | 240 | 318 | 456 | 0 | 435 | 5 | 168 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 504 | 240 | 318 | 456 | 0 | 435 | 5 | 168 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 76 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 504 | 240 | 318 | 456 | 0 | 435 | 5 | 92 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 504 | 240 | 318 | 456 | 0 | 435 | 5 | 92 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 2.00 | 1.00 | 0.00 | 1.98 | 0.02 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 3200 | 1600 | 0 | 3164 | 36 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.16 | 0.15 | 0.10 | 0.28 | 0.00 | 0.14 | 0.14 | 0.06 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | **** | | | | | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #73 La Cumbre Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.581
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | La Cumbre Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 1 | 2 0 | 1 | 0 0 | 1 1 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 344 | 119 | 537 | 443 | 0 | 657 | 2 | 152 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 344 | 119 | 537 | 443 | 0 | 657 | 2 | 152 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 344 | 119 | 537 | 443 | 0 | 657 | 2 | 152 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 84 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 344 | 119 | 537 | 443 | 0 | 657 | 2 | 68 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 344 | 119 | 537 | 443 | 0 | 657 | 2 | 68 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 2.00 | 1.00 | 0.00 | 1.99 | 0.01 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 3200 | 1600 | 0 | 3190 | 10 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.11 | 0.07 | 0.17 | 0.28 | 0.00 | 0.21 | 0.21 | 0.04 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #74 La Cumbre Rd and Calle Real

Cycle (sec): 100 Critical Vol./Cap.(X): 0.390
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | La Cumbre Rd | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 0 | 1 | 1 0 | 2 0 | 0 | 0 0 | 0 0 | 0 | 1 0 | 1! 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 510 | 197 | 53 | 475 | 0 | 0 | 0 | 0 | 299 | 0 | 169 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 510 | 197 | 53 | 475 | 0 | 0 | 0 | 0 | 299 | 0 | 169 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 510 | 197 | 53 | 475 | 0 | 0 | 0 | 0 | 299 | 0 | 169 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 510 | 197 | 53 | 475 | 0 | 0 | 0 | 0 | 299 | 0 | 169 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 510 | 197 | 53 | 475 | 0 | 0 | 0 | 0 | 299 | 0 | 169 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 1.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.92 | 0.00 | 1.08 |
| Final Sat.: | 0 | 3200 | 1600 | 1600 | 3200 | 0 | 0 | 0 | 0 | 3067 | 0 | 1733 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.16 | 0.12 | 0.03 | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.00 | 0.10 |
| Crit Moves: | | **** | | **** | | | | | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #74 La Cumbre Rd and Calle Real

Cycle (sec): 100 Critical Vol./Cap.(X): 0.470
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | La Cumbre Rd | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 0 | 1 | 1 0 | 2 0 | 0 | 0 0 | 0 0 | 0 | 1 0 | 1! 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 551 | 212 | 122 | 599 | 0 | 0 | 0 | 0 | 381 | 0 | 204 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 551 | 212 | 122 | 599 | 0 | 0 | 0 | 0 | 381 | 0 | 204 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 551 | 212 | 122 | 599 | 0 | 0 | 0 | 0 | 381 | 0 | 204 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 551 | 212 | 122 | 599 | 0 | 0 | 0 | 0 | 381 | 0 | 204 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 551 | 212 | 122 | 599 | 0 | 0 | 0 | 0 | 381 | 0 | 204 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 1.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.95 | 0.00 | 1.05 |
| Final Sat.: | 0 | 3200 | 1600 | 1600 | 3200 | 0 | 0 | 0 | 0 | 3126 | 0 | 1674 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.17 | 0.13 | 0.08 | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.00 | 0.12 |
| Crit Moves: | | **** | | **** | | | | | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #75 US 101 NB Off Ramp/Calle Real and State St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.522 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | US 101 NB Off Ramp/Calle Real | | | | | | State St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1! | 0 0 | 1 0 | 2 | 0 0 | 0 0 | 3 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 189 | 598 | 63 | 149 | 0 | 34 | 29 | 505 | 0 | 0 | 646 | 175 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 189 | 598 | 63 | 149 | 0 | 34 | 29 | 505 | 0 | 0 | 646 | 175 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 189 | 598 | 63 | 149 | 0 | 34 | 29 | 505 | 0 | 0 | 646 | 175 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 189 | 598 | 63 | 149 | 0 | 34 | 29 | 505 | 0 | 0 | 646 | 175 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 189 | 598 | 63 | 149 | 0 | 34 | 29 | 505 | 0 | 0 | 646 | 175 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.81 | 0.19 | 1.63 | 0.00 | 0.37 | 1.00 | 2.00 | 0.00 | 0.00 | 3.00 | 1.00 |
| Final Sat.: | 1600 | 2895 | 305 | 2605 | 0 | 595 | 1600 | 3200 | 0 | 0 | 4800 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.12 | 0.21 | 0.21 | 0.06 | 0.00 | 0.06 | 0.02 | 0.16 | 0.00 | 0.00 | 0.13 | 0.11 |
| Crit Moves: | | **** | | **** | | | | **** | | **** | | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #75 US 101 NB Off Ramp/Calle Real and State St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.578 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | US 101 NB Off Ramp/Calle Real | | | | | | State St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1! | 0 0 | 1 0 | 2 | 0 0 | 0 0 | 3 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 222 | 631 | 107 | 188 | 0 | 16 | 41 | 574 | 0 | 0 | 728 | 330 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 222 | 631 | 107 | 188 | 0 | 16 | 41 | 574 | 0 | 0 | 728 | 330 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 222 | 631 | 107 | 188 | 0 | 16 | 41 | 574 | 0 | 0 | 728 | 330 |
| Reduct Vol: | 0 | 0 | 31 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 59 |
| Reduced Vol: | 222 | 631 | 76 | 188 | 0 | 11 | 41 | 574 | 0 | 0 | 728 | 271 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 222 | 631 | 76 | 188 | 0 | 11 | 41 | 574 | 0 | 0 | 728 | 271 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.79 | 0.21 | 1.89 | 0.00 | 0.11 | 1.00 | 2.00 | 0.00 | 0.00 | 3.00 | 1.00 |
| Final Sat.: | 1600 | 2856 | 344 | 3023 | 0 | 177 | 1600 | 3200 | 0 | 0 | 4800 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.14 | 0.22 | 0.22 | 0.06 | 0.00 | 0.06 | 0.03 | 0.18 | 0.00 | 0.00 | 0.15 | 0.17 |
| Crit Moves: | | | **** | | | **** | **** | | | | | **** |

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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #77 San Macros Pass and Calle Real

Cycle (sec): 100 Critical Vol./Cap.(X): 0.592
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | San Macros Pass | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 67 | 417 | 186 | 108 | 639 | 179 | 36 | 157 | 249 | 190 | 202 | 383 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 67 | 417 | 186 | 108 | 639 | 179 | 36 | 157 | 249 | 190 | 202 | 383 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 67 | 417 | 186 | 108 | 639 | 179 | 36 | 157 | 249 | 190 | 202 | 383 |
| Reduct Vol: | 0 | 0 | 9 | 0 | 0 | 73 | 0 | 0 | 137 | 0 | 0 | 88 |
| Reduced Vol: | 67 | 417 | 177 | 108 | 639 | 106 | 36 | 157 | 112 | 190 | 202 | 295 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 67 | 417 | 177 | 108 | 639 | 106 | 36 | 157 | 112 | 190 | 202 | 295 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.40 | 0.60 | 1.00 | 1.72 | 0.28 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 1600 | 2246 | 954 | 1600 | 2745 | 455 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.04 | 0.19 | 0.19 | 0.07 | 0.23 | 0.23 | 0.02 | 0.10 | 0.07 | 0.12 | 0.13 | 0.18 |
| Crit Moves: | **** | | | | **** | | | **** | | **** | | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #77 San Macros Pass and Calle Real

Cycle (sec): 100 Critical Vol./Cap.(X): 0.500
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | San Macros Pass | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 75 | 371 | 139 | 79 | 433 | 92 | 64 | 143 | 256 | 176 | 246 | 564 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 75 | 371 | 139 | 79 | 433 | 92 | 64 | 143 | 256 | 176 | 246 | 564 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 75 | 371 | 139 | 79 | 433 | 92 | 64 | 143 | 256 | 176 | 246 | 564 |
| Reduct Vol: | 0 | 0 | 47 | 0 | 0 | 34 | 0 | 0 | 166 | 0 | 0 | 333 |
| Reduced Vol: | 75 | 371 | 92 | 79 | 433 | 58 | 64 | 143 | 90 | 176 | 246 | 231 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 75 | 371 | 92 | 79 | 433 | 58 | 64 | 143 | 90 | 176 | 246 | 231 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.60 | 0.40 | 1.00 | 1.76 | 0.24 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 1600 | 2564 | 636 | 1600 | 2822 | 378 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.05 | 0.14 | 0.14 | 0.05 | 0.15 | 0.15 | 0.04 | 0.09 | 0.06 | 0.11 | 0.15 | 0.14 |
| Crit Moves: | **** | | | | **** | | | **** | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #78 US 101 SB Off Ramp and State St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.475 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | US 101 SB Off Ramp | | | | | | State St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1! 0 | 0 | 1 1 | 0 0 | 1 | 0 0 | 1 1 | 0 | 1 0 | 2 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 2 | 0 | 5 | 454 | 4 | 52 | 0 | 645 | 10 | 36 | 527 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 2 | 0 | 5 | 454 | 4 | 52 | 0 | 645 | 10 | 36 | 527 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 2 | 0 | 5 | 454 | 4 | 52 | 0 | 645 | 10 | 36 | 527 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 2 | 0 | 5 | 454 | 4 | 15 | 0 | 645 | 10 | 36 | 527 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 2 | 0 | 5 | 454 | 4 | 15 | 0 | 645 | 10 | 36 | 527 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.29 | 0.00 | 0.71 | 1.98 | 0.02 | 1.00 | 0.00 | 1.97 | 0.03 | 1.00 | 2.00 | 0.00 |
| Final Sat.: | 457 | 0 | 1143 | 3172 | 28 | 1600 | 0 | 3151 | 49 | 1600 | 3200 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.14 | 0.14 | 0.01 | 0.00 | 0.20 | 0.20 | 0.02 | 0.16 | 0.00 |
| Crit Moves: | | | **** | **** | | | | **** | | **** | | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #78 US 101 SB Off Ramp and State St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.528 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | US 101 SB Off Ramp | | | | | | State St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1! 0 | 0 | 1 1 | 0 0 | 1 | 0 0 | 1 1 | 0 | 1 0 | 2 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 15 | 0 | 28 | 575 | 12 | 26 | 0 | 582 | 12 | 52 | 496 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 15 | 0 | 28 | 575 | 12 | 26 | 0 | 582 | 12 | 52 | 496 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 15 | 0 | 28 | 575 | 12 | 26 | 0 | 582 | 12 | 52 | 496 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 15 | 0 | 28 | 575 | 12 | 5 | 0 | 582 | 12 | 52 | 496 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 15 | 0 | 28 | 575 | 12 | 5 | 0 | 582 | 12 | 52 | 496 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.35 | 0.00 | 0.65 | 1.96 | 0.04 | 1.00 | 0.00 | 1.96 | 0.04 | 1.00 | 2.00 | 0.00 |
| Final Sat.: | 558 | 0 | 1042 | 3135 | 65 | 1600 | 0 | 3135 | 65 | 1600 | 3200 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.03 | 0.00 | 0.03 | 0.18 | 0.18 | 0.00 | 0.00 | 0.19 | 0.19 | 0.03 | 0.16 | 0.00 |
| Crit Moves: | **** | | | **** | | | | **** | | **** | | |


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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #79 San Macros Pass and State St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.608
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: B

| Street Name: | San Macros Pass | | | | | | State St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Permitted | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 | 0 | 1! 0 | 0 | 1 | 0 0 1 | 2 | 0 | 1 1 0 | 0 | 1 | 1 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 1 | 0 | 4 | 214 | 0 | 194 | 821 | 284 | 3 | 0 | 368 | 42 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 1 | 0 | 4 | 214 | 0 | 194 | 821 | 284 | 3 | 0 | 368 | 42 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 1 | 0 | 4 | 214 | 0 | 194 | 821 | 284 | 3 | 0 | 368 | 42 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 1 | 0 | 4 | 214 | 0 | 194 | 821 | 284 | 3 | 0 | 368 | 42 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 1 | 0 | 4 | 214 | 0 | 194 | 821 | 284 | 3 | 0 | 368 | 42 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.20 | 0.00 | 0.80 | 1.00 | 0.00 | 1.00 | 2.00 | 1.98 | 0.02 | 0.00 | 2.00 | 1.00 |
| Final Sat.: | 320 | 0 | 1280 | 1600 | 0 | 1600 | 3200 | 3167 | 33 | 0 | 3200 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.12 | 0.26 | 0.09 | 0.09 | 0.00 | 0.12 | 0.03 |
| Crit Moves: | **** | | | **** | | | **** | | | | **** | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #79 San Macros Pass and State St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.530
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | San Macros Pass | | | | | | State St | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Protected | | | Permitted | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 | 0 | 0 0 1 | 0 | 1 | 0 0 1 | 2 | 0 | 1 1 0 | 0 | 1 | 1 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 4 | 67 | 0 | 131 | 689 | 566 | 6 | 0 | 417 | 81 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 4 | 67 | 0 | 131 | 689 | 566 | 6 | 0 | 417 | 81 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 4 | 67 | 0 | 131 | 689 | 566 | 6 | 0 | 417 | 81 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 4 | 67 | 0 | 131 | 689 | 566 | 6 | 0 | 417 | 81 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 0 | 4 | 67 | 0 | 131 | 689 | 566 | 6 | 0 | 417 | 81 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 2.00 | 1.98 | 0.02 | 0.00 | 2.00 | 1.00 |
| Final Sat.: | 0 | 0 | 1600 | 1600 | 0 | 1600 | 3200 | 3166 | 34 | 0 | 3200 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.08 | 0.22 | 0.18 | 0.18 | 0.00 | 0.13 | 0.05 |
| Crit Moves: | | | **** | | | **** | **** | | | | **** | |


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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #81 Turnpike Rd and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.669
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: B

| Street Name: | Turnpike Rd | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 2 0 | 0 | 0 0 | 1 1 | 0 | 0 0 | 0 0 | 0 | 1 1 | 0 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 311 | 548 | 0 | 0 | 608 | 264 | 0 | 0 | 0 | 451 | 6 | 170 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 311 | 548 | 0 | 0 | 608 | 264 | 0 | 0 | 0 | 451 | 6 | 170 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 311 | 548 | 0 | 0 | 608 | 264 | 0 | 0 | 0 | 451 | 6 | 170 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 129 | 0 | 0 | 0 | 0 | 0 | 126 |
| Reduced Vol: | 311 | 548 | 0 | 0 | 608 | 135 | 0 | 0 | 0 | 451 | 6 | 44 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 311 | 548 | 0 | 0 | 608 | 135 | 0 | 0 | 0 | 451 | 6 | 44 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 1.64 | 0.36 | 0.00 | 0.00 | 0.00 | 1.97 | 0.03 | 1.00 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 2619 | 581 | 0 | 0 | 0 | 3158 | 42 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.19 | 0.17 | 0.00 | 0.00 | 0.23 | 0.23 | 0.00 | 0.00 | 0.00 | 0.14 | 0.14 | 0.03 |
| Crit Moves: | **** | | | | **** | | | | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #81 Turnpike Rd and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.573
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Turnpike Rd | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 2 0 | 0 | 0 0 | 1 1 | 0 | 0 0 | 0 0 | 0 | 1 1 | 0 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 213 | 666 | 0 | 0 | 492 | 329 | 0 | 0 | 0 | 447 | 10 | 258 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 213 | 666 | 0 | 0 | 492 | 329 | 0 | 0 | 0 | 447 | 10 | 258 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 213 | 666 | 0 | 0 | 492 | 329 | 0 | 0 | 0 | 447 | 10 | 258 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 191 | 0 | 0 | 0 | 0 | 0 | 95 |
| Reduced Vol: | 213 | 666 | 0 | 0 | 492 | 138 | 0 | 0 | 0 | 447 | 10 | 163 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 213 | 666 | 0 | 0 | 492 | 138 | 0 | 0 | 0 | 447 | 10 | 163 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 1.56 | 0.44 | 0.00 | 0.00 | 0.00 | 1.96 | 0.04 | 1.00 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 2499 | 701 | 0 | 0 | 0 | 3130 | 70 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.13 | 0.21 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0.14 | 0.14 | 0.10 |
| Crit Moves: | **** | | | | **** | | | | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #82 Turnpike Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.796
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 66 Level Of Service: C

| Street Name: | Turnpike Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 2 0 | 0 | 1 0 | 0 | 1 0 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 557 | 675 | 308 | 751 | 0 | 308 | 0 | 250 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 557 | 675 | 308 | 751 | 0 | 308 | 0 | 250 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 557 | 675 | 308 | 751 | 0 | 308 | 0 | 250 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 236 | 0 | 0 | 0 | 0 | 0 | 142 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 557 | 439 | 308 | 751 | 0 | 308 | 0 | 108 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 557 | 439 | 308 | 751 | 0 | 308 | 0 | 108 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.12 | 0.88 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 1790 | 1410 | 1600 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.31 | 0.31 | 0.19 | 0.23 | 0.00 | 0.19 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #82 Turnpike Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.718
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Turnpike Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 2 0 | 0 | 1 0 | 0 | 1 0 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 521 | 378 | 267 | 672 | 0 | 365 | 0 | 284 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 521 | 378 | 267 | 672 | 0 | 365 | 0 | 284 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 521 | 378 | 267 | 672 | 0 | 365 | 0 | 284 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 185 | 0 | 0 | 0 | 0 | 0 | 142 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 521 | 193 | 267 | 672 | 0 | 365 | 0 | 142 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 521 | 193 | 267 | 672 | 0 | 365 | 0 | 142 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.46 | 0.54 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 2335 | 865 | 1600 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.22 | 0.22 | 0.17 | 0.21 | 0.00 | 0.23 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #83 Turnpike Rd and Calle Real

Cycle (sec): 100 Critical Vol./Cap.(X): 0.492
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Turnpike Rd | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 1 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 150 | 336 | 186 | 56 | 421 | 12 | 37 | 64 | 120 | 190 | 34 | 28 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 150 | 336 | 186 | 56 | 421 | 12 | 37 | 64 | 120 | 190 | 34 | 28 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 150 | 336 | 186 | 56 | 421 | 12 | 37 | 64 | 120 | 190 | 34 | 28 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 150 | 336 | 186 | 56 | 421 | 12 | 37 | 64 | 120 | 190 | 34 | 28 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 150 | 336 | 186 | 56 | 421 | 12 | 37 | 64 | 120 | 190 | 34 | 28 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 2.00 | 1.29 | 0.71 | 1.00 | 1.94 | 0.06 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 0.90 |
| Final Sat.: | 3200 | 2060 | 1140 | 1600 | 3111 | 89 | 1600 | 1600 | 1600 | 1600 | 1755 | 1445 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.05 | 0.16 | 0.16 | 0.04 | 0.14 | 0.14 | 0.02 | 0.04 | 0.08 | 0.12 | 0.02 | 0.02 |
| Crit Moves: | | **** | | **** | | | | | **** | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #83 Turnpike Rd and Calle Real

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Turnpike Rd | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 1 0 | 1 | 0 1 | 1 0 | 1 | 1 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 303 | 412 | 167 | 46 | 309 | 34 | 29 | 41 | 89 | 305 | 56 | 46 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 303 | 412 | 167 | 46 | 309 | 34 | 29 | 41 | 89 | 305 | 56 | 46 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 303 | 412 | 167 | 46 | 309 | 34 | 29 | 41 | 89 | 305 | 56 | 46 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 303 | 412 | 167 | 46 | 309 | 34 | 29 | 41 | 89 | 305 | 56 | 46 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 303 | 412 | 167 | 46 | 309 | 34 | 29 | 41 | 89 | 305 | 56 | 46 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 2.00 | 1.42 | 0.58 | 1.00 | 1.80 | 0.20 | 1.00 | 1.00 | 1.00 | 1.00 | 1.10 | 0.90 |
| Final Sat.: | 3200 | 2277 | 923 | 1600 | 2883 | 317 | 1600 | 1600 | 1600 | 1600 | 1757 | 1443 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.09 | 0.18 | 0.18 | 0.03 | 0.11 | 0.11 | 0.02 | 0.03 | 0.06 | 0.19 | 0.03 | 0.03 |
| Crit Moves: | | **** | | **** | | | | | **** | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #84 Patterson Ave and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.720
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Patterson Ave | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 2 0 | 0 | 0 0 | 2 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 1! 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 249 | 419 | 0 | 0 | 885 | 420 | 0 | 0 | 0 | 426 | 3 | 285 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 249 | 419 | 0 | 0 | 885 | 420 | 0 | 0 | 0 | 426 | 3 | 285 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 249 | 419 | 0 | 0 | 885 | 420 | 0 | 0 | 0 | 426 | 3 | 285 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 62 | 0 | 0 | 0 | 0 | 0 | 185 |
| Reduced Vol: | 249 | 419 | 0 | 0 | 885 | 358 | 0 | 0 | 0 | 426 | 3 | 100 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 249 | 419 | 0 | 0 | 885 | 358 | 0 | 0 | 0 | 426 | 3 | 100 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.99 | 0.01 | 1.00 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 3200 | 1600 | 0 | 0 | 0 | 3184 | 16 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.16 | 0.13 | 0.00 | 0.00 | 0.28 | 0.22 | 0.00 | 0.00 | 0.00 | 0.13 | 0.19 | 0.06 |
| Crit Moves: | **** | | | | **** | | | | | | **** | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #84 Patterson Ave and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.699
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: B

| Street Name: | Patterson Ave | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 2 0 | 0 | 0 0 | 2 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 1! 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 396 | 1005 | 0 | 0 | 805 | 229 | 0 | 0 | 0 | 270 | 2 | 523 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 396 | 1005 | 0 | 0 | 805 | 229 | 0 | 0 | 0 | 270 | 2 | 523 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 396 | 1005 | 0 | 0 | 805 | 229 | 0 | 0 | 0 | 270 | 2 | 523 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 64 | 0 | 0 | 0 | 0 | 0 | 314 |
| Reduced Vol: | 396 | 1005 | 0 | 0 | 805 | 165 | 0 | 0 | 0 | 270 | 2 | 209 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 396 | 1005 | 0 | 0 | 805 | 165 | 0 | 0 | 0 | 270 | 2 | 209 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 2.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.69 | 0.01 | 1.30 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 3200 | 1600 | 0 | 0 | 0 | 2694 | 20 | 2086 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.25 | 0.31 | 0.00 | 0.00 | 0.25 | 0.10 | 0.00 | 0.00 | 0.00 | 0.10 | 0.10 | 0.10 |
| Crit Moves: | **** | | | | **** | | | | | | **** | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #85 Patterson Ave and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.724
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Patterson Ave | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 1 | 1 0 | 2 | 0 0 | 1 0 | 1! | 0 0 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 477 | 370 | 571 | 740 | 0 | 191 | 2 | 433 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 477 | 370 | 571 | 740 | 0 | 191 | 2 | 433 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 477 | 370 | 571 | 740 | 0 | 191 | 2 | 433 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 181 | 0 | 0 | 0 | 0 | 0 | 247 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 477 | 189 | 571 | 740 | 0 | 191 | 2 | 186 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 477 | 189 | 571 | 740 | 0 | 191 | 2 | 186 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 1.00 | 2.00 | 0.00 | 1.01 | 0.01 | 0.98 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 1600 | 3200 | 0 | 1613 | 17 | 1570 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.15 | 0.12 | 0.36 | 0.23 | 0.00 | 0.12 | 0.12 | 0.12 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #85 Patterson Ave and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.844
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 78 Level Of Service: D

| Street Name: | Patterson Ave | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 1 | 1 0 | 2 | 0 0 | 1 0 | 1! | 0 0 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 841 | 344 | 463 | 612 | 0 | 560 | 2 | 131 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 841 | 344 | 463 | 612 | 0 | 560 | 2 | 131 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 841 | 344 | 463 | 612 | 0 | 560 | 2 | 131 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 158 | 0 | 0 | 0 | 0 | 0 | 79 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 841 | 186 | 463 | 612 | 0 | 560 | 2 | 52 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 841 | 186 | 463 | 612 | 0 | 560 | 2 | 52 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 1.00 | 2.00 | 0.00 | 1.82 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 1600 | 3200 | 0 | 2919 | 10 | 271 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.26 | 0.12 | 0.29 | 0.19 | 0.00 | 0.19 | 0.19 | 0.19 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #86 Patterson Ave and Calle Real

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.537 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | A |

| Street Name: | Patterson Ave | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 342 | 385 | 0 | 0 | 820 | 50 | 65 | 0 | 187 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 342 | 385 | 0 | 0 | 820 | 50 | 65 | 0 | 187 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 342 | 385 | 0 | 0 | 820 | 50 | 65 | 0 | 187 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 342 | 385 | 0 | 0 | 820 | 50 | 65 | 0 | 187 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 342 | 385 | 0 | 0 | 820 | 50 | 65 | 0 | 187 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 2.00 | 2.00 | 0.00 | 0.00 | 1.89 | 0.11 | 1.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 3200 | 3200 | 0 | 0 | 3016 | 184 | 1600 | 0 | 3200 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.11 | 0.12 | 0.00 | 0.00 | 0.27 | 0.27 | 0.04 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | | | **** | | | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #86 Patterson Ave and Calle Real

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.634 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | B |

| Street Name: | Patterson Ave | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 769 | 764 | 0 | 0 | 515 | 60 | 182 | 0 | 197 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 769 | 764 | 0 | 0 | 515 | 60 | 182 | 0 | 197 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 769 | 764 | 0 | 0 | 515 | 60 | 182 | 0 | 197 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 769 | 764 | 0 | 0 | 515 | 60 | 182 | 0 | 197 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 769 | 764 | 0 | 0 | 515 | 60 | 182 | 0 | 197 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 2.00 | 2.00 | 0.00 | 0.00 | 1.79 | 0.21 | 1.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 3200 | 3200 | 0 | 0 | 2866 | 334 | 1600 | 0 | 3200 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.24 | 0.24 | 0.00 | 0.00 | 0.18 | 0.18 | 0.11 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | **** | | | | | |


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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #87 Fairview Ave and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.765
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Fairview Ave | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Ignore | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 0 | 0 0 | 0 0 | 1 0 | 2 | 2 0 | 0 | 0 1 | 0 0 | 1 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 0 | 138 | 979 | 407 | 0 | 92 | 0 | 722 | 522 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 0 | 138 | 979 | 407 | 0 | 92 | 0 | 722 | 522 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 0 | 138 | 0 | 407 | 0 | 92 | 0 | 722 | 522 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 94 |
| Reduced Vol: | 0 | 0 | 0 | 0 | 138 | 0 | 407 | 0 | 87 | 0 | 722 | 428 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 0 | 0 | 0 | 138 | 0 | 407 | 0 | 87 | 0 | 722 | 428 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 2.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Final Sat.: | 0 | 0 | 0 | 0 | 1600 | 3200 | 3200 | 0 | 1600 | 0 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.00 | 0.13 | 0.00 | 0.05 | 0.00 | 0.45 | 0.27 |
| Crit Moves: | | | | | **** | | **** | | | | **** | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #87 Fairview Ave and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.820
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 71 Level Of Service: D

| Street Name: | Fairview Ave | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Split Phase | | | Split Phase | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Ignore | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 0 | 0 0 | 0 0 | 1 0 | 2 | 2 0 | 0 | 0 1 | 0 0 | 1 0 | 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 0 | 268 | 676 | 791 | 0 | 162 | 0 | 303 | 503 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 0 | 268 | 676 | 791 | 0 | 162 | 0 | 303 | 503 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 0 | 268 | 0 | 791 | 0 | 162 | 0 | 303 | 503 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| Reduced Vol: | 0 | 0 | 0 | 0 | 268 | 0 | 791 | 0 | 162 | 0 | 303 | 488 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 0 | 0 | 0 | 268 | 0 | 791 | 0 | 162 | 0 | 303 | 488 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 2.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Final Sat.: | 0 | 0 | 0 | 0 | 1600 | 3200 | 3200 | 0 | 1600 | 0 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 | 0.00 | 0.25 | 0.00 | 0.10 | 0.00 | 0.19 | 0.31 |
| Crit Moves: | | | | | **** | | **** | | | | | **** |


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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #88 Fairview Ave and Calle Real

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.663 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | B |

| Street Name: | Fairview Ave | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Permitted | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 249 | 483 | 123 | 55 | 518 | 27 | 27 | 82 | 291 | 176 | 93 | 9 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 249 | 483 | 123 | 55 | 518 | 27 | 27 | 82 | 291 | 176 | 93 | 9 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 249 | 483 | 123 | 55 | 518 | 27 | 27 | 82 | 291 | 176 | 93 | 9 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 249 | 483 | 123 | 55 | 518 | 27 | 27 | 82 | 291 | 176 | 93 | 9 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 249 | 483 | 123 | 55 | 518 | 27 | 27 | 82 | 291 | 176 | 93 | 9 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.00 | 1.00 | 1.00 | 1.90 | 0.10 | 1.00 | 1.00 | 1.00 | 2.00 | 0.91 | 0.09 |
| Final Sat.: | 1600 | 1600 | 1600 | 1600 | 3041 | 159 | 1600 | 1600 | 1600 | 3200 | 1459 | 141 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.16 | 0.30 | 0.08 | 0.03 | 0.17 | 0.17 | 0.02 | 0.05 | 0.18 | 0.06 | 0.06 | 0.06 |
| Crit Moves: | **** | | | | **** | | | | **** | **** | | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #88 Fairview Ave and Calle Real

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.714 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 60 | Level Of Service: | C |

| Street Name: | Fairview Ave | | | | | | Calle Real | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Permitted | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 386 | 443 | 471 | 130 | 373 | 37 | 45 | 220 | 245 | 292 | 261 | 43 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 386 | 443 | 471 | 130 | 373 | 37 | 45 | 220 | 245 | 292 | 261 | 43 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 386 | 443 | 471 | 130 | 373 | 37 | 45 | 220 | 245 | 292 | 261 | 43 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 386 | 443 | 471 | 130 | 373 | 37 | 45 | 220 | 245 | 292 | 261 | 43 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 386 | 443 | 471 | 130 | 373 | 37 | 45 | 220 | 245 | 292 | 261 | 43 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.00 | 1.00 | 1.00 | 1.82 | 0.18 | 1.00 | 1.00 | 1.00 | 2.00 | 0.86 | 0.14 |
| Final Sat.: | 1600 | 1600 | 1600 | 1600 | 2911 | 289 | 1600 | 1600 | 1600 | 3200 | 1374 | 226 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.24 | 0.28 | 0.29 | 0.08 | 0.13 | 0.13 | 0.03 | 0.14 | 0.15 | 0.09 | 0.19 | 0.19 |
| Crit Moves: | **** | | | | **** | | | | **** | **** | | |


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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #89 Fairview Ave and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.575
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Fairview Ave | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 1 | 2 0 | 2 | 0 0 | 1 0 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 333 | 324 | 576 | 1125 | 0 | 168 | 0 | 308 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 333 | 324 | 576 | 1125 | 0 | 168 | 0 | 308 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 333 | 324 | 576 | 1125 | 0 | 168 | 0 | 308 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 253 | 0 | 0 | 0 | 0 | 0 | 111 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 333 | 71 | 576 | 1125 | 0 | 168 | 0 | 197 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 333 | 71 | 576 | 1125 | 0 | 168 | 0 | 197 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 3200 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.10 | 0.04 | 0.18 | 0.35 | 0.00 | 0.11 | 0.00 | 0.12 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | | | **** | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #89 Fairview Ave and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.584
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Fairview Ave | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 | 0 1 | 2 0 | 2 | 0 0 | 1 0 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 744 | 707 | 383 | 596 | 0 | 211 | 0 | 143 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 744 | 707 | 383 | 596 | 0 | 211 | 0 | 143 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 744 | 707 | 383 | 596 | 0 | 211 | 0 | 143 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 424 | 0 | 0 | 0 | 0 | 0 | 87 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 744 | 283 | 383 | 596 | 0 | 211 | 0 | 56 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 744 | 283 | 383 | 596 | 0 | 211 | 0 | 56 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 3200 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.23 | 0.18 | 0.12 | 0.19 | 0.00 | 0.13 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | **** | | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #90 Los Carneros Rd and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.531
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Los Carneros Rd | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 54 | 199 | 0 | 0 | 386 | 109 | 0 | 0 | 0 | 786 | 2 | 60 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 54 | 199 | 0 | 0 | 386 | 109 | 0 | 0 | 0 | 786 | 2 | 60 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 54 | 199 | 0 | 0 | 386 | 109 | 0 | 0 | 0 | 786 | 2 | 60 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 0 | 0 | 0 | 29 |
| Reduced Vol: | 54 | 199 | 0 | 0 | 386 | 65 | 0 | 0 | 0 | 786 | 2 | 31 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 54 | 199 | 0 | 0 | 386 | 65 | 0 | 0 | 0 | 786 | 2 | 31 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 1.71 | 0.29 | 0.00 | 0.00 | 0.00 | 1.92 | 0.01 | 0.07 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 2739 | 461 | 0 | 0 | 0 | 3071 | 8 | 121 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.03 | 0.06 | 0.00 | 0.00 | 0.14 | 0.14 | 0.00 | 0.00 | 0.00 | 0.26 | 0.26 | 0.26 |
| Crit Moves: | **** | | | | **** | | | | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #90 Los Carneros Rd and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.534
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Los Carneros Rd | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - T - R | | | L - T - R | | | L - T - R | | | L - T - R | | |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 216 | 575 | 0 | 0 | 276 | 171 | 0 | 0 | 0 | 518 | 2 | 109 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 216 | 575 | 0 | 0 | 276 | 171 | 0 | 0 | 0 | 518 | 2 | 109 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 216 | 575 | 0 | 0 | 276 | 171 | 0 | 0 | 0 | 518 | 2 | 109 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 75 | 0 | 0 | 0 | 0 | 0 | 44 |
| Reduced Vol: | 216 | 575 | 0 | 0 | 276 | 96 | 0 | 0 | 0 | 518 | 2 | 65 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 216 | 575 | 0 | 0 | 276 | 96 | 0 | 0 | 0 | 518 | 2 | 65 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 2.00 | 0.00 | 0.00 | 1.48 | 0.52 | 0.00 | 0.00 | 0.00 | 1.77 | 0.01 | 0.22 |
| Final Sat.: | 1600 | 3200 | 0 | 0 | 2374 | 826 | 0 | 0 | 0 | 2834 | 11 | 356 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.14 | 0.18 | 0.00 | 0.00 | 0.12 | 0.12 | 0.00 | 0.00 | 0.00 | 0.18 | 0.18 | 0.18 |
| Crit Moves: | **** | | | | **** | | | | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #91 Los Carneros Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.531
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Los Carneros Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 2 | 0 0 | 1 0 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 154 | 279 | 88 | 1084 | 0 | 103 | 0 | 147 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 154 | 279 | 88 | 1084 | 0 | 103 | 0 | 147 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 154 | 279 | 88 | 1084 | 0 | 103 | 0 | 147 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 154 | 279 | 88 | 1084 | 0 | 103 | 0 | 147 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 154 | 279 | 88 | 1084 | 0 | 103 | 0 | 147 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.00 | 1.00 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 1600 | 1600 | 1600 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.10 | 0.17 | 0.06 | 0.34 | 0.00 | 0.06 | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | | | **** | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #91 Los Carneros Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.708
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Los Carneros Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 1 | 1 0 | 1 0 | 2 | 0 0 | 1 0 | 0 | 0 1 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 699 | 819 | 61 | 733 | 0 | 93 | 0 | 19 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 699 | 819 | 61 | 733 | 0 | 93 | 0 | 19 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 699 | 819 | 61 | 733 | 0 | 93 | 0 | 19 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 699 | 819 | 61 | 733 | 0 | 93 | 0 | 19 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 699 | 819 | 61 | 733 | 0 | 93 | 0 | 19 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 1.00 | 1.00 | 1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 1600 | 1600 | 1600 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.44 | 0.51 | 0.04 | 0.23 | 0.00 | 0.06 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | | **** | **** | | | **** | | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #93 Glen Annie Rd and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.805
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 68 Level Of Service: D

| Street Name: | Glen Annie Rd | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 201 | 150 | 55 | 11 | 546 | 10 | 37 | 4 | 690 | 632 | 292 | 280 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 201 | 150 | 55 | 11 | 546 | 10 | 37 | 4 | 690 | 632 | 292 | 280 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 201 | 150 | 55 | 11 | 546 | 10 | 37 | 4 | 690 | 632 | 292 | 280 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 201 | 150 | 55 | 11 | 546 | 10 | 37 | 4 | 690 | 632 | 292 | 280 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 201 | 150 | 55 | 11 | 546 | 10 | 37 | 4 | 690 | 632 | 292 | 280 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 2.00 | 1.46 | 0.54 | 1.00 | 1.96 | 0.04 | 1.00 | 0.01 | 1.99 | 1.57 | 0.73 | 0.70 |
| Final Sat.: | 3200 | 2341 | 859 | 1600 | 3142 | 58 | 1600 | 18 | 3182 | 2515 | 1165 | 1121 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.06 | 0.06 | 0.06 | 0.01 | 0.17 | 0.17 | 0.02 | 0.22 | 0.22 | 0.25 | 0.25 | 0.25 |
| Crit Moves: | **** | | | | **** | | | **** | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #93 Glen Annie Rd and US 101 NB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.753
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: C

| Street Name: | Glen Annie Rd | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Split Phase | | | Split Phase | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 268 | 251 | 173 | 18 | 374 | 15 | 16 | 19 | 307 | 1105 | 388 | 150 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 268 | 251 | 173 | 18 | 374 | 15 | 16 | 19 | 307 | 1105 | 388 | 150 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 268 | 251 | 173 | 18 | 374 | 15 | 16 | 19 | 307 | 1105 | 388 | 150 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 268 | 251 | 173 | 18 | 374 | 15 | 16 | 19 | 307 | 1105 | 388 | 150 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 268 | 251 | 173 | 18 | 374 | 15 | 16 | 19 | 307 | 1105 | 388 | 150 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 2.00 | 1.18 | 0.82 | 1.00 | 1.92 | 0.08 | 1.00 | 0.12 | 1.88 | 2.00 | 0.72 | 0.28 |
| Final Sat.: | 3200 | 1894 | 1306 | 1600 | 3077 | 123 | 1600 | 187 | 3013 | 3200 | 1154 | 446 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.08 | 0.13 | 0.13 | 0.01 | 0.12 | 0.12 | 0.01 | 0.10 | 0.10 | 0.35 | 0.34 | 0.34 |
| Crit Moves: | **** | | | | **** | | | | **** | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #95 Glen Annie Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.638
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: B

| Street Name: | Glen Annie Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Ignore | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 0 | 1 | 2 0 | 2 0 | 0 | 1 0 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 368 | 802 | 949 | 919 | 0 | 39 | 0 | 203 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 368 | 802 | 949 | 919 | 0 | 39 | 0 | 203 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 368 | 0 | 949 | 919 | 0 | 39 | 0 | 203 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 368 | 0 | 949 | 919 | 0 | 39 | 0 | 203 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 368 | 0 | 949 | 919 | 0 | 39 | 0 | 203 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 3200 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.12 | 0.00 | 0.30 | 0.29 | 0.00 | 0.02 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | | **** | | **** | | | | | **** | | | |



US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #95 Glen Annie Rd and US 101 SB On/Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.543
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: A

| Street Name: | Glen Annie Rd | | | | | | US 101 SB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Ignore | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 0 0 | 2 0 | 1 | 2 0 | 2 0 | 0 | 1 0 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 681 | 967 | 462 | 1324 | 0 | 12 | 0 | 47 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 681 | 967 | 462 | 1324 | 0 | 12 | 0 | 47 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 681 | 0 | 462 | 1324 | 0 | 12 | 0 | 47 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 681 | 0 | 462 | 1324 | 0 | 12 | 0 | 47 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 0 | 681 | 0 | 462 | 1324 | 0 | 12 | 0 | 47 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 2.00 | 1.00 | 2.00 | 2.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 3200 | 1600 | 3200 | 3200 | 0 | 1600 | 0 | 1600 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.21 | 0.00 | 0.14 | 0.41 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Crit Moves: | **** | | | | **** | | | | **** | | | |


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US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #102 Garden St / Gutierrez St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.679
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 47 Level Of Service: B

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - | R | L | - T | - | R | L | - T | - | R | L | - T | - | R |
| Control: | Protected | | | | Protected | | | | Split Phase | | | | Split Phase | | | |
| Rights: | Include | | | | Include | | | | Include | | | | Include | | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Volume Module: | | | | | | | | | | | | | | | | |
| Base Vol: | 354 | 610 | 0 | 0 | 626 | 52 | 0 | 0 | 0 | 400 | 498 | 47 | | | | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Initial Bse: | 354 | 610 | 0 | 0 | 626 | 52 | 0 | 0 | 0 | 400 | 498 | 47 | | | | |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Volume: | 354 | 610 | 0 | 0 | 626 | 52 | 0 | 0 | 0 | 400 | 498 | 47 | | | | |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Reduced Vol: | 354 | 610 | 0 | 0 | 626 | 52 | 0 | 0 | 0 | 400 | 498 | 47 | | | | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| FinalVolume: | 354 | 610 | 0 | 0 | 626 | 52 | 0 | 0 | 0 | 400 | 498 | 47 | | | | |
| Saturation Flow Module: | | | | | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | | | | |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Lanes: | 2.00 | 1.00 | 0.00 | 0.00 | 1.85 | 0.15 | 0.00 | 0.00 | 0.00 | 1.27 | 1.58 | 0.15 | | | | |
| Final Sat.: | 3200 | 1600 | 0 | 0 | 2955 | 245 | 0 | 0 | 0 | 2035 | 2527 | 238 | | | | |
| Capacity Analysis Module: | | | | | | | | | | | | | | | | |
| Vol/Sat: | 0.11 | 0.38 | 0.00 | 0.00 | 0.21 | 0.21 | 0.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | | | | |
| Crit Moves: | | **** | | **** | | | | | | | | **** | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #102 Garden St / Gutierrez St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.708
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 51 Level Of Service: C

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - | R | L | - T | - | R | L | - T | - | R | L | - T | - | R |
| Control: | Protected | | | | Protected | | | | Split Phase | | | | Split Phase | | | |
| Rights: | Include | | | | Include | | | | Include | | | | Include | | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Volume Module: | | | | | | | | | | | | | | | | |
| Base Vol: | 248 | 459 | 0 | 0 | 858 | 98 | 0 | 0 | 0 | 599 | 429 | 84 | | | | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Initial Bse: | 248 | 459 | 0 | 0 | 858 | 98 | 0 | 0 | 0 | 599 | 429 | 84 | | | | |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Volume: | 248 | 459 | 0 | 0 | 858 | 98 | 0 | 0 | 0 | 599 | 429 | 84 | | | | |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Reduced Vol: | 248 | 459 | 0 | 0 | 858 | 98 | 0 | 0 | 0 | 599 | 429 | 84 | | | | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| FinalVolume: | 248 | 459 | 0 | 0 | 858 | 98 | 0 | 0 | 0 | 599 | 429 | 84 | | | | |
| Saturation Flow Module: | | | | | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | | | | |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Lanes: | 2.00 | 1.00 | 0.00 | 0.00 | 1.79 | 0.21 | 0.00 | 0.00 | 0.00 | 1.62 | 1.16 | 0.22 | | | | |
| Final Sat.: | 3200 | 1600 | 0 | 0 | 2872 | 328 | 0 | 0 | 0 | 2588 | 1850 | 362 | | | | |
| Capacity Analysis Module: | | | | | | | | | | | | | | | | |
| Vol/Sat: | 0.08 | 0.29 | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.00 | 0.00 | 0.23 | 0.23 | 0.23 | | | | |
| Crit Moves: | **** | | | | **** | | | | | | | **** | | | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #103 Castillo St and Montecito St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.771 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 61 | Level Of Service: | C |

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 2 0 | 0 | 1 0 | 1 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 52 | 255 | 5 | 55 | 347 | 603 | 552 | 146 | 46 | 9 | 124 | 143 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 52 | 255 | 5 | 55 | 347 | 603 | 552 | 146 | 46 | 9 | 124 | 143 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 52 | 255 | 5 | 55 | 347 | 603 | 552 | 146 | 46 | 9 | 124 | 143 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 52 | 255 | 5 | 55 | 347 | 603 | 552 | 146 | 46 | 9 | 124 | 143 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 52 | 255 | 5 | 55 | 347 | 603 | 552 | 146 | 46 | 9 | 124 | 143 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.96 | 0.04 | 1.00 | 1.00 | 1.00 | 2.00 | 0.76 | 0.24 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 1600 | 3138 | 62 | 1600 | 1600 | 1600 | 3200 | 1217 | 383 | 1600 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.03 | 0.08 | 0.08 | 0.03 | 0.22 | 0.38 | 0.17 | 0.12 | 0.12 | 0.01 | 0.08 | 0.09 |
| Crit Moves: | **** | | | | | **** | **** | | | | | **** |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #103 Castillo St and Montecito St

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap.(X): | 0.849 |
| Loss Time (sec): | 10 | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 80 | Level Of Service: | D |

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 0 | 1 | 1 0 | 1 0 | 1 | 1 0 | 2 0 | 0 | 1 0 | 1 0 | 1 | 0 1 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 87 | 287 | 14 | 167 | 417 | 643 | 554 | 171 | 72 | 19 | 167 | 191 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 87 | 287 | 14 | 167 | 417 | 643 | 554 | 171 | 72 | 19 | 167 | 191 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 87 | 287 | 14 | 167 | 417 | 643 | 554 | 171 | 72 | 19 | 167 | 191 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 87 | 287 | 14 | 167 | 417 | 643 | 554 | 171 | 72 | 19 | 167 | 191 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 87 | 287 | 14 | 167 | 417 | 643 | 554 | 171 | 72 | 19 | 167 | 191 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 1.00 | 1.91 | 0.09 | 1.00 | 1.00 | 1.00 | 2.00 | 0.70 | 0.30 | 1.00 | 1.00 | 1.00 |
| Final Sat.: | 1600 | 3051 | 149 | 1600 | 1600 | 1600 | 3200 | 1126 | 474 | 1600 | 1600 | 1600 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.05 | 0.09 | 0.09 | 0.10 | 0.26 | 0.40 | 0.17 | 0.15 | 0.15 | 0.01 | 0.10 | 0.12 |
| Crit Moves: | **** | | | | | **** | **** | | | | | **** |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #104 Carrillo St and San Andres St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.708
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 51 Level Of Service: C

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | | L | - T | - R | | L | - T | - R | | L | - T | - R | |
| Control: | Protected | | | | Protected | | | | Split Phase | | | | Split Phase | | | |
| Rights: | Include | | | | Include | | | | Include | | | | Include | | | |
| Min. Green: | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | |
| Y+R: | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | |
| Lanes: | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | |
| Volume Module: | | | | | | | | | | | | | | | | |
| Base Vol: | 17 | 797 | 58 | | 59 | 502 | 104 | | 290 | 140 | 26 | | 60 | 133 | 125 | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| Initial Bse: | 17 | 797 | 58 | | 59 | 502 | 104 | | 290 | 140 | 26 | | 60 | 133 | 125 | |
| User Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| PHF Volume: | 17 | 797 | 58 | | 59 | 502 | 104 | | 290 | 140 | 26 | | 60 | 133 | 125 | |
| Reduct Vol: | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | |
| Reduced Vol: | 17 | 797 | 58 | | 59 | 502 | 104 | | 290 | 140 | 26 | | 60 | 133 | 125 | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| FinalVolume: | 17 | 797 | 58 | | 59 | 502 | 104 | | 290 | 140 | 26 | | 60 | 133 | 125 | |
| Saturation Flow Module: | | | | | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | | 1600 | 1600 | 1600 | | 1600 | 1600 | 1600 | | 1600 | 1600 | 1600 | |
| Adjustment: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| Lanes: | 1.00 | 1.86 | 0.14 | | 1.00 | 1.66 | 0.34 | | 1.28 | 0.61 | 0.11 | | 1.00 | 0.52 | 0.48 | |
| Final Sat.: | 1600 | 2983 | 217 | | 1600 | 2651 | 549 | | 2035 | 982 | 182 | | 1600 | 825 | 775 | |
| Capacity Analysis Module: | | | | | | | | | | | | | | | | |
| Vol/Sat: | 0.01 | 0.27 | 0.27 | | 0.04 | 0.19 | 0.19 | | 0.14 | 0.14 | 0.14 | | 0.04 | 0.16 | 0.16 | |
| Crit Moves: | | **** | | | **** | | | | | | **** | | | **** | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #104 Carrillo St and San Andres St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.753
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 58 Level Of Service: C

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | | L | - T | - R | | L | - T | - R | | L | - T | - R | |
| Control: | Protected | | | | Protected | | | | Split Phase | | | | Split Phase | | | |
| Rights: | Include | | | | Include | | | | Include | | | | Include | | | |
| Min. Green: | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | |
| Y+R: | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | |
| Lanes: | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | |
| Volume Module: | | | | | | | | | | | | | | | | |
| Base Vol: | 26 | 509 | 53 | | 114 | 879 | 298 | | 213 | 146 | 35 | | 42 | 163 | 70 | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| Initial Bse: | 26 | 509 | 53 | | 114 | 879 | 298 | | 213 | 146 | 35 | | 42 | 163 | 70 | |
| User Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| PHF Volume: | 26 | 509 | 53 | | 114 | 879 | 298 | | 213 | 146 | 35 | | 42 | 163 | 70 | |
| Reduct Vol: | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | |
| Reduced Vol: | 26 | 509 | 53 | | 114 | 879 | 298 | | 213 | 146 | 35 | | 42 | 163 | 70 | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| FinalVolume: | 26 | 509 | 53 | | 114 | 879 | 298 | | 213 | 146 | 35 | | 42 | 163 | 70 | |
| Saturation Flow Module: | | | | | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | | 1600 | 1600 | 1600 | | 1600 | 1600 | 1600 | | 1600 | 1600 | 1600 | |
| Adjustment: | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | |
| Lanes: | 1.00 | 1.81 | 0.19 | | 1.00 | 1.49 | 0.51 | | 1.08 | 0.74 | 0.18 | | 1.00 | 0.70 | 0.30 | |
| Final Sat.: | 1600 | 2898 | 302 | | 1600 | 2390 | 810 | | 1730 | 1186 | 284 | | 1600 | 1119 | 481 | |
| Capacity Analysis Module: | | | | | | | | | | | | | | | | |
| Vol/Sat: | 0.02 | 0.18 | 0.18 | | 0.07 | 0.37 | 0.37 | | 0.12 | 0.12 | 0.12 | | 0.03 | 0.15 | 0.15 | |
| Crit Moves: | **** | | | | | **** | | | | **** | | | | **** | | |

US 101 WIdening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #106 Milpas St and Quinientos St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.572
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: A

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - | R | L | - T | - | R | L | - T | - | R | L | - T | - | R |
| Control: | Prot+Permit | | | | Prot+Permit | | | | Permitted | | | | Permitted | | | |
| Rights: | Include | | | | Include | | | | Include | | | | Include | | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| Volume Module: | | | | | | | | | | | | | | | | |
| Base Vol: | 71 | 966 | 52 | 68 | 1071 | 39 | 19 | 24 | 51 | 54 | 30 | 86 | | | | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Initial Bse: | 71 | 966 | 52 | 68 | 1071 | 39 | 19 | 24 | 51 | 54 | 30 | 86 | | | | |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Volume: | 71 | 966 | 52 | 68 | 1071 | 39 | 19 | 24 | 51 | 54 | 30 | 86 | | | | |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Reduced Vol: | 71 | 966 | 52 | 68 | 1071 | 39 | 19 | 24 | 51 | 54 | 30 | 86 | | | | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| FinalVolume: | 71 | 966 | 52 | 68 | 1071 | 39 | 19 | 24 | 51 | 54 | 30 | 86 | | | | |
| Saturation Flow Module: | | | | | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | | | | |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Lanes: | 1.00 | 1.90 | 0.10 | 1.00 | 1.93 | 0.07 | 1.00 | 0.32 | 0.68 | 1.00 | 0.26 | 0.74 | | | | |
| Final Sat.: | 1600 | 3037 | 163 | 1600 | 3088 | 112 | 1600 | 512 | 1088 | 1600 | 414 | 1186 | | | | |
| Capacity Analysis Module: | | | | | | | | | | | | | | | | |
| Vol/Sat: | 0.04 | 0.32 | 0.32 | 0.04 | 0.35 | 0.35 | 0.01 | 0.05 | 0.05 | 0.03 | 0.07 | 0.07 | | | | |
| Crit Moves: | **** | | | | **** | | | **** | | **** | | | | | | |





US 101 WIdening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #106 Milpas St and Quinientos St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.715
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 52 Level Of Service: C

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - | R | L | - T | - | R | L | - T | - | R | L | - T | - | R |
| Control: | Prot+Permit | | | | Prot+Permit | | | | Permitted | | | | Permitted | | | |
| Rights: | Include | | | | Include | | | | Include | | | | Include | | | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lanes: | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| Volume Module: | | | | | | | | | | | | | | | | |
| Base Vol: | 55 | 1076 | 64 | 173 | 782 | 31 | 50 | 50 | 84 | 107 | 32 | 48 | | | | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Initial Bse: | 55 | 1076 | 64 | 173 | 782 | 31 | 50 | 50 | 84 | 107 | 32 | 48 | | | | |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Volume: | 55 | 1076 | 64 | 173 | 782 | 31 | 50 | 50 | 84 | 107 | 32 | 48 | | | | |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Reduced Vol: | 55 | 1076 | 64 | 173 | 782 | 31 | 50 | 50 | 84 | 107 | 32 | 48 | | | | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| FinalVolume: | 55 | 1076 | 64 | 173 | 782 | 31 | 50 | 50 | 84 | 107 | 32 | 48 | | | | |
| Saturation Flow Module: | | | | | | | | | | | | | | | | |
| Sat/Lane: | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | 1600 | | | | |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Lanes: | 1.00 | 1.89 | 0.11 | 1.00 | 1.92 | 0.08 | 1.00 | 0.37 | 0.63 | 1.00 | 0.40 | 0.60 | | | | |
| Final Sat.: | 1600 | 3020 | 180 | 1600 | 3078 | 122 | 1600 | 597 | 1003 | 1600 | 640 | 960 | | | | |
| Capacity Analysis Module: | | | | | | | | | | | | | | | | |
| Vol/Sat: | 0.03 | 0.36 | 0.36 | 0.11 | 0.25 | 0.25 | 0.03 | 0.08 | 0.08 | 0.07 | 0.05 | 0.05 | | | | |
| Crit Moves: | | **** | | **** | | | | **** | | **** | | | | | | |

US 101 Widening Project
Existing Conditions
AM Peak Hour

Scenario Report

| | |
|---|---|
| Scenario: | Existing AM |
| Command: | Existing AM |
| Volume: | Existing AM |
| Geometry: | Existing |
| Impact Fee: | Default Impact Fee |
| Trip Generation: | Default Trip Generation |
| Trip Distribution: | Default Trip Distribution |
| Paths: | Default Path |
| Routes: | Default Route |
| Configuration: | Default Configuration |





US 101 Widening Project
Existing Conditions
PM Peak Hour

Scenario Report

| | |
|---|---|
| Scenario: | Existing PM |
| Command: | Existing PM |
| Volume: | Existing PM |
| Geometry: | Existing |
| Impact Fee: | Default Impact Fee |
| Trip Generation: | Default Trip Generation |
| Trip Distribution: | Default Trip Distribution |
| Paths: | Default Path |
| Routes: | Default Route |
| Configuration: | Default Configuration |

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Impact Analysis Report
Level Of Service

| Intersection | Base LOS | Base Del/ Veh | Base V/ C | Future LOS | Future Del/ Veh | Future V/ C | Change in V/C |
|---|---|---|---|---|---|---|---|
| # 47 Milpas St and US 101 NB On/Off | A | 3.9 | 0.000 | A | 3.9 | 0.000 | + 0.000 |



US 101 Widening Project
Existing Conditions
PM Peak Hour

Impact Analysis Report
Level Of Service

| Intersection | Base LOS | Base Del/ Veh | Base V/ C | Future LOS | Future Del/ Veh | Future V/ C | Change in V/C |
|---|---|---|---|---|---|---|---|
| # 47 Milpas St and US 101 NB On/Off | A | 5.6 | 0.000 | A | 5.6 | 0.000 | + 0.000 |

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
FHWA Roundabout Method (Base Volume Alternative)

Intersection #47 Milpas St and US 101 NB On/Off Ramps

Average Delay (sec/veh): 3.9 Level Of Service: A

| Street Name: | Milpas St | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Yield Sign | | | Yield Sign | | | Yield Sign | | | Yield Sign | | |
| Lanes: | 2 | | | 2 | | | 0 | | | 2 | | |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 109 | 690 | 257 | 74 | 553 | 514 | 0 | 0 | 0 | 306 | 107 | 381 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 109 | 690 | 257 | 74 | 553 | 514 | 0 | 0 | 0 | 306 | 107 | 381 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| PHF Volume: | 118 | 750 | 279 | 80 | 601 | 559 | 0 | 0 | 0 | 333 | 116 | 414 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 118 | 750 | 279 | 80 | 601 | 559 | 0 | 0 | 0 | 333 | 116 | 414 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 118 | 750 | 279 | 80 | 601 | 559 | 0 | 0 | 0 | 333 | 116 | 414 |
| PCE Module: | | | | | | | | | | | | |
| AutoPCE: | 116 | 735 | 274 | 79 | 589 | 548 | 0 | 0 | 0 | 326 | 114 | 406 |
| TruckPCE: | 4 | 23 | 8 | 2 | 18 | 17 | 0 | 0 | 0 | 10 | 3 | 12 |
| ComboPCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BicyclePCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AdjVolume: | 120 | 758 | 282 | 81 | 607 | 564 | 0 | 0 | 0 | 336 | 117 | 418 |

Delay Module: >> Time Period: 0.25 hours <<

| | | | | |
|---|---|---|---|---|
| CircVolume: | 81 | 573 | 1024 | 877 |
| MaxVolume: | 2366 | 2011 | xxxxxx | 1792 |
| PedVolume: | 0 | 0 | 0 | 0 |
| AdjMaxVol: | 2366 | 2011 | xxxxxx | 1792 |
| ApproachVol: | 1159 | 1253 | xxxxxx | 872 |
| ApproachDel: | 3.0 | 4.7 | xxxxxx | 3.9 |
| Queue: | 2.8 | 4.7 | xxxx | 2.8 |





US 101 Widening Project
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
FHWA Roundabout Method (Base Volume Alternative)

Intersection #47 Milpas St and US 101 NB On/Off Ramps

Average Delay (sec/veh): 5.6 Level Of Service: A

| Street Name: | Milpas St | | | | | | US 101 NB On/Off Ramps | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L - | T - | R | L - | T - | R | L - | T - | R | L - | T - | R |
| Control: | Yield Sign | | | Yield Sign | | | Yield Sign | | | Yield Sign | | |
| Lanes: | 2 | | | 2 | | | 0 | | | 2 | | |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 220 | 677 | 415 | 121 | 721 | 499 | 0 | 0 | 0 | 231 | 203 | 334 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 220 | 677 | 415 | 121 | 721 | 499 | 0 | 0 | 0 | 231 | 203 | 334 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| PHF Volume: | 239 | 736 | 451 | 132 | 784 | 542 | 0 | 0 | 0 | 251 | 221 | 363 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 239 | 736 | 451 | 132 | 784 | 542 | 0 | 0 | 0 | 251 | 221 | 363 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| FinalVolume: | 239 | 736 | 451 | 132 | 784 | 542 | 0 | 0 | 0 | 251 | 221 | 363 |
| PCE Module: | | | | | | | | | | | | |
| AutoPCE: | 234 | 721 | 442 | 129 | 768 | 532 | 0 | 0 | 0 | 246 | 216 | 356 |
| TruckPCE: | 7 | 22 | 14 | 4 | 24 | 16 | 0 | 0 | 0 | 8 | 7 | 11 |
| ComboPCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BicyclePCE: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AdjVolume: | 242 | 743 | 456 | 133 | 792 | 548 | 0 | 0 | 0 | 254 | 223 | 367 |

Delay Module: >> Time Period: 0.25 hours <<

| | | | | |
|---|---|---|---|---|
| CircVolume: | 133 | 718 | 1178 | 985 |
| MaxVolume: | 2328 | 1907 | xxxxxx | 1715 |
| PedVolume: | 0 | 0 | 0 | 0 |
| AdjMaxVol: | 2328 | 1907 | xxxxxx | 1715 |
| ApproachVol: | 1440 | 1472 | xxxxxx | 843 |
| ApproachDel: | 4.0 | 7.9 | xxxxxx | 4.1 |
| Queue: | 4.7 | 8.7 | xxxx | 2.8 |

# APPENDIX C.

## INTERSECTION SIGNAL WARRANT WORKSHEETS

US 101 Widening Project
Existing Conditions
AM Peak Hour

Scenario Report

| | |
|---|---|
| Scenario: | Existing AM |
| Command: | Existing AM |
| Volume: | Existing AM |
| Geometry: | Existing |
| Impact Fee: | Default Impact Fee |
| Trip Generation: | Default Trip Generation |
| Trip Distribution: | Default Trip Distribution |
| Paths: | Existing |
| Routes: | Default Route |
| Configuration: | Default Configuration |





US 101 Widening Project
Existing Conditions
PM Peak Hour

Scenario Report

| | |
|---|---|
| Scenario: | Existing PM |
| Command: | Exisiting PM |
| Volume: | Existing PM |
| Geometry: | Existing |
| Impact Fee: | Default Impact Fee |
| Trip Generation: | Default Trip Generation |
| Trip Distribution: | Default Trip Distribution |
| Paths: | Existing |
| Routes: | Default Route |
| Configuration: | Default Configuration |

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Signal Warrant Summary Report

| Intersection | Base Met [Del / Vol] | Future Met [Del / Vol] |
|---|---|---|
| # 1 Bates Rd / US 101 NB Ramps | No / No | ??? / ??? |
| # 2 Bates Rd / US 101 SB Ramps | No / No | ??? / ??? |
| # 3 SR 150 / US 101 NB Ramps | No / No | ??? / ??? |
| # 4 SR 150 / US 101 SB Ramps | No / No | ??? / ??? |
| # 5 SR 150 / Via Real | No / No | ??? / ??? |
| # 6 SR 150 / Carpinteria Ave | No / No | ??? / ??? |
| # 7 Bailard Ave / US 101 NB Ramps | No / No | ??? / ??? |
| # 8 Bailard Ave / US 101 SB Ramps | No / No | ??? / ??? |
| # 9 Bailard Ave / Via Real | No | ??? |
| # 10 Bailard Ave / Carpinteria Ave | No | ??? |
| # 11 Casitas Pass Rd / US 101 NB Off-Ram | No | ??? |
| # 12 Vallecito Rd / US 101 NB On-Ramp | No / No | ??? / ??? |
| # 13 Casitas Pass Rd / US 101 SB Ramps | No | ??? |
| # 16 Linden Ave / Ogan Rd | No / No | ??? / ??? |
| # 17 Linden Ave / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 18 Linden Ave / Sawyer Ave | No / No | ??? / ??? |
| # 19 US 101 SB Ramps / Carpinteria Ave | No / No | ??? / ??? |
| # 21 US 101 NB Ramps / Via Real | No | ??? |
| # 22 Padero Ln / US 101 NB Ramps | No / No | ??? / ??? |
| # 23 Padero Ln / Via Real | No / No | ??? / ??? |
| # 24 Padero Ln / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 25 Padero Ln / US 101 NB Ramps | No / No | ??? / ??? |
| # 26 Padero Ln / Via Real | No / No | ??? / ??? |
| # 27 Padero Ln / US 101 SB Ramps | No / No | ??? / ??? |
| # 28 Hollister St / Ortega Hills Rd | No / No | ??? / ??? |
| # 29 Evans Ave / Ortega Hills Rd | No | ??? |
| # 30 US 101 NB On-Ramp / Ortega Hills Rd | No / No | ??? / ??? |
| # 31 Evans Ave / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 32 Jameson Ln / US 101 NB Ramps | No / No | ??? / ??? |
| # 33 Jameson Ln / US 101 SB Ramps | No / No | ??? / ??? |
| # 34 Sheffield Dr / Jameson Ln | No / No | ??? / ??? |
| # 35 San Ysidro Rd / US 101 NB Ramps | No / No | ??? / ??? |
| # 36 San Ysidro Rd/ N Jameson Ln | No | ??? |
| # 37 San Ysidro Rd / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 38 San Ysidro Rd / S Jameson Ln | No / No | ??? / ??? |
| # 39 Olive Mill Rd / US 101 On-Ramp | No | ??? |
| # 40 Olive Mill Rd / US 101 SB On-Ramp | Yes | ??? |
| # 41 Depot Rd / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 42 Olive Mill Rd / Spring Rd | No / No | ??? / ??? |
| # 43 US 101 NB Off-Ramp / Coast Village | No / No | ??? / ??? |
| # 44 Cabrillo Blvd / US 101 SB On-Ramp | No | ??? |
| # 45 Cabrillo Blvd / US 101 NB On-Ramp | No / Yes | ??? / ??? |
| # 51 US 101 NB Off-Ramp / Palm Ave | No / No | ??? / ??? |
| # 54 US 101 NB Off-Ramp / Cottage Grove | No / No | ??? / ??? |
| # 61 Carrillo St / San Pascual St | No / Yes | ??? / ??? |
| # 62 US 101 NB Ramps / Castillo St | No / No | ??? / ??? |
| # 66 Mission St / San Pascual St | No / No | ??? / ??? |
| # 67 Pueblo St / US 101 NB Off-Ramp | No / No | ??? / ??? |
| # 80 US 101 NB Ramps / Calle Real | No | ??? |





US 101 Widening Project
Existing Conditions
PM Peak Hour

Signal Warrant Summary Report

| Intersection | Base Met [Del / Vol] | Future Met [Del / Vol] |
|---|---|---|
| # 1 Bates Rd / US 101 NB Ramps | No / No | ??? / ??? |
| # 2 Bates Rd / US 101 SB Ramps | No / No | ??? / ??? |
| # 3 SR 150 / US 101 NB Ramps | No / No | ??? / ??? |
| # 4 SR 150 / US 101 SB Ramps | No / No | ??? / ??? |
| # 5 SR 150 / Via Real | No / No | ??? / ??? |
| # 6 SR 150 / Carpinteria Ave | No / No | ??? / ??? |
| # 7 Bailard Ave / US 101 NB Ramps | No / No | ??? / ??? |
| # 8 Bailard Ave / US 101 SB Ramps | No / No | ??? / ??? |
| # 9 Bailard Ave / Via Real | No | ??? |
| # 10 Bailard Ave / Carpinteria Ave | No | ??? |
| # 11 Casitas Pass Rd / US 101 NB Off-Ram | No | ??? |
| # 12 Vallecito Rd / US 101 NB On-Ramp | No / No | ??? / ??? |
| # 13 Casitas Pass Rd / US 101 SB Ramps | No | ??? |
| # 16 Linden Ave / Ogan Rd | No / No | ??? / ??? |
| # 17 Linden Ave / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 18 Linden Ave / Sawyer Ave | No / No | ??? / ??? |
| # 19 US 101 SB Ramps / Carpinteria Ave | No / No | ??? / ??? |
| # 21 US 101 NB Ramps / Via Real | No | ??? |
| # 22 Padero Ln / US 101 NB Ramps | No / No | ??? / ??? |
| # 23 Padero Ln / Via Real | No / No | ??? / ??? |
| # 24 Padero Ln / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 25 Padero Ln / US 101 NB Ramps | No / No | ??? / ??? |
| # 26 Padero Ln / Via Real | No / No | ??? / ??? |
| # 27 Padero Ln / US 101 SB Ramps | No / No | ??? / ??? |
| # 28 Hollister St / Ortega Hills Rd | No / No | ??? / ??? |
| # 29 Evans Ave / Ortega Hills Rd | No | ??? |
| # 30 US 101 NB On-Ramp / Ortega Hills Rd | No / No | ??? / ??? |
| # 31 Evans Ave / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 32 Jameson Ln / US 101 NB Ramps | No / No | ??? / ??? |
| # 33 Jameson Ln / US 101 SB Ramps | No / No | ??? / ??? |
| # 34 Sheffield Dr / Jameson Ln | No / No | ??? / ??? |
| # 35 San Ysidro Rd / US 101 NB Ramps | No / No | ??? / ??? |
| # 36 San Ysidro Rd/ N Jameson Ln | No | ??? |
| # 37 San Ysidro Rd / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 38 San Ysidro Rd / S Jameson Ln | No / No | ??? / ??? |
| # 39 Olive Mill Rd / US 101 On-Ramp | No | ??? |
| # 40 Olive Mill Rd / US 101 SB On-Ramp | No | ??? |
| # 41 Depot Rd / US 101 SB Off-Ramp | No / No | ??? / ??? |
| # 42 Olive Mill Rd / Spring Rd | No / No | ??? / ??? |
| # 43 US 101 NB Off-Ramp / Coast Village | No / No | ??? / ??? |
| # 44 Cabrillo Blvd / US 101 SB On-Ramp | No | ??? |
| # 45 Cabrillo Blvd / US 101 NB On-Ramp | No / Yes | ??? / ??? |
| # 51 US 101 NB Off-Ramp / Palm Ave | No / No | ??? / ??? |
| # 54 US 101 NB Off-Ramp / Cottage Grove | No / No | ??? / ??? |
| # 61 Carrillo St / San Pascual St | No / Yes | ??? / ??? |
| # 62 US 101 NB Ramps / Castillo St | Yes / No | ??? / ??? |
| # 66 Mission St / San Pascual St | No / No | ??? / ??? |
| # 67 Pueblo St / US 101 NB Off-Ramp | No / No | ??? / ??? |
| # 80 US 101 NB Ramps / Calle Real | No | ??? |

US 101 Widening Project
Existing Conditions
AM Peak Hour

| Intersection | Base Met [Del / Vol] | Future Met [Del / Vol] |
|---|---|---|
| # 92 Los Carneros Rd / Calle Real | No / No | ??? / ??? |
| # 94 Glen Annie Rd / Del Norte Dr | No / No | ??? / ??? |
| # 96 Hollister Ave / Calle Real | No / No | ??? / ??? |
| # 97 Hollister Ave / US 101 SB Ramps | No / No | ??? / ??? |
| # 98 Winchester Canyon Rd / US 101 NB Of | No | ??? |
| #105 Modoc St and Mission St | Yes | ??? |



US 101 Widening Project
Existing Conditions
PM Peak Hour

| Intersection | Base Met [Del / Vol] | Future Met [Del / Vol] |
|---|---|---|
| # 92 Los Carneros Rd / Calle Real | No / No | ??? / ??? |
| # 94 Glen Annie Rd / Del Norte Dr | No / No | ??? / ??? |
| # 96 Hollister Ave / Calle Real | Yes / No | ??? / ??? |
| # 97 Hollister Ave / US 101 SB Ramps | No / No | ??? / ??? |
| # 98 Winchester Canyon Rd / US 101 NB Of | No | ??? |
| #105 Modoc St and Mission St | Yes | ??? |

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #1 Bates Rd / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Initial Vol: | 19 | | 6 | | 0 | 0 | | 5 | | 1 | 0 | | 0 | | 0 | 5 | | 2 | | 1 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | | 8.9 | | | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=8]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=39]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #1 Bates Rd / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Initial Vol: | 26 | | 16 | | 0 | 0 | | 8 | | 3 | 0 | | 0 | | 0 | 21 | | 0 | | 4 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | | 8.9 | | | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=25]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=78]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 Bates Rd / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 19 | 6 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 5 | 2 | 1 |

Major Street Volume: 31
Minor Approach Volume: 8
Minor Approach Volume Threshold: 1386

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 Bates Rd / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 26 | 16 | 0 | 0 | 8 | 3 | 0 | 0 | 0 | 21 | 0 | 4 |

Major Street Volume: 53
Minor Approach Volume: 25
Minor Approach Volume Threshold: 1217

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #2 Bates Rd / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 1 0 | | | 0 1 0 0 0 | | | 1 0 0 1 0 | | | 0 0 0 0 0 | | |
| Initial Vol: | 0 | 20 | 11 | 6 | 4 | 0 | 5 | 1 | 29 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 8.5 | | | xxxxxx | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=35]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=76]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #2 Bates Rd / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 1 0 | | | 0 1 0 0 0 | | | 1 0 0 1 0 | | | 0 0 0 0 0 | | |
| Initial Vol: | 0 | 32 | 9 | 7 | 22 | 0 | 10 | 1 | 28 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 8.6 | | | xxxxxx | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=39]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=109]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 Bates Rd / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 | 1 | 0 | 0 1 0 | 0 | 0 | 1 0 0 | 1 | 0 | 0 0 0 | 0 | 0 |
| Initial Vol: | 0 | 20 | 11 | 6 | 4 | 0 | 5 | 1 | 29 | 0 | 0 | 0 |

Major Street Volume: 41
Minor Approach Volume: 35
Minor Approach Volume Threshold: 1298

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 Bates Rd / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 | 1 | 0 | 0 1 0 | 0 | 0 | 1 0 0 | 1 | 0 | 0 0 0 | 0 | 0 |
| Initial Vol: | 0 | 32 | 9 | 7 | 22 | 0 | 10 | 1 | 28 | 0 | 0 | 0 |

Major Street Volume: 70
Minor Approach Volume: 39
Minor Approach Volume Threshold: 1129

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #3 SR 150 / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 1 | 0 1 | 0 |
| Initial Vol: | 3 | 87 | 0 | 0 | 70 | 147 | 0 | 0 | 0 | 184 | 0 | 222 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 10.5 | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=406]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=713]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #3 SR 150 / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 1 | 0 1 | 0 |
| Initial Vol: | 8 | 222 | 0 | 0 | 237 | 96 | 0 | 0 | 0 | 22 | 1 | 31 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 10.8 | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=54]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=617]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 SR 150 / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 1 | 0 1 | 0 |
| Initial Vol: | 3 | 87 | 0 | 0 | 70 | 147 | 0 | 0 | 0 | 184 | 0 | 222 |

Major Street Volume: 307
Minor Approach Volume: 406
Minor Approach Volume Threshold: 664

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 SR 150 / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 1 | 0 1 | 0 |
| Initial Vol: | 8 | 222 | 0 | 0 | 237 | 96 | 0 | 0 | 0 | 22 | 1 | 31 |

Major Street Volume: 563
Minor Approach Volume: 54
Minor Approach Volume Threshold: 473

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #4 SR 150 / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 1 | 0 1 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 28 | 24 | 39 | 215 | 0 | 62 | 6 | 4 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 11.2 | | | xxxxxx | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=72]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=378]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #4 SR 150 / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 1 | 0 1 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 60 | 139 | 224 | 35 | 0 | 170 | 7 | 9 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 20.9 | | | xxxxxx | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=186]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=644]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #4 SR 150 / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 1 | 0 1 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 28 | 24 | 39 | 215 | 0 | 62 | 6 | 4 | 0 | 0 | 0 |

Major Street Volume: 306
Minor Approach Volume: 72
Minor Approach Volume Threshold: 665

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #4 SR 150 / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 1 | 0 1 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 60 | 139 | 224 | 35 | 0 | 170 | 7 | 9 | 0 | 0 | 0 |

Major Street Volume: 458
Minor Approach Volume: 186
Minor Approach Volume Threshold: 538

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #5 SR 150 / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 234 | 72 | 3 | 1 | 198 | 32 | 5 | 1 | 15 | 4 | 2 | 1 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 12.1 | | | 17.4 | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=568]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=568]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #5 SR 150 / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 24 | 225 | 4 | 1 | 123 | 8 | 40 | 0 | 206 | 4 | 0 | 1 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 11.1 | | | 13.8 | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=246]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=636]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=636]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #5 SR 150 / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 234 | 72 | 3 | 1 | 198 | 32 | 5 | 1 | 15 | 4 | 2 | 1 |

Major Street Volume: 540
Minor Approach Volume: 21
Minor Approach Volume Threshold: 384

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #5 SR 150 / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 24 | 225 | 4 | 1 | 123 | 8 | 40 | 0 | 206 | 4 | 0 | 1 |

Major Street Volume: 385
Minor Approach Volume: 246
Minor Approach Volume Threshold: 474

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #6 SR 150 / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Yield Sign | | | Yield Sign | | |
| Lanes: | 0 1 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 46 | 3 | 0 | 6 | 213 | 0 | 0 | 0 | 0 | 11 | 0 | 6 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 9.8 | | |

Approach[westbound][lanes=1][control=Yield Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Controller not stop sign.
Signal Warrant Rule #2: [approach volume=17]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=285]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #6 SR 150 / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Yield Sign | | | Yield Sign | | |
| Lanes: | 0 0 | 0 | 1 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 192 | 7 | 6 | 38 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 9.6 | | |

Approach[westbound][lanes=1][control=Yield Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Controller not stop sign.
Signal Warrant Rule #2: [approach volume=14]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=257]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6 SR 150 / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Yield Sign | | | Yield Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 46 | 3 | 0 | 6 | 213 | 0 | 0 | 0 | 0 | 11 | 0 | 6 |

Major Street Volume: 268
Minor Approach Volume: 17
Minor Approach Volume Threshold: 571

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6 SR 150 / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Yield Sign | | | Yield Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 192 | 7 | 6 | 38 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |

Major Street Volume: 243
Minor Approach Volume: 14
Minor Approach Volume Threshold: 597

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #7 Bailard Ave / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1! | 0 | 0 |
| Initial Vol: | 2 | 387 | | 0 | | 0 | 177 | | 262 | | 0 | | 0 | | 0 | 60 | | 13 | | 14 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | | 16.0 | | | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=87]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=915]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #7 Bailard Ave / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1! | 0 | 0 |
| Initial Vol: | 108 | 384 | | 0 | | 0 | 220 | | 344 | | 0 | | 0 | | 0 | 34 | | 2 | | 31 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | | 17.9 | | | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1123]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Bailard Ave / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 2 | 387 | 0 | 0 | 177 | 262 | 0 | 0 | 0 | 60 | 13 | 14 |

Major Street Volume: 828
Minor Approach Volume: 87
Minor Approach Volume Threshold: 270

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Bailard Ave / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 108 | 384 | 0 | 0 | 220 | 344 | 0 | 0 | 0 | 34 | 2 | 31 |

Major Street Volume: 1056
Minor Approach Volume: 67
Minor Approach Volume Threshold: 205

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #8 Bailard Ave / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1! | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Vol: | 126 | | 27 | | 0 | 0 | | 23 | | 214 | 263 | | 0 | | 103 | 0 | | 0 | | 0 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | 18.5 | | | | | xxxxxx | | | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.9]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=366]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=756]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #8 Bailard Ave / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1! | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Vol: | 276 | | 98 | | 0 | 0 | | 42 | | 212 | 216 | | 3 | | 29 | 0 | | 0 | | 0 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | 48.6 | | | | | xxxxxx | | | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=248]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=876]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 Bailard Ave / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 126 | 27 | 0 | 0 | 23 | 214 | 263 | 0 | 103 | 0 | 0 | 0 |

Major Street Volume: 390
Minor Approach Volume: 366
Minor Approach Volume Threshold: 471

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 Bailard Ave / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 276 | 98 | 0 | 0 | 42 | 212 | 216 | 3 | 29 | 0 | 0 | 0 |

Major Street Volume: 628
Minor Approach Volume: 248
Minor Approach Volume Threshold: 343

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 Bailard Ave / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 |
| Initial Vol: | 49 | 43 | 309 | 8 | 140 | 1 | 6 | 7 | 151 | 148 | 2 | 2 |

Major Street Volume: 550
Minor Approach Volume: 164
Minor Approach Volume Threshold: 631

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 Bailard Ave / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 |
| Initial Vol: | 149 | 119 | 147 | 2 | 77 | 4 | 4 | 9 | 101 | 386 | 9 | 8 |

Major Street Volume: 517
Minor Approach Volume: 415
Minor Approach Volume Threshold: 658

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 Bailard Ave / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 1 | 3 | 4 | 130 | 4 | 183 | 139 | 75 | 3 | 0 | 124 | 11 |

Major Street Volume: 352
Minor Approach Volume: 317
Minor Approach Volume Threshold: 498

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 Bailard Ave / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 4 | 14 | 4 | 38 | 6 | 197 | 280 | 158 | 6 | 3 | 75 | 80 |

Major Street Volume: 602
Minor Approach Volume: 241
Minor Approach Volume Threshold: 355

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #11 Casitas Pass Rd / US 101 NB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 1 |
| Initial Vol: | 192 | 189 | 0 | 0 | 173 | 89 | 1 | 0 | 85 | 184 | 144 | 125 |

Major Street Volume: 643
Minor Approach Volume: 453
Minor Approach Volume Threshold: 564

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #11 Casitas Pass Rd / US 101 NB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 0 | 0 0 | 1 | 0 1 | 0 0 | 1 |
| Initial Vol: | 217 | 191 | 0 | 0 | 220 | 81 | 0 | 0 | 127 | 132 | 45 | 68 |

Major Street Volume: 709
Minor Approach Volume: 245
Minor Approach Volume Threshold: 522

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #12 Vallecito Rd / US 101 NB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 0 0 0 | | | 0 0 1! 0 0 | | | 0 0 0 0 0 | | | 0 0 0 1 0 | | |
| Initial Vol: | 0 | 0 | 0 | 68 | 0 | 9 | 0 | 0 | 0 | 0 | 358 | 113 |
| ApproachDel: | xxxxxx | | | 11.8 | | | xxxxxx | | | xxxxxx | | |

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=77]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=548]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #12 Vallecito Rd / US 101 NB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 0 0 0 | | | 0 0 1! 0 0 | | | 0 0 0 0 0 | | | 0 0 0 1 0 | | |
| Initial Vol: | 0 | 0 | 0 | 111 | 0 | 13 | 0 | 0 | 0 | 0 | 250 | 87 |
| ApproachDel: | xxxxxx | | | 11.2 | | | xxxxxx | | | xxxxxx | | |

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=124]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=461]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #12 Vallecito Rd / US 101 NB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 0 0 0 | | | 0 0 1! 0 0 | | | 0 0 0 0 0 | | | 0 0 0 1 0 | | |
| Initial Vol: | 0 | 0 | 0 | 68 | 0 | 9 | 0 | 0 | 0 | 0 | 358 | 113 |

Major Street Volume: 471
Minor Approach Volume: 77
Minor Approach Volume Threshold: 420

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #12 Vallecito Rd / US 101 NB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 0 0 0 | | | 0 0 1! 0 0 | | | 0 0 0 0 0 | | | 0 0 0 1 0 | | |
| Initial Vol: | 0 | 0 | 0 | 111 | 0 | 13 | 0 | 0 | 0 | 0 | 250 | 87 |

Major Street Volume: 337
Minor Approach Volume: 124
Minor Approach Volume Threshold: 509

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #13 Casitas Pass Rd / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1 | 0 | 1 | 0 1 0 | 0 | 0 | 0 1 0 | 0 | 1 | 0 0 0 | 0 | 0 |
| Initial Vol: | 0 | 307 | 142 | 91 | 351 | 0 | 74 | 3 | 153 | 0 | 0 | 0 |

Major Street Volume: 891
Minor Approach Volume: 230
Minor Approach Volume Threshold: 424

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #13 Casitas Pass Rd / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1 | 0 | 1 | 0 1 0 | 0 | 0 | 0 1 0 | 0 | 1 | 0 0 0 | 0 | 0 |
| Initial Vol: | 0 | 338 | 303 | 157 | 322 | 0 | 70 | 0 | 255 | 0 | 0 | 0 |

Major Street Volume: 1120
Minor Approach Volume: 325
Minor Approach Volume Threshold: 325

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #16 Linden Ave / Ogan Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 321 | 233 | 205 | 256 | 0 | 0 | 0 | 0 | 43 | 0 | 122 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 17.0 | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=165]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1180]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #16 Linden Ave / Ogan Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 345 | 281 | 144 | 222 | 0 | 0 | 0 | 0 | 56 | 0 | 81 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 16.7 | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=137]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1129]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #16 Linden Ave / Ogan Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1 | 0 | 1 | 0 1 | 0 | 0 | 0 0 0 | 0 | 0 | 0 0 1! | 0 | 0 |
| Initial Vol: | 0 | 321 | 233 | 205 | 256 | 0 | 0 | 0 | 0 | 43 | 0 | 122 |

Major Street Volume: 1015
Minor Approach Volume: 165
Minor Approach Volume Threshold: 280

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #16 Linden Ave / Ogan Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1 | 0 | 1 | 0 1 | 0 | 0 | 0 0 0 | 0 | 0 | 0 0 1! | 0 | 0 |
| Initial Vol: | 0 | 345 | 281 | 144 | 222 | 0 | 0 | 0 | 0 | 56 | 0 | 81 |

Major Street Volume: 992
Minor Approach Volume: 137
Minor Approach Volume Threshold: 288

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #17 Linden Ave / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 0 | 0 0 | 1 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 470 | 0 | 0 | 299 | 0 | 84 | 0 | 152 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 16.4 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=236]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1005]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #17 Linden Ave / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 0 | 0 0 | 1 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 503 | 0 | 0 | 278 | 0 | 123 | 0 | 138 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 19.5 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=261]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1042]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #17 Linden Ave / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 0 | 0 0 | 1 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 470 | 0 | 0 | 299 | 0 | 84 | 0 | 152 | 0 | 0 | 0 |

Major Street Volume: 769
Minor Approach Volume: 236
Minor Approach Volume Threshold: 289

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #17 Linden Ave / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 0 | 0 0 | 1 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 503 | 0 | 0 | 278 | 0 | 123 | 0 | 138 | 0 | 0 | 0 |

Major Street Volume: 781
Minor Approach Volume: 261
Minor Approach Volume Threshold: 285

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #18 Linden Ave / Sawyer Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1! | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Vol: | 6 | 459 | | | 0 | 0 | 398 | | 18 | | 48 | | 0 | | 15 | 0 | | 0 | | 0 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | 17.0 | | | | | xxxxxx | | | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=63]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=944]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #18 Linden Ave / Sawyer Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1! | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Vol: | 17 | 453 | | | 0 | 0 | 400 | | 36 | | 36 | | 0 | | 16 | 0 | | 0 | | 0 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | 16.5 | | | | | xxxxxx | | | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=52]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=958]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #18 Linden Ave / Sawyer Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 6 | 459 | 0 | 0 | 398 | 18 | 48 | 0 | 15 | 0 | 0 | 0 |

Major Street Volume: 881
Minor Approach Volume: 63
Minor Approach Volume Threshold: 253

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #18 Linden Ave / Sawyer Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 17 | 453 | 0 | 0 | 400 | 36 | 36 | 0 | 16 | 0 | 0 | 0 |

Major Street Volume: 906
Minor Approach Volume: 52
Minor Approach Volume Threshold: 246

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #19 US 101 SB Ramps / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 1 0 | 0 1 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 3 | 17 | 48 | 18 | 5 | 12 | 112 | 177 | 1 | 66 | 202 | 11 |
| ApproachDel: | 12.3 | | | 16.4 | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=68]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=672]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=672]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #19 US 101 SB Ramps / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 1 0 | 0 1 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 2 | 11 | 34 | 20 | 11 | 58 | 194 | 347 | 3 | 20 | 251 | 28 |
| ApproachDel: | 15.4 | | | 18.8 | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=979]
SUCCEED - Total volume greater than or equal to 800 for intersection
with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=89]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=979]
SUCCEED - Total volume greater than or equal to 800 for intersection
with four or more approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #19 US 101 SB Ramps / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 1 0 | 0 1 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 3 | 17 | 48 | 18 | 5 | 12 | 112 | 177 | 1 | 66 | 202 | 11 |

Major Street Volume: 569
Minor Approach Volume: 68
Minor Approach Volume Threshold: 479

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #19 US 101 SB Ramps / Carpinteria Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 1 0 | 0 1 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 2 | 11 | 34 | 20 | 11 | 58 | 194 | 347 | 3 | 20 | 251 | 28 |

Major Street Volume: 843
Minor Approach Volume: 89
Minor Approach Volume Threshold: 344

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 US 101 NB Ramps / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 |
| Initial Vol: | 143 | 79 | 44 | 60 | 106 | 61 | 15 | 115 | 33 | 255 | 237 | 39 |

Major Street Volume: 694
Minor Approach Volume: 266
Minor Approach Volume Threshold: 411

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #21 US 101 NB Ramps / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 |
| Initial Vol: | 81 | 38 | 80 | 107 | 44 | 13 | 33 | 363 | 13 | 152 | 145 | 45 |

Major Street Volume: 751
Minor Approach Volume: 199
Minor Approach Volume Threshold: 383

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #22 Padero Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Initial Vol: | 16 | 82 | | 0 | | 0 | 96 | 123 | | | 0 | 0 | | 0 | | 16 | 4 | 106 | | |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | | 9.3 | | | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=126]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=443]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #22 Padero Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Initial Vol: | 36 | 187 | | 0 | | 0 | 240 | 77 | | | 0 | 0 | | 0 | | 15 | 1 | 50 | | |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | | 10.2 | | | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=66]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=606]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #22 Padero Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 1 | 0 0 | 1 |
| Initial Vol: | 16 | 82 | 0 | 0 | 96 | 123 | 0 | 0 | 0 | 16 | 4 | 106 |

Major Street Volume: 317
Minor Approach Volume: 126
Minor Approach Volume Threshold: 654

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #22 Padero Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 1 | 0 0 | 1 |
| Initial Vol: | 36 | 187 | 0 | 0 | 240 | 77 | 0 | 0 | 0 | 15 | 1 | 50 |

Major Street Volume: 540
Minor Approach Volume: 66
Minor Approach Volume Threshold: 486

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #23 Padero Ln / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 |
| Initial Vol: | 123 | 0 | 65 | 0 | 0 | 0 | 0 | 36 | 56 | 163 | 425 | 0 |
| ApproachDel: | 19.6 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=188]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=868]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #23 Padero Ln / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 |
| Initial Vol: | 72 | 0 | 165 | 0 | 0 | 0 | 0 | 112 | 175 | 142 | 75 | 0 |
| ApproachDel: | 12.0 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=237]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=741]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #23 Padero Ln / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 |
| Initial Vol: | 123 | 0 | 65 | 0 | 0 | 0 | 0 | 36 | 56 | 163 | 425 | 0 |

Major Street Volume: 680
Minor Approach Volume: 188
Minor Approach Volume Threshold: 418

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #23 Padero Ln / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 |
| Initial Vol: | 72 | 0 | 165 | 0 | 0 | 0 | 0 | 112 | 175 | 142 | 75 | 0 |

Major Street Volume: 504
Minor Approach Volume: 237
Minor Approach Volume Threshold: 521

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #24 Padero Ln / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1 | 0 | 1 | 0 1 | 0 | 0 0 | 1 0 | 0 | 1 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 10 | 8 | 92 | 20 | 0 | 76 | 44 | 13 | 1 | 0 | 12 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 10.7 | | | 8.6 | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=133]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=276]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=13]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=276]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #24 Padero Ln / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1 | 0 | 1 | 0 1 | 0 | 0 0 | 1 0 | 0 | 1 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 13 | 26 | 247 | 8 | 0 | 165 | 71 | 1 | 4 | 0 | 45 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 20.7 | | | 9.2 | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=237]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=580]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=49]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=580]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #24 Padero Ln / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 | 1 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 10 | 8 | 92 | 20 | 0 | 76 | 44 | 13 | 1 | 0 | 12 |

Major Street Volume: 130
Minor Approach Volume: 133
Minor Approach Volume Threshold: 1251

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #24 Padero Ln / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 | 1 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 13 | 26 | 247 | 8 | 0 | 165 | 71 | 1 | 4 | 0 | 45 |

Major Street Volume: 294
Minor Approach Volume: 237
Minor Approach Volume Threshold: 901

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #25 Padero Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1! | 0 | 0 |
| Initial Vol: | 17 | 107 | | 0 | | 0 | 84 | 374 | | | 0 | 0 | | 0 | | 5 | 25 | | | 33 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | | 11.6 | | | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=63]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=645]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #25 Padero Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1! | 0 | 0 |
| Initial Vol: | 44 | 144 | | 0 | | 0 | 71 | 151 | | | 0 | 0 | | 0 | | 3 | 1 | | | 25 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | | 9.4 | | | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=439]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #25 Padero Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 17 | 107 | 0 | 0 | 84 | 374 | 0 | 0 | 0 | 5 | 25 | 33 |

Major Street Volume: 582
Minor Approach Volume: 63
Minor Approach Volume Threshold: 364

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #25 Padero Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 44 | 144 | 0 | 0 | 71 | 151 | 0 | 0 | 0 | 3 | 1 | 25 |

Major Street Volume: 410
Minor Approach Volume: 29
Minor Approach Volume Threshold: 457

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #26 Padero Ln / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 |
| Initial Vol: | 26 | 0 | 114 | 0 | 0 | 0 | 0 | 34 | 38 | 424 | 232 | 0 |
| ApproachDel: | 14.5 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=140]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=868]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #26 Padero Ln / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 |
| Initial Vol: | 29 | 0 | 140 | 0 | 0 | 0 | 0 | 58 | 49 | 173 | 63 | 0 |
| ApproachDel: | 10.4 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=169]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=512]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #26 Padero Ln / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 |
| Initial Vol: | 26 | 0 | 114 | 0 | 0 | 0 | 0 | 34 | 38 | 424 | 232 | 0 |

Major Street Volume: 728
Minor Approach Volume: 140
Minor Approach Volume Threshold: 304

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #26 Padero Ln / Via Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 |
| Initial Vol: | 29 | 0 | 140 | 0 | 0 | 0 | 0 | 58 | 49 | 173 | 63 | 0 |

Major Street Volume: 343
Minor Approach Volume: 169
Minor Approach Volume Threshold: 505

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #27 Padero Ln / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 1 0 | | | 0 1 0 0 0 | | | 0 0 1! 0 0 | | | 0 0 0 0 0 | | |
| Initial Vol: | 0 | 15 | 4 | 74 | 15 | 0 | 109 | 1 | 24 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 10.2 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=134]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=242]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #27 Padero Ln / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 1 0 | | | 0 1 0 0 0 | | | 0 0 1! 0 0 | | | 0 0 0 0 0 | | |
| Initial Vol: | 0 | 27 | 6 | 58 | 16 | 0 | 161 | 30 | 43 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 11.0 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=234]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=341]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #27 Padero Ln / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 15 | 4 | 74 | 15 | 0 | 109 | 1 | 24 | 0 | 0 | 0 |

Major Street Volume: 108
Minor Approach Volume: 134
Minor Approach Volume Threshold: 813

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #27 Padero Ln / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 27 | 6 | 58 | 16 | 0 | 161 | 30 | 43 | 0 | 0 | 0 |

Major Street Volume: 107
Minor Approach Volume: 234
Minor Approach Volume Threshold: 815

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #28 Hollister St / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 0 |
| Initial Vol: | 46 | 0 | 3 | 0 | 0 | 0 | 1 | 81 | 0 | 0 | 280 | 0 |
| ApproachDel: | 10.9 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=49]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=411]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #28 Hollister St / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 1 | 0 0 | 1 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 45 | 2 | 0 | 0 | 0 | 4 | 0 | 201 | 0 | 0 | 172 | 4 |
| ApproachDel: | 11.7 | | | 9.1 | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=47]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=428]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=4]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=428]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #28 Hollister St / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 0 |
| Initial Vol: | 46 | 0 | 3 | 0 | 0 | 0 | 1 | 81 | 0 | 0 | 280 | 0 |

Major Street Volume: 362
Minor Approach Volume: 49
Minor Approach Volume Threshold: 612

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #28 Hollister St / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 1 | 0 0 | 1 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 45 | 2 | 0 | 0 | 0 | 4 | 0 | 201 | 0 | 0 | 172 | 4 |

Major Street Volume: 377
Minor Approach Volume: 47
Minor Approach Volume Threshold: 599

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #29 Evans Ave / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 26 | 23 | 60 | 11 | 18 | 49 | 1 | 48 | 75 | 23 | 276 | 25 |

Major Street Volume: 448
Minor Approach Volume: 109
Minor Approach Volume Threshold: 434

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #29 Evans Ave / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 36 | 39 | 106 | 13 | 16 | 32 | 2 | 88 | 62 | 34 | 169 | 28 |

Major Street Volume: 383
Minor Approach Volume: 181
Minor Approach Volume Threshold: 475

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #30 US 101 NB On-Ramp / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 0 0 | | | 0 0 0 1 0 | | | 1 0 0 0 1 | | | 0 0 0 0 0 | | |
| Initial Vol: | 0 | 0 | 0 | 0 | 172 | 173 | 43 | 0 | 15 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 10.1 | | | xxxxxx | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=58]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=403]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #30 US 101 NB On-Ramp / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 0 0 | | | 0 0 0 1 0 | | | 1 0 0 0 1 | | | 0 0 0 0 0 | | |
| Initial Vol: | 0 | 0 | 0 | 0 | 153 | 80 | 156 | 0 | 23 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 10.4 | | | xxxxxx | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=179]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=412]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #30 US 101 NB On-Ramp / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 0 0 | | | 0 0 0 1 0 | | | 1 0 0 0 1 | | | 0 0 0 0 0 | | |
| Initial Vol: | 0 | 0 | 0 | 0 | 172 | 173 | 43 | 0 | 15 | 0 | 0 | 0 |

Major Street Volume: 345
Minor Approach Volume: 58
Minor Approach Volume Threshold: 627

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #30 US 101 NB On-Ramp / Ortega Hills Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 0 0 | | | 0 0 0 1 0 | | | 1 0 0 0 1 | | | 0 0 0 0 0 | | |
| Initial Vol: | 0 | 0 | 0 | 0 | 153 | 80 | 156 | 0 | 23 | 0 | 0 | 0 |

Major Street Volume: 233
Minor Approach Volume: 179
Minor Approach Volume Threshold: 751

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #31 Evans Ave / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Initial Vol: | 0 | | 9 | | 1 | 47 | | 9 | | 0 | 91 | | 3 | | 8 | 0 | | 0 | | 9 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | 9.7 | | | | | 8.4 | | | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=102]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=177]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=177]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #31 Evans Ave / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Initial Vol: | 0 | | 15 | | 8 | 95 | | 17 | | 0 | 153 | | 22 | | 10 | 0 | | 0 | | 13 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | 12.0 | | | | | 8.4 | | | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=185]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=333]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=13]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=333]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #31 Evans Ave / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 | 1 | 0 | 0 1 0 | 0 | 0 | 0 1 0 | 0 | 1 | 0 0 0 | 0 | 1 |
| Initial Vol: | 0 | 9 | 1 | 47 | 9 | 0 | 91 | 3 | 8 | 0 | 0 | 9 |

Major Street Volume: 66
Minor Approach Volume: 102
Minor Approach Volume Threshold: 1148

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #31 Evans Ave / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 | 1 | 0 | 0 1 0 | 0 | 0 | 0 1 0 | 0 | 1 | 0 0 0 | 0 | 1 |
| Initial Vol: | 0 | 15 | 8 | 95 | 17 | 0 | 153 | 22 | 10 | 0 | 0 | 13 |

Major Street Volume: 135
Minor Approach Volume: 185
Minor Approach Volume Threshold: 923

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #32 Jameson Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 0 | 0 0 | 0 | 0 1 | 0 0 | 1 |
| Initial Vol: | 4 | 316 | 0 | 0 | 68 | 158 | 0 | 0 | 0 | 2 | 18 | 178 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 11.7 | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=198]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=744]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #32 Jameson Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 0 | 0 0 | 0 | 0 1 | 0 0 | 1 |
| Initial Vol: | 1 | 137 | 0 | 0 | 96 | 216 | 0 | 0 | 0 | 2 | 0 | 52 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 9.2 | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=54]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=504]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #32 Jameson Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 0 0 0 | | | 0 0 1 0 1 | | | 0 0 0 0 0 | | | 0 1 0 0 1 | | |
| Initial Vol: | 4 | 316 | 0 | 0 | 68 | 158 | 0 | 0 | 0 | 2 | 18 | 178 |

Major Street Volume: 546
Minor Approach Volume: 198
Minor Approach Volume Threshold: 634

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #32 Jameson Ln / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 0 0 0 | | | 0 0 1 0 1 | | | 0 0 0 0 0 | | | 0 1 0 0 1 | | |
| Initial Vol: | 1 | 137 | 0 | 0 | 96 | 216 | 0 | 0 | 0 | 2 | 0 | 52 |

Major Street Volume: 450
Minor Approach Volume: 54
Minor Approach Volume Threshold: 717

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #33 Jameson Ln / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Vol: | 0 | | 0 | | 0 | 70 | | 0 | | 0 | 320 | | 0 | | 0 | 0 | | 0 | | 0 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | 12.0 | | | | | xxxxxx | | | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=320]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=390]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #33 Jameson Ln / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Uncontrolled | | | | | Uncontrolled | | | | | Stop Sign | | | | | Stop Sign | | | | |
| Lanes: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Vol: | 0 | | 0 | | 0 | 98 | | 0 | | 0 | 138 | | 0 | | 0 | 0 | | 0 | | 0 |
| ApproachDel: | xxxxxx | | | | | xxxxxx | | | | | 10.8 | | | | | xxxxxx | | | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=138]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=236]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #33 Jameson Ln / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 0 | 0 | 1 0 | 0 0 | 0 | 1 0 | 0 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 0 | 0 | 70 | 0 | 0 | 320 | 0 | 0 | 0 | 0 | 0 |

Major Street Volume: 70
Minor Approach Volume: 320
Minor Approach Volume Threshold: 929

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #33 Jameson Ln / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 0 | 0 | 1 0 | 0 0 | 0 | 1 0 | 0 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 0 | 0 | 98 | 0 | 0 | 138 | 0 | 0 | 0 | 0 | 0 |

Major Street Volume: 98
Minor Approach Volume: 138
Minor Approach Volume Threshold: 839

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #34 Sheffield Dr / Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 |
| Initial Vol: | 82 | 0 | 412 | 0 | 0 | 0 | 0 | 28 | 22 | 204 | 119 | 0 |
| ApproachDel: | 14.8 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=494]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=867]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #34 Sheffield Dr / Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 |
| Initial Vol: | 22 | 0 | 167 | 0 | 0 | 0 | 0 | 81 | 24 | 288 | 40 | 0 |
| ApproachDel: | 10.8 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=189]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=622]
FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #34 Sheffield Dr / Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 |
| Initial Vol: | 82 | 0 | 412 | 0 | 0 | 0 | 0 | 28 | 22 | 204 | 119 | 0 |

Major Street Volume: 373
Minor Approach Volume: 494
Minor Approach Volume Threshold: 625

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #34 Sheffield Dr / Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 |
| Initial Vol: | 22 | 0 | 167 | 0 | 0 | 0 | 0 | 81 | 24 | 288 | 40 | 0 |

Major Street Volume: 433
Minor Approach Volume: 189
Minor Approach Volume Threshold: 573

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #35 San Ysidro Rd / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 44 | 437 | 0 | 0 | 96 | 298 | 0 | 0 | 0 | 24 | 0 | 74 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 12.6 | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=98]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=973]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #35 San Ysidro Rd / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 80 | 225 | 0 | 0 | 170 | 373 | 0 | 0 | 0 | 24 | 5 | 70 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 11.9 | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=99]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=947]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #35 San Ysidro Rd / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 44 | 437 | 0 | 0 | 96 | 298 | 0 | 0 | 0 | 24 | 0 | 74 |

Major Street Volume: 875
Minor Approach Volume: 98
Minor Approach Volume Threshold: 432

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #35 San Ysidro Rd / US 101 NB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 1 0 | 1 | 0 0 | 0 0 | 0 | 1 0 | 0 1 | 0 |
| Initial Vol: | 80 | 225 | 0 | 0 | 170 | 373 | 0 | 0 | 0 | 24 | 5 | 70 |

Major Street Volume: 848
Minor Approach Volume: 99
Minor Approach Volume Threshold: 445

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #36 San Ysidro Rd/ N Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 |
| Initial Vol: | 34 | 448 | 29 | 21 | 289 | 74 | 75 | 43 | 25 | 80 | 69 | 40 |

Major Street Volume: 895
Minor Approach Volume: 189
Minor Approach Volume Threshold: 422

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #36 San Ysidro Rd/ N Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 | 0 1 | 0 0 | 1 |
| Initial Vol: | 16 | 247 | 32 | 15 | 432 | 65 | 64 | 113 | 44 | 67 | 49 | 11 |

Major Street Volume: 807
Minor Approach Volume: 221
Minor Approach Volume Threshold: 466

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #37 San Ysidro Rd / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 1 0 | | | 0 1 0 0 0 | | | 1 0 0 1 0 | | | 0 0 1! 0 0 | | |
| Initial Vol: | 0 | 74 | 19 | 70 | 50 | 0 | 380 | 34 | 38 | 8 | 0 | 27 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 17.7 | | | 9.4 | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=452]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=700]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=700]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #37 San Ysidro Rd / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 1 0 | | | 0 1 0 0 0 | | | 1 0 0 1 0 | | | 0 0 1! 0 0 | | |
| Initial Vol: | 0 | 80 | 20 | 121 | 73 | 0 | 198 | 12 | 51 | 6 | 0 | 27 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 15.2 | | | 9.6 | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=261]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=588]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=33]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=588]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #37 San Ysidro Rd / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 1 0 | | | 0 1 0 0 0 | | | 1 0 0 1 0 | | | 0 0 1! 0 0 | | |
| Initial Vol: | 0 | 74 | 19 | 70 | 50 | 0 | 380 | 34 | 38 | 8 | 0 | 27 |

Major Street Volume: 213
Minor Approach Volume: 452
Minor Approach Volume Threshold: 779

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #37 San Ysidro Rd / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 0 1 0 | | | 0 1 0 0 0 | | | 1 0 0 1 0 | | | 0 0 1! 0 0 | | |
| Initial Vol: | 0 | 80 | 20 | 121 | 73 | 0 | 198 | 12 | 51 | 6 | 0 | 27 |

Major Street Volume: 294
Minor Approach Volume: 261
Minor Approach Volume Threshold: 678

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #38 San Ysidro Rd / S Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 0 0 0 | | | 0 0 0 1 0 | | | 0 0 1! 0 0 | | | 0 0 0 0 0 | | |
| Initial Vol: | 6 | 48 | 0 | 0 | 79 | 17 | 42 | 0 | 4 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 9.4 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=46]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=196]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #38 San Ysidro Rd / S Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 0 0 0 | | | 0 0 0 1 0 | | | 0 0 1! 0 0 | | | 0 0 0 0 0 | | |
| Initial Vol: | 2 | 62 | 0 | 0 | 78 | 54 | 32 | 0 | 6 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 9.5 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=38]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=234]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #38 San Ysidro Rd / S Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 6 | 48 | 0 | 0 | 79 | 17 | 42 | 0 | 4 | 0 | 0 | 0 |

Major Street Volume: 150
Minor Approach Volume: 46
Minor Approach Volume Threshold: 725

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #38 San Ysidro Rd / S Jameson Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 2 | 62 | 0 | 0 | 78 | 54 | 32 | 0 | 6 | 0 | 0 | 0 |

Major Street Volume: 196
Minor Approach Volume: 38
Minor Approach Volume Threshold: 654

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #39 Olive Mill Rd / US 101 On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 1 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 0 | 0 | 0 | 152 | 191 | 0 | 0 | 0 | 36 | 102 | 113 |

Major Street Volume: 343
Minor Approach Volume: 251
Minor Approach Volume Threshold: 505

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #39 Olive Mill Rd / US 101 On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 1 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 150 | 291 | 0 | 0 | 166 | 172 | 0 | 0 | 0 | 32 | 73 | 58 |

Major Street Volume: 779
Minor Approach Volume: 163
Minor Approach Volume Threshold: 286

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #40 Olive Mill Rd / US 101 SB On-Ramp

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 0 | 0 1 | 0 | 1 0 | 0 1 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 947 | 39 | 0 | 91 | 97 | 167 | 147 | 49 | 0 | 0 | 0 |

Major Street Volume: 1174
Minor Approach Volume: 363
Minor Approach Volume Threshold: 242

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #40 Olive Mill Rd / US 101 SB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 1 0 | 0 1 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 214 | 49 | 123 | 75 | 0 | 227 | 264 | 75 | 0 | 0 | 0 |

Major Street Volume: 566
Minor Approach Volume: 263
Minor Approach Volume Threshold: 481

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #41 Depot Rd / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Stop Sign | | | | | Stop Sign | | | | | Uncontrolled | | | | | Uncontrolled | | | | |
| Lanes: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Initial Vol: | 0 | | 0 | | 5 | 0 | | 0 | | 0 | 0 | | 369 | | 2 | 4 | | 0 | | 0 |
| ApproachDel: | 10.3 | | | | | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=380]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #41 Depot Rd / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Stop Sign | | | | | Stop Sign | | | | | Uncontrolled | | | | | Uncontrolled | | | | |
| Lanes: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Initial Vol: | 0 | | 0 | | 8 | 0 | | 0 | | 0 | 0 | | 152 | | 4 | 6 | | 0 | | 0 |
| ApproachDel: | 9.0 | | | | | xxxxxx | | | | | xxxxxx | | | | | xxxxxx | | | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=8]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=170]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #41 Depot Rd / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Stop Sign | | | | | Stop Sign | | | | | Uncontrolled | | | | | Uncontrolled | | | | |
| Lanes: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Initial Vol: | 0 | | 0 | | 5 | 0 | | 0 | | 0 | 0 | | 369 | | 2 | 4 | | 0 | | 0 |

Major Street Volume: 375
Minor Approach Volume: 5
Minor Approach Volume Threshold: 623

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #41 Depot Rd / US 101 SB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R | L | - | T | - | R |
| Control: | Stop Sign | | | | | Stop Sign | | | | | Uncontrolled | | | | | Uncontrolled | | | | |
| Lanes: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Initial Vol: | 0 | | 0 | | 8 | 0 | | 0 | | 0 | 0 | | 152 | | 4 | 6 | | 0 | | 0 |

Major Street Volume: 162
Minor Approach Volume: 8
Minor Approach Volume Threshold: 912

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #42 Olive Mill Rd / Spring Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 1 | 98 | 0 | 0 | 137 | 3 | 288 | 0 | 84 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 13.6 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=372]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=611]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #42 Olive Mill Rd / Spring Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 1 | 199 | 0 | 0 | 150 | 5 | 92 | 0 | 64 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 11.2 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=156]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=511]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #42 Olive Mill Rd / Spring Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 1 | 98 | 0 | 0 | 137 | 3 | 288 | 0 | 84 | 0 | 0 | 0 |

Major Street Volume: 239
Minor Approach Volume: 372
Minor Approach Volume Threshold: 601

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #42 Olive Mill Rd / Spring Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 1 | 199 | 0 | 0 | 150 | 5 | 92 | 0 | 64 | 0 | 0 | 0 |

Major Street Volume: 355
Minor Approach Volume: 156
Minor Approach Volume Threshold: 496

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #43 US 101 NB Off-Ramp / Coast Village Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 1 0 | 1 0 | 1 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 48 | 11 | 21 | 19 | 0 | 27 | 12 | 392 | 0 | 0 | 344 | 13 |
| ApproachDel: | 16.6 | | | 14.0 | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=80]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=887]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=46]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=887]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #43 US 101 NB Off-Ramp / Coast Village Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 1 0 | 1 0 | 1 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 53 | 7 | 13 | 29 | 0 | 18 | 13 | 520 | 0 | 0 | 541 | 18 |
| ApproachDel: | 28.0 | | | 23.6 | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=3][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=73]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1212]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=47]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1212]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #43 US 101 NB Off-Ramp / Coast Village Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 1 0 | 1 0 | 1 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 48 | 11 | 21 | 19 | 0 | 27 | 12 | 392 | 0 | 0 | 344 | 13 |

Major Street Volume: 761
Minor Approach Volume: 80
Minor Approach Volume Threshold: 378

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #43 US 101 NB Off-Ramp / Coast Village Rd

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 1 0 | 1 0 | 1 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 53 | 7 | 13 | 29 | 0 | 18 | 13 | 520 | 0 | 0 | 541 | 18 |

Major Street Volume: 1092
Minor Approach Volume: 73
Minor Approach Volume Threshold: 265

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #44 Cabrillo Blvd / US 101 SB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1 | 0 | 1 | 1 0 1 | 0 | 0 | 0 1 0 | 0 | 1 | 0 0 1! | 0 | 0 |
| Initial Vol: | 0 233 | | 80 | 80 160 | | 0 | 461 | 0 | 5 | 178 | 0 | 1 |

Major Street Volume: 645
Minor Approach Volume: 313
Minor Approach Volume Threshold: 563

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #44 Cabrillo Blvd / US 101 SB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1 | 0 | 1 | 1 0 1 | 0 | 0 | 0 1 0 | 0 | 1 | 0 0 1! | 0 | 0 |
| Initial Vol: | 0 363 | | 273 | 111 243 | | 0 | 294 | 0 | 2 | 188 | 0 | 3 |

Major Street Volume: 990
Minor Approach Volume: 296
Minor Approach Volume Threshold: 378

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #45 Cabrillo Blvd / US 101 NB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 1 0 | 0 0 | 1 | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 0 | 1 0 | 1 0 | 0 |
| Initial Vol: | 38 | 0 | 657 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 490 | 0 |
| ApproachDel: | 13.6 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=695]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1425]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #45 Cabrillo Blvd / US 101 NB On-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 1 0 | 0 0 | 1 | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 0 | 1 0 | 1 0 | 0 |
| Initial Vol: | 71 | 0 | 589 | 0 | 0 | 0 | 0 | 0 | 0 | 354 | 670 | 0 |
| ApproachDel: | 17.1 | | | xxxxxx | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=660]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=1684]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #45 Cabrillo Blvd / US 101 NB On-Ramp

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 1 0 | 0 0 | 1 | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 0 | 1 0 | 1 0 | 0 |
| Initial Vol: | 38 | 0 | 657 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 490 | 0 |

Major Street Volume: 730
Minor Approach Volume: 695
Minor Approach Volume Threshold: 509

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #45 Cabrillo Blvd / US 101 NB On-Ramp

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 1 0 | 0 0 | 1 | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 0 | 1 0 | 1 0 | 0 |
| Initial Vol: | 71 | 0 | 589 | 0 | 0 | 0 | 0 | 0 | 0 | 354 | 670 | 0 |

Major Street Volume: 1024
Minor Approach Volume: 660
Minor Approach Volume Threshold: 364

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #51 US 101 NB Off-Ramp / Palm Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - R | L | - | T | - R | L | - | T | - R | L | - | T | - R |
| Control: | Uncontrolled | | | | Uncontrolled | | | | Stop Sign | | | | Stop Sign | | | |
| Lanes: | 0 | 1 | 1 | 0 0 | 0 | 0 | 0 | 0 0 | 1 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 0 |
| Initial Vol: | 5 | 352 | | 0 | 0 | | 0 | 0 | 8 | | 0 | 0 | 0 | | 0 | 0 |
| ApproachDel: | xxxxxx | | | | xxxxxx | | | | 9.5 | | | | xxxxxx | | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=8]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=365]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #51 US 101 NB Off-Ramp / Palm Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | | South Bound | | | | East Bound | | | | West Bound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - | T | - R | L | - | T | - R | L | - | T | - R | L | - | T | - R |
| Control: | Uncontrolled | | | | Uncontrolled | | | | Stop Sign | | | | Stop Sign | | | |
| Lanes: | 0 | 1 | 1 | 0 0 | 0 | 0 | 0 | 0 0 | 1 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 0 |
| Initial Vol: | 1 | 197 | | 0 | 0 | | 0 | 0 | 22 | | 0 | 0 | 0 | | 0 | 0 |
| ApproachDel: | xxxxxx | | | | xxxxxx | | | | 9.1 | | | | xxxxxx | | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=22]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=220]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #51 US 101 NB Off-Ramp / Palm Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 1 | 0 0 | 0 0 | 0 0 | 0 | 1 0 | 0 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 5 | 352 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |

Major Street Volume: 357
Minor Approach Volume: 8
Minor Approach Volume Threshold: 640

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #51 US 101 NB Off-Ramp / Palm Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 1 | 0 0 | 0 0 | 0 0 | 0 | 1 0 | 0 0 | 0 | 0 0 | 0 0 | 0 |
| Initial Vol: | 1 | 197 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 |

Major Street Volume: 198
Minor Approach Volume: 22
Minor Approach Volume Threshold: 843

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #54 US 101 NB Off-Ramp / Cottage Grove Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1! 0 0 | | | 0 0 1! 0 0 | | | 0 1 0 0 0 | | | 0 0 0 1 0 | | |
| Initial Vol: | 2 | 318 | 38 | 15 | 0 | 9 | 5 | 1 | 0 | 0 | 6 | 29 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 11.8 | | | 10.6 | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=423]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=35]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=423]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #54 US 101 NB Off-Ramp / Cottage Grove Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 1! 0 0 | | | 0 0 1! 0 0 | | | 0 1 0 0 0 | | | 0 0 0 1 0 | | |
| Initial Vol: | 8 | 378 | 30 | 20 | 0 | 9 | 12 | 27 | 0 | 0 | 15 | 60 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 13.4 | | | 11.6 | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=39]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=559]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=75]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=559]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #54 US 101 NB Off-Ramp / Cottage Grove Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 2 | 318 | 38 | 15 | 0 | 9 | 5 | 1 | 0 | 0 | 6 | 29 |

Major Street Volume: 382
Minor Approach Volume: 35
Minor Approach Volume Threshold: 476

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #54 US 101 NB Off-Ramp / Cottage Grove Ave

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 1 | 0 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 8 | 378 | 30 | 20 | 0 | 9 | 12 | 27 | 0 | 0 | 15 | 60 |

Major Street Volume: 445
Minor Approach Volume: 75
Minor Approach Volume Threshold: 435

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #61 Carrillo St / San Pascual St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 1 | 0 | 1 0 | 2 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 1 |
| Initial Vol: | 0 | 1180 | | 32 | 160 665 | | 0 | 0 0 | 0 | 0 | 0 | 204 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 19.8 | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=204]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2241]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #61 Carrillo St / San Pascual St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 1 | 0 | 1 0 | 2 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 745 | | 47 | 302 1290 | | 0 | 0 0 | 0 | 1 | 0 | 195 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 14.7 | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=196]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2580]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #61 Carrillo St / San Pascual St

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 1 | 0 | 1 0 | 2 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 1 |
| Initial Vol: | 0 | 1180 | | 32 | 160 665 | | 0 | 0 0 | 0 | 0 | 0 | 204 |

Major Street Volume: 2037
Minor Approach Volume: 204
Minor Approach Volume Threshold: 40 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #61 Carrillo St / San Pascual St

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 1 | 0 | 1 0 | 2 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 745 | | 47 | 302 1290 | | 0 | 0 0 | 0 | 1 | 0 | 195 |

Major Street Volume: 2384
Minor Approach Volume: 196
Minor Approach Volume Threshold: -14 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #62 US 101 NB Ramps / Castillo St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 44 | 63 | 26 | 410 | 0 | 26 | 209 | 83 | 0 | 0 | 0 |
| ApproachDel: | 10.7 | | | 29.0 | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=107]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=861]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=436]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=861]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #62 US 101 NB Ramps / Castillo St

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 0 | 0 | 29 | 496 | 0 | 16 | 282 | 63 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | 52.5 | | | xxxxxx | | | xxxxxx | | |

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=7.7]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=525]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=2][total volume=886]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #62 US 101 NB Ramps / Castillo St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 44 | 63 | 26 | 410 | 0 | 26 | 209 | 83 | 0 | 0 | 0 |

Major Street Volume: 318
Minor Approach Volume: 436
Minor Approach Volume Threshold: 680

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #62 US 101 NB Ramps / Castillo St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 0 | 0 | 29 | 496 | 0 | 16 | 282 | 63 | 0 | 0 | 0 |

Major Street Volume: 361
Minor Approach Volume: 525
Minor Approach Volume Threshold: 636

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #66 Mission St / San Pascual St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 1 | 0 | 6 1 | 1 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 663 | 9 | 64 | 437 | 0 | 0 | 0 | 0 | 13 | 0 | 173 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 14.0 | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=186]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1359]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #66 Mission St / San Pascual St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 1 | 0 | 6 1 | 1 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 517 | 27 | 156 | 613 | 0 | 0 | 0 | 0 | 12 | 0 | 111 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 13.3 | | |

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=123]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1436]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #66 Mission St / San Pascual St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 1 | 0 | 6 1 | 1 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 663 | 9 | 64 | 437 | 0 | 0 | 0 | 0 | 13 | 0 | 173 |

Major Street Volume: 1173
Minor Approach Volume: 186
Minor Approach Volume Threshold: 230

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #66 Mission St / San Pascual St

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 1 | 0 | 6 1 | 1 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 517 | 27 | 156 | 613 | 0 | 0 | 0 | 0 | 12 | 0 | 111 |

Major Street Volume: 1313
Minor Approach Volume: 123
Minor Approach Volume Threshold: 191

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #67 Pueblo St / US 101 NB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 1 | 0 | 0 | 0 0 1 | 0 | 0 | 0 0 0 | 0 | 0 | 0 0 1! | 0 | 0 |
| Initial Vol: | 0 | 37 | 0 | 0 | 99 | 0 | 0 | 0 | 0 | 338 | 0 | 344 |
| ApproachDel: | 30.5 | | | 33.2 | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=37]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=818]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=99]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=818]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #67 Pueblo St / US 101 NB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 1 | 0 | 0 | 0 0 1 | 0 | 0 | 0 0 0 | 0 | 0 | 0 0 1! | 0 | 0 |
| Initial Vol: | 0 | 25 | 0 | 0 | 184 | 0 | 0 | 0 | 0 | 377 | 0 | 178 |
| ApproachDel: | 26.8 | | | 76.5 | | | xxxxxx | | | xxxxxx | | |

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=764]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.9]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=184]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=764]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #67 Pueblo St / US 101 NB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1 0 | 0 | 0 0 | 1 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 37 | 0 | 0 | 99 | 0 | 0 | 0 | 0 | 338 | 0 | 344 |

Major Street Volume: 682
Minor Approach Volume: 99
Minor Approach Volume Threshold: 321

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #67 Pueblo St / US 101 NB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Uncontrolled | | | Uncontrolled | | |
| Lanes: | 0 0 | 1 0 | 0 | 0 0 | 1 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 0 | 25 | 0 | 0 | 184 | 0 | 0 | 0 | 0 | 377 | 0 | 178 |

Major Street Volume: 555
Minor Approach Volume: 184
Minor Approach Volume Threshold: 376

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #80 US 101 NB Ramps / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 199 | 15 | 23 | 76 | 36 | 21 | 18 | 147 | 2 | 305 | 103 | 4 |

Major Street Volume: 579
Minor Approach Volume: 237
Minor Approach Volume Threshold: 464

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #80 US 101 NB Ramps / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 1 | 0 0 | 1 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 | 0 0 | 1! 0 | 0 |
| Initial Vol: | 110 | 22 | 58 | 38 | 22 | 19 | 49 | 352 | 5 | 201 | 83 | 19 |

Major Street Volume: 709
Minor Approach Volume: 190
Minor Approach Volume Threshold: 401

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #92 Los Carneros Rd / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 1 0 | 1 0 | 1 | 1 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 1 0 | 0 0 | 1 |
| Initial Vol: | 16 | 95 | 159 | 21 | 263 | 0 | 0 | 0 | 0 | 232 | 0 | 8 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 15.3 | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=240]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=794]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #92 Los Carneros Rd / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 1 0 | 1 0 | 1 | 1 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 1 0 | 0 0 | 1 |
| Initial Vol: | 25 | 249 | 400 | 11 | 103 | 0 | 0 | 0 | 0 | 344 | 0 | 36 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | xxxxxx | | | 19.0 | | |

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=380]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1168]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #92 Los Carneros Rd / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 1 0 | 1 0 | 1 | 1 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 1 0 | 0 0 | 1 |
| Initial Vol: | 16 | 95 | 159 | 21 | 263 | 0 | 0 | 0 | 0 | 232 | 0 | 8 |

Major Street Volume: 554
Minor Approach Volume: 240
Minor Approach Volume Threshold: 628

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #92 Los Carneros Rd / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 1 0 | 1 0 | 1 | 1 0 | 0 1 | 0 | 0 0 | 1! 0 | 0 | 1 0 | 0 0 | 1 |
| Initial Vol: | 25 | 249 | 400 | 11 | 103 | 0 | 0 | 0 | 0 | 344 | 0 | 36 |

Major Street Volume: 788
Minor Approach Volume: 380
Minor Approach Volume Threshold: 477

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #94 Glen Annie Rd / Del Norte Dr

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 2 0 | 0 | 0 0 | 1 1 | 0 | 0 0 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 467 | 0 | 0 | 442 | 30 | 0 | 0 | 125 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 10.6 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=125]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1064]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #94 Glen Annie Rd / Del Norte Dr

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 2 0 | 0 | 0 0 | 1 1 | 0 | 0 0 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 417 | 0 | 0 | 319 | 27 | 0 | 0 | 88 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 9.7 | | | xxxxxx | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=88]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=851]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #94 Glen Annie Rd / Del Norte Dr

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 2 | 0 | 0 | 0 0 1 | 1 | 0 | 0 0 0 | 0 | 1 | 0 0 0 | 0 | 0 |
| Initial Vol: | 0 467 | | 0 | 0 442 | | 30 | 0 | 0 | 125 | 0 | 0 | 0 |

Major Street Volume: 939
Minor Approach Volume: 125
Minor Approach Volume Threshold: 307

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #94 Glen Annie Rd / Del Norte Dr

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 2 | 0 | 0 | 0 0 1 | 1 | 0 | 0 0 0 | 0 | 1 | 0 0 0 | 0 | 0 |
| Initial Vol: | 0 417 | | 0 | 0 319 | | 27 | 0 | 0 | 88 | 0 | 0 | 0 |

Major Street Volume: 763
Minor Approach Volume: 88
Minor Approach Volume Threshold: 378

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #96 Hollister Ave / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 |
| Initial Vol: | 41 | 0 | 124 | 0 | 0 | 0 | 0 | 41 | 99 | 437 | 35 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 9.6 | | | 20.9 | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=140]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=777]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.7]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=472]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=777]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #96 Hollister Ave / Calle Real

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 |
| Initial Vol: | 175 | 0 | 150 | 0 | 0 | 0 | 0 | 16 | 51 | 326 | 44 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 10.0 | | | 39.7 | | |

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=762]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.1]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=370]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=762]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #96 Hollister Ave / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 |
| Initial Vol: | 41 | 0 | 124 | 0 | 0 | 0 | 0 | 41 | 99 | 437 | 35 | 0 |

Major Street Volume: 165
Minor Approach Volume: 472
Minor Approach Volume Threshold: 700

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #96 Hollister Ave / Calle Real

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1! 0 | 0 | 0 0 | 0 0 | 0 | 0 0 | 0 1 | 0 | 0 1 | 0 0 | 0 |
| Initial Vol: | 175 | 0 | 150 | 0 | 0 | 0 | 0 | 16 | 51 | 326 | 44 | 0 |

Major Street Volume: 325
Minor Approach Volume: 370
Minor Approach Volume Threshold: 519

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #97 Hollister Ave / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 132 | 139 | 254 | 234 | 0 | 62 | 1 | 99 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 15.9 | | | xxxxxx | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=162]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=921]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #97 Hollister Ave / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 336 | 162 | 90 | 192 | 0 | 22 | 2 | 67 | 0 | 0 | 0 |
| ApproachDel: | xxxxxx | | | xxxxxx | | | 11.5 | | | xxxxxx | | |

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=91]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=871]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #97 Hollister Ave / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 132 | 139 | 254 | 234 | 0 | 62 | 1 | 99 | 0 | 0 | 0 |

Major Street Volume: 759
Minor Approach Volume: 162
Minor Approach Volume Threshold: 493

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #97 Hollister Ave / US 101 SB Ramps

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Uncontrolled | | | Uncontrolled | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 1 0 | 1 | 0 1 | 0 0 | 0 | 0 1 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 0 | 336 | 162 | 90 | 192 | 0 | 22 | 2 | 67 | 0 | 0 | 0 |

Major Street Volume: 780
Minor Approach Volume: 91
Minor Approach Volume Threshold: 481

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #98 Winchester Canyon Rd / US 101 NB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 1 | 1 0 | 0 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 0 | 0 | 0 | 0 | 0 | 157 | 59 | 0 | 0 | 0 | 122 | 92 |

Major Street Volume: 273
Minor Approach Volume: 157
Minor Approach Volume Threshold: 566

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #98 Winchester Canyon Rd / US 101 NB Off-Ramp

Base Volume Alternative: Peak Hour Warrant NOT Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 0 0 | 0 0 | 0 | 0 0 | 0 0 | 1 | 1 0 | 0 0 | 0 | 0 0 | 0 1 | 0 |
| Initial Vol: | 0 | 0 | 0 | 0 | 0 | 135 | 77 | 0 | 0 | 0 | 170 | 208 |

Major Street Volume: 455
Minor Approach Volume: 135
Minor Approach Volume Threshold: 429

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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US 101 Widening Project
Existing Conditions
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #105 Modoc St and Mission St

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 1 0 | 1 0 | 0 | 0 0 | 1 0 | 1 | 1 0 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 137 | 525 | 0 | 0 | 328 | 141 | 254 | 0 | 119 | 0 | 0 | 0 |

Major Street Volume: 1131
Minor Approach Volume: 373
Minor Approach Volume Threshold: 321

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.



US 101 Widening Project
Existing Conditions
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #105 Modoc St and Mission St

Base Volume Alternative: Peak Hour Warrant Met

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | - T | - R | L | - T | - R | L | - T | - R | L | - T | - R |
| Control: | Stop Sign | | | Stop Sign | | | Stop Sign | | | Stop Sign | | |
| Lanes: | 1 0 | 1 0 | 0 | 0 0 | 1 0 | 1 | 1 0 | 0 0 | 1 | 0 0 | 0 0 | 0 |
| Initial Vol: | 164 | 360 | 0 | 0 | 532 | 238 | 197 | 0 | 173 | 0 | 0 | 0 |

Major Street Volume: 1294
Minor Approach Volume: 370
Minor Approach Volume Threshold: 263

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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# APPENDIX D.

## HDM INTERSECTION LEFT TURN STORAGE WORKSHEETS

## AM Peak Hour

| | | | VPH | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ID | Intersections | Control | NBL | NBT | NBR | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | NB On/Off Ramps & Bates Rd | TWSC | 19 | 6 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 5 | 2 | 1 |
| 2 | SB On/Off-Ramps & | TWSC | 0 | 20 | 11 | 6 | 4 | 0 | 5 | 1 | 29 | 0 | 0 | 0 |
| 3 | NB On/Off-Ramps & SR150 | TWSC | 3 | 87 | 0 | 0 | 70 | 147 | 0 | 0 | 0 | 184 | 0 | 222 |
| 4 | SB On/Off-Ramps & SR150 | TWSC | 0 | 28 | 24 | 39 | 215 | 0 | 62 | 6 | 4 | 0 | 0 | 0 |
| 5 | Via Real & SR150 | TWSC | 234 | 72 | 3 | 1 | 198 | 32 | 5 | 1 | 15 | 4 | 2 | 1 |
| 6 | Carpinteria Ave & SR150 | TWSC | 0 | 0 | 0 | 6 | 0 | 213 | 46 | 3 | 0 | 0 | 11 | 6 |
| 7 | NB On/Off Ramps & Bailard Ave | TWSC | 2 | 387 | 0 | 0 | 177 | 262 | 0 | 0 | 0 | 60 | 13 | 14 |
| 8 | SB On/Off Ramps & Bailard Ave | TWSC | 0 | 126 | 27 | 23 | 214 | 0 | 263 | 0 | 103 | 0 | 0 | 0 |
| 9 | Via Real & Bailard Ave | AWSC | 49 | 43 | 309 | 8 | 140 | 1 | 6 | 7 | 151 | 148 | 2 | 2 |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | 1 | 3 | 4 | 130 | 4 | 183 | 139 | 75 | 3 | 0 | 124 | 11 |
| 11 | NB Off Ramp & Casitas Pass Rd | AWSC | 192 | 189 | 0 | 0 | 173 | 89 | 1 | 0 | 85 | 184 | 144 | 125 |
| 12 | NB On Ramp & Via Real | TWSC | 0 | 0 | 0 | 68 | 0 | 9 | 0 | 0 | 0 | 0 | 358 | 113 |
| 13 | SB On/Off Ramps & Casitas Pass Rd | AWSC | 0 | 307 | 142 | 91 | 351 | 0 | 74 | 3 | 153 | 0 | 0 | 0 |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | 0 | 0 | 0 | 82 | 0 | 119 | 217 | 356 | 0 | 0 | 369 | 90 |
| 15 | Ogan Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 86 | 352 | 94 | 165 | 0 |
| 16 | Ogan Rd & Linden Ave | TWSC | 0 | 321 | 233 | 205 | 256 | 0 | 0 | 0 | 0 | 43 | 0 | 122 |
| 17 | SB Off Ramp & Linden Ave | TWSC | 0 | 470 | 0 | 0 | 299 | 0 | 84 | 0 | 152 | 0 | 0 | 0 |
| 18 | Sawyer Ave & Linden Ave | TWSC | 6 | 459 | 0 | 0 | 398 | 18 | 48 | 0 | 15 | 0 | 0 | 0 |
| 19 | Carpinteria Ave & SB On/Off Ramps | TWSC | 3 | 17 | 48 | 15 | 5 | 12 | 112 | 177 | 1 | 66 | 202 | 11 |
| 20 | Carpinteria Ave & Santan Ynez Ave | Signal | 14 | 116 | 14 | 173 | 67 | 2 | 123 | 106 | 6 | 0 | 58 | 139 |
| 21 | Via Real & NB On/Off Ramps | AWSC | 143 | 79 | 44 | 60 | 106 | 61 | 15 | 115 | 33 | 255 | 237 | 39 |
| 22 | NB On/Off Ramps & Padero Ln | TWSC | 16 | 82 | 0 | 0 | 96 | 123 | 0 | 0 | 0 | 16 | 4 | 106 |
| 23 | Via Real & Padero Ln | TWSC | 123 | 0 | 65 | 0 | 0 | 0 | 0 | 36 | 56 | 163 | 425 | 0 |
| 24 | SB Off Ramp & Padero Ln | TWSC | 0 | 10 | 8 | 92 | 20 | 0 | 76 | 44 | 13 | 1 | 0 | 12 |
| 25 | NB On/Off Ramps & Padero Ln | TWSC | 17 | 107 | 0 | 0 | 84 | 378 | 0 | 0 | 0 | 5 | 25 | 33 |
| 26 | Via Real & Padero Ln | TWSC | 26 | 0 | 114 | 0 | 0 | 0 | 0 | 34 | 38 | 424 | 232 | 0 |
| 27 | SB On/Off Ramps & Padero Ln | TWSC | 0 | 15 | 4 | 74 | 15 | 0 | 109 | 1 | 24 | 0 | 0 | 0 |
| 28 | Ortega Hill Rd & Hollister St | TWSC | 46 | 0 | 3 | 0 | 0 | 0 | 1 | 81 | 0 | 0 | 280 | 0 |
| 29 | Ortega Hill Rd & Evans Ave | AWSC | 26 | 23 | 60 | 11 | 18 | 49 | 1 | 48 | 15 | 23 | 276 | 25 |
| 30 | Ortega Hill Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 172 | 0 | 173 |
| 31 | SB Off Ramp & Evans Ave | TWSC | 0 | 9 | 1 | 47 | 9 | 0 | 91 | 3 | 8 | 0 | 0 | 9 |
| 32 | NB On/Off Ramps & Jameson Ln | TWSC | 4 | 316 | 0 | 0 | 68 | 158 | 0 | 0 | 0 | 2 | 18 | 178 |
| 33 | SB On/Off Ramps & Jameson Ln | TWSC | 0 | 0 | 0 | 70 | 0 | 0 | 320 | 0 | 0 | 0 | 0 | 0 |
| 34 | Sheffield Dr & Jameson Ln | TWSC | 82 | 0 | 412 | 0 | 0 | 0 | 0 | 28 | 22 | 204 | 119 | 0 |
| 35 | NB On/Off Ramps & San Ysidro Rd | TWSC | 44 | 437 | 0 | 0 | 96 | 298 | 0 | 0 | 0 | 24 | 0 | 74 |
| 36 | N Jameson Ln & San Ysidro Rd | AWSC | 34 | 448 | 29 | 21 | 289 | 74 | 75 | 43 | 25 | 80 | 69 | 40 |
| 37 | SB Off Ramp & San Ysidro Rd | TWSC | 0 | 74 | 19 | 70 | 50 | 0 | 380 | 34 | 38 | 8 | 0 | 27 |
| 38 | S Jameson Ln & San Ysidro Rd | TWSC | 6 | 48 | 0 | 0 | 79 | 17 | 45 | 0 | 4 | 0 | 0 | 0 |
| 39 | NB Off Ramp & Olive Mill Rd | AWSC | 136 | 378 | 0 | 0 | 152 | 191 | 0 | 0 | 0 | 36 | 102 | 113 |
| 40 | SB On Ramp & Olive Mill Rd | AWSC | 0 | 347 | 39 | 91 | 97 | 0 | 167 | 147 | 49 | 0 | 0 | 0 |
| 41 | SB Off Ramp & Depot Rd | TWSC | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 369 | 2 | 4 | 0 | 0 |
| 42 | Spring Rd & Olive Mill Rd | TWSC | 1 | 98 | 0 | 0 | 137 | 3 | 288 | 0 | 84 | 0 | 0 | 0 |
| 43 | Coast Village Rd & NB Off Ramp | TWSC | 48 | 11 | 21 | 19 | 0 | 27 | 12 | 392 | 0 | 0 | 344 | 13 |
| 44 | SB On/Off Ramps & Cabrillo Blvd | AWSC | 0 | 233 | 80 | 80 | 160 | 0 | 461 | 0 | 5 | 178 | 0 | 1 |
| 45 | NB On Ramp & Cabrillo Blvd | TWSC | 38 | 0 | 657 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 490 | 0 |
| 46 | NB On/Off Ramps & S Salinas St | TWSC | 0 | 0 | 0 | 0 | 0 | 454 | 0 | 0 | 0 | 0 | 0 | 175 |
| 47 | NB On-Ramp & Carpinteria St | Signal | 109 | 690 | 257 | 65 | 553 | 514 | 0 | 0 | 0 | 52 | 2 | 403 |
| 48 | SB Off-Ramp & Milpas St | Signal | 0 | 331 | 0 | 0 | 768 | 0 | 725 | 0 | 341 | 0 | 0 | 0 |
| 49 | SB On-Ramp & Milpas St | Signal | 0 | 212 | 14 | 522 | 356 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 | NB On/Off-Ramp & Garden St | Signal | 142 | 752 | 0 | 0 | 561 | 344 | 0 | 0 | 0 | 101 | 1 | 121 |
| 51 | Palm Ave & NB Off-Ramp | TWSC | 5 | 352 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |
| 52 | SB On/Off-Ramp & Garden St | Signal | 0 | 292 | 31 | 259 | 403 | 0 | 602 | 0 | 184 | 0 | 0 | 0 |
| 53 | Yanonali St & Garden St | Signal | 16 | 113 | 7 | 288 | 172 | 167 | 119 | 116 | 7 | 10 | 75 | 79 |
| 54 | Cottage Grove Ave & NB Off Ramp | TWSC | 2 | 318 | 38 | 15 | 0 | 9 | 5 | 1 | 0 | 0 | 6 | 29 |
| 55 | NB On Ramp & Castillo St | Signal | 451 | 56 | 376 | 9 | 196 | 44 | 0 | 0 | 0 | 296 | 111 | 8 |
| 56 | W Haley St & Bath St | Signal | 167 | 103 | 42 | 0 | 0 | 0 | 91 | 299 | 25 | 6 | 210 | 38 |
| 57 | SB On/Off Ramps & Castillo St | Signal | 0 | 661 | 182 | 79 | 413 | 0 | 222 | 1 | 333 | 0 | 0 | 0 |
| 58 | NB On/Off-Ramp & Carillo St | Signal | 421 | 1533 | 0 | 0 | 406 | 275 | 0 | 0 | 0 | 269 | 0 | 125 |
| 59 | SB On/Off-Ramp & Carillo St | Signal | 0 | 882 | 260 | 176 | 499 | 0 | 1072 | 5 | 178 | 0 | 0 | 0 |
| 60 | Castillo St & Carillo St | Signal | 0 | 1565 | 103 | 16 | 654 | 0 | 46 | 146 | 133 | 0 | 0 | 0 |
| 61 | Carillo St & | TWSC | 0 | 1180 | 32 | 160 | 665 | 0 | 0 | 0 | 0 | 0 | 0 | 204 |
| 62 | Castillo St & NB On/Off Ramps | TWSC | 0 | 44 | 63 | 26 | 410 | 0 | 26 | 209 | 83 | 0 | 0 | 0 |
| 63 | NB On/Off Ramps & Mission St | Signal | 486 | 995 | 0 | 0 | 612 | 383 | 0 | 0 | 0 | 171 | 1 | 82 |
| 64 | SB On/Off Ramps & Mission St | Signal | 0 | 564 | 190 | 452 | 331 | 0 | 917 | 2 | 94 | 0 | 0 | 0 |
| 65 | Castillo St & Mission St | Signal | 138 | 793 | 166 | 15 | 966 | 16 | 9 | 47 | 97 | 0 | 0 | 0 |
| 66 | San Pascual St & Mission St | TWSC | 0 | 663 | 9 | 64 | 437 | 0 | 0 | 0 | 0 | 13 | 0 | 173 |
| 67 | NB Off Ramp & Pueblo St | TWSC | 0 | 37 | 0 | 0 | 99 | 0 | 0 | 0 | 0 | 335 | 0 | 344 |
| 68 | Calle Real & NB On Ramp | Signal | 0 | 0 | 0 | 2 | 1 | 0 | 4 | 240 | 1 | 1037 | 278 | 1 |
| 69 | Calle Real & Las Positas Rd | Signal | 766 | 771 | 0 | 0 | 484 | 168 | 58 | 0 | 98 | 249 | 221 | 170 |
| 70 | SB On/Off Ramps & Las Positas Rd | Signal | 0 | 1230 | 206 | 444 | 473 | 0 | 307 | 0 | 127 | 0 | 0 | 0 |
| 71 | Modoc Rd & Las Positas Rd | Signal | 148 | 870 | 23 | 174 | 289 | 86 | 240 | 132 | 109 | 21 | 145 | 360 |
| 72 | Calle Real & Hope Ave | Signal | 405 | 194 | 80 | 61 | 89 | 18 | 159 | 167 | 95 | 97 | 150 | 29 |
| 73 | SB On/Off Ramps & La Cumbre Rd | Signal | 0 | 504 | 240 | 318 | 456 | 0 | 435 | 5 | 92 | 0 | 0 | 0 |
| 74 | Calle Real & La Cumbre Rd | Signal | 0 | 510 | 197 | 53 | 475 | 0 | 0 | 0 | 0 | 299 | 0 | 169 |
| 75 | State St & NB Off Ramp | Signal | 189 | 598 | 50 | 149 | 0 | 34 | 29 | 505 | 0 | 0 | 646 | 137 |
| 76 | State St & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 534 | 0 | 0 | 410 | 459 |
| 77 | Calle Real & San Marcos Pass Rd | Signal | 67 | 417 | 171 | 108 | 639 | 106 | 36 | 157 | 112 | 190 | 202 | 295 |
| 78 | State St & SB Off Ramp | Signal | 2 | 0 | 5 | 454 | 4 | 15 | 0 | 645 | 10 | 36 | 527 | 0 |
| 79 | SB On Ramp & San Marcos Pass Rd | TWSC | 0 | 670 | 193 | 670 | 408 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | Calle Real & NB On/Off Ramps / El Sueno Rd | AWSC | 199 | 15 | 23 | 76 | 36 | 21 | 18 | 147 | 2 | 305 | 103 | 4 |
| 81 | NB On/Off Ramps & Turnpike Rd | Signal | 311 | 548 | 0 | 0 | 608 | 135 | 0 | 0 | 0 | 451 | 6 | 44 |
| 82 | SB On/Off Ramps & Turnpike Rd | Signal | 0 | 557 | 439 | 308 | 751 | 0 | 302 | 6 | 108 | 0 | 0 | 0 |
| 83 | Calle Real & Turnpike Rd | Signal | 150 | 336 | 186 | 56 | 421 | 12 | 37 | 64 | 120 | 190 | 34 | 28 |
| 84 | NB On/Off Ramps & Patterson Ave | Signal | 249 | 419 | 0 | 0 | 885 | 358 | 0 | 0 | 0 | 426 | 3 | 100 |
| 85 | SB On/Off Ramps & Patterson Ave | Signal | 0 | 477 | 189 | 571 | 740 | 0 | 191 | 2 | 186 | 0 | 0 | 0 |
| 86 | Calle Real & Patterson Ave | Signal | 342 | 385 | 0 | 0 | 820 | 50 | 65 | 0 | 187 | 0 | 0 | 0 |
| 87 | NB Off Ramp & NB On Ramp | Signal | 0 | 0 | 0 | 0 | 138 | 979 | 407 | 0 | 87 | 0 | 722 | 428 |
| 88 | Calle Real & Fairview Ave | Signal | 249 | 483 | 123 | 55 | 518 | 27 | 27 | 82 | 291 | 176 | 93 | 9 |
| 89 | SB On/Off Ramps & Fairview Ave | Signal | 0 | 333 | 71 | 576 | 1125 | 0 | 166 | 2 | 197 | 0 | 0 | 0 |
| 90 | NB On/Off Ramps & Los Carneros Rd | Signal | 54 | 199 | 0 | 0 | 386 | 65 | 0 | 0 | 0 | 786 | 2 | 31 |
| 91 | SB On/Off Ramps & Los Carneros Rd | Signal | 0 | 154 | 424 | 88 | 1084 | 0 | 99 | 4 | 230 | 0 | 0 | 0 |
| 92 | Calle Real & Los Carneros Rd | TWSC | 0 | 95 | 159 | 21 | 263 | 0 | 0 | 0 | 0 | 232 | 0 | 8 |
| 93 | NB On/Off Ramps & Glen Annie Rd | Signal | 201 | 150 | 55 | 11 | 546 | 10 | 37 | 4 | 690 | 632 | 292 | 280 |
| 94 | Del Norte Dr & Glen Annie Rd | TWSC | 0 | 467 | 0 | 0 | 442 | 30 | 0 | 0 | 125 | 0 | 0 | 0 |
| 95 | SB On/Off Ramps & Glen Annie Rd | Signal | 0 | 368 | 802 | 949 | 919 | 0 | 38 | 1 | 203 | 0 | 0 | 0 |
| 96 | Calle Real & Hollister Ave | TWSC | 41 | 0 | 124 | 0 | 0 | 0 | 0 | 41 | 99 | 437 | 35 | 0 |
| 97 | SB On/Off Ramps & Hollister Ave | TWSC | 0 | 132 | 139 | 254 | 234 | 0 | 62 | 1 | 99 | 0 | 0 | 0 |
| 98 | NB Off Ramp & Winchester Canyon Rd | AWSC | 0 | 0 | 0 | 0 | 0 | 157 | 59 | 0 | 0 | 0 | 122 | 92 |
| 99 | NB On Ramp & Hollister Ave | TWSC | 29 | 165 | 0 | 0 | 488 | 48 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | Guteirrez St & Garden St | Signal | 354 | 610 | 0 | 0 | 626 | 52 | 0 | 0 | 0 | 400 | 498 | 47 |
| 103 | Montecito St & Castillo St | Signal | 52 | 255 | 5 | 55 | 347 | 603 | 552 | 146 | 46 | 9 | 124 | 143 |
| 104 | San Andres & Carrillo St | Signal | 17 | 797 | 58 | 59 | 502 | 104 | 290 | 140 | 26 | 60 | 133 | 125 |
| 105 | Modoc St & Mission St | AWSC | 137 | 525 | 0 | 0 | 328 | 141 | 254 | 0 | 119 | 0 | 0 | 0 |
| 106 | Quinientos St & Milpas St | Signal | 71 | 966 | 52 | 68 | 1071 | 39 | 19 | 24 | 51 | 54 | 30 | 86 |

## PM Peak Hour

| | | | VPH | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ID | Intersections | Control | NBL | NBT | NBR | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| 1 | NB On/Off Ramps & Bates Rd | TWSC | 26 | 16 | 0 | 0 | 8 | 3 | 0 | 0 | 0 | 21 | 0 | 4 |
| 2 | SB On/Off-Ramps & | TWSC | 0 | 32 | 9 | 0 | 22 | 0 | 10 | 1 | 0 | 0 | 0 | 0 |
| 3 | NB On/Off-Ramps & SR150 | TWSC | 8 | 222 | 0 | 0 | 237 | 96 | 0 | 0 | 0 | 22 | 1 | 31 |
| 4 | SB On/Off-Ramps & SR150 | TWSC | 0 | 60 | 139 | 224 | 35 | 0 | 170 | 7 | 9 | 0 | 0 | 0 |
| 5 | Via Real & SR150 | TWSC | 24 | 225 | 4 | 1 | 123 | 8 | 40 | 0 | 206 | 4 | 0 | 1 |
| 6 | Carpinteria Ave & SR150 | TWSC | 0 | 0 | 0 | 6 | 0 | 38 | 192 | 7 | 0 | 0 | 7 | 7 |
| 7 | NB On/Off Ramps & Bailard Ave | TWSC | 108 | 384 | 0 | 0 | 220 | 344 | 0 | 0 | 0 | 34 | 2 | 31 |
| 8 | SB On/Off Ramps & Bailard Ave | TWSC | 0 | 276 | 98 | 42 | 212 | 0 | 216 | 3 | 29 | 0 | 0 | 0 |
| 9 | Via Real & Bailard Ave | AWSC | 149 | 119 | 147 | 2 | 77 | 4 | 4 | 9 | 101 | 386 | 9 | 8 |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | 4 | 14 | 4 | 38 | 6 | 197 | 280 | 158 | 6 | 3 | 75 | 80 |
| 11 | NB Off Ramp & Casitas Pass Rd | AWSC | 217 | 191 | 0 | 0 | 220 | 81 | 0 | 0 | 127 | 132 | 45 | 68 |
| 12 | NB On Ramp & Via Real | TWSC | 0 | 0 | 0 | 111 | 0 | 13 | 0 | 0 | 0 | 0 | 250 | 87 |
| 13 | SB On/Off Ramps & Casitas Pass Rd | AWSC | 0 | 338 | 303 | 157 | 322 | 0 | 70 | 0 | 255 | 0 | 0 | 0 |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | 0 | 0 | 0 | 254 | 0 | 172 | 314 | 480 | 0 | 0 | 381 | 98 |
| 15 | Ogan Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 235 | 190 | 21 | 137 | 0 |
| 16 | Ogan Rd & Linden Ave | TWSC | 0 | 345 | 281 | 144 | 222 | 0 | 0 | 0 | 0 | 56 | 0 | 81 |
| 17 | SB Off Ramp & Linden Ave | TWSC | 0 | 503 | 0 | 0 | 278 | 0 | 123 | 0 | 138 | 0 | 0 | 0 |
| 18 | Sawyer Ave & Linden Ave | TWSC | 17 | 453 | 0 | 0 | 400 | 36 | 36 | 0 | 16 | 0 | 0 | 0 |
| 19 | Carpinteria Ave & SB On/Off Ramps | TWSC | 2 | 11 | 34 | 20 | 11 | 58 | 194 | 347 | 3 | 20 | 251 | 28 |
| 20 | Carpinteria Ave & Santan Ynez Ave | Signal | 24 | 109 | 3 | 343 | 83 | 12 | 121 | 198 | 32 | 0 | 71 | 244 |
| 21 | Via Real & NB On/Off Ramps | AWSC | 81 | 38 | 80 | 107 | 44 | 13 | 33 | 363 | 13 | 152 | 145 | 45 |
| 22 | NB On/Off Ramps & Padero Ln | TWSC | 36 | 187 | 0 | 0 | 240 | 77 | 0 | 0 | 0 | 15 | 1 | 50 |
| 23 | Via Real & Padero Ln | TWSC | 72 | 0 | 165 | 0 | 0 | 0 | 0 | 112 | 175 | 142 | 75 | 0 |
| 24 | SB Off Ramp & Padero Ln | TWSC | 0 | 13 | 26 | 247 | 8 | 0 | 165 | 71 | 1 | 4 | 0 | 45 |
| 25 | NB On/Off Ramps & Padero Ln | TWSC | 44 | 144 | 0 | 0 | 71 | 151 | 0 | 0 | 0 | 3 | 1 | 25 |
| 26 | Via Real & Padero Ln | TWSC | 29 | 0 | 140 | 0 | 0 | 0 | 0 | 58 | 49 | 173 | 63 | 0 |
| 27 | SB On/Off Ramps & Padero Ln | TWSC | 0 | 27 | 6 | 58 | 16 | 0 | 161 | 30 | 43 | 0 | 0 | 0 |
| 28 | Ortega Hill Rd & Hollister St | TWSC | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 201 | 0 | 0 | 172 | 0 |
| 29 | Ortega Hill Rd & Evans Ave | AWSC | 36 | 39 | 106 | 13 | 16 | 32 | 2 | 88 | 62 | 34 | 169 | 28 |
| 30 | Ortega Hill Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 153 | 0 | 0 |
| 31 | SB Off Ramp & Evans Ave | TWSC | 0 | 15 | 8 | 95 | 17 | 0 | 153 | 22 | 10 | 0 | 0 | 13 |
| 32 | NB On/Off Ramps & Jameson Ln | TWSC | 1 | 137 | 0 | 0 | 96 | 216 | 0 | 0 | 0 | 2 | 0 | 52 |
| 33 | SB On/Off Ramps & Jameson Ln | TWSC | 0 | 0 | 0 | 98 | 0 | 0 | 138 | 0 | 0 | 0 | 0 | 0 |
| 34 | Sheffield Dr & Jameson Ln | TWSC | 22 | 0 | 167 | 0 | 0 | 0 | 0 | 81 | 24 | 288 | 40 | 0 |
| 35 | NB On/Off Ramps & San Ysidro Rd | TWSC | 80 | 225 | 0 | 0 | 170 | 373 | 0 | 0 | 0 | 24 | 5 | 70 |
| 36 | N Jameson Ln & San Ysidro Rd | AWSC | 16 | 247 | 32 | 15 | 432 | 65 | 64 | 113 | 44 | 67 | 49 | 11 |
| 37 | SB Off Ramp & San Ysidro Rd | TWSC | 0 | 80 | 20 | 121 | 73 | 0 | 198 | 12 | 51 | 6 | 0 | 27 |
| 38 | S Jameson Ln & San Ysidro Rd | TWSC | 2 | 68 | 0 | 0 | 76 | 54 | 32 | 0 | 6 | 0 | 0 | 0 |
| 39 | NB Off Ramp & Olive Mill Rd | AWSC | 150 | 291 | 0 | 0 | 166 | 172 | 0 | 0 | 0 | 32 | 73 | 58 |
| 40 | SB On Ramp & Olive Mill Rd | AWSC | 0 | 214 | 49 | 123 | 75 | 0 | 227 | 264 | 75 | 0 | 0 | 0 |
| 41 | SB Off Ramp & Depot Rd | TWSC | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 152 | 4 | 6 | 0 | 0 |
| 42 | Spring Rd & Olive Mill Rd | TWSC | 1 | 199 | 0 | 0 | 150 | 5 | 92 | 0 | 64 | 0 | 0 | 0 |
| 43 | Coast Village Rd & NB Off Ramp | TWSC | 53 | 7 | 13 | 29 | 0 | 18 | 13 | 520 | 0 | 0 | 541 | 18 |
| 44 | SB On/Off Ramps & Cabrillo Blvd | AWSC | 0 | 363 | 273 | 111 | 243 | 0 | 294 | 0 | 2 | 188 | 0 | 3 |
| 45 | NB On Ramp & Cabrillo Blvd | TWSC | 71 | 0 | 589 | 0 | 0 | 0 | 0 | 0 | 0 | 354 | 670 | 0 |
| 46 | NB On/Off Ramps & S Salinas St | TWSC | 0 | 0 | 0 | 0 | 0 | 269 | 0 | 0 | 0 | 0 | 0 | 208 |
| 47 | NB On-Ramp & Carpinteria St | Signal | 220 | 677 | 415 | 106 | 721 | 499 | 0 | 0 | 0 | 52 | 9 | 293 |
| 48 | SB Off-Ramp & Milpas St | Signal | 0 | 652 | 0 | 0 | 897 | 0 | 660 | 0 | 487 | 0 | 0 | 0 |
| 49 | SB On-Ramp & Milpas St | Signal | 0 | 445 | 52 | 885 | 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 | NB On/Off-Ramp & Garden St | Signal | 344 | 551 | 0 | 0 | 831 | 444 | 0 | 0 | 0 | 114 | 4 | 76 |
| 51 | Palm Ave & NB Off-Ramp | TWSC | 1 | 197 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 |
| 52 | SB On/Off-Ramp & Garden St | Signal | 0 | 545 | 47 | 478 | 467 | 0 | 350 | 24 | 94 | 0 | 0 | 0 |
| 53 | Yanonali St & Garden St | Signal | 8 | 134 | 5 | 174 | 235 | 128 | 268 | 147 | 22 | 10 | 99 | 171 |
| 54 | Cottage Grove Ave & NB Off Ramp | TWSC | 8 | 378 | 30 | 20 | 0 | 9 | 12 | 27 | 0 | 0 | 15 | 60 |
| 55 | NB On Ramp & Castillo St | Signal | 516 | 74 | 480 | 27 | 254 | 90 | 0 | 0 | 0 | 455 | 239 | 9 |
| 56 | W Haley St & Bath St | Signal | 265 | 137 | 62 | 0 | 0 | 0 | 115 | 357 | 30 | 11 | 429 | 43 |
| 57 | SB On/Off Ramps & Castillo St | Signal | 0 | 881 | 82 | 107 | 602 | 0 | 189 | 4 | 388 | 0 | 0 | 0 |
| 58 | NB On/Off-Ramp & Carillo St | Signal | 267 | 1249 | 0 | 0 | 1007 | 550 | 0 | 0 | 0 | 420 | 0 | 179 |
| 59 | SB On/Off-Ramp & Carillo St | Signal | 0 | 670 | 160 | 254 | 1173 | 0 | 846 | 3 | 433 | 0 | 0 | 0 |
| 60 | Castillo St & Carillo St | Signal | 0 | 1344 | 144 | 45 | 1453 | 0 | 91 | 219 | 191 | 0 | 0 | 0 |
| 61 | Carillo St & | TWSC | 0 | 745 | 47 | 302 | 1290 | 0 | 0 | 0 | 0 | 1 | 0 | 195 |
| 62 | Castillo St & NB On/Off Ramps | TWSC | 0 | 0 | 0 | 29 | 496 | 0 | 16 | 282 | 63 | 0 | 0 | 0 |
| 63 | NB On/Off Ramps & Mission St | Signal | 308 | 798 | 0 | 0 | 687 | 416 | 0 | 0 | 0 | 176 | 4 | 125 |
| 64 | SB On/Off Ramps & Mission St | Signal | 0 | 416 | 125 | 387 | 476 | 0 | 690 | 3 | 267 | 0 | 0 | 0 |
| 65 | Castillo St & Mission St | Signal | 77 | 670 | 229 | 27 | 1095 | 20 | 16 | 90 | 117 | 0 | 0 | 0 |
| 66 | San Pascual St & Mission St | TWSC | 0 | 517 | 27 | 156 | 613 | 0 | 0 | 0 | 0 | 12 | 0 | 111 |
| 67 | NB Off Ramp & Pueblo St | TWSC | 0 | 25 | 0 | 0 | 184 | 0 | 0 | 0 | 0 | 377 | 0 | 178 |
| 68 | Calle Real & NB On Ramp | Signal | 0 | 0 | 0 | 1 | 7 | 9 | 16 | 457 | 2 | 626 | 427 | 47 |
| 69 | Calle Real & Las Positas Rd | Signal | 454 | 693 | 0 | 0 | 555 | 146 | 84 | 0 | 198 | 366 | 405 | 259 |
| 70 | SB On/Off Ramps & Las Positas Rd | Signal | 0 | 666 | 73 | 504 | 791 | 0 | 481 | 0 | 270 | 0 | 0 | 0 |
| 71 | Modoc Rd & Las Positas Rd | Signal | 160 | 515 | 43 | 239 | 759 | 135 | 210 | 193 | 91 | 15 | 87 | 128 |
| 72 | Calle Real & Hope Ave | Signal | 401 | 216 | 95 | 118 | 127 | 27 | 146 | 270 | 88 | 151 | 218 | 52 |
| 73 | SB On/Off Ramps & La Cumbre Rd | Signal | 0 | 344 | 119 | 537 | 443 | 0 | 657 | 2 | 68 | 0 | 0 | 0 |
| 74 | Calle Real & La Cumbre Rd | Signal | 0 | 551 | 212 | 122 | 599 | 0 | 0 | 0 | 0 | 381 | 0 | 204 |
| 75 | State St & NB Off Ramp | Signal | 222 | 631 | 76 | 188 | 0 | 11 | 41 | 574 | 0 | 0 | 728 | 271 |
| 76 | State St & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 615 | 0 | 0 | 498 | 468 |
| 77 | Calle Real & San Marcos Pass Rd | Signal | 75 | 371 | 92 | 79 | 433 | 58 | 64 | 143 | 90 | 176 | 246 | 231 |
| 78 | State St & SB Off Ramp | Signal | 15 | 0 | 28 | 575 | 12 | 5 | 0 | 582 | 12 | 52 | 496 | 0 |
| 79 | SB On Ramp & San Marcos Pass Rd | TWSC | 0 | 585 | 185 | 667 | 198 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | Calle Real & NB On/Off Ramps / El Sueno Rd | AWSC | 110 | 22 | 58 | 38 | 22 | 19 | 49 | 352 | 5 | 201 | 83 | 19 |
| 81 | NB On/Off Ramps & Turnpike Rd | Signal | 213 | 666 | 0 | 0 | 492 | 138 | 0 | 0 | 0 | 447 | 10 | 163 |
| 82 | SB On/Off Ramps & Turnpike Rd | Signal | 0 | 521 | 193 | 267 | 672 | 0 | 358 | 7 | 142 | 0 | 0 | 0 |
| 83 | Calle Real & Turnpike Rd | Signal | 303 | 412 | 167 | 46 | 309 | 34 | 29 | 41 | 89 | 305 | 56 | 46 |
| 84 | NB On/Off Ramps & Patterson Ave | Signal | 396 | 1005 | 0 | 0 | 805 | 165 | 0 | 0 | 0 | 270 | 2 | 209 |
| 85 | SB On/Off Ramps & Patterson Ave | Signal | 0 | 841 | 186 | 463 | 612 | 0 | 560 | 2 | 52 | 0 | 0 | 0 |
| 86 | Calle Real & Patterson Ave | Signal | 769 | 764 | 0 | 0 | 515 | 60 | 182 | 0 | 197 | 0 | 0 | 0 |
| 87 | NB Off Ramp & NB On Ramp | Signal | 0 | 0 | 0 | 0 | 268 | 676 | 791 | 0 | 162 | 0 | 303 | 488 |
| 88 | Calle Real & Fairview Ave | Signal | 386 | 443 | 471 | 130 | 373 | 37 | 45 | 220 | 245 | 292 | 261 | 43 |
| 89 | SB On/Off Ramps & Fairview Ave | Signal | 0 | 744 | 283 | 383 | 596 | 0 | 209 | 2 | 56 | 0 | 0 | 0 |
| 90 | NB On/Off Ramps & Los Carneros Rd | Signal | 216 | 575 | 0 | 0 | 276 | 96 | 0 | 0 | 0 | 518 | 2 | 65 |
| 91 | SB On/Off Ramps & Los Carneros Rd | Signal | 0 | 699 | 922 | 61 | 733 | 0 | 92 | 1 | 36 | 0 | 0 | 0 |
| 92 | Calle Real & Los Carneros Rd | TWSC | 0 | 249 | 400 | 11 | 103 | 0 | 0 | 0 | 0 | 344 | 0 | 36 |
| 93 | NB On/Off Ramps & Glen Annie Rd | Signal | 268 | 251 | 173 | 18 | 374 | 15 | 16 | 19 | 307 | 1105 | 388 | 150 |
| 94 | Del Norte Dr & Glen Annie Rd | TWSC | 0 | 417 | 0 | 0 | 319 | 27 | 0 | 0 | 88 | 0 | 0 | 0 |
| 95 | SB On/Off Ramps & Glen Annie Rd | Signal | 0 | 681 | 967 | 462 | 1324 | 0 | 11 | 1 | 47 | 0 | 0 | 0 |
| 96 | Calle Real & Hollister Ave | TWSC | 175 | 0 | 150 | 0 | 0 | 0 | 0 | 16 | 51 | 326 | 44 | 0 |
| 97 | SB On/Off Ramps & Hollister Ave | TWSC | 0 | 336 | 162 | 90 | 192 | 0 | 22 | 2 | 67 | 0 | 0 | 0 |
| 98 | NB Off Ramp & Winchester Canyon Rd | AWSC | 0 | 0 | 0 | 0 | 0 | 135 | 77 | 0 | 0 | 0 | 170 | 208 |
| 99 | NB On Ramp & Hollister Ave | TWSC | 33 | 325 | 0 | 0 | 282 | 95 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | Guteirrez St & Garden St | Signal | 248 | 459 | 0 | 0 | 858 | 98 | 0 | 0 | 0 | 599 | 429 | 84 |
| 103 | Montecito St & Castillo St | Signal | 87 | 287 | 14 | 167 | 417 | 643 | 554 | 171 | 72 | 19 | 167 | 191 |
| 104 | San Andres & Carrillo St | Signal | 26 | 509 | 53 | 114 | 879 | 298 | 213 | 146 | 35 | 42 | 163 | 70 |
| 105 | Modoc St & Mission St | AWSC | 164 | 360 | 0 | 0 | 532 | 238 | 197 | 0 | 173 | 0 | 0 | 0 |
| 106 | Quinientos St & Milpas St | Signal | 55 | 1076 | 64 | 173 | 782 | 31 | 16 | 50 | 84 | 107 | 32 | 48 |

**Maximum Required Storage Length based on AM and PM Volume**

| | | | NBL | | SBL | | EBL | | WBL | |
|---|---|---|---|---|---|---|---|---|---|---|
| ID | Intersections | Control | Max VPH | Storage | Max VPH | Storage | Max VPH | Storage | Max VPH | Storage |
| 1 | NB On/Off Ramps & Bates Rd | TWSC | 26 | 50 | 0 | 0 | 0 | 0 | 21 | 50 |
| 2 | SB On/Off-Ramps & | TWSC | 0 | 0 | 6 | 50 | 10 | 50 | 0 | 0 |
| 3 | NB On/Off-Ramps & SR150 | TWSC | 8 | 50 | 0 | 0 | 0 | 0 | 184 | 153 |
| 4 | SB On/Off-Ramps & SR150 | TWSC | 0 | 0 | 224 | 187 | 170 | 142 | 0 | 0 |
| 5 | Via Real & SR150 | TWSC | 234 | 195 | 1 | 50 | 40 | 50 | 4 | 50 |
| 6 | Carpinteria Ave & SR150 | TWSC | 0 | 0 | 6 | 50 | 192 | 160 | 0 | 0 |
| 7 | NB On/Off Ramps & Bailard Ave | TWSC | 108 | 90 | 0 | 0 | 0 | 0 | 60 | 50 |
| 8 | SB On/Off Ramps & Bailard Ave | TWSC | 0 | 0 | 42 | 50 | 263 | 219 | 0 | 0 |
| 9 | Via Real & Bailard Ave | AWSC | 149 | 124 | 8 | 50 | 6 | 50 | 386 | 322 |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | 4 | 50 | 130 | 108 | 280 | 233 | 3 | 50 |
| 11 | NB Off Ramp & Casitas Pass Rd | AWSC | 217 | 181 | 0 | 0 | 1 | 50 | 184 | 153 |
| 12 | NB On Ramp & Via Real | TWSC | 0 | 0 | 111 | 93 | 0 | 0 | 0 | 0 |
| 13 | SB On/Off Ramps & Casitas Pass Rd | AWSC | 0 | 0 | 157 | 131 | 74 | 62 | 0 | 0 |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | 0 | 0 | 254 | 370 | 314 | 458 | 0 | 0 |
| 15 | Ogan Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 94 | 78 |
| 16 | Ogan Rd & Linden Ave | TWSC | 0 | 0 | 205 | 171 | 0 | 0 | 56 | 50 |
| 17 | SB Off Ramp & Linden Ave | TWSC | 0 | 0 | 0 | 0 | 123 | 103 | 0 | 0 |
| 18 | Sawyer Ave & Linden Ave | TWSC | 17 | 50 | 0 | 0 | 48 | 50 | 0 | 0 |
| 19 | Carpinteria Ave & SB On/Off Ramps | TWSC | 3 | 50 | 20 | 50 | 194 | 162 | 66 | 55 |
| 20 | Carpinteria Ave & Santan Ynez Ave | Signal | 24 | 50 | 343 | 500 | 123 | 179 | 0 | 0 |
| 21 | Via Real & NB On/Off Ramps | AWSC | 143 | 119 | 107 | 89 | 33 | 50 | 255 | 213 |
| 22 | NB On/Off Ramps & Padero Ln | TWSC | 36 | 50 | 0 | 0 | 0 | 0 | 16 | 50 |
| 23 | Via Real & Padero Ln | TWSC | 123 | 103 | 0 | 0 | 0 | 0 | 163 | 136 |
| 24 | SB Off Ramp & Padero Ln | TWSC | 0 | 0 | 247 | 206 | 165 | 138 | 4 | 50 |
| 25 | NB On/Off Ramps & Padero Ln | TWSC | 44 | 50 | 0 | 0 | 0 | 0 | 5 | 50 |
| 26 | Via Real & Padero Ln | TWSC | 29 | 50 | 0 | 0 | 0 | 0 | 424 | 353 |
| 27 | SB On/Off Ramps & Padero Ln | TWSC | 0 | 0 | 74 | 62 | 161 | 134 | 0 | 0 |
| 28 | Ortega Hill Rd & Hollister St | TWSC | 46 | 50 | 0 | 0 | 1 | 50 | 0 | 0 |
| 29 | Ortega Hill Rd & Evans Ave | AWSC | 36 | 50 | 13 | 50 | 2 | 50 | 34 | 50 |
| 30 | Ortega Hill Rd & NB On Ramp | TWSC | 0 | 0 | 15 | 50 | 0 | 0 | 172 | 143 |
| 31 | SB Off Ramp & Evans Ave | TWSC | 0 | 0 | 95 | 79 | 153 | 128 | 0 | 0 |
| 32 | NB On/Off Ramps & Jameson Ln | TWSC | 4 | 50 | 0 | 0 | 0 | 0 | 2 | 50 |
| 33 | SB On/Off Ramps & Jameson Ln | TWSC | 0 | 0 | 98 | 82 | 320 | 267 | 0 | 0 |
| 34 | Sheffield Dr & Jameson Ln | TWSC | 82 | 68 | 0 | 0 | 0 | 0 | 288 | 240 |
| 35 | NB On/Off Ramps & San Ysidro Rd | TWSC | 80 | 67 | 0 | 0 | 0 | 0 | 24 | 50 |
| 36 | N Jameson Ln & San Ysidro Rd | AWSC | 34 | 50 | 21 | 50 | 75 | 63 | 80 | 67 |
| 37 | SB Off Ramp & San Ysidro Rd | TWSC | 0 | 0 | 121 | 101 | 380 | 317 | 8 | 50 |
| 38 | S Jameson Ln & San Ysidro Rd | TWSC | 6 | 50 | 0 | 0 | 45 | 50 | 0 | 0 |
| 39 | NB Off Ramp & Olive Mill Rd | AWSC | 150 | 125 | 0 | 0 | 0 | 0 | 36 | 50 |
| 40 | SB On Ramp & Olive Mill Rd | AWSC | 0 | 0 | 123 | 103 | 227 | 189 | 0 | 0 |
| 41 | SB Off Ramp & Depot Rd | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 50 |
| 42 | Spring Rd & Olive Mill Rd | TWSC | 1 | 50 | 0 | 0 | 288 | 240 | 0 | 0 |
| 43 | Coast Village Rd & NB Off Ramp | TWSC | 53 | 50 | 29 | 50 | 13 | 50 | 0 | 0 |
| 44 | SB On/Off Ramps & Cabrillo Blvd | AWSC | 0 | 0 | 111 | 93 | 461 | 384 | 188 | 157 |
| 45 | NB On Ramp & Cabrillo Blvd | TWSC | 71 | 59 | 0 | 0 | 0 | 0 | 354 | 295 |
| 46 | NB On/Off Ramps & S Salinas St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 47 | NB On-Ramp & Carpinteria St | Signal | 220 | 321 | 106 | 155 | 0 | 0 | 52 | 76 |
| 48 | SB Off-Ramp & Milpas St | Signal | 0 | 0 | 0 | 0 | 725 | 1,057 | 0 | 0 |
| 49 | SB On-Ramp & Milpas St | Signal | 0 | 0 | 885 | 1,291 | 0 | 0 | 0 | 0 |
| 50 | NB On/Off-Ramp & Garden St | Signal | 344 | 502 | 0 | 0 | 0 | 0 | 114 | 166 |
| 51 | Palm Ave & NB Off-Ramp | TWSC | 5 | 50 | 0 | 0 | 22 | 50 | 0 | 0 |
| 52 | SB On/Off-Ramp & Garden St | Signal | 0 | 0 | 478 | 697 | 602 | 878 | 0 | 0 |
| 53 | Yanonali St & Garden St | Signal | 16 | 50 | 288 | 420 | 268 | 391 | 10 | 50 |
| 54 | Cottage Grove Ave & NB Off Ramp | TWSC | 8 | 50 | 20 | 50 | 12 | 50 | 0 | 0 |
| 55 | NB On Ramp & Castillo St | Signal | 516 | 753 | 27 | 50 | 0 | 0 | 455 | 664 |
| 56 | W Haley St & Bath St | Signal | 265 | 386 | 0 | 0 | 115 | 168 | 11 | 50 |
| 57 | SB On/Off Ramps & Castillo St | Signal | 0 | 0 | 107 | 156 | 222 | 324 | 0 | 0 |
| 58 | NB On/Off-Ramp & Carillo St | Signal | 421 | 614 | 0 | 0 | 0 | 0 | 420 | 613 |
| 59 | SB On/Off-Ramp & Carillo St | Signal | 0 | 0 | 254 | 370 | 1,072 | 1,563 | 0 | 0 |
| 60 | Castillo St & Carillo St | Signal | 0 | 0 | 45 | 66 | 91 | 133 | 0 | 0 |
| 61 | Carillo St & | TWSC | 0 | 0 | 302 | 252 | 0 | 0 | 1 | 50 |
| 62 | Castillo St & NB On/Off Ramps | TWSC | 0 | 0 | 29 | 50 | 26 | 50 | 0 | 0 |
| 63 | NB On/Off Ramps & Mission St | Signal | 486 | 709 | 0 | 0 | 0 | 0 | 176 | 257 |
| 64 | SB On/Off Ramps & Mission St | Signal | 0 | 0 | 452 | 659 | 917 | 1,337 | 0 | 0 |
| 65 | Castillo St & Mission St | Signal | 138 | 201 | 27 | 50 | 16 | 50 | 0 | 0 |
| 66 | San Pascual St & Mission St | TWSC | 0 | 0 | 156 | 130 | 0 | 0 | 13 | 50 |
| 67 | NB Off Ramp & Pueblo St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 377 | 314 |
| 68 | Calle Real & NB On Ramp | Signal | 0 | 0 | 2 | 50 | 16 | 50 | 1,037 | 1,512 |
| 69 | Calle Real & Las Positas Rd | Signal | 766 | 1,117 | 0 | 0 | 84 | 123 | 366 | 534 |
| 70 | SB On/Off Ramps & Las Positas Rd | Signal | 0 | 0 | 504 | 735 | 481 | 701 | 0 | 0 |
| 71 | Modoc Rd & Las Positas Rd | Signal | 160 | 233 | 239 | 349 | 240 | 350 | 21 | 50 |
| 72 | Calle Real & Hope Ave | Signal | 405 | 591 | 118 | 172 | 159 | 232 | 151 | 220 |
| 73 | SB On/Off Ramps & La Cumbre Rd | Signal | 0 | 0 | 537 | 783 | 657 | 958 | 0 | 0 |
| 74 | Calle Real & La Cumbre Rd | Signal | 0 | 0 | 122 | 178 | 0 | 0 | 381 | 556 |
| 75 | State St & NB Off Ramp | Signal | 222 | 324 | 188 | 274 | 41 | 60 | 0 | 0 |
| 76 | State St & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | Calle Real & San Marcos Pass Rd | Signal | 75 | 109 | 108 | 158 | 64 | 93 | 190 | 277 |
| 78 | State St & SB Off Ramp | Signal | 15 | 50 | 575 | 839 | 0 | 0 | 52 | 76 |
| 79 | SB On Ramp & San Marcos Pass Rd | TWSC | 0 | 0 | 670 | 558 | 0 | 0 | 0 | 0 |
| 80 | Calle Real & NB On/Off Ramps / El Sueno Rd | AWSC | 199 | 166 | 76 | 63 | 49 | 50 | 305 | 254 |
| 81 | NB On/Off Ramps & Turnpike Rd | Signal | 311 | 454 | 0 | 0 | 0 | 0 | 451 | 658 |
| 82 | SB On/Off Ramps & Turnpike Rd | Signal | 0 | 0 | 308 | 449 | 358 | 522 | 0 | 0 |
| 83 | Calle Real & Turnpike Rd | Signal | 303 | 442 | 56 | 82 | 37 | 54 | 305 | 445 |
| 84 | NB On/Off Ramps & Patterson Ave | Signal | 396 | 578 | 0 | 0 | 0 | 0 | 426 | 621 |
| 85 | SB On/Off Ramps & Patterson Ave | Signal | 0 | 0 | 571 | 833 | 560 | 817 | 0 | 0 |
| 86 | Calle Real & Patterson Ave | Signal | 769 | 1,121 | 0 | 0 | 182 | 265 | 0 | 0 |
| 87 | NB Off Ramp & NB On Ramp | Signal | 0 | 0 | 0 | 0 | 791 | 1,154 | 0 | 0 |
| 88 | Calle Real & Fairview Ave | Signal | 386 | 563 | 130 | 190 | 45 | 66 | 292 | 426 |
| 89 | SB On/Off Ramps & Fairview Ave | Signal | 0 | 0 | 576 | 840 | 209 | 305 | 0 | 0 |
| 90 | NB On/Off Ramps & Los Carneros Rd | Signal | 216 | 315 | 0 | 0 | 0 | 0 | 786 | 1,146 |
| 91 | SB On/Off Ramps & Los Carneros Rd | Signal | 0 | 0 | 88 | 128 | 99 | 144 | 0 | 0 |
| 92 | Calle Real & Los Carneros Rd | TWSC | 0 | 0 | 21 | 50 | 0 | 0 | 344 | 287 |
| 93 | NB On/Off Ramps & Glen Annie Rd | Signal | 268 | 391 | 18 | 50 | 37 | 54 | 1,105 | 1,611 |
| 94 | Del Norte Dr & Glen Annie Rd | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | SB On/Off Ramps & Glen Annie Rd | Signal | 0 | 0 | 949 | 1,384 | 38 | 55 | 0 | 0 |
| 96 | Calle Real & Hollister Ave | TWSC | 175 | 146 | 0 | 0 | 0 | 0 | 437 | 364 |
| 97 | SB On/Off Ramps & Hollister Ave | TWSC | 0 | 0 | 254 | 212 | 62 | 52 | 0 | 0 |
| 98 | NB Off Ramp & Winchester Canyon Rd | AWSC | 0 | 0 | 0 | 0 | 77 | 64 | 0 | 0 |
| 99 | NB On Ramp & Hollister Ave | TWSC | 33 | 50 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | Guteirrez St & Garden St | Signal | 354 | 516 | 0 | 0 | 0 | 0 | 599 | 874 |
| 103 | Montecito St & Castillo St | Signal | 87 | 127 | 167 | 244 | 554 | 808 | 19 | 50 |
| 104 | San Andres & Carrillo St | Signal | 26 | 50 | 114 | 166 | 290 | 423 | 60 | 88 |
| 105 | Modoc St & Mission St | AWSC | 164 | 137 | 0 | 0 | 254 | 212 | 0 | 0 |
| 106 | Quinientos St & Milpas S | Signal | 71 | 104 | 173 | 252 | 19 | 50 | 107 | 156 |

| Storage Length for PM | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | NBL | | SBL | | EBL | | WBL | |
| ID | Intersections | Control | VPH | Storage | VPH | Storage | VPH | Storage | VPH | Storage |
| 1 | NB On/Off Ramps & Bates Rd | TWSC | 26 | 50 | 0 | 0 | 0 | 0 | 21 | 50 |
| 2 | SB On/Off-Ramps & | TWSC | 0 | 0 | 0 | 0 | 10 | 50 | 0 | 0 |
| 3 | NB On/Off-Ramps & SR150 | TWSC | 8 | 50 | 0 | 0 | 0 | 0 | 22 | 50 |
| 4 | SB On/Off-Ramps & SR150 | TWSC | 0 | 0 | 224 | 187 | 170 | 142 | 0 | 0 |
| 5 | Via Real & SR150 | TWSC | 24 | 50 | 1 | 50 | 40 | 50 | 4 | 50 |
| 6 | Carpinteria Ave & SR150 | TWSC | 0 | 0 | 6 | 50 | 192 | 160 | 0 | 0 |
| 7 | NB On/Off Ramps & Bailard Ave | TWSC | 108 | 90 | 0 | 0 | 0 | 0 | 34 | 50 |
| 8 | SB On/Off Ramps & Bailard Ave | TWSC | 0 | 0 | 42 | 50 | 216 | 180 | 0 | 0 |
| 9 | Via Real & Bailard Ave | AWSC | 149 | 124 | 2 | 50 | 4 | 50 | 386 | 322 |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | 4 | 50 | 38 | 50 | 280 | 233 | 3 | 50 |
| 11 | NB Off Ramp & Casitas Pass Rd | AWSC | 217 | 181 | 0 | 0 | 0 | 0 | 132 | 110 |
| 12 | NB On Ramp & Via Real | TWSC | 0 | 0 | 111 | 93 | 0 | 0 | 0 | 0 |
| 13 | SB On/Off Ramps & Casitas Pass Rd | AWSC | 0 | 0 | 157 | 131 | 70 | 58 | 0 | 0 |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | 0 | 0 | 254 | 370 | 314 | 458 | 0 | 0 |
| 15 | Ogan Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 50 |
| 16 | Ogan Rd & Linden Ave | TWSC | 0 | 0 | 144 | 120 | 0 | 0 | 56 | 50 |
| 17 | SB Off Ramp & Linden Ave | TWSC | 0 | 0 | 0 | 0 | 123 | 103 | 0 | 0 |
| 18 | Sawyer Ave & Linden Ave | TWSC | 17 | 50 | 0 | 0 | 36 | 50 | 0 | 0 |
| 19 | Carpinteria Ave & SB On/Off Ramps | TWSC | 2 | 50 | 20 | 50 | 194 | 162 | 20 | 50 |
| 20 | Carpinteria Ave & Santan Ynez Ave | Signal | 24 | 50 | 343 | 500 | 121 | 176 | 0 | 0 |
| 21 | Via Real & NB On/Off Ramps | AWSC | 81 | 68 | 107 | 89 | 33 | 50 | 152 | 127 |
| 22 | NB On/Off Ramps & Padero Ln | TWSC | 36 | 50 | 0 | 0 | 0 | 0 | 15 | 50 |
| 23 | Via Real & Padero Ln | TWSC | 72 | 60 | 0 | 0 | 0 | 0 | 142 | 118 |
| 24 | SB Off Ramp & Padero Ln | TWSC | 0 | 0 | 247 | 206 | 165 | 138 | 4 | 50 |
| 25 | NB On/Off Ramps & Padero Ln | TWSC | 44 | 50 | 0 | 0 | 0 | 0 | 3 | 50 |
| 26 | Via Real & Padero Ln | TWSC | 29 | 50 | 0 | 0 | 0 | 0 | 173 | 144 |
| 27 | SB On/Off Ramps & Padero Ln | TWSC | 0 | 0 | 58 | 50 | 161 | 134 | 0 | 0 |
| 28 | Ortega Hill Rd & Hollister St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | Ortega Hill Rd & Evans Ave | AWSC | 36 | 50 | 13 | 50 | 2 | 50 | 34 | 50 |
| 30 | Ortega Hill Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 153 | 128 |
| 31 | SB Off Ramp & Evans Ave | TWSC | 0 | 0 | 95 | 79 | 153 | 128 | 0 | 0 |
| 32 | NB On/Off Ramps & Jameson Ln | TWSC | 1 | 50 | 0 | 0 | 0 | 0 | 2 | 50 |
| 33 | SB On/Off Ramps & Jameson Ln | TWSC | 0 | 0 | 98 | 82 | 138 | 115 | 0 | 0 |
| 34 | Sheffield Dr & Jameson Ln | TWSC | 22 | 50 | 0 | 0 | 0 | 0 | 288 | 240 |
| 35 | NB On/Off Ramps & San Ysidro Rd | TWSC | 80 | 67 | 0 | 0 | 0 | 0 | 24 | 50 |
| 36 | N Jameson Ln & San Ysidro Rd | AWSC | 16 | 50 | 15 | 50 | 64 | 53 | 67 | 56 |
| 37 | SB Off Ramp & San Ysidro Rd | TWSC | 0 | 0 | 121 | 101 | 198 | 165 | 6 | 50 |
| 38 | S Jameson Ln & San Ysidro Rd | TWSC | 2 | 50 | 0 | 0 | 32 | 50 | 0 | 0 |
| 39 | NB Off Ramp & Olive Mill Rd | AWSC | 150 | 125 | 0 | 0 | 0 | 0 | 32 | 50 |
| 40 | SB On Ramp & Olive Mill Rd | AWSC | 0 | 0 | 123 | 103 | 227 | 189 | 0 | 0 |
| 41 | SB Off Ramp & Depot Rd | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 50 |
| 42 | Spring Rd & Olive Mill Rd | TWSC | 1 | 50 | 0 | 0 | 92 | 77 | 0 | 0 |
| 43 | Coast Village Rd & NB Off Ramp | TWSC | 53 | 50 | 29 | 50 | 13 | 50 | 0 | 0 |
| 44 | SB On/Off Ramps & Cabrillo Blvd | AWSC | 0 | 0 | 111 | 93 | 294 | 245 | 188 | 157 |
| 45 | NB On Ramp & Cabrillo Blvd | TWSC | 71 | 59 | 0 | 0 | 0 | 0 | 354 | 295 |
| 46 | NB On/Off Ramps & S Salinas St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 47 | NB On-Ramp & Carpinteria St | Signal | 220 | 321 | 106 | 155 | 0 | 0 | 52 | 76 |
| 48 | SB Off-Ramp & Milpas St | Signal | 0 | 0 | 0 | 0 | 660 | 963 | 0 | 0 |
| 49 | SB On-Ramp & Milpas St | Signal | 0 | 0 | 885 | 1,291 | 0 | 0 | 0 | 0 |
| 50 | NB On/Off-Ramp & Garden St | Signal | 344 | 502 | 0 | 0 | 0 | 0 | 114 | 166 |
| 51 | Palm Ave & NB Off-Ramp | TWSC | 1 | 50 | 0 | 0 | 22 | 50 | 0 | 0 |
| 52 | SB On/Off-Ramp & Garden St | Signal | 0 | 0 | 478 | 697 | 350 | 510 | 0 | 0 |
| 53 | Yanonali St & Garden St | Signal | 8 | 50 | 174 | 254 | 268 | 391 | 10 | 50 |
| 54 | Cottage Grove Ave & NB Off Ramp | TWSC | 8 | 50 | 20 | 50 | 12 | 50 | 0 | 0 |
| 55 | NB On Ramp & Castillo St | Signal | 516 | 753 | 27 | 50 | 0 | 0 | 455 | 664 |
| 56 | W Haley St & Bath St | Signal | 265 | 386 | 0 | 0 | 115 | 168 | 11 | 50 |
| 57 | SB On/Off Ramps & Castillo St | Signal | 0 | 0 | 107 | 156 | 189 | 276 | 0 | 0 |
| 58 | NB On/Off-Ramp & Carillo St | Signal | 267 | 389 | 0 | 0 | 0 | 0 | 420 | 613 |
| 59 | SB On/Off-Ramp & Carillo St | Signal | 0 | 0 | 254 | 370 | 846 | 1,234 | 0 | 0 |
| 60 | Castillo St & Carillo St | Signal | 0 | 0 | 45 | 66 | 91 | 133 | 0 | 0 |
| 61 | Carillo St & | TWSC | 0 | 0 | 302 | 252 | 0 | 0 | 1 | 50 |
| 62 | Castillo St & NB On/Off Ramps | TWSC | 0 | 0 | 29 | 50 | 16 | 50 | 0 | 0 |
| 63 | NB On/Off Ramps & Mission St | Signal | 308 | 449 | 0 | 0 | 0 | 0 | 176 | 257 |
| 64 | SB On/Off Ramps & Mission St | Signal | 0 | 0 | 387 | 564 | 690 | 1,006 | 0 | 0 |
| 65 | Castillo St & Mission St | Signal | 77 | 112 | 27 | 50 | 16 | 50 | 0 | 0 |
| 66 | San Pascual St & Mission St | TWSC | 0 | 0 | 156 | 130 | 0 | 0 | 12 | 50 |
| 67 | NB Off Ramp & Pueblo St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 377 | 314 |
| 68 | Calle Real & NB On Ramp | Signal | 0 | 0 | 1 | 50 | 16 | 50 | 626 | 913 |
| 69 | Calle Real & Las Positas Rd | Signal | 454 | 662 | 0 | 0 | 84 | 123 | 366 | 534 |
| 70 | SB On/Off Ramps & Las Positas Rd | Signal | 0 | 0 | 504 | 735 | 481 | 701 | 0 | 0 |
| 71 | Modoc Rd & Las Positas Rd | Signal | 160 | 233 | 239 | 349 | 210 | 306 | 15 | 50 |
| 72 | Calle Real & Hope Ave | Signal | 401 | 585 | 118 | 172 | 146 | 213 | 151 | 220 |
| 73 | SB On/Off Ramps & La Cumbre Rd | Signal | 0 | 0 | 537 | 783 | 657 | 958 | 0 | 0 |
| 74 | Calle Real & La Cumbre Rd | Signal | 0 | 0 | 122 | 178 | 0 | 0 | 381 | 556 |
| 75 | State St & NB Off Ramp | Signal | 222 | 324 | 188 | 274 | 41 | 60 | 0 | 0 |
| 76 | State St & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | Calle Real & San Marcos Pass Rd | Signal | 75 | 109 | 79 | 115 | 64 | 93 | 176 | 257 |
| 78 | State St & SB Off Ramp | Signal | 15 | 50 | 575 | 839 | 0 | 0 | 52 | 76 |
| 79 | SB On Ramp & San Marcos Pass Rd | TWSC | 0 | 0 | 667 | 556 | 0 | 0 | 0 | 0 |
| 80 | Calle Real & NB On/Off Ramps / El Sueno Rd | AWSC | 110 | 92 | 38 | 50 | 49 | 50 | 201 | 168 |
| 81 | NB On/Off Ramps & Turnpike Rd | Signal | 213 | 311 | 0 | 0 | 0 | 0 | 447 | 652 |
| 82 | SB On/Off Ramps & Turnpike Rd | Signal | 0 | 0 | 267 | 389 | 358 | 522 | 0 | 0 |
| 83 | Calle Real & Turnpike Rd | Signal | 303 | 442 | 46 | 67 | 29 | 50 | 305 | 445 |
| 84 | NB On/Off Ramps & Patterson Ave | Signal | 396 | 578 | 0 | 0 | 0 | 0 | 270 | 394 |
| 85 | SB On/Off Ramps & Patterson Ave | Signal | 0 | 0 | 463 | 675 | 560 | 817 | 0 | 0 |
| 86 | Calle Real & Patterson Ave | Signal | 769 | 1,121 | 0 | 0 | 182 | 265 | 0 | 0 |
| 87 | NB Off Ramp & NB On Ramp | Signal | 0 | 0 | 0 | 0 | 791 | 1,154 | 0 | 0 |
| 88 | Calle Real & Fairview Ave | Signal | 386 | 563 | 130 | 190 | 45 | 66 | 292 | 426 |
| 89 | SB On/Off Ramps & Fairview Ave | Signal | 0 | 0 | 383 | 559 | 209 | 305 | 0 | 0 |
| 90 | NB On/Off Ramps & Los Carneros Rd | Signal | 216 | 315 | 0 | 0 | 0 | 0 | 518 | 755 |
| 91 | SB On/Off Ramps & Los Carneros Rd | Signal | 0 | 0 | 61 | 89 | 92 | 134 | 0 | 0 |
| 92 | Calle Real & Los Carneros Rd | TWSC | 0 | 0 | 11 | 50 | 0 | 0 | 344 | 287 |
| 93 | NB On/Off Ramps & Glen Annie Rd | Signal | 268 | 391 | 18 | 50 | 16 | 50 | 1,105 | 1,611 |
| 94 | Del Norte Dr & Glen Annie Rd | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | SB On/Off Ramps & Glen Annie Rd | Signal | 0 | 0 | 462 | 674 | 11 | 50 | 0 | 0 |
| 96 | Calle Real & Hollister Ave | TWSC | 175 | 146 | 0 | 0 | 0 | 0 | 326 | 272 |
| 97 | SB On/Off Ramps & Hollister Ave | TWSC | 0 | 0 | 90 | 75 | 22 | 50 | 0 | 0 |
| 98 | NB Off Ramp & Winchester Canyon Rd | AWSC | 0 | 0 | 0 | 0 | 77 | 64 | 0 | 0 |
| 99 | NB On Ramp & Hollister Ave | TWSC | 33 | 50 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | Guteirrez St & Garden St | Signal | 248 | 362 | 0 | 0 | 0 | 0 | 599 | 874 |
| 103 | Montecito St & Castillo St | Signal | 87 | 127 | 167 | 244 | 554 | 808 | 19 | 50 |
| 104 | San Andres & Carrillo St | Signal | 26 | 50 | 114 | 166 | 213 | 311 | 42 | 61 |
| 105 | Modoc St & Mission St | AWSC | 164 | 137 | 0 | 0 | 197 | 164 | 0 | 0 |
| 106 | Quinientos St & Milpas S | Signal | 55 | 80 | 173 | 252 | 16 | 50 | 107 | 156 |

| Storage Length for AM | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | NBL | | SBL | | EBL | | WBL | |
| ID | Intersections | Control | VPH | Storage | VPH | Storage | VPH | Storage | VPH | Storage |
| 1 | NB On/Off Ramps & Bates Rd | TWSC | 19 | 50 | 0 | 0 | 0 | 0 | 5 | 50 |
| 2 | SB On/Off-Ramps & | TWSC | 0 | 0 | 6 | 50 | 5 | 50 | 0 | 0 |
| 3 | NB On/Off-Ramps & SR150 | TWSC | 3 | 50 | 0 | 0 | 0 | 0 | 184 | 153 |
| 4 | SB On/Off-Ramps & SR150 | TWSC | 0 | 0 | 39 | 50 | 62 | 52 | 0 | 0 |
| 5 | Via Real & SR150 | TWSC | 234 | 195 | 1 | 50 | 5 | 50 | 4 | 50 |
| 6 | Carpinteria Ave & SR150 | TWSC | 0 | 0 | 6 | 50 | 46 | 50 | 0 | 0 |
| 7 | NB On/Off Ramps & Bailard Ave | TWSC | 2 | 50 | 0 | 0 | 0 | 0 | 60 | 50 |
| 8 | SB On/Off Ramps & Bailard Ave | TWSC | 0 | 0 | 23 | 50 | 263 | 219 | 0 | 0 |
| 9 | Via Real & Bailard Ave | AWSC | 49 | 50 | 8 | 50 | 6 | 50 | 148 | 123 |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | 1 | 50 | 130 | 108 | 139 | 116 | 0 | 0 |
| 11 | NB Off Ramp & Casitas Pass Rd | AWSC | 192 | 160 | 0 | 0 | 1 | 50 | 184 | 153 |
| 12 | NB On Ramp & Via Real | TWSC | 0 | 0 | 68 | 57 | 0 | 0 | 0 | 0 |
| 13 | SB On/Off Ramps & Casitas Pass Rd | AWSC | 0 | 0 | 91 | 76 | 74 | 62 | 0 | 0 |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | 0 | 0 | 82 | 120 | 217 | 316 | 0 | 0 |
| 15 | Ogan Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 94 | 78 |
| 16 | Ogan Rd & Linden Ave | TWSC | 0 | 0 | 205 | 171 | 0 | 0 | 43 | 50 |
| 17 | SB Off Ramp & Linden Ave | TWSC | 0 | 0 | 0 | 0 | 84 | 70 | 0 | 0 |
| 18 | Sawyer Ave & Linden Ave | TWSC | 6 | 50 | 0 | 0 | 48 | 50 | 0 | 0 |
| 19 | Carpinteria Ave & SB On/Off Ramps | TWSC | 3 | 50 | 15 | 50 | 112 | 93 | 66 | 55 |
| 20 | Carpinteria Ave & Santan Ynez Ave | Signal | 14 | 50 | 173 | 252 | 123 | 179 | 0 | 0 |
| 21 | Via Real & NB On/Off Ramps | AWSC | 143 | 119 | 60 | 50 | 15 | 50 | 255 | 213 |
| 22 | NB On/Off Ramps & Padero Ln | TWSC | 16 | 50 | 0 | 0 | 0 | 0 | 16 | 50 |
| 23 | Via Real & Padero Ln | TWSC | 123 | 103 | 0 | 0 | 0 | 0 | 163 | 136 |
| 24 | SB Off Ramp & Padero Ln | TWSC | 0 | 0 | 92 | 77 | 76 | 63 | 1 | 50 |
| 25 | NB On/Off Ramps & Padero Ln | TWSC | 17 | 50 | 0 | 0 | 0 | 0 | 5 | 50 |
| 26 | Via Real & Padero Ln | TWSC | 26 | 50 | 0 | 0 | 0 | 0 | 424 | 353 |
| 27 | SB On/Off Ramps & Padero Ln | TWSC | 0 | 0 | 74 | 62 | 109 | 91 | 0 | 0 |
| 28 | Ortega Hill Rd & Hollister St | TWSC | 46 | 50 | 0 | 0 | 1 | 50 | 0 | 0 |
| 29 | Ortega Hill Rd & Evans Ave | AWSC | 26 | 50 | 11 | 50 | 1 | 50 | 23 | 50 |
| 30 | Ortega Hill Rd & NB On Ramp | TWSC | 0 | 0 | 15 | 50 | 0 | 0 | 172 | 143 |
| 31 | SB Off Ramp & Evans Ave | TWSC | 0 | 0 | 47 | 50 | 91 | 76 | 0 | 0 |
| 32 | NB On/Off Ramps & Jameson Ln | TWSC | 4 | 50 | 0 | 0 | 0 | 0 | 2 | 50 |
| 33 | SB On/Off Ramps & Jameson Ln | TWSC | 0 | 0 | 70 | 58 | 320 | 267 | 0 | 0 |
| 34 | Sheffield Dr & Jameson Ln | TWSC | 82 | 68 | 0 | 0 | 0 | 0 | 204 | 170 |
| 35 | NB On/Off Ramps & San Ysidro Rd | TWSC | 44 | 50 | 0 | 0 | 0 | 0 | 24 | 50 |
| 36 | N Jameson Ln & San Ysidro Rd | AWSC | 34 | 50 | 21 | 50 | 75 | 63 | 80 | 67 |
| 37 | SB Off Ramp & San Ysidro Rd | TWSC | 0 | 0 | 70 | 58 | 380 | 317 | 8 | 50 |
| 38 | S Jameson Ln & San Ysidro Rd | TWSC | 6 | 50 | 0 | 0 | 45 | 50 | 0 | 0 |
| 39 | NB Off Ramp & Olive Mill Rd | AWSC | 136 | 113 | 0 | 0 | 0 | 0 | 36 | 50 |
| 40 | SB On Ramp & Olive Mill Rd | AWSC | 0 | 0 | 91 | 76 | 167 | 139 | 0 | 0 |
| 41 | SB Off Ramp & Depot Rd | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 50 |
| 42 | Spring Rd & Olive Mill Rd | TWSC | 1 | 50 | 0 | 0 | 288 | 240 | 0 | 0 |
| 43 | Coast Village Rd & NB Off Ramp | TWSC | 48 | 50 | 19 | 50 | 12 | 50 | 0 | 0 |
| 44 | SB On/Off Ramps & Cabrillo Blvd | AWSC | 0 | 0 | 80 | 67 | 461 | 384 | 178 | 148 |
| 45 | NB On Ramp & Cabrillo Blvd | TWSC | 38 | 50 | 0 | 0 | 0 | 0 | 240 | 200 |
| 46 | NB On/Off Ramps & S Salinas St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 47 | NB On-Ramp & Carpinteria St | Signal | 109 | 159 | 65 | 95 | 0 | 0 | 52 | 76 |
| 48 | SB Off-Ramp & Milpas St | Signal | 0 | 0 | 0 | 0 | 725 | 1,057 | 0 | 0 |
| 49 | SB On-Ramp & Milpas St | Signal | 0 | 0 | 522 | 761 | 0 | 0 | 0 | 0 |
| 50 | NB On/Off-Ramp & Garden St | Signal | 142 | 207 | 0 | 0 | 0 | 0 | 101 | 147 |
| 51 | Palm Ave & NB Off-Ramp | TWSC | 5 | 50 | 0 | 0 | 8 | 50 | 0 | 0 |
| 52 | SB On/Off-Ramp & Garden St | Signal | 0 | 0 | 259 | 378 | 602 | 878 | 0 | 0 |
| 53 | Yanonali St & Garden St | Signal | 16 | 50 | 288 | 420 | 119 | 174 | 10 | 50 |
| 54 | Cottage Grove Ave & NB Off Ramp | TWSC | 2 | 50 | 15 | 50 | 5 | 50 | 0 | 0 |
| 55 | NB On Ramp & Castillo St | Signal | 451 | 658 | 9 | 50 | 0 | 0 | 296 | 432 |
| 56 | W Haley St & Bath St | Signal | 167 | 244 | 0 | 0 | 91 | 133 | 6 | 50 |
| 57 | SB On/Off Ramps & Castillo St | Signal | 0 | 0 | 79 | 115 | 222 | 324 | 0 | 0 |
| 58 | NB On/Off-Ramp & Carillo St | Signal | 421 | 614 | 0 | 0 | 0 | 0 | 269 | 392 |
| 59 | SB On/Off-Ramp & Carillo St | Signal | 0 | 0 | 176 | 257 | 1,072 | 1,563 | 0 | 0 |
| 60 | Castillo St & Carillo St | Signal | 0 | 0 | 16 | 50 | 46 | 67 | 0 | 0 |
| 61 | Carillo St & | TWSC | 0 | 0 | 160 | 133 | 0 | 0 | 0 | 0 |
| 62 | Castillo St & NB On/Off Ramps | TWSC | 0 | 0 | 26 | 50 | 26 | 50 | 0 | 0 |
| 63 | NB On/Off Ramps & Mission St | Signal | 486 | 709 | 0 | 0 | 0 | 0 | 171 | 249 |
| 64 | SB On/Off Ramps & Mission St | Signal | 0 | 0 | 452 | 659 | 917 | 1,337 | 0 | 0 |
| 65 | Castillo St & Mission St | Signal | 138 | 201 | 15 | 50 | 9 | 50 | 0 | 0 |
| 66 | San Pascual St & Mission St | TWSC | 0 | 0 | 64 | 53 | 0 | 0 | 13 | 50 |
| 67 | NB Off Ramp & Pueblo St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 335 | 279 |
| 68 | Calle Real & NB On Ramp | Signal | 0 | 0 | 2 | 50 | 4 | 50 | 1,037 | 1,512 |
| 69 | Calle Real & Las Positas Rd | Signal | 766 | 1,117 | 0 | 0 | 58 | 85 | 249 | 363 |
| 70 | SB On/Off Ramps & Las Positas Rd | Signal | 0 | 0 | 444 | 648 | 307 | 448 | 0 | 0 |
| 71 | Modoc Rd & Las Positas Rd | Signal | 148 | 216 | 174 | 254 | 240 | 350 | 21 | 50 |
| 72 | Calle Real & Hope Ave | Signal | 405 | 591 | 61 | 89 | 159 | 232 | 97 | 141 |
| 73 | SB On/Off Ramps & La Cumbre Rd | Signal | 0 | 0 | 318 | 464 | 435 | 634 | 0 | 0 |
| 74 | Calle Real & La Cumbre Rd | Signal | 0 | 0 | 53 | 77 | 0 | 0 | 299 | 436 |
| 75 | State St & NB Off Ramp | Signal | 189 | 276 | 149 | 217 | 29 | 50 | 0 | 0 |
| 76 | State St & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | Calle Real & San Marcos Pass Rd | Signal | 67 | 98 | 108 | 158 | 36 | 53 | 190 | 277 |
| 78 | State St & SB Off Ramp | Signal | 2 | 50 | 454 | 662 | 0 | 0 | 36 | 53 |
| 79 | SB On Ramp & San Marcos Pass Rd | TWSC | 0 | 0 | 670 | 558 | 0 | 0 | 0 | 0 |
| 80 | Calle Real & NB On/Off Ramps / El Sueno Rd | AWSC | 199 | 166 | 76 | 63 | 18 | 50 | 305 | 254 |
| 81 | NB On/Off Ramps & Turnpike Rd | Signal | 311 | 454 | 0 | 0 | 0 | 0 | 451 | 658 |
| 82 | SB On/Off Ramps & Turnpike Rd | Signal | 0 | 0 | 308 | 449 | 302 | 440 | 0 | 0 |
| 83 | Calle Real & Turnpike Rd | Signal | 150 | 219 | 56 | 82 | 37 | 54 | 190 | 277 |
| 84 | NB On/Off Ramps & Patterson Ave | Signal | 249 | 363 | 0 | 0 | 0 | 0 | 426 | 621 |
| 85 | SB On/Off Ramps & Patterson Ave | Signal | 0 | 0 | 571 | 833 | 191 | 279 | 0 | 0 |
| 86 | Calle Real & Patterson Ave | Signal | 342 | 499 | 0 | 0 | 65 | 95 | 0 | 0 |
| 87 | NB Off Ramp & NB On Ramp | Signal | 0 | 0 | 0 | 0 | 407 | 594 | 0 | 0 |
| 88 | Calle Real & Fairview Ave | Signal | 249 | 363 | 55 | 80 | 27 | 50 | 176 | 257 |
| 89 | SB On/Off Ramps & Fairview Ave | Signal | 0 | 0 | 576 | 840 | 166 | 242 | 0 | 0 |
| 90 | NB On/Off Ramps & Los Carneros Rd | Signal | 54 | 79 | 0 | 0 | 0 | 0 | 786 | 1,146 |
| 91 | SB On/Off Ramps & Los Carneros Rd | Signal | 0 | 0 | 88 | 128 | 99 | 144 | 0 | 0 |
| 92 | Calle Real & Los Carneros Rd | TWSC | 0 | 0 | 21 | 50 | 0 | 0 | 232 | 193 |
| 93 | NB On/Off Ramps & Glen Annie Rd | Signal | 201 | 293 | 11 | 50 | 37 | 54 | 632 | 922 |
| 94 | Del Norte Dr & Glen Annie Rd | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | SB On/Off Ramps & Glen Annie Rd | Signal | 0 | 0 | 949 | 1,384 | 38 | 55 | 0 | 0 |
| 96 | Calle Real & Hollister Ave | TWSC | 41 | 50 | 0 | 0 | 0 | 0 | 437 | 364 |
| 97 | SB On/Off Ramps & Hollister Ave | TWSC | 0 | 0 | 254 | 212 | 62 | 52 | 0 | 0 |
| 98 | NB Off Ramp & Winchester Canyon Rd | AWSC | 0 | 0 | 0 | 0 | 59 | 50 | 0 | 0 |
| 99 | NB On Ramp & Hollister Ave | TWSC | 29 | 50 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | Guteirrez St & Garden St | Signal | 354 | 516 | 0 | 0 | 0 | 0 | 400 | 583 |
| 103 | Montecito St & Castillo St | Signal | 52 | 76 | 55 | 80 | 552 | 805 | 9 | 50 |
| 104 | San Andres & Carrillo St | Signal | 17 | 50 | 59 | 86 | 290 | 423 | 60 | 88 |
| 105 | Modoc St & Mission St | AWSC | 137 | 114 | 0 | 0 | 254 | 212 | 0 | 0 |
| 106 | Quinientos St & Milpas S | Signal | 71 | 104 | 68 | 99 | 19 | 50 | 54 | 79 |

| Storage Length for Peak Hour Roundup to the Nearest Five | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | NBL | | SBL | | EBL | | WBL | |
| ID | Intersections | Control | Max VPH | Storage | Max VPH | Storage | Max VPH | Storage | Max VPH | Storage |
| 1 | NB On/Off Ramps & Bates Rd | TWSC | 30 | 50 | 0 | 0 | 0 | 0 | 25 | 50 |
| 2 | SB On/Off-Ramps & | TWSC | 0 | 0 | 10 | 50 | 10 | 50 | 0 | 0 |
| 3 | NB On/Off-Ramps & SR150 | TWSC | 10 | 50 | 0 | 0 | 0 | 0 | 185 | 155 |
| 4 | SB On/Off-Ramps & SR150 | TWSC | 0 | 0 | 225 | 190 | 170 | 145 | 0 | 0 |
| 5 | Via Real & SR150 | TWSC | 235 | 195 | 5 | 50 | 40 | 50 | 5 | 50 |
| 6 | Carpinteria Ave & SR150 | TWSC | 0 | 0 | 10 | 50 | 195 | 160 | 0 | 0 |
| 7 | NB On/Off Ramps & Bailard Ave | TWSC | 110 | 90 | 0 | 0 | 0 | 0 | 60 | 50 |
| 8 | SB On/Off Ramps & Bailard Ave | TWSC | 0 | 0 | 45 | 50 | 265 | 220 | 0 | 0 |
| 9 | Via Real & Bailard Ave | AWSC | 150 | 125 | 10 | 50 | 10 | 50 | 390 | 325 |
| 10 | Carpinteria Ave & Bailard Ave | AWSC | 5 | 50 | 130 | 110 | 280 | 235 | 5 | 50 |
| 11 | NB Off Ramp & Casitas Pass Rd | AWSC | 220 | 185 | 0 | 0 | 5 | 50 | 185 | 155 |
| 12 | NB On Ramp & Via Real | TWSC | 0 | 0 | 115 | 95 | 0 | 0 | 0 | 0 |
| 13 | SB On/Off Ramps & Casitas Pass Rd | AWSC | 0 | 0 | 160 | 135 | 75 | 65 | 0 | 0 |
| 14 | Carpinteria Ave & Casitas Pass Rd | Signal | 0 | 0 | 255 | 375 | 315 | 460 | 0 | 0 |
| 15 | Ogan Rd & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 95 | 80 |
| 16 | Ogan Rd & Linden Ave | TWSC | 0 | 0 | 205 | 175 | 0 | 0 | 60 | 50 |
| 17 | SB Off Ramp & Linden Ave | TWSC | 0 | 0 | 0 | 0 | 125 | 105 | 0 | 0 |
| 18 | Sawyer Ave & Linden Ave | TWSC | 20 | 50 | 0 | 0 | 50 | 50 | 0 | 0 |
| 19 | Carpinteria Ave & SB On/Off Ramps | TWSC | 5 | 50 | 20 | 50 | 195 | 165 | 70 | 55 |
| 20 | Carpinteria Ave & Santan Ynez Ave | Signal | 25 | 50 | 345 | 505 | 125 | 180 | 0 | 0 |
| 21 | Via Real & NB On/Off Ramps | AWSC | 145 | 120 | 110 | 90 | 35 | 50 | 255 | 215 |
| 22 | NB On/Off Ramps & Padero Ln | TWSC | 40 | 50 | 0 | 0 | 0 | 0 | 20 | 50 |
| 23 | Via Real & Padero Ln | TWSC | 125 | 105 | 0 | 0 | 0 | 0 | 165 | 140 |
| 24 | SB Off Ramp & Padero Ln | TWSC | 0 | 0 | 250 | 210 | 165 | 140 | 5 | 50 |
| 25 | NB On/Off Ramps & Padero Ln | TWSC | 45 | 50 | 0 | 0 | 0 | 0 | 5 | 50 |
| 26 | Via Real & Padero Ln | TWSC | 30 | 50 | 0 | 0 | 0 | 0 | 425 | 355 |
| 27 | SB On/Off Ramps & Padero Ln | TWSC | 0 | 0 | 75 | 65 | 165 | 135 | 0 | 0 |
| 28 | Ortega Hill Rd & Hollister St | TWSC | 50 | 50 | 0 | 0 | 5 | 50 | 0 | 0 |
| 29 | Ortega Hill Rd & Evans Ave | AWSC | 40 | 50 | 15 | 50 | 5 | 50 | 35 | 50 |
| 30 | Ortega Hill Rd & NB On Ramp | TWSC | 0 | 0 | 15 | 50 | 0 | 0 | 175 | 145 |
| 31 | SB Off Ramp & Evans Ave | TWSC | 0 | 0 | 95 | 80 | 155 | 130 | 0 | 0 |
| 32 | NB On/Off Ramps & Jameson Ln | TWSC | 5 | 50 | 0 | 0 | 0 | 0 | 5 | 50 |
| 33 | SB On/Off Ramps & Jameson Ln | TWSC | 0 | 0 | 100 | 85 | 320 | 270 | 0 | 0 |
| 34 | Sheffield Dr & Jameson Ln | TWSC | 85 | 70 | 0 | 0 | 0 | 0 | 290 | 240 |
| 35 | NB On/Off Ramps & San Ysidro Rd | TWSC | 80 | 70 | 0 | 0 | 0 | 0 | 25 | 50 |
| 36 | N Jameson Ln & San Ysidro Rd | AWSC | 35 | 50 | 25 | 50 | 75 | 65 | 80 | 70 |
| 37 | SB Off Ramp & San Ysidro Rd | TWSC | 0 | 0 | 125 | 105 | 380 | 320 | 10 | 50 |
| 38 | S Jameson Ln & San Ysidro Rd | TWSC | 10 | 50 | 0 | 0 | 45 | 50 | 0 | 0 |
| 39 | NB Off Ramp & Olive Mill Rd | AWSC | 150 | 125 | 0 | 0 | 0 | 0 | 40 | 50 |
| 40 | SB On Ramp & Olive Mill Rd | AWSC | 0 | 0 | 125 | 105 | 230 | 190 | 0 | 0 |
| 41 | SB Off Ramp & Depot Rd | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 |
| 42 | Spring Rd & Olive Mill Rd | TWSC | 5 | 50 | 0 | 0 | 290 | 240 | 0 | 0 |
| 43 | Coast Village Rd & NB Off Ramp | TWSC | 55 | 50 | 30 | 50 | 15 | 50 | 0 | 0 |
| 44 | SB On/Off Ramps & Cabrillo Blvd | AWSC | 0 | 0 | 115 | 95 | 465 | 385 | 190 | 160 |
| 45 | NB On Ramp & Cabrillo Blvd | TWSC | 75 | 60 | 0 | 0 | 0 | 0 | 355 | 295 |
| 46 | NB On/Off Ramps & S Salinas St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 47 | NB On-Ramp & Carpinteria St | Signal | 220 | 325 | 110 | 155 | 0 | 0 | 55 | 80 |
| 48 | SB Off-Ramp & Milpas St | Signal | 0 | 0 | 0 | 0 | 725 | 1,060 | 0 | 0 |
| 49 | SB On-Ramp & Milpas St | Signal | 0 | 0 | 885 | 1,295 | 0 | 0 | 0 | 0 |
| 50 | NB On/Off-Ramp & Garden St | Signal | 345 | 505 | 0 | 0 | 0 | 0 | 115 | 170 |
| 51 | Palm Ave & NB Off-Ramp | TWSC | 5 | 50 | 0 | 0 | 25 | 50 | 0 | 0 |
| 52 | SB On/Off-Ramp & Garden St | Signal | 0 | 0 | 480 | 700 | 605 | 880 | 0 | 0 |
| 53 | Yanonali St & Garden St | Signal | 20 | 50 | 290 | 420 | 270 | 395 | 10 | 50 |
| 54 | Cottage Grove Ave & NB Off Ramp | TWSC | 10 | 50 | 20 | 50 | 15 | 50 | 0 | 0 |
| 55 | NB On Ramp & Castillo St | Signal | 520 | 755 | 30 | 50 | 0 | 0 | 455 | 665 |
| 56 | W Haley St & Bath St | Signal | 265 | 390 | 0 | 0 | 115 | 170 | 15 | 50 |
| 57 | SB On/Off Ramps & Castillo St | Signal | 0 | 0 | 110 | 160 | 225 | 325 | 0 | 0 |
| 58 | NB On/Off-Ramp & Carillo St | Signal | 425 | 615 | 0 | 0 | 0 | 0 | 420 | 615 |
| 59 | SB On/Off-Ramp & Carillo St | Signal | 0 | 0 | 255 | 375 | 1,075 | 1,565 | 0 | 0 |
| 60 | Castillo St & Carillo St | Signal | 0 | 0 | 45 | 70 | 95 | 135 | 0 | 0 |
| 61 | Carillo St & | TWSC | 0 | 0 | 305 | 255 | 0 | 0 | 5 | 50 |
| 62 | Castillo St & NB On/Off Ramps | TWSC | 0 | 0 | 30 | 50 | 30 | 50 | 0 | 0 |
| 63 | NB On/Off Ramps & Mission St | Signal | 490 | 710 | 0 | 0 | 0 | 0 | 180 | 260 |
| 64 | SB On/Off Ramps & Mission St | Signal | 0 | 0 | 455 | 660 | 920 | 1,340 | 0 | 0 |
| 65 | Castillo St & Mission St | Signal | 140 | 205 | 30 | 50 | 20 | 50 | 0 | 0 |
| 66 | San Pascual St & Mission St | TWSC | 0 | 0 | 160 | 130 | 0 | 0 | 15 | 50 |
| 67 | NB Off Ramp & Pueblo St | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 380 | 315 |
| 68 | Calle Real & NB On Ramp | Signal | 0 | 0 | 5 | 50 | 20 | 50 | 1,040 | 1,515 |
| 69 | Calle Real & Las Positas Rd | Signal | 770 | 1,120 | 0 | 0 | 85 | 125 | 370 | 535 |
| 70 | SB On/Off Ramps & Las Positas Rd | Signal | 0 | 0 | 505 | 735 | 485 | 705 | 0 | 0 |
| 71 | Modoc Rd & Las Positas Rd | Signal | 160 | 235 | 240 | 350 | 240 | 350 | 25 | 50 |
| 72 | Calle Real & Hope Ave | Signal | 405 | 595 | 120 | 175 | 160 | 235 | 155 | 225 |
| 73 | SB On/Off Ramps & La Cumbre Rd | Signal | 0 | 0 | 540 | 785 | 660 | 960 | 0 | 0 |
| 74 | Calle Real & La Cumbre Rd | Signal | 0 | 0 | 125 | 180 | 0 | 0 | 385 | 560 |
| 75 | State St & NB Off Ramp | Signal | 225 | 325 | 190 | 275 | 45 | 60 | 0 | 0 |
| 76 | State St & NB On Ramp | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | Calle Real & San Marcos Pass Rd | Signal | 75 | 110 | 110 | 160 | 65 | 95 | 190 | 280 |
| 78 | State St & SB Off Ramp | Signal | 15 | 50 | 575 | 840 | 0 | 0 | 55 | 80 |
| 79 | SB On Ramp & San Marcos Pass Rd | TWSC | 0 | 0 | 670 | 560 | 0 | 0 | 0 | 0 |
| 80 | Calle Real & NB On/Off Ramps / El Sueno Rd | AWSC | 200 | 170 | 80 | 65 | 50 | 50 | 305 | 255 |
| 81 | NB On/Off Ramps & Turnpike Rd | Signal | 315 | 455 | 0 | 0 | 0 | 0 | 455 | 660 |
| 82 | SB On/Off Ramps & Turnpike Rd | Signal | 0 | 0 | 310 | 450 | 360 | 525 | 0 | 0 |
| 83 | Calle Real & Turnpike Rd | Signal | 305 | 445 | 60 | 85 | 40 | 55 | 305 | 445 |
| 84 | NB On/Off Ramps & Patterson Ave | Signal | 400 | 580 | 0 | 0 | 0 | 0 | 430 | 625 |
| 85 | SB On/Off Ramps & Patterson Ave | Signal | 0 | 0 | 575 | 835 | 560 | 820 | 0 | 0 |
| 86 | Calle Real & Patterson Ave | Signal | 770 | 1,125 | 0 | 0 | 185 | 270 | 0 | 0 |
| 87 | NB Off Ramp & NB On Ramp | Signal | 0 | 0 | 0 | 0 | 795 | 1,155 | 0 | 0 |
| 88 | Calle Real & Fairview Ave | Signal | 390 | 565 | 130 | 190 | 45 | 70 | 295 | 430 |
| 89 | SB On/Off Ramps & Fairview Ave | Signal | 0 | 0 | 580 | 840 | 210 | 305 | 0 | 0 |
| 90 | NB On/Off Ramps & Los Carneros Rd | Signal | 220 | 315 | 0 | 0 | 0 | 0 | 790 | 1,150 |
| 91 | SB On/Off Ramps & Los Carneros Rd | Signal | 0 | 0 | 90 | 130 | 100 | 145 | 0 | 0 |
| 92 | Calle Real & Los Carneros Rd | TWSC | 0 | 0 | 25 | 50 | 0 | 0 | 345 | 290 |
| 93 | NB On/Off Ramps & Glen Annie Rd | Signal | 270 | 395 | 20 | 50 | 40 | 55 | 1,105 | 1,615 |
| 94 | Del Norte Dr & Glen Annie Rd | TWSC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | SB On/Off Ramps & Glen Annie Rd | Signal | 0 | 0 | 950 | 1,385 | 40 | 60 | 0 | 0 |
| 96 | Calle Real & Hollister Ave | TWSC | 175 | 150 | 0 | 0 | 0 | 0 | 440 | 365 |
| 97 | SB On/Off Ramps & Hollister Ave | TWSC | 0 | 0 | 255 | 215 | 65 | 55 | 0 | 0 |
| 98 | NB Off Ramp & Winchester Canyon Rd | AWSC | 0 | 0 | 0 | 0 | 80 | 65 | 0 | 0 |
| 99 | NB On Ramp & Hollister Ave | TWSC | 35 | 50 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | Guteirrez St & Garden St | Signal | 355 | 520 | 0 | 0 | 0 | 0 | 600 | 875 |
| 103 | Montecito St & Castillo St | Signal | 90 | 130 | 170 | 245 | 555 | 810 | 20 | 50 |
| 104 | San Andres & Carrillo St | Signal | 30 | 50 | 115 | 170 | 290 | 425 | 60 | 90 |
| 105 | Modoc St & Mission St | AWSC | 165 | 140 | 0 | 0 | 255 | 215 | 0 | 0 |
| 106 | Quinientos St & Milpas S | Signal | 75 | 105 | 175 | 255 | 20 | 50 | 110 | 160 |

| Adjustments for Stop Control | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | NBL | | SBL | | EBL | | WBL | |
| ID | Intersections | | Max VPH | Storage | Max VPH | Storage | Max VPH | Storage | Max VPH | Storage |
| 1 | NB On/Off Ramps & Bates Rd | 0 | 30 | 75 | 0 | 0 | 0 | 0 | 25 | 75 |
| 2 | SB On/Off-Ramps & | 0 | 0 | 0 | 10 | 75 | 10 | 75 | 0 | 0 |
| 3 | NB On/Off-Ramps & SR150 | 0 | 10 | 75 | 0 | 0 | 0 | 0 | 185 | 155 |
| 4 | SB On/Off-Ramps & SR150 | 0 | 0 | 0 | 225 | 190 | 170 | 140 | 0 | 0 |
| 5 | Via Real & SR150 | 0 | 235 | 195 | 5 | 75 | 40 | 75 | 5 | 75 |
| 6 | Carpinteria Ave & SR150 | 0 | 0 | 0 | 10 | 75 | 195 | 165 | 0 | 0 |
| 7 | NB On/Off Ramps & Bailard Ave | 0 | 110 | 90 | 0 | 0 | 0 | 0 | 60 | 75 |
| 8 | SB On/Off Ramps & Bailard Ave | 0 | 0 | 0 | 45 | 75 | 265 | 220 | 0 | 0 |
| 9 | Via Real & Bailard Ave | 0 | 150 | 125 | 10 | 75 | 10 | 75 | 390 | 325 |
| 10 | Carpinteria Ave & Bailard Ave | 0 | 5 | 75 | 130 | 110 | 280 | 235 | 5 | 75 |
| 11 | NB Off Ramp & Casitas Pass Rd | 0 | 220 | 185 | 0 | 0 | 5 | 75 | 185 | 155 |
| 12 | NB On Ramp & Via Real | 0 | 0 | 0 | 115 | 95 | 0 | 0 | 0 | 0 |
| 13 | SB On/Off Ramps & Casitas Pass Rd | 0 | 0 | 0 | 160 | 135 | 75 | 75 | 0 | 0 |
| 14 | Carpinteria Ave & Casitas Pass Rd | 1 | 0 | 0 | 255 | 375 | 315 | 460 | 0 | 0 |
| 15 | Ogan Rd & NB On Ramp | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95 | 80 |
| 16 | Ogan Rd & Linden Ave | 0 | 0 | 0 | 205 | 170 | 0 | 0 | 60 | 75 |
| 17 | SB Off Ramp & Linden Ave | 0 | 0 | 0 | 0 | 0 | 125 | 105 | 0 | 0 |
| 18 | Sawyer Ave & Linden Ave | 0 | 20 | 75 | 0 | 0 | 50 | 75 | 0 | 0 |
| 19 | Carpinteria Ave & SB On/Off Ramps | 0 | 5 | 75 | 20 | 75 | 195 | 165 | 70 | 75 |
| 20 | Carpinteria Ave & Santan Ynez Ave | 1 | 25 | 50 | 345 | 505 | 125 | 180 | 0 | 0 |
| 21 | Via Real & NB On/Off Ramps | 0 | 145 | 120 | 110 | 90 | 35 | 75 | 255 | 215 |
| 22 | NB On/Off Ramps & Padero Ln | 0 | 40 | 75 | 0 | 0 | 0 | 0 | 20 | 75 |
| 23 | Via Real & Padero Ln | 0 | 125 | 105 | 0 | 0 | 0 | 0 | 165 | 140 |
| 24 | SB Off Ramp & Padero Ln | 0 | 0 | 0 | 250 | 210 | 165 | 140 | 5 | 75 |
| 25 | NB On/Off Ramps & Padero Ln | 0 | 45 | 75 | 0 | 0 | 0 | 0 | 5 | 75 |
| 26 | Via Real & Padero Ln | 0 | 30 | 75 | 0 | 0 | 0 | 0 | 425 | 355 |
| 27 | SB On/Off Ramps & Padero Ln | 0 | 0 | 0 | 75 | 75 | 165 | 140 | 0 | 0 |
| 28 | Ortega Hill Rd & Hollister St | 0 | 50 | 75 | 0 | 0 | 5 | 75 | 0 | 0 |
| 29 | Ortega Hill Rd & Evans Ave | 0 | 40 | 75 | 15 | 75 | 5 | 75 | 35 | 75 |
| 30 | Ortega Hill Rd & NB On Ramp | 0 | 0 | 0 | 15 | 75 | 0 | 0 | 175 | 145 |
| 31 | SB Off Ramp & Evans Ave | 0 | 0 | 0 | 95 | 80 | 155 | 130 | 0 | 0 |
| 32 | NB On/Off Ramps & Jameson Ln | 0 | 5 | 75 | 0 | 0 | 0 | 0 | 5 | 75 |
| 33 | SB On/Off Ramps & Jameson Ln | 0 | 0 | 0 | 100 | 85 | 320 | 265 | 0 | 0 |
| 34 | Sheffield Dr & Jameson Ln | 0 | 85 | 75 | 0 | 0 | 0 | 0 | 290 | 240 |
| 35 | NB On/Off Ramps & San Ysidro Rd | 0 | 80 | 75 | 0 | 0 | 0 | 0 | 25 | 75 |
| 36 | N Jameson Ln & San Ysidro Rd | 0 | 35 | 75 | 25 | 75 | 75 | 75 | 80 | 75 |
| 37 | SB Off Ramp & San Ysidro Rd | 0 | 0 | 0 | 125 | 105 | 380 | 315 | 10 | 75 |
| 38 | S Jameson Ln & San Ysidro Rd | 0 | 10 | 75 | 0 | 0 | 45 | 75 | 0 | 0 |
| 39 | NB Off Ramp & Olive Mill Rd | 0 | 150 | 125 | 0 | 0 | 0 | 0 | 40 | 75 |
| 40 | SB On Ramp & Olive Mill Rd | 0 | 0 | 0 | 125 | 105 | 230 | 190 | 0 | 0 |
| 41 | SB Off Ramp & Depot Rd | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 75 |
| 42 | Spring Rd & Olive Mill Rd | 0 | 5 | 75 | 0 | 0 | 290 | 240 | 0 | 0 |
| 43 | Coast Village Rd & NB Off Ramp | 0 | 55 | 75 | 30 | 75 | 15 | 75 | 0 | 0 |
| 44 | SB On/Off Ramps & Cabrillo Blvd | 0 | 0 | 0 | 115 | 95 | 465 | 390 | 190 | 160 |
| 45 | NB On Ramp & Cabrillo Blvd | 0 | 75 | 75 | 0 | 0 | 0 | 0 | 355 | 295 |
| 46 | NB On/Off Ramps & S Salinas St | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 47 | NB On-Ramp & Carpinteria St | 1 | 220 | 325 | 110 | 155 | 0 | 0 | 55 | 80 |
| 48 | SB Off-Ramp & Milpas St | 1 | 0 | 0 | 0 | 0 | 725 | 1060 | 0 | 0 |
| 49 | SB On-Ramp & Milpas St | 1 | 0 | 0 | 885 | 1295 | 0 | 0 | 0 | 0 |
| 50 | NB On/Off-Ramp & Garden St | 1 | 345 | 505 | 0 | 0 | 0 | 0 | 115 | 170 |
| 51 | Palm Ave & NB Off-Ramp | 0 | 5 | 75 | 0 | 0 | 25 | 75 | 0 | 0 |
| 52 | SB On/Off-Ramp & Garden St | 1 | 0 | 0 | 480 | 700 | 605 | 880 | 0 | 0 |
| 53 | Yanonali St & Garden St | 1 | 20 | 50 | 290 | 420 | 270 | 395 | 10 | 50 |
| 54 | Cottage Grove Ave & NB Off Ramp | 0 | 10 | 75 | 20 | 75 | 15 | 75 | 0 | 0 |
| 55 | NB On Ramp & Castillo St | 1 | 520 | 755 | 30 | 50 | 0 | 0 | 455 | 665 |
| 56 | W Haley St & Bath St | 1 | 265 | 390 | 0 | 0 | 115 | 170 | 15 | 50 |
| 57 | SB On/Off Ramps & Castillo St | 1 | 0 | 0 | 110 | 160 | 225 | 325 | 0 | 0 |
| 58 | NB On/Off-Ramp & Carillo St | 1 | 425 | 615 | 0 | 0 | 0 | 0 | 420 | 615 |
| 59 | SB On/Off-Ramp & Carillo St | 1 | 0 | 0 | 255 | 375 | 1075 | 1565 | 0 | 0 |
| 60 | Castillo St & Carillo St | 1 | 0 | 0 | 45 | 70 | 95 | 135 | 0 | 0 |
| 61 | Carillo St & | 0 | 0 | 0 | 305 | 255 | 0 | 0 | 5 | 75 |
| 62 | Castillo St & NB On/Off Ramps | 0 | 0 | 0 | 30 | 75 | 30 | 75 | 0 | 0 |
| 63 | NB On/Off Ramps & Mission St | 1 | 490 | 710 | 0 | 0 | 0 | 0 | 180 | 260 |
| 64 | SB On/Off Ramps & Mission St | 1 | 0 | 0 | 455 | 660 | 920 | 1340 | 0 | 0 |
| 65 | Castillo St & Mission St | 1 | 140 | 205 | 30 | 50 | 20 | 50 | 0 | 0 |
| 66 | San Pascual St & Mission St | 0 | 0 | 0 | 160 | 135 | 0 | 0 | 15 | 75 |
| 67 | NB Off Ramp & Pueblo St | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 380 | 315 |
| 68 | Calle Real & NB On Ramp | 1 | 0 | 0 | 5 | 50 | 20 | 50 | 1040 | 1515 |
| 69 | Calle Real & Las Positas Rd | 1 | 770 | 1120 | 0 | 0 | 85 | 125 | 370 | 535 |
| 70 | SB On/Off Ramps & Las Positas Rd | 1 | 0 | 0 | 505 | 735 | 485 | 705 | 0 | 0 |
| 71 | Modoc Rd & Las Positas Rd | 1 | 160 | 235 | 240 | 350 | 240 | 350 | 25 | 50 |
| 72 | Calle Real & Hope Ave | 1 | 405 | 595 | 120 | 175 | 160 | 235 | 155 | 225 |
| 73 | SB On/Off Ramps & La Cumbre Rd | 1 | 0 | 0 | 540 | 785 | 660 | 960 | 0 | 0 |
| 74 | Calle Real & La Cumbre Rd | 1 | 0 | 0 | 125 | 180 | 0 | 0 | 385 | 560 |
| 75 | State St & NB Off Ramp | 1 | 225 | 325 | 190 | 275 | 45 | 60 | 0 | 0 |
| 76 | State St & NB On Ramp | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | Calle Real & San Marcos Pass Rd | 1 | 75 | 110 | 110 | 160 | 65 | 95 | 190 | 280 |
| 78 | State St & SB Off Ramp | 1 | 15 | 50 | 575 | 840 | 0 | 0 | 55 | 80 |
| 79 | SB On Ramp & San Marcos Pass Rd | 0 | 0 | 0 | 670 | 560 | 0 | 0 | 0 | 0 |
| 80 | Calle Real & NB On/Off Ramps / El Sueno Rd | 0 | 200 | 165 | 80 | 75 | 50 | 75 | 305 | 255 |
| 81 | NB On/Off Ramps & Turnpike Rd | 1 | 315 | 455 | 0 | 0 | 0 | 0 | 455 | 660 |
| 82 | SB On/Off Ramps & Turnpike Rd | 1 | 0 | 0 | 310 | 450 | 360 | 525 | 0 | 0 |
| 83 | Calle Real & Turnpike Rd | 1 | 305 | 445 | 60 | 85 | 40 | 55 | 305 | 445 |
| 84 | NB On/Off Ramps & Patterson Ave | 1 | 400 | 580 | 0 | 0 | 0 | 0 | 430 | 625 |
| 85 | SB On/Off Ramps & Patterson Ave | 1 | 0 | 0 | 575 | 835 | 560 | 820 | 0 | 0 |
| 86 | Calle Real & Patterson Ave | 1 | 770 | 1125 | 0 | 0 | 185 | 270 | 0 | 0 |
| 87 | NB Off Ramp & NB On Ramp | 1 | 0 | 0 | 0 | 0 | 795 | 1155 | 0 | 0 |
| 88 | Calle Real & Fairview Ave | 1 | 390 | 565 | 130 | 190 | 45 | 70 | 295 | 430 |
| 89 | SB On/Off Ramps & Fairview Ave | 1 | 0 | 0 | 580 | 840 | 210 | 305 | 0 | 0 |
| 90 | NB On/Off Ramps & Los Carneros Rd | 1 | 220 | 315 | 0 | 0 | 0 | 0 | 790 | 1150 |
| 91 | SB On/Off Ramps & Los Carneros Rd | 1 | 0 | 0 | 90 | 130 | 100 | 145 | 0 | 0 |
| 92 | Calle Real & Los Carneros Rd | 0 | 0 | 0 | 25 | 75 | 0 | 0 | 345 | 290 |
| 93 | NB On/Off Ramps & Glen Annie Rd | 1 | 270 | 395 | 20 | 50 | 40 | 55 | 1105 | 1615 |
| 94 | Del Norte Dr & Glen Annie Rd | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | SB On/Off Ramps & Glen Annie Rd | 1 | 0 | 0 | 950 | 1385 | 40 | 60 | 0 | 0 |
| 96 | Calle Real & Hollister Ave | 0 | 175 | 145 | 0 | 0 | 0 | 0 | 440 | 365 |
| 97 | SB On/Off Ramps & Hollister Ave | 0 | 0 | 0 | 255 | 215 | 65 | 75 | 0 | 0 |
| 98 | NB Off Ramp & Winchester Canyon Rd | 0 | 0 | 0 | 0 | 0 | 80 | 75 | 0 | 0 |
| 99 | NB Off Ramp & Winchester Canyon Rd | 0 | 35 | 75 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | Guteirrez St & Garden St | 1 | 355 | 520 | 0 | 0 | 0 | 0 | 600 | 875 |
| 103 | Montecito St & Castillo St | 1 | 90 | 130 | 170 | 245 | 555 | 810 | 20 | 50 |
| 104 | San Andres & Carrillo St | 1 | 30 | 50 | 115 | 170 | 290 | 425 | 60 | 90 |
| 105 | Modoc St & Mission St | 0 | 165 | 140 | 0 | 0 | 255 | 215 | 0 | 0 |
| 106 | Quinientos St & Milpas S | 1 | 75 | 105 | 175 | 255 | 20 | 50 | 110 | 160 |

# APPENDIX E.

## HCM BASIC FREEWAY LOS WORKSHEETS

# FREEWAY LEVEL OF SERVICE ANALYSIS (HCM 2000)

## US 101 NB

## WEEKDAY MORNING PEAK HOUR

| Route 101 Between | Miles | Lanes | Terrain | Free Flow Speed (mph) | Peak Hr Vol | PHF | % Truck | % BUS | % RV | Fp Adj | FHV Adj | Max. Flow Rate (pc/h/ln) | Service Flow Rate (pc/h/ln) | V/C | Vp (pc/h/ln) | S (mph) | Density (pc/mi/ln) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bates/Rincon | | | | | | | | | | | | | | | | | | |
| | 0.7 | 3 | F | 65.00 | 2516 | 0.92 | 7.0% | 0.4% | 1.0% | 1.0 | 0.962 | 6450 | 6208 | 0.41 | 947 | 65.00 | 14.57 | B |
| Route 150 | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | F | 65.00 | 2282 | 0.92 | 7.4% | 0.4% | 1.0% | 1.0 | 0.961 | 3800 | 3652 | 0.62 | 1291 | 65.00 | 19.86 | C |
| Bailard Ave. | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | F | 65.00 | 2440 | 0.92 | 6.9% | 0.3% | 1.0% | 1.0 | 0.964 | 3800 | 3661 | 0.67 | 1376 | 65.00 | 21.17 | C |
| Route 224 | | | | | | | | | | | | | | | | | | |
| | 0.4 | 2 | F | 65.00 | 2316 | 0.92 | 7.3% | 0.3% | 1.0% | 1.0 | 0.962 | 3800 | 3655 | 0.63 | 1309 | 65.00 | 20.14 | C |
| Linden Ave. | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | F | 65.00 | 2724 | 0.92 | 6.4% | 0.4% | 1.0% | 1.0 | 0.965 | 3800 | 3668 | 0.74 | 1534 | 64.97 | 23.61 | C |
| Santa Monica Rd. | | | | | | | | | | | | | | | | | | |
| | 1.4 | 2 | F | 65.00 | 2839 | 0.92 | 6.2% | 0.4% | 1.0% | 1.0 | 0.966 | 3800 | 3672 | 0.77 | 1597 | 64.89 | 24.61 | C |
| Padaro Lane S. | | | | | | | | | | | | | | | | | | |
| | 1.9 | 2 | F | 65.00 | 2829 | 0.92 | 6.2% | 0.5% | 1.0% | 1.0 | 0.966 | 3800 | 3669 | 0.77 | 1592 | 64.89 | 24.53 | C |
| Padaro Lane N. | | | | | | | | | | | | | | | | | | |
| | 1.05 | 2 | F | 65.00 | 3098 | 0.92 | 5.7% | 0.5% | 1.0% | 1.0 | 0.968 | 3800 | 3678 | 0.84 | 1740 | 64.33 | 27.05 | D |
| Evans Ave. | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | R | 60.00 | 3244 | 0.92 | 5.5% | 0.5% | 1.0% | 1.0 | 0.910 | 3800 | 3457 | 0.94 | 1938 | 58.66 | 33.04 | D |
| Sheffield Dr.* | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | R | 60.00 | 3249 | 0.92 | 5.5% | 0.5% | 1.0% | 1.0 | 0.910 | 3800 | 3457 | 0.94 | 1941 | 58.63 | 33.11 | D |
| San Ysidro Rd. | | | | | | | | | | | | | | | | | | |
| | 0.5 | 2 | F | 60.00 | 3483 | 0.92 | 5.2% | 0.5% | 1.0% | 1.0 | 0.971 | 3800 | 3689 | 0.94 | 1950 | 58.53 | 33.31 | D |
| Olive Mill Rd. | | | | | | | | | | | | | | | | | | |
| | 0.55 | 2 | F | 60.00 | 3244 | 0.92 | 5.4% | 0.4% | 1.0% | 1.0 | 0.970 | 3800 | 3686 | 0.88 | 1818 | 59.57 | 30.52 | D |
| Hermosilla Rd. | | | | | | | | | | | | | | | | | | |
| | 0.35 | 2 | F | 60.00 | 3161 | 0.92 | 5.5% | 0.4% | 1.0% | 1.0 | 0.969 | 3800 | 3683 | 0.86 | 1772 | 59.77 | 29.65 | D |
| Cabrillo Blvd | | | | | | | | | | | | | | | | | | |
| | 0.65 | 2 | F | 65.00 | 3476 | 0.92 | 5.0% | 0.6% | 1.0% | 1.0 | 0.971 | 3800 | 3689 | 0.94 | 1946 | 62.29 | 31.24 | D |
| Salinas St. | | | | | | | | | | | | | | | | | | |
| | 0.75 | 2 | F | 65.00 | 3777 | 0.92 | 4.7% | 0.5% | 1.0% | 1.0 | 0.972 | 3800 | 3695 | 1.02 | 2111 | 59.27 | 35.62 | E |
| Route 144 | | | | | | | | | | | | | | | | | | |
| | 0.75 | 3 | F | 65.00 | 4067 | 0.92 | 5.2% | 0.3% | 1.0% | 1.0 | 0.971 | 6450 | 6264 | 0.65 | 1517 | 64.99 | 23.34 | C |
| Garden St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4053 | 0.92 | 5.5% | 0.4% | 1.0% | 1.0 | 0.969 | 6450 | 6252 | 0.65 | 1515 | 64.99 | 23.31 | C |
| Castillo St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4354 | 0.92 | 5.1% | 0.4% | 1.0% | 1.0 | 0.971 | 6450 | 6264 | 0.70 | 1624 | 64.82 | 25.05 | C |
| Carrillo St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4725 | 0.92 | 4.7% | 0.5% | 1.0% | 1.0 | 0.973 | 6450 | 6273 | 0.75 | 1760 | 64.20 | 27.41 | D |
| Arrellaga St. | | | | | | | | | | | | | | | | | | |
| | 0.4 | 3 | F | 65.00 | 5068 | 0.92 | 4.5% | 0.5% | 1.0% | 1.0 | 0.974 | 6450 | 6281 | 0.81 | 1886 | 63.06 | 29.91 | D |
| Mission St.** | | | | | | | | | | | | | | | | | | |
| | 0.3 | 3.4 | F | 65.00 | 5726 | 0.92 | 4.0% | 0.5% | 1.0% | 1.0 | 0.976 | 7350 | 7176 | 0.80 | 1875 | 63.18 | 29.68 | D |
| Pueblo St.** | | | | | | | | | | | | | | | | | | |
| | 0.5 | 3 | F | 65.00 | 5020 | 0.92 | 4.3% | 0.5% | 1.0% | 1.0 | 0.974 | 6450 | 6285 | 0.80 | 1867 | 63.27 | 29.51 | D |
| Las Positas Rd. | | | | | | | | | | | | | | | | | | |
| | 0.9 | 3 | F | 65.00 | 5562 | 0.92 | 4.0% | 0.5% | 1.0% | 1.0 | 0.976 | 6450 | 6294 | 0.88 | 2065 | 60.25 | 34.27 | D |
| Hope Ave** | | | | | | | | | | | | | | | | | | |
| | 0.35 | 3.4 | F | 65.00 | 5218 | 0.92 | 4.2% | 0.6% | 1.0% | 1.0 | 0.975 | 7350 | 7165 | 0.73 | 1711 | 64.49 | 26.53 | D |
| State St** | | | | | | | | | | | | | | | | | | |
| | 0.25 | 3 | F | 65.00 | 4845 | 0.92 | 4.3% | 0.6% | 1.0% | 1.0 | 0.974 | 6450 | 6284 | 0.77 | 1802 | 63.89 | 28.21 | D |
| El Sueno Rd. | | | | | | | | | | | | | | | | | | |
| | 1.1 | 3 | F | 65.00 | 4940 | 0.92 | 4.2% | 0.6% | 1.0% | 1.0 | 0.975 | 6450 | 6288 | 0.79 | 1836 | 63.59 | 28.87 | D |
| Turnpike Rd. | | | | | | | | | | | | | | | | | | |
| | 1.1 | 3 | F | 65.00 | 4915 | 0.92 | 4.3% | 0.6% | 1.0% | 1.0 | 0.974 | 6450 | 6284 | 0.78 | 1828 | 63.66 | 28.71 | D |
| Patterson Ave | | | | | | | | | | | | | | | | | | |
| | 1.3 | 3 | F | 65.00 | 3513 | 0.92 | 4.5% | 0.7% | 1.0% | 1.0 | 0.973 | 6450 | 6276 | 0.56 | 1308 | 65.00 | 20.12 | C |
| Fairview Rd. | | | | | | | | | | | | | | | | | | |
| | 1.3 | 2 | F | 65.00 | 2567 | 0.92 | 5.9% | 0.9% | 1.0% | 1.0 | 0.965 | 3800 | 3667 | 0.70 | 1446 | 65.00 | 22.25 | C |
| Los Carneros Rd. | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | F | 65.00 | 1822 | 0.92 | 8.2% | 1.4% | 1.0% | 1.0 | 0.952 | 3800 | 3619 | 0.50 | 1040 | 65.00 | 16.00 | B |
| Glen Annie/Storke Rd. | | | | | | | | | | | | | | | | | | |
| | 2.1 | 2 | F | 65.00 | 626 | 0.92 | 19.8% | 2.7% | 1.0% | 1.0 | 0.897 | 3800 | 3409 | 0.18 | 379 | 65.00 | 5.83 | A |
| Hollister Rd. | | | | | | | | | | | | | | | | | | |
| | 6.9 | 2 | F | 65.00 | 496 | 0.92 | 25.0% | 3.2% | 1.0% | 1.0 | 0.875 | 3800 | 3324 | 0.15 | 308 | 65.00 | 4.74 | A |

* Reflects impact of Ortega Hill grade on medium and heavy duty trucks

** NB Auxiliary Lane, Additional Capacity = 900 pcplph

# FREEWAY LEVEL OF SERVICE ANALYSIS (HCM 2000)

## US 101 NB

## WEEKDAY AFTERNOON PEAK HOUR

| Route 101 Between | Miles | Lanes | Terrain | Free Flow Speed (mph) | Peak Hr Vol | PHF | % Truck | % BUS | % RV | FP Adj | FHV Adj | Max. Flow Rate (pc/h/ln) | Service Flow Rate (pc/h/ln) | V/C | Vp (pc/h/ln) | S (mph) | Density (pc/mi/ln) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bates/Rincon | | | | | | | | | | | | | | | | | | |
| | 0.7 | 3 | F | 65.00 | 1670 | 0.92 | 5.3% | 0.4% | 1.0% | 1.0 | 0.970 | 6450 | 6259 | 0.27 | 623 | 65.00 | 9.58 | A |
| Route 150 | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | F | 65.00 | 1724 | 0.92 | 5.0% | 0.4% | 1.0% | 1.0 | 0.972 | 3800 | 3692 | 0.47 | 964 | 65.00 | 14.83 | B |
| Bailard Ave. | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | F | 65.00 | 2107 | 0.92 | 4.2% | 0.3% | 1.0% | 1.0 | 0.976 | 3800 | 3710 | 0.57 | 1173 | 65.00 | 18.05 | C |
| Route 224 | | | | | | | | | | | | | | | | | | |
| | 0.4 | 2 | F | 65.00 | 2050 | 0.92 | 4.2% | 0.3% | 1.0% | 1.0 | 0.976 | 3800 | 3708 | 0.55 | 1142 | 65.00 | 17.57 | B |
| Linden Ave. | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | F | 65.00 | 2234 | 0.92 | 3.9% | 0.3% | 1.0% | 1.0 | 0.977 | 3800 | 3714 | 0.60 | 1242 | 65.00 | 19.11 | C |
| Santa Monica Rd. | | | | | | | | | | | | | | | | | | |
| | 1.4 | 2 | F | 65.00 | 2248 | 0.92 | 3.9% | 0.3% | 1.0% | 1.0 | 0.977 | 3800 | 3714 | 0.61 | 1250 | 65.00 | 19.23 | C |
| Padaro Lane S. | | | | | | | | | | | | | | | | | | |
| | 1.9 | 2 | F | 65.00 | 2267 | 0.92 | 3.9% | 0.4% | 1.0% | 1.0 | 0.977 | 3800 | 3712 | 0.61 | 1261 | 65.00 | 19.40 | C |
| Padaro Lane N. | | | | | | | | | | | | | | | | | | |
| | 1.05 | 2 | F | 65.00 | 2357 | 0.92 | 3.8% | 0.4% | 1.0% | 1.0 | 0.978 | 3800 | 3715 | 0.63 | 1310 | 65.00 | 20.15 | C |
| Evans Ave. | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | R | 60.00 | 2454 | 0.92 | 3.7% | 0.4% | 1.0% | 1.0 | 0.933 | 3800 | 3544 | 0.69 | 1430 | 60.00 | 23.83 | C |
| Sheffield Dr.* | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | R | 60.00 | 2598 | 0.92 | 3.6% | 0.4% | 1.0% | 1.0 | 0.935 | 3800 | 3551 | 0.73 | 1511 | 60.00 | 25.18 | C |
| San Ysidro Rd. | | | | | | | | | | | | | | | | | | |
| | 0.5 | 2 | F | 60.00 | 2924 | 0.92 | 3.3% | 0.4% | 1.0% | 1.0 | 0.980 | 3800 | 3724 | 0.79 | 1621 | 60.00 | 27.02 | D |
| Olive Mill Rd. | | | | | | | | | | | | | | | | | | |
| | 0.55 | 2 | F | 60.00 | 2731 | 0.92 | 3.4% | 0.3% | 1.0% | 1.0 | 0.980 | 3800 | 3722 | 0.73 | 1515 | 60.00 | 25.25 | C |
| Hermosilla Rd. | | | | | | | | | | | | | | | | | | |
| | 0.35 | 2 | F | 60.00 | 2673 | 0.92 | 3.5% | 0.3% | 1.0% | 1.0 | 0.979 | 3800 | 3721 | 0.72 | 1484 | 60.00 | 24.73 | C |
| Cabrillo Blvd | | | | | | | | | | | | | | | | | | |
| | 0.65 | 2 | F | 65.00 | 3312 | 0.92 | 3.0% | 0.4% | 1.0% | 1.0 | 0.982 | 3800 | 3730 | 0.89 | 1834 | 63.60 | 28.83 | D |
| Salinas St. | | | | | | | | | | | | | | | | | | |
| | 0.75 | 2 | F | 65.00 | 3390 | 0.92 | 2.9% | 0.4% | 1.0% | 1.0 | 0.982 | 3800 | 3730 | 0.91 | 1877 | 63.16 | 29.72 | D |
| Route 144 | | | | | | | | | | | | | | | | | | |
| | 0.75 | 3 | F | 65.00 | 3886 | 0.92 | 3.7% | 0.3% | 1.0% | 1.0 | 0.978 | 6450 | 6311 | 0.62 | 1439 | 65.00 | 22.14 | C |
| Garden St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4358 | 0.92 | 3.4% | 0.3% | 1.0% | 1.0 | 0.980 | 6450 | 6319 | 0.69 | 1612 | 64.85 | 24.86 | C |
| Castillo St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4871 | 0.92 | 3.1% | 0.3% | 1.0% | 1.0 | 0.981 | 6450 | 6330 | 0.77 | 1798 | 63.92 | 28.13 | D |
| Carrillo St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 5260 | 0.92 | 2.9% | 0.4% | 1.0% | 1.0 | 0.982 | 6450 | 6334 | 0.83 | 1941 | 62.36 | 31.13 | D |
| Arrellaga St. | | | | | | | | | | | | | | | | | | |
| | 0.4 | 3 | F | 65.00 | 5544 | 0.92 | 2.7% | 0.4% | 1.0% | 1.0 | 0.983 | 6450 | 6340 | 0.87 | 2044 | 60.66 | 33.69 | D |
| Mission St.** | | | | | | | | | | | | | | | | | | |
| | 0.3 | 3.4 | F | 65.00 | 6037 | 0.92 | 2.5% | 0.4% | 1.0% | 1.0 | 0.984 | 7350 | 7230 | 0.83 | 1962 | 62.05 | 31.62 | D |
| Pueblo St.** | | | | | | | | | | | | | | | | | | |
| | 0.5 | 3 | F | 65.00 | 5549 | 0.92 | 2.7% | 0.4% | 1.0% | 1.0 | 0.983 | 6450 | 6339 | 0.88 | 2046 | 60.62 | 33.75 | D |
| Las Positas Rd. | | | | | | | | | | | | | | | | | | |
| | 0.9 | 3 | F | 65.00 | 5614 | 0.92 | 2.7% | 0.4% | 1.0% | 1.0 | 0.983 | 6450 | 6339 | 0.89 | 2070 | 60.15 | 34.41 | D |
| Hope Ave** | | | | | | | | | | | | | | | | | | |
| | 0.35 | 3.4 | F | 65.00 | 5238 | 0.92 | 2.9% | 0.4% | 1.0% | 1.0 | 0.982 | 7350 | 7215 | 0.73 | 1706 | 64.51 | 26.44 | D |
| State St** | | | | | | | | | | | | | | | | | | |
| | 0.25 | 3 | F | 65.00 | 4848 | 0.92 | 3.1% | 0.5% | 1.0% | 1.0 | 0.980 | 6450 | 6323 | 0.77 | 1792 | 63.97 | 28.01 | D |
| El Sueno Rd. | | | | | | | | | | | | | | | | | | |
| | 1.1 | 3 | F | 65.00 | 4921 | 0.92 | 3.0% | 0.4% | 1.0% | 1.0 | 0.981 | 6450 | 6327 | 0.78 | 1818 | 63.75 | 28.52 | D |
| Turnpike Rd. | | | | | | | | | | | | | | | | | | |
| | 1.1 | 3 | F | 65.00 | 4705 | 0.92 | 3.2% | 0.6% | 1.0% | 1.0 | 0.980 | 6450 | 6318 | 0.74 | 1740 | 64.33 | 27.05 | D |
| Patterson Ave | | | | | | | | | | | | | | | | | | |
| | 1.3 | 3 | F | 65.00 | 3164 | 0.92 | 3.5% | 0.5% | 1.0% | 1.0 | 0.978 | 6450 | 6311 | 0.50 | 1172 | 65.00 | 18.03 | C |
| Fairview Rd. | | | | | | | | | | | | | | | | | | |
| | 1.3 | 2 | F | 65.00 | 2837 | 0.92 | 3.7% | 0.6% | 1.0% | 1.0 | 0.977 | 3800 | 3712 | 0.76 | 1578 | 64.92 | 24.31 | C |
| Los Carneros Rd. | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | F | 65.00 | 2730 | 0.92 | 3.9% | 0.7% | 1.0% | 1.0 | 0.976 | 3800 | 3707 | 0.74 | 1521 | 64.98 | 23.41 | C |
| Glen Annie/Storke Rd. | | | | | | | | | | | | | | | | | | |
| | 2.1 | 2 | F | 65.00 | 1389 | 0.92 | 6.3% | 1.1% | 1.0% | 1.0 | 0.962 | 3800 | 3657 | 0.38 | 784 | 65.00 | 12.06 | B |
| Hollister Rd. | | | | | | | | | | | | | | | | | | |
| | 6.9 | 2 | F | 65.00 | 1307 | 0.92 | 6.7% | 1.1% | 1.0% | 1.0 | 0.961 | 3800 | 3650 | 0.36 | 739 | 65.00 | 11.37 | B |

* Reflects impact of Ortega Hill grade on medium and heavy duty trucks

** NB Auxiliary Lane, Additional Capacity = 900 pcplph

# FREEWAY LEVEL OF SERVICE ANALYSIS (HCM 2000)

## US 101 SB

## WEEKDAY MORNING PEAK HOUR

| Route 101 Between | Miles | Lanes | Terrain | Free Flow Speed (mph) | Peak Hr Vol | PHF | % Truck | % BUS | % RV | Fp Adj | FHV Adj | Max. Flow Rate (pc/h/ln) | Service Flow Rate (pc/h/ln) | V/C | Vp (pc/h/ln) | S (mph) | Density (pc/mi/ln) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 3 | F | 65.00 | 1268 | 0.92 | 8.4% | 0.6% | 1.0% | 1 | 0.955 | 6450 | 6161 | 0.21 | 481 | 65.00 | 7.40 | A |
| Bates/Rincon | | | | | | | | | | | | | | | | | | |
| | 0.7 | 3 | F | 65.00 | 1287 | 0.92 | 8.2% | 0.6% | 1.0% | 1.0 | 0.956 | 6450 | 6167 | 0.21 | 488 | 65.00 | 7.51 | A |
| Route 150 | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | F | 65.00 | 1305 | 0.92 | 8.0% | 0.5% | 1.0% | 1.0 | 0.957 | 3800 | 3637 | 0.36 | 741 | 65.00 | 11.40 | B |
| Bailard Ave. | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | F | 65.00 | 1630 | 0.92 | 6.4% | 0.4% | 1.0% | 1.0 | 0.965 | 3800 | 3668 | 0.44 | 918 | 65.00 | 14.12 | B |
| Route 224 | | | | | | | | | | | | | | | | | | |
| | 0.4 | 2 | F | 65.00 | 1642 | 0.92 | 6.3% | 0.3% | 1.0% | 1.0 | 0.966 | 3800 | 3672 | 0.45 | 923 | 65.00 | 14.20 | B |
| Linden Ave. | | | | | | | | | | | | | | | | | | |
| | 0.5 | 2 | F | 65.00 | 1642 | 0.92 | 6.3% | 0.4% | 1.0% | 1.0 | 0.966 | 3800 | 3670 | 0.45 | 924 | 65.00 | 14.22 | B |
| Reynolds Ave | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | F | 65.00 | 1829 | 0.92 | 5.6% | 0.3% | 1.0% | 1.0 | 0.969 | 3800 | 3684 | 0.50 | 1026 | 65.00 | 15.78 | B |
| Carpenteria Ave | | | | | | | | | | | | | | | | | | |
| | 0.9 | 2 | F | 65.00 | 1871 | 0.92 | 5.2% | 0.3% | 1.0% | 2.0 | 0.971 | 3800 | 3690 | 0.51 | 523 | 65.00 | 8.05 | A |
| Padaro Lane S. | | | | | | | | | | | | | | | | | | |
| | 1.9 | 2 | F | 65.00 | 1991 | 0.92 | 4.8% | 0.3% | 1.0% | 1.0 | 0.973 | 3800 | 3699 | 0.54 | 1112 | 65.00 | 17.11 | B |
| Padaro Lane N. | | | | | | | | | | | | | | | | | | |
| | 1.05 | 2 | F | 65.00 | 2052 | 0.92 | 4.6% | 0.3% | 1.0% | 1.0 | 0.974 | 3800 | 3702 | 0.55 | 1145 | 65.00 | 17.62 | B |
| Evans Ave.* | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | R | 60.00 | 2100 | 0.92 | 4.5% | 0.3% | 1.0% | 1.0 | 0.923 | 3800 | 3509 | 0.60 | 1236 | 60.00 | 20.60 | C |
| Sheffield Dr.* | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | R | 60.00 | 2394 | 0.92 | 4.1% | 0.3% | 1.0% | 1.0 | 0.930 | 3800 | 3534 | 0.68 | 1399 | 60.00 | 23.32 | C |
| San Ysidro Rd. | | | | | | | | | | | | | | | | | | |
| | 0.5 | 2 | F | 60.00 | 2698 | 0.92 | 3.6% | 0.3% | 1.0% | 1.0 | 0.979 | 3800 | 3720 | 0.73 | 1498 | 60.00 | 24.97 | C |
| Olive Mill Rd. | | | | | | | | | | | | | | | | | | |
| | 0.9 | 2 | F | 60.00 | 2861 | 0.92 | 3.5% | 0.2% | 1.0% | 1.0 | 0.980 | 3800 | 3724 | 0.77 | 1587 | 60.00 | 26.45 | D |
| Cabrillo Blvd | | | | | | | | | | | | | | | | | | |
| | 1.4 | 2 | F | 60.00 | 3218 | 0.92 | 3.3% | 0.2% | 1.0% | 1.0 | 0.981 | 3800 | 3728 | 0.86 | 1783 | 59.73 | 29.85 | D |
| Route 144 | | | | | | | | | | | | | | | | | | |
| | 0.75 | 3 | F | 65.00 | 3736 | 0.92 | 2.8% | 0.2% | 1.0% | 1.0 | 0.984 | 6450 | 6344 | 0.59 | 1376 | 65.00 | 21.17 | C |
| Garden St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4318 | 0.92 | 2.5% | 0.2% | 1.0% | 1.0 | 0.985 | 6450 | 6352 | 0.68 | 1589 | 64.90 | 24.48 | C |
| Castillo St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4768 | 0.92 | 2.3% | 0.3% | 1.0% | 1.0 | 0.985 | 6450 | 6355 | 0.75 | 1753 | 64.25 | 27.29 | D |
| Carrillo St. | | | | | | | | | | | | | | | | | | |
| | 1.0 | 3 | F | 65.00 | 5346 | 0.92 | 1.8% | 0.2% | 1.0% | 1.0 | 0.988 | 6450 | 6372 | 0.84 | 1961 | 62.07 | 31.59 | D |
| Mission St. | | | | | | | | | | | | | | | | | | |
| | 0.8 | 3 | F | 65.00 | 5617 | 0.92 | 1.9% | 0.3% | 1.0% | 1.0 | 0.987 | 6450 | 6368 | 0.88 | 2062 | 60.31 | 34.19 | D |
| Las Positas Rd. | | | | | | | | | | | | | | | | | | |
| | 0.9 | 3 | F | 65.00 | 5579 | 0.92 | 1.9% | 0.3% | 1.0% | 1.0 | 0.987 | 6450 | 6367 | 0.88 | 2048 | 60.59 | 33.80 | D |
| La Cumbre** | | | | | | | | | | | | | | | | | | |
| | 0.35 | 3.4 | F | 65.00 | 5548 | 0.92 | 1.9% | 0.3% | 1.0% | 1.0 | 0.987 | 7350 | 7256 | 0.76 | 1797 | 63.93 | 28.11 | D |
| State St** | | | | | | | | | | | | | | | | | | |
| | 1.35 | 3 | F | 65.00 | 4957 | 0.92 | 2.0% | 0.3% | 1.0% | 1.0 | 0.987 | 6450 | 6365 | 0.78 | 1820 | 63.73 | 28.56 | D |
| Turnpike Rd. | | | | | | | | | | | | | | | | | | |
| | 1.1 | 3 | F | 65.00 | 4616 | 0.92 | 2.1% | 0.4% | 1.0% | 1.0 | 0.986 | 6450 | 6359 | 0.73 | 1697 | 64.56 | 26.29 | D |
| Patterson Ave | | | | | | | | | | | | | | | | | | |
| | 1.3 | 3 | F | 65.00 | 3607 | 0.92 | 2.2% | 0.3% | 1.0% | 1.0 | 0.986 | 6450 | 6358 | 0.57 | 1326 | 65.00 | 20.40 | C |
| Fairview Rd. | | | | | | | | | | | | | | | | | | |
| | 1.3 | 2 | F | 65.00 | 3285 | 0.92 | 2.2% | 0.3% | 1.0% | 1.0 | 0.986 | 3800 | 3745 | 0.88 | 1811 | 63.81 | 28.38 | D |
| Los Carneros Rd.** | | | | | | | | | | | | | | | | | | |
| | 1 | 2.5 | F | 65.00 | 3105 | 0.92 | 2.3% | 0.3% | 1.0% | 1.0 | 0.985 | 4700 | 4630 | 0.67 | 1370 | 65.00 | 21.08 | C |
| Glen Annie/Storke Rd.** | | | | | | | | | | | | | | | | | | |
| | 2.1 | 2 | F | 65.00 | 1674 | 0.92 | 3.9% | 0.5% | 1.0% | 1.0 | 0.976 | 3800 | 3711 | 0.45 | 932 | 65.00 | 14.34 | B |
| Hollister Rd. | | | | | | | | | | | | | | | | | | |

* Reflects impact of Ortega Hill grade on medium and heavy duty trucks

** SB Auxiliary Lane, Additional Capacity = 900 pcplph

# FREEWAY LEVEL OF SERVICE ANALYSIS (HCM 2000)

## US 101 SB

## WEEKDAY AFTERNOON PEAK HOUR

| Route 101 Between | Miles | Lanes | Terrain | Free Flow Speed (mph) | Peak Hr Vol | PHF | % Truck | % BUS | % RV | Fp Adj | FHV Adj | Max. Flow Rate (pc/h/ln) | Service Flow Rate (pc/h/ln) | V/C | Vp (pc/h/ln) | S (mph) | Density (pc/mi/ln) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 3 | F | 65.00 | 3318 | 0.92 | 3.2% | 0.3% | 1.0% | 1 | 0.981 | 6450 | 6326 | 0.52 | 1226 | 65.00 | 18.86 | C |
| Bates/Rincon | | | | | | | | | | | | | | | | | | |
| | 0.7 | 3 | F | 65.00 | 3318 | 0.92 | 3.2% | 0.3% | 1.0% | 1.0 | 0.981 | 6450 | 6326 | 0.52 | 1226 | 65.00 | 18.86 | C |
| Route 150 | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | F | 65.00 | 3150 | 0.92 | 3.3% | 0.3% | 1.0% | 1.0 | 0.980 | 3800 | 3726 | 0.85 | 1746 | 64.29 | 27.16 | D |
| Bailard Ave. | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | F | 65.00 | 3229 | 0.92 | 3.2% | 0.3% | 1.0% | 1.0 | 0.981 | 3800 | 3727 | 0.87 | 1789 | 63.99 | 27.96 | D |
| Route 224 | | | | | | | | | | | | | | | | | | |
| | 0.4 | 2 | F | 65.00 | 3136 | 0.92 | 3.2% | 0.3% | 1.0% | 1.0 | 0.981 | 3800 | 3728 | 0.84 | 1737 | 64.35 | 26.99 | D |
| Linden Ave. | | | | | | | | | | | | | | | | | | |
| | 0.5 | 2 | F | 65.00 | 3443 | 0.92 | 2.9% | 0.3% | 1.0% | 1.0 | 0.982 | 3800 | 3732 | 0.92 | 1905 | 62.83 | 30.32 | D |
| Reynolds Ave | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | F | 65.00 | 3373 | 0.92 | 2.9% | 0.3% | 1.0% | 1.0 | 0.982 | 3800 | 3732 | 0.90 | 1866 | 63.28 | 29.49 | D |
| Carpenteria Ave | | | | | | | | | | | | | | | | | | |
| | 0.9 | 2 | F | 65.00 | 3664 | 0.92 | 2.7% | 0.3% | 1.0% | 2.0 | 0.983 | 3800 | 3736 | 0.98 | 1013 | 65.00 | 15.58 | B |
| Padaro Lane S. | | | | | | | | | | | | | | | | | | |
| | 1.9 | 2 | F | 65.00 | 3687 | 0.92 | 2.5% | 0.3% | 1.0% | 1.0 | 0.984 | 3800 | 3741 | 0.99 | 2035 | 60.83 | 33.45 | D |
| Padaro Lane N. | | | | | | | | | | | | | | | | | | |
| | 1.05 | 2 | F | 65.00 | 3834 | 0.92 | 2.4% | 0.3% | 1.0% | 1.0 | 0.985 | 3800 | 3742 | 1.02 | 2116 | 59.16 | 35.77 | E |
| Evans Ave.* | | | | | | | | | | | | | | | | | | |
| | 0.8 | 2 | R | 60.00 | 3903 | 0.92 | 2.4% | 0.3% | 1.0% | 1.0 | 0.952 | 3800 | 3618 | 1.08 | 2228 | 53.30 | 41.80 | E |
| Sheffield Dr.* | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | R | 60.00 | 3936 | 0.92 | 2.4% | 0.3% | 1.0% | 1.0 | 0.952 | 3800 | 3618 | 1.09 | 2247 | 52.76 | 42.59 | E |
| San Ysidro Rd. | | | | | | | | | | | | | | | | | | |
| | 0.5 | 2 | F | 60.00 | 4042 | 0.92 | 2.3% | 0.3% | 1.0% | 1.0 | 0.985 | 3800 | 3743 | 1.08 | 2230 | 53.24 | 41.88 | E |
| Olive Mill Rd. | | | | | | | | | | | | | | | | | | |
| | 0.9 | 2 | F | 60.00 | 3819 | 0.92 | 2.5% | 0.3% | 1.0% | 1.0 | 0.984 | 3800 | 3741 | 1.02 | 2108 | 56.14 | 37.55 | E |
| Cabrillo Blvd | | | | | | | | | | | | | | | | | | |
| | 1.4 | 2 | F | 60.00 | 3745 | 0.92 | 2.5% | 0.3% | 1.0% | 1.0 | 0.984 | 3800 | 3741 | 1.00 | 2068 | 56.88 | 36.36 | E |
| Route 144 | | | | | | | | | | | | | | | | | | |
| | 0.75 | 3 | F | 65.00 | 4040 | 0.92 | 2.2% | 0.2% | 1.0% | 1.0 | 0.986 | 6450 | 6359 | 0.64 | 1485 | 65.00 | 22.85 | C |
| Garden St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4083 | 0.92 | 2.3% | 0.2% | 1.0% | 1.0 | 0.986 | 6450 | 6357 | 0.64 | 1501 | 64.99 | 23.09 | C |
| Castillo St. | | | | | | | | | | | | | | | | | | |
| | 0.6 | 3 | F | 65.00 | 4593 | 0.92 | 2.1% | 0.2% | 1.0% | 1.0 | 0.987 | 6450 | 6365 | 0.72 | 1686 | 64.61 | 26.10 | D |
| Carrillo St. | | | | | | | | | | | | | | | | | | |
| | 1.0 | 3 | F | 65.00 | 5335 | 0.92 | 1.7% | 0.2% | 1.0% | 1.0 | 0.989 | 6450 | 6378 | 0.84 | 1955 | 62.16 | 31.45 | D |
| Mission St. | | | | | | | | | | | | | | | | | | |
| | 0.8 | 3 | F | 65.00 | 5832 | 0.92 | 1.6% | 0.2% | 1.0% | 1.0 | 0.989 | 6450 | 6380 | 0.91 | 2136 | 58.69 | 36.39 | E |
| Las Positas Rd. | | | | | | | | | | | | | | | | | | |
| | 0.9 | 3 | F | 65.00 | 6021 | 0.92 | 1.6% | 0.2% | 1.0% | 1.0 | 0.989 | 6450 | 6380 | 0.94 | 2205 | 56.91 | 38.75 | E |
| La Cumbre** | | | | | | | | | | | | | | | | | | |
| | 0.35 | 3.4 | F | 65.00 | 6055 | 0.92 | 1.6% | 0.2% | 1.0% | 1.0 | 0.989 | 7350 | 7271 | 0.83 | 1957 | 62.13 | 31.50 | D |
| State St** | | | | | | | | | | | | | | | | | | |
| | 1.35 | 3 | F | 65.00 | 5651 | 0.92 | 1.6% | 0.1% | 1.0% | 1.0 | 0.989 | 6450 | 6381 | 0.89 | 2069 | 60.17 | 34.39 | D |
| Turnpike Rd. | | | | | | | | | | | | | | | | | | |
| | 1.1 | 3 | F | 65.00 | 5640 | 0.92 | 1.6% | 0.2% | 1.0% | 1.0 | 0.989 | 6450 | 6380 | 0.88 | 2066 | 60.23 | 34.30 | D |
| Patterson Ave | | | | | | | | | | | | | | | | | | |
| | 1.3 | 3 | F | 65.00 | 3843 | 0.92 | 2.0% | 0.2% | 1.0% | 1.0 | 0.987 | 6450 | 6369 | 0.60 | 1410 | 65.00 | 21.69 | C |
| Fairview Rd. | | | | | | | | | | | | | | | | | | |
| | 1.3 | 2 | F | 65.00 | 3110 | 0.92 | 2.3% | 0.2% | 1.0% | 1.0 | 0.986 | 3800 | 3745 | 0.83 | 1715 | 64.47 | 26.60 | D |
| Los Carneros Rd.** | | | | | | | | | | | | | | | | | | |
| | 1 | 2.5 | F | 65.00 | 2150 | 0.92 | 3.3% | 0.3% | 1.0% | 1.0 | 0.980 | 4700 | 4606 | 0.47 | 954 | 65.00 | 14.68 | B |
| Glen Annie/Storke Rd.** | | | | | | | | | | | | | | | | | | |
| | 2.1 | 2 | F | 65.00 | 920 | 0.92 | 7.5% | 0.8% | 1.0% | 1.0 | 0.958 | 3800 | 3642 | 0.25 | 522 | 65.00 | 8.03 | A |
| Hollister Rd. | | | | | | | | | | | | | | | | | | |

* Reflects impact of Ortega Hill grade on medium and heavy duty trucks

** SB Auxiliary Lane, Additional Capacity = 900 pcplph

# APPENDIX F.

## HCM FREEWAY RAMP MERGE-DIVERGE LOS & HDM WEAVE LOS

# US 101 Ramp Merge Analysis (HCM 2000)
## Weekday Morning Peak Hour

Freeway-Ramp Components and Characteristics (Freeway Data; On-Ramp Data; Adjacent Ramp Data); Volume Components; Terrain

| ID | Interchange | Direction (NB or SB) | Ramp Type (On or Off) | Number of Lanes on Freeway (Each Direction), N | SFF (mph) | Volume (vph) | Side of Ramp (Left or Right) | SFR (mph) | Volume, VR (vph) | Lanes on Ramp, N | Length of 1st Acceleration Lane, LA1 (ft.) | Length of 2nd Acceleration Lane, LA2 (ft.) | LAeff | Exist (Yes or No) | Position of Adjacent Ramp (Upstream or Downstream) | Type of Adjacent Ramp (On or Off) | Distance to Adjacent Ramp (ft.) | Volume on Adjacent Ramp (vph) | VD | Freeway PHF | Ramp PHF | Adjacent Ramp PHF | V15 (fwy) | V15 (ramp) | Type (Level, Rolling, Mountainous, Grade, Composite) | Grade (x.xx%) | Length (mi) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Bailard Rd | NB | On | 2 | 65 | 2190 | Right | 35 | 250 | 1 | 215 | | #VALUE! | Yes | Upstream | Off | 2100 | 92 | 102 | 0.92 | 0.92 | 0.92 | 2471 | 274 | Level | | |
| 12 | Casitas Pass Rd | NB | On | 2 | 65 | 2028 | Right | 35 | 288 | 1 | 110 | | #VALUE! | Yes | Upstream | Off | 2300 | 413 | 454 | 0.92 | 0.92 | 0.92 | 2297 | 317 | Level | | |
| 13 | Linden Ave | NB | On | 2 | 65 | 2316 | Right | 35 | 408 | 1 | 130 | | #VALUE! | Yes | Upstream | On | 1500 | 288 | 317 | 0.92 | 0.92 | 0.92 | 2623 | 451 | Level | | |
| 17 | Santa Ynez Ave | NB | On | 2 | 65 | 2498 | Right | 35 | 341 | 1 | 250 | | #VALUE! | Yes | Upstream | Off | 2550 | 226 | 247 | 0.92 | 0.92 | 0.92 | 2816 | 373 | Level | | |
| 21 | S Padaro Ln | NB | On | 2 | 65 | 2698 | Right | 35 | 131 | 1 | 290 | | #VALUE! | Yes | Upstream | Off | 4000 | 141 | 156 | 0.92 | 0.92 | 0.92 | 3041 | 146 | Level | | |
| 25 | N Padaro Ln | NB | On | 2 | 65 | 2758 | Right | 35 | 343 | 1 | 180 | | #VALUE! | Yes | Upstream | Off | 2300 | 71 | 80 | 0.92 | 0.92 | 0.92 | 3109 | 375 | Level | | |
| 31 | Sheffield Dr | NB | On | 2 | 60 | 3055 | Right | 35 | 194 | 1 | 230 | | #VALUE! | Yes | Upstream | Off | 1400 | 189 | 211 | 0.92 | 0.92 | 0.92 | 3653 | 216 | Rolling | | |
| 57 | Las Positas Rd | NB | On | 3 | 65 | 4542 | Right | 35 | 1020 | 1 | 250 | | #VALUE! | Yes | Upstream | Off | 2900 | 478 | 523 | 0.92 | 0.92 | 0.92 | 5070 | 1116 | Level | | |
| 62 | SR-154 | NB | On | 3 | 65 | 4386 | Right | 35 | 459 | 1 | 190 | | #VALUE! | Yes | Upstream | Off | 1850 | 833 | 916 | 0.92 | 0.92 | 0.92 | 4896 | 505 | Level | | |
| 65 | El Sueno Rd | NB | On | 3 | 65 | 4586 | Right | 35 | 354 | 1 | 150 | | #VALUE! | Yes | Upstream | Off | 1150 | 259 | 285 | 0.92 | 0.92 | 0.92 | 5119 | 387 | Level | | |
| 69 | Turnpike Rd | NB | On | 3 | 65 | 4317 | Right | 35 | 598 | 1 | 250 | | #VALUE! | Yes | Upstream | Off | 2400 | 623 | 679 | 0.92 | 0.92 | 0.92 | 4819 | 655 | Level | | |
| 74 | Ward Memorial Blvd | NB | On | 3 | 65 | 2873 | Right | 35 | 1251 | 1 | 150 | | #VALUE! | Yes | Upstream | Off | 2000 | 1251 | 1396 | 0.92 | 0.92 | 0.92 | 3223 | 1376 | Level | | |
| 78 | Fairview Ave | NB | On | 2 | 65 | 2352 | Right | 35 | 215 | 1 | 230 | | #VALUE! | Yes | Upstream | Off | 1600 | 1160 | 1270 | 0.92 | 0.92 | 0.92 | 2651 | 238 | Level | | |
| 84 | Glen Annie Rd | NB | On | 2 | 65 | 591 | Right | 35 | 35 | 1 | 270 | | #VALUE! | Yes | Upstream | Off | 3000 | 1231 | 1361 | 0.92 | 0.92 | 0.92 | 721 | 39 | Level | | |
| 88 | Hollister Ave | NB | On | 2 | 65 | 427 | Right | 35 | 69 | 1 | 130 | | #VALUE! | Yes | Upstream | Off | 4150 | 199 | 219 | 0.92 | 0.92 | 0.92 | 539 | 77 | Level | | |
| 91 | Hollister Ave | SB | On | 2 | 65 | 1279 | Right | 35 | 395 | 1 | 130 | | #VALUE! | Yes | Upstream | Off | 2600 | 139 | 152 | 0.92 | 0.92 | 0.92 | 1442 | 435 | Level | | |
| 95 | Glen Annie Rd | SB | On | 2 | 65 | 1435 | Right | 35 | 1669 | 2 | 110 | 1500 | 1720 | Yes | Upstream | Off | 2700 | 239 | 262 | 0.92 | 0.92 | 0.92 | 1618 | 1827 | Level | | |
| 98 | Los Carneros Rd | SB | On | 2 | 65 | 2772 | Right | 35 | 513 | 1 | 260 | | #VALUE! | Yes | Upstream | Off | 2900 | 333 | 364 | 0.92 | 0.92 | 0.92 | 3064 | 562 | Level | | |
| 102 | Fairview Ave | SB | On | 2 | 65 | 2778 | Right | 35 | 829 | 1 | 1500 | | #VALUE! | Yes | Upstream | Off | 2300 | 507 | 558 | 0.92 | 0.92 | 0.92 | 3071 | 907 | Level | | |
| 106 | Ward Memorial Blvd | SB | On | 3 | 65 | 3152 | Right | 35 | 611 | 1 | 400 | | #VALUE! | Yes | Upstream | Off | 1700 | 455 | 498 | 0.92 | 0.92 | 0.92 | 3485 | 675 | Level | | |
| 108 | Patterson Ave | SB | On | 3 | 65 | 3763 | Right | 35 | 853 | 1 | 210 | | #VALUE! | Yes | Upstream | On | 1800 | 508 | 562 | 0.92 | 0.92 | 0.92 | 4160 | 934 | Level | | |
| 112 | Turnpike Rd | SB | On | 3 | 65 | 4063 | Right | 35 | 894 | 1 | 120 | | #VALUE! | Yes | Upstream | Off | 2300 | 553 | 605 | 0.92 | 0.92 | 0.92 | 4491 | 979 | Level | | |
| 118 | La Cumbre Rd | SB | On | 3 | 65 | 4907 | Right | 35 | 672 | 1 | 250 | | #VALUE! | Yes | Upstream | Off | 1850 | 641 | 702 | 0.92 | 0.92 | 0.92 | 5398 | 736 | Level | | |
| 124 | Mission St | SB | On | 3 | 65 | 4619 | Right | 35 | 727 | 1 | 140 | | #VALUE! | Yes | Upstream | Off | 1950 | 1089 | 1192 | 0.92 | 0.92 | 0.92 | 5081 | 792 | Level | | |
| 134 | Milpas St | SB | On | 2 | 60 | 2670 | Right | 35 | 548 | 1 | 240 | | #VALUE! | Yes | Upstream | Off | 2950 | 1066 | 1167 | 0.92 | 0.92 | 0.92 | 2966 | 600 | Level | | |
| 139 | Cabrillo Blvd | SB | On | 2 | 60 | 2711 | Left | 35 | 151 | 1 | 200 | | #VALUE! | Yes | Upstream | Off | 2000 | 418 | 460 | 0.92 | 0.92 | 0.92 | 3011 | 164 | Level | | |
| 143 | San Ysidro Rd | SB | On | 2 | 60 | 2324 | Right | 35 | 71 | 1 | 110 | | #VALUE! | Yes | Upstream | Off | 2400 | 375 | 410 | 0.92 | 0.92 | 0.92 | 2594 | 78 | Level | | |
| 148 | Evans St | SB | On | 2 | 65 | 2013 | Right | 35 | 40 | 1 | 180 | | #VALUE! | Yes | Upstream | Off | 3500 | 87 | 97 | 0.92 | 0.92 | 0.92 | 2406 | 44 | Rolling | | |
| 151 | N Padaro Ln | SB | On | 2 | 65 | 1919 | Right | 35 | 72 | 1 | 200 | | #VALUE! | Yes | Upstream | Off | 1900 | 133 | 145 | 0.92 | 0.92 | 0.92 | 2153 | 78 | Level | | |
| 163 | Casitas Pass Rd | SB | On | 2 | 65 | 1391 | Right | 35 | 239 | 1 | 300 | | #VALUE! | Yes | Upstream | Off | 1400 | 250 | 274 | 0.92 | 0.92 | 0.92 | 1576 | 263 | Level | | |
| 171 | Rincon Pt. | SB | On | 2 | 65 | 1257 | Right | 35 | 11 | 1 | 530 | | #VALUE! | Yes | Upstream | Off | 2200 | 30 | 33 | 0.92 | 0.92 | 0.92 | 1430 | 13 | Level | | |

Volume Adjustment (Volume Composition)

| ID | Percent Trucks and Buses on Freeway (%) | ET (fwy) | Percent Recreational Vehicles on Freeway (%) | ER (fwy) | Percent Trucks and Buses on Ramp (%) | ET (ramp) | Percent Recreational Vehicles on Ramp (%) | ER (ramp) | Percent Trucks and Buses on Adjacent Ramp (%) | ET (adjacent ramp) | Percent Recreational Vehicles on Adjacent Ramp (%) | ER (adjacent ramp) | Driver Population Adjustment fP | fHV (fwy) | fHV (ramp) | fHV (adjacent ramp) | LEQ | PFM (1-Lane On-Ramp) | PFM (2-Lane On-Ramp) | V12 (1-Lane On-Ramp) | V12 (2-Lane On-Ramp) | VFO | VR12 or VR23 or VR34 | V5 | VF4eff | V23 or V34 | Max. Downstream Freeway Flow, v (pc/h) | Max Desirable Flow Entering Influence Area, VR12 (pc/h) | Capacity Check: VFO > Max. | Capacity Check: VR12 > Max. | Compute DR (pc/mi/h) | Ms | Compute SR (mph) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 0.983 | 111 | 1.000 | 1.000 | 2471 | 2471 | 2745 | 2745 | | | | 4700 | 4600 | No | No | 25.4 | 0.4 | 57 | C |
| 12 | 8% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.960 | 0.988 | 0.988 | 36 | 1.000 | 1.000 | 2297 | 2297 | 2614 | 2614 | | | | 4700 | 4600 | No | No | 25.0 | 0.4 | 57 | C |
| 13 | 8% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.960 | 0.983 | 0.988 | | 1.000 | 1.000 | 2623 | 2623 | 3074 | 3074 | | | | 4700 | 4600 | No | No | 28.4 | 0.4 | 56 | D |
| 17 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 0.993 | 222 | 1.000 | 1.000 | 2816 | 2816 | 3189 | 3189 | | | | 4700 | 4600 | No | No | 28.6 | 0.4 | 56 | D |
| 21 | 7% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.974 | 0.983 | 239 | 1.000 | 1.000 | 3041 | 3041 | 3187 | 3187 | | | | 4700 | 4600 | No | No | 28.4 | 0.4 | 56 | D |
| 25 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 6% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 0.969 | 254 | 1.000 | 1.000 | 3109 | 3109 | 3484 | 3484 | | | | 4700 | 4600 | No | No | 31.3 | 0.4 | 55 | D |
| 31 | 6% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 1 | 0.909 | 0.976 | 0.976 | 358 | 1.000 | 1.000 | 3653 | 3653 | 3869 | 3869 | | | | 4600 | 4600 | No | No | 34.1 | 0.5 | 51 | D |
| 57 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.993 | 863 | 0.585 | 0.555 | 2963 | 2814 | 6186 | 4079 | | | | 7050 | 4600 | No | No | 35.2 | 0.5 | 53 | E |
| 62 | 5% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.988 | 0.988 | 668 | 0.583 | 0.555 | 2853 | 2717 | 5401 | 3358 | | | | 7050 | 4600 | No | No | 30.2 | 0.4 | 55 | D |
| 65 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.988 | 673 | 0.582 | 0.555 | 2978 | 2841 | 5506 | 3365 | | | | 7050 | 4600 | No | No | 30.6 | 0.4 | 55 | D |
| 69 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.998 | 711 | 0.585 | 0.555 | 2817 | 2675 | 5474 | 3472 | | | | 7050 | 4600 | No | No | 30.7 | 0.4 | 55 | D |
| 74 | 6% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.988 | 0.974 | 479 | 0.582 | 0.555 | 1875 | 1789 | 4599 | 3251 | | | | 7050 | 4600 | No | No | 29.3 | 0.4 | 56 | D |
| 78 | 7% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.983 | 0.993 | 149 | 1.000 | 1.000 | 2651 | 2651 | 2889 | 2889 | | | | 4700 | 4600 | No | No | 26.5 | 0.4 | 56 | C |
| 84 | 24% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.891 | 0.983 | 0.983 | -289 | 1.000 | 1.000 | 721 | 721 | 760 | 760 | | | | 4700 | 4600 | No | No | 9.7 | 0.3 | 58 | A |
| 88 | 32% | 1.5 | 1% | 1.2 | 4% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.861 | 0.978 | 0.988 | -382 | 1.000 | 1.000 | 539 | 539 | 616 | 616 | | | | 4700 | 4600 | No | No | 9.4 | 0.3 | 58 | A |
| 91 | 7% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.988 | 0.993 | -112 | 1.000 | 1.000 | 1442 | 1442 | 1877 | 1877 | | | | 4700 | 4600 | No | No | 19.1 | 0.3 | 57 | B |
| 95 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 0.993 | 214 | 1.000 | 1.000 | 1618 | 1618 | 3445 | 3445 | | | | 4700 | 4600 | No | No | 20.7 | 0.3 | 58 | C |
| 98 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.993 | 320 | 1.000 | 1.000 | 3064 | 3064 | 3626 | 3626 | | | | 4700 | 4600 | No | No | 31.9 | 0.4 | 55 | D |
| 102 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.988 | 945 | 1.000 | 1.000 | 3071 | 3071 | 3978 | 3978 | | | | 4700 | 4600 | No | No | 26.7 | 0.4 | 55 | C |
| 106 | 3% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.983 | 0.993 | 496 | 0.589 | 0.555 | 2052 | 1934 | 4160 | 2727 | | | | 7050 | 4600 | No | No | 23.9 | 0.4 | 57 | C |
| 108 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.983 | | 0.583 | 0.555 | 2427 | 2309 | 5094 | 3361 | | | | 7050 | 4600 | No | No | 29.9 | 0.4 | 55 | D |
| 112 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.993 | 652 | 0.581 | 0.555 | 2609 | 2493 | 5470 | 3588 | | | | 7050 | 4600 | No | No | 32.3 | 0.5 | 55 | D |
| 118 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.993 | 0.993 | 852 | 0.585 | 0.555 | 3155 | 2996 | 6134 | 3891 | | | | 7050 | 4600 | No | No | 33.9 | 0.5 | 54 | D |
| 124 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 0.993 | 747 | 0.581 | 0.555 | 2954 | 2820 | 5873 | 3746 | | | | 7050 | 4600 | No | No | 33.5 | 0.5 | 54 | D |
| 134 | 4% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.993 | 298 | 1.000 | 1.000 | 2966 | 2966 | 3566 | 3566 | | | | 4600 | 4600 | No | No | 31.5 | 0.4 | 52 | D |
| 139 | 4% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 0.988 | 196 | 1.000 | 1.000 | 3011 | 3011 | 3175 | 3777 | | | 3613 | 4600 | 4600 | No | No | 33.6 | 0.5 | 51 | D |
| 143 | 5% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.983 | 0.993 | 49 | 1.000 | 1.000 | 2594 | 2594 | 2672 | 2672 | | | | 4600 | 4600 | No | No | 25.6 | 0.4 | 53 | C |
| 148 | 6% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 1 | 0.909 | 0.990 | 0.976 | 32 | 1.000 | 1.000 | 2406 | 2406 | 2450 | 2450 | | | | 4700 | 4600 | No | No | 23.4 | 0.4 | 57 | C |
| 151 | 6% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | 0.998 | -6 | 1.000 | 1.000 | 2153 | 2153 | 2231 | 2231 | | | | 4700 | 4600 | No | No | 21.6 | 0.3 | 57 | C |
| 163 | 8% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.960 | 0.988 | 0.993 | -45 | 1.000 | 1.000 | 1576 | 1576 | 1839 | 1839 | | | | 4700 | 4600 | No | No | 17.8 | 0.3 | 58 | B |
| 171 | 9% | 1.5 | 1% | 1.2 | 9% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.955 | 0.955 | 0.998 | -28 | 1.000 | 1.000 | 1430 | 1430 | 1443 | 1443 | | | | 4700 | 4600 | No | No | 13.4 | 0.3 | 58 | B |

# US 101 Ramp Merge Analysis (HCM 2000)
## Weekday Morning Peak Hour

Freeway-Ramp Components and Characteristics (Freeway Data; On-Ramp Data; Adjacent Ramp Data); Volume Components; Terrain

| ID | Interchange | Direction (NB or SB) | Ramp Type (On or Off) | Number of Lanes on Freeway (Each Direction), N | SFF (mph) | Volume (vph) | Side of Ramp (Left or Right) | SFR (mph) | Volume, VR (vph) | Lanes on Ramp, N | Length of 1st Acceleration Lane, LA1 (ft.) | Length of 2nd Acceleration Lane, LA2 (ft.) | LAeff | Exist (Yes or No) | Position of Adjacent Ramp (Upstream or Downstream) | Type of Adjacent Ramp (On or Off) | Distance to Adjacent Ramp (ft.) | Volume on Adjacent Ramp (vph) | VD | Freeway PHF | Ramp PHF | Adjacent Ramp PHF | V15 (fwy) | V15 (ramp) | Type (Level, Rolling, Mountainous, Grade, Composite) | Grade (x.xx%) | Length (mi) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Bailard Rd | NB | On | 2 | 65 | 2190 | Right | 35 | 250 | 1 | 215 | | #VALUE! | Yes | Downstream | Off | 3500 | 413 | 454 | 0.92 | 0.92 | 0.92 | 2471 | 274 | Level | | |
| 12 | Casitas Pass Rd | NB | On | 2 | 65 | 2028 | Right | 35 | 288 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1500 | 408 | 451 | 0.92 | 0.92 | 0.92 | 2297 | 317 | Level | | |
| 13 | Linden Ave | NB | On | 2 | 65 | 2316 | Right | 35 | 408 | 1 | 130 | | #VALUE! | Yes | Downstream | Off | 3600 | 226 | 247 | 0.92 | 0.92 | 0.92 | 2623 | 451 | Level | | |
| 17 | Santa Ynez Ave | NB | On | 2 | 65 | 2498 | Right | 35 | 341 | 1 | 250 | | #VALUE! | Yes | Downstream | Off | 5700 | 141 | 156 | 0.92 | 0.92 | 0.92 | 2816 | 373 | Level | | |
| 21 | S Padaro Ln | NB | On | 2 | 65 | 2698 | Right | 35 | 131 | 1 | 290 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 3041 | 146 | Level | | |
| 25 | N Padaro Ln | NB | On | 2 | 65 | 2758 | Right | 35 | 343 | 1 | 180 | | #VALUE! | Yes | Downstream | Off | 2200 | 64 | 72 | 0.92 | 0.92 | 0.92 | 3109 | 375 | Level | | |
| 31 | Sheffield Dr | NB | On | 2 | 60 | 3055 | Right | 35 | 194 | 1 | 230 | | #VALUE! | Yes | Downstream | Off | 4000 | 160 | 176 | 0.92 | 0.92 | 0.92 | 3653 | 216 | Rolling | | |
| 57 | Las Positas Rd | NB | On | 3 | 65 | 4542 | Right | 35 | 1020 | 1 | 250 | | #VALUE! | Yes | Downstream | Off | 2900 | 702 | 772 | 0.92 | 0.92 | 0.92 | 5070 | 1116 | Level | | |
| 62 | SR-154 | NB | On | 3 | 65 | 4386 | Right | 35 | 459 | 1 | 190 | | #VALUE! | Yes | Downstream | Off | 3000 | 259 | 285 | 0.92 | 0.92 | 0.92 | 4896 | 505 | Level | | |
| 65 | El Sueno Rd | NB | On | 3 | 65 | 4586 | Right | 35 | 354 | 1 | 150 | | #VALUE! | Yes | Downstream | Off | 4300 | 623 | 679 | 0.92 | 0.92 | 0.92 | 5119 | 387 | Level | | |
| 69 | Turnpike Rd | NB | On | 3 | 65 | 4317 | Right | 35 | 598 | 1 | 250 | | #VALUE! | Yes | Downstream | Off | 3800 | 791 | 866 | 0.92 | 0.92 | 0.92 | 4819 | 655 | Level | | |
| 74 | Ward Memorial Blvd | NB | On | 3 | 65 | 2873 | Right | 35 | 1251 | 1 | 150 | | #VALUE! | Yes | Downstream | Off | 3650 | 1160 | 1270 | 0.92 | 0.92 | 0.92 | 3223 | 1376 | Level | | |
| 78 | Fairview Ave | NB | On | 2 | 65 | 2352 | Right | 35 | 215 | 1 | 230 | | #VALUE! | Yes | Downstream | Off | 4900 | 890 | 969 | 0.92 | 0.92 | 0.92 | 2651 | 238 | Level | | |
| 84 | Glen Annie Rd | NB | On | 2 | 65 | 591 | Right | 35 | 35 | 1 | 270 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 721 | 39 | Level | | |
| 88 | Hollister Ave | NB | On | 2 | 65 | 427 | Right | 35 | 69 | 1 | 130 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 539 | 77 | Level | | |
| 91 | Hollister Ave | SB | On | 2 | 65 | 1279 | Right | 35 | 395 | 1 | 130 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1442 | 435 | Level | | |
| 95 | Glen Annie Rd | SB | On | 2 | 65 | 1435 | Right | 35 | 1669 | 2 | 110 | 1500 | 1720 | Yes | Downstream | Off | 2800 | 333 | 364 | 0.92 | 0.92 | 0.92 | 1618 | 1827 | Level | | |
| 98 | Los Carneros Rd | SB | On | 2 | 65 | 2772 | Right | 35 | 513 | 1 | 260 | | #VALUE! | Yes | Downstream | Off | 3650 | 507 | 558 | 0.92 | 0.92 | 0.92 | 3064 | 562 | Level | | |
| 102 | Fairview Ave | SB | On | 2 | 65 | 2778 | Right | 35 | 829 | 1 | 1500 | | #VALUE! | Yes | Downstream | Off | 4200 | 455 | 498 | 0.92 | 0.92 | 0.92 | 3071 | 907 | Level | | |
| 106 | Ward Memorial Blvd | SB | On | 3 | 65 | 3152 | Right | 35 | 611 | 1 | 400 | | #VALUE! | Yes | Downstream | On | 1800 | 853 | 934 | 0.92 | 0.92 | 0.92 | 3485 | 675 | Level | | |
| 108 | Patterson Ave | SB | On | 3 | 65 | 3763 | Right | 35 | 853 | 1 | 210 | | #VALUE! | Yes | Downstream | Off | 3300 | 553 | 605 | 0.92 | 0.92 | 0.92 | 4160 | 934 | Level | | |
| 112 | Turnpike Rd | SB | On | 3 | 65 | 4063 | Right | 35 | 894 | 1 | 120 | | #VALUE! | Yes | Downstream | Off | 4200 | 514 | 560 | 0.92 | 0.92 | 0.92 | 4491 | 979 | Level | | |
| 118 | La Cumbre Rd | SB | On | 3 | 65 | 4907 | Right | 35 | 672 | 1 | 250 | | #VALUE! | Yes | Downstream | Off | 4550 | 656 | 718 | 0.92 | 0.92 | 0.92 | 5398 | 736 | Level | | |
| 124 | Mission St | SB | On | 3 | 65 | 4619 | Right | 35 | 727 | 1 | 140 | | #VALUE! | Yes | Downstream | Off | 3350 | 1406 | 1539 | 0.92 | 0.92 | 0.92 | 5081 | 792 | Level | | |
| 134 | Milpas St | SB | On | 2 | 60 | 2670 | Right | 35 | 548 | 1 | 240 | | #VALUE! | Yes | Downstream | Off | 3300 | 89 | 97 | 0.92 | 0.92 | 0.92 | 2966 | 600 | Level | | |
| 139 | Cabrillo Blvd | SB | On | 2 | 60 | 2711 | Left | 35 | 151 | 1 | 200 | | #VALUE! | Yes | Downstream | Off | 2600 | 370 | 405 | 0.92 | 0.92 | 0.92 | 3011 | 164 | Level | | |
| 143 | San Ysidro Rd | SB | On | 2 | 60 | 2324 | Right | 35 | 71 | 1 | 110 | | #VALUE! | Yes | Downstream | Off | 5450 | 353 | 386 | 0.92 | 0.92 | 0.92 | 2594 | 78 | Level | | |
| 148 | Evans St | SB | On | 2 | 65 | 2013 | Right | 35 | 40 | 1 | 180 | | #VALUE! | Yes | Downstream | Off | 2700 | 133 | 146 | 0.92 | 0.92 | 0.92 | 2406 | 44 | Rolling | | |
| 151 | N Padaro Ln | SB | On | 2 | 65 | 1919 | Right | 35 | 72 | 1 | 200 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 2153 | 78 | Level | | |
| 163 | Casitas Pass Rd | SB | On | 2 | 65 | 1391 | Right | 35 | 239 | 1 | 300 | | #VALUE! | Yes | Downstream | Off | 3650 | 375 | 408 | 0.92 | 0.92 | 0.92 | 1576 | 263 | Level | | |
| 171 | Rincon Pt. | SB | On | 2 | 65 | 1257 | Right | 35 | 11 | 1 | 530 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1430 | 13 | Level | | |

Volume Adjustment (Volume Composition)

| ID | Percent Trucks and Buses on Freeway (%) | ET (fwy) | Percent Recreational Vehicles on Freeway (%) | ER (fwy) | Percent Trucks and Buses on Ramp (%) | ET (ramp) | Percent Recreational Vehicles on Ramp (%) | ER (ramp) | Percent Trucks and Buses on Adjacent Ramp (%) | ET (adjacent ramp) | Percent Recreational Vehicles on Adjacent Ramp (%) | ER (adjacent ramp) | Driver Population Adjustment fP | fHV (fwy) | fHV (ramp) | fHV (adjacent ramp) | LEQ | PFM (1-Lane On-Ramp) | PFM (2-Lane On-Ramp) | V12 (1-Lane On-Ramp) | V12 (2-Lane On-Ramp) | VFO | VR12 or VR23 or VR34 | V5 | VF4eff | V23 or V34 | Max. Downstream Freeway Flow, v (pc/h) | Max Desirable Flow Entering Influence Area, VR12 (pc/h) | Capacity Check: VFO > Max. | Capacity Check: VR12 > Max. | Compute DR (pc/mi/h) | Ms | Compute SR (mph) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 0.988 | 3424 | 1.000 | 1.000 | 2471 | 2471 | 2745 | 2745 | | | | 4700 | 4600 | No | No | 25.4 | 0.4 | 57 | C |
| 12 | 8% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.960 | 0.988 | 0.983 | | 1.000 | 1.000 | 2297 | 2297 | 2614 | 2614 | | | | 4700 | 4600 | No | No | 25.0 | 0.4 | 57 | C |
| 13 | 8% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.960 | 0.983 | 0.993 | 2000 | 1.000 | 1.000 | 2623 | 2623 | 3074 | 3074 | | | | 4700 | 4600 | No | No | 28.4 | 0.4 | 56 | D |
| 17 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 0.983 | 1144 | 1.000 | 1.000 | 2816 | 2816 | 3189 | 3189 | | | | 4700 | 4600 | No | No | 28.6 | 0.4 | 56 | D |
| 21 | 7% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.964 | 0.974 | #VALUE! | | 1.000 | 1.000 | 3041 | 3041 | 3187 | 3187 | | | | 4700 | 4600 | No | No | 28.4 | 0.4 | 56 | D |
| 25 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 6% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 0.969 | 559 | 1.000 | 1.000 | 3109 | 3109 | 3484 | 3484 | | | | 4700 | 4600 | No | No | 31.3 | 0.4 | 55 | D |
| 31 | 6% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1 | 0.909 | 0.976 | 0.990 | 1311 | 1.000 | 1.000 | 3653 | 3653 | 3869 | 3869 | | | | 4600 | 4600 | No | No | 34.1 | 0.5 | 51 | D |
| 57 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.988 | 5662 | 0.619 | 0.555 | 3137 | 2814 | 6186 | 4253 | | | | 7050 | 4600 | No | No | 36.6 | 0.6 | 52 | E |
| 62 | 5% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.988 | 0.988 | 2193 | 0.583 | 0.555 | 2853 | 2717 | 5401 | 3358 | | | | 7050 | 4600 | No | No | 30.2 | 0.4 | 55 | D |
| 65 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.998 | 5404 | 0.590 | 0.555 | 3021 | 2841 | 5506 | 3408 | | | | 7050 | 4600 | No | No | 30.9 | 0.4 | 55 | D |
| 69 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.993 | 6351 | 0.609 | 0.555 | 2933 | 2675 | 5474 | 3588 | | | | 7050 | 4600 | No | No | 31.6 | 0.4 | 55 | D |
| 74 | 6% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.988 | 0.993 | 10107 | 0.640 | 0.555 | 2063 | 1789 | 4599 | 3439 | | | | 7050 | 4600 | No | No | 30.7 | 0.4 | 55 | D |
| 78 | 7% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.983 | 0.998 | 7220 | 1.000 | 1.000 | 2651 | 2651 | 2889 | 2889 | | | | 4700 | 4600 | No | No | 26.5 | 0.4 | 56 | C |
| 84 | 24% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.891 | 0.983 | #VALUE! | | 1.000 | 1.000 | 721 | 721 | 760 | 760 | | | | 4700 | 4600 | No | No | 9.7 | 0.3 | 58 | A |
| 88 | 32% | 1.5 | 1% | 1.2 | 4% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.861 | 0.978 | #VALUE! | | 1.000 | 1.000 | 539 | 539 | 616 | 616 | | | | 4700 | 4600 | No | No | 9.4 | 0.3 | 58 | A |
| 91 | 7% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.964 | 0.988 | #VALUE! | | 1.000 | 1.000 | 1442 | 1442 | 1877 | 1877 | | | | 4700 | 4600 | No | No | 19.1 | 0.3 | 57 | B |
| 95 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 0.993 | 2999 | 1.000 | 1.000 | 1618 | 1618 | 3445 | 3445 | | | | 4700 | 4600 | No | No | 20.7 | 0.3 | 58 | C |
| 98 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.988 | 4061 | 1.000 | 1.000 | 3064 | 3064 | 3626 | 3626 | | | | 4700 | 4600 | No | No | 31.9 | 0.4 | 55 | D |
| 102 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.993 | 1844 | 1.000 | 1.000 | 3071 | 3071 | 3978 | 3978 | | | | 4700 | 4600 | No | No | 26.7 | 0.4 | 55 | C |
| 106 | 3% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.983 | 0.993 | | 0.589 | 0.555 | 2052 | 1934 | 4160 | 2727 | | | | 7050 | 4600 | No | No | 23.9 | 0.4 | 57 | C |
| 108 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.993 | 4581 | 0.597 | 0.555 | 2483 | 2309 | 5094 | 3417 | | | | 7050 | 4600 | No | No | 30.4 | 0.4 | 55 | D |
| 112 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.998 | 4574 | 0.584 | 0.555 | 2622 | 2493 | 5470 | 3601 | | | | 7050 | 4600 | No | No | 32.4 | 0.5 | 55 | D |
| 118 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.993 | 0.993 | 5266 | 0.590 | 0.555 | 3186 | 2996 | 6134 | 3922 | | | | 7050 | 4600 | No | No | 34.2 | 0.5 | 53 | D |
| 124 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 0.993 | 12354 | 0.669 | 0.555 | 3401 | 2820 | 5873 | 4193 | | | | 7050 | 4600 | No | No | 36.9 | 0.6 | 52 | E |
| 134 | 4% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.993 | 717 | 1.000 | 1.000 | 2966 | 2966 | 3566 | 3566 | | | | 4600 | 4600 | No | No | 31.5 | 0.4 | 52 | D |
| 139 | 4% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 0.993 | 3092 | 1.000 | 1.000 | 3011 | 3011 | 3175 | 3777 | | | 3613 | 4600 | 4600 | No | No | 33.6 | 0.5 | 51 | D |
| 143 | 5% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.983 | 0.993 | 3180 | 1.000 | 1.000 | 2594 | 2594 | 2672 | 2672 | | | | 4600 | 4600 | No | No | 25.6 | 0.4 | 53 | C |
| 148 | 6% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1 | 0.909 | 0.990 | 0.990 | 1133 | 1.000 | 1.000 | 2406 | 2406 | 2450 | 2450 | | | | 4700 | 4600 | No | No | 23.4 | 0.4 | 57 | C |
| 151 | 6% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.969 | 0.998 | #VALUE! | | 1.000 | 1.000 | 2153 | 2153 | 2231 | 2231 | | | | 4700 | 4600 | No | No | 21.6 | 0.3 | 57 | C |
| 163 | 8% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.960 | 0.988 | 0.998 | 2879 | 1.000 | 1.000 | 1576 | 1576 | 1839 | 1839 | | | | 4700 | 4600 | No | No | 17.8 | 0.3 | 58 | B |
| 171 | 9% | 1.5 | 1% | 1.2 | 9% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.955 | 0.955 | #VALUE! | | 1.000 | 1.000 | 1430 | 1430 | 1443 | 1443 | | | | 4700 | 4600 | No | No | 13.4 | 0.3 | 58 | B |

# US 101 Ramp Diverge Analysis (HCM 2000)
## Weekday Morning Peak Hour

Freeway-Ramp Components and Characteristics (Freeway Data; Off-Ramp Data; Adjacent Ramp Data); Volume Components; Terrain

| ID | Interchange | Direction (NB or SB) | Ramp Type (On or Off) | Number of Lanes on Freeway (Each Direction), N | SFF (mph) | Volume (vph) | Side of Ramp (Left or Right) | SFR (mph) | Volume, VR (vph) | Lanes on Ramp, N | Length of 1st Deceleration Lane, LD1 (ft.) | Length of 2nd Deceleration Lane, LD2 (ft.) | LDeff | Exist (Yes or No) | Position of Adjacent Ramp (Upstream or Downstream) | Type of Adjacent Ramp (On or Off) | Distance to Adjacent Ramp (ft.) | Volume on Adjacent Ramp (vph) | VU or VD | Freeway PHF | Ramp PHF | Adjacent Ramp PHF | V15 (fwy) | V15 (ramp) | Type (Level, Rolling, Mountainous, Grade, Composite) | Grade (x.xx%) | Length (mi) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Rincon Pt. | NB | Off | 3 | 65 | 2501 | Right | 35 | 12 | 1 | 120 | | #VALUE! | Yes | Downstream | On | 1800 | 27 | 29 | 0.92 | 0.92 | 0.92 | 2819 | 14 | Level | | |
| 10 | Casitas Pass Rd | NB | Off | 2 | 65 | 2440 | Right | 35 | 413 | 1 | 90 | | #VALUE! | Yes | Downstream | On | 2300 | 288 | 317 | 0.92 | 0.92 | 0.92 | 2750 | 454 | Level | | |
| 15 | Santa Ynez Ave | NB | Off | 2 | 65 | 2724 | Right | 35 | 226 | 1 | 90 | | #VALUE! | Yes | Downstream | On | 1050 | 341 | 373 | 0.92 | 0.92 | 0.92 | 3070 | 247 | Level | | |
| 19 | S Padaro Ln | NB | Off | 2 | 65 | 2839 | Right | 35 | 141 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 2500 | 131 | 146 | 0.92 | 0.92 | 0.92 | 3200 | 156 | Level | | |
| 23 | N Padaro Ln | NB | Off | 2 | 65 | 2829 | Right | 35 | 71 | 1 | 90 | | #VALUE! | Yes | Downstream | On | 2300 | 340 | 372 | 0.92 | 0.92 | 0.92 | 3189 | 77 | Level | | |
| 27 | Evans Ave | NB | Off | 2 | 65 | 3098 | Right | 35 | 64 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 2300 | 210 | 237 | 0.92 | 0.92 | 0.92 | 3704 | 77 | Rolling | | |
| 33 | San Ysidro Rd | NB | Off | 2 | 60 | 3249 | Right | 35 | 160 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1450 | 393 | 430 | 0.92 | 0.92 | 0.92 | 3645 | 174 | Level | | |
| 37 | Hermosillo Rd | NB | Off | 2 | 60 | 3244 | Right | 35 | 84 | 1 | 130 | | #VALUE! | Yes | Downstream | Off | 1200 | 227 | 250 | 0.92 | 0.92 | 0.92 | 3639 | 91 | Level | | |
| 38 | Cabrillo Blvd | NB | Off | 2 | 60 | 3161 | Left | 35 | 227 | 1 | 90 | | #VALUE! | Yes | Downstream | On | 1700 | 543 | 597 | 0.92 | 0.92 | 0.92 | 3546 | 250 | Level | | |
| 55 | Las Positas Rd | NB | Off | 3 | 65 | 5020 | Right | 35 | 478 | 1 | 140 | | #VALUE! | Yes | Downstream | On | 2900 | 1020 | 1122 | 0.92 | 0.92 | 0.92 | 5604 | 523 | Level | | |
| 58 | La Cumbre Rd | NB | Off | 3 | 65 | 5562 | Right | 35 | 702 | 1 | 210 | | #VALUE! | Yes | Downstream | On | 1000 | 359 | 395 | 0.92 | 0.92 | 0.92 | 6209 | 772 | Level | | |
| 63 | El Sueno Rd | NB | Off | 3 | 65 | 4845 | Right | 35 | 259 | 1 | 140 | | #VALUE! | Yes | Downstream | On | 1150 | 354 | 387 | 0.92 | 0.92 | 0.92 | 5408 | 285 | Level | | |
| 67 | Turnpike Rd | NB | Off | 3 | 65 | 4940 | Right | 35 | 623 | 1 | 190 | | #VALUE! | Yes | Downstream | On | 2400 | 598 | 655 | 0.92 | 0.92 | 0.92 | 5515 | 679 | Level | | |
| 71 | Patterson Ave | NB | Off | 3 | 65 | 4915 | Right | 35 | 791 | 1 | 120 | | #VALUE! | Yes | Downstream | Off | 800 | 1251 | 1396 | 0.92 | 0.92 | 0.92 | 5487 | 866 | Level | | |
| 72 | Ward Memorial Blvd | NB | Off | 3 | 65 | 4124 | Right | 35 | 1251 | 1 | 200 | | #VALUE! | Yes | Downstream | On | 2000 | 640 | 704 | 0.92 | 0.92 | 0.92 | 4626 | 1396 | Level | | |
| 76 | Fairview Ave | NB | Off | 3 | 65 | 3513 | Right | 35 | 1160 | 1 | 170 | | #VALUE! | Yes | Downstream | On | 1600 | 215 | 238 | 0.92 | 0.92 | 0.92 | 3922 | 1270 | Level | | |
| 80 | Los Carneros Rd | NB | Off | 2 | 65 | 2567 | Right | 35 | 890 | 1 | 120 | | #VALUE! | Yes | Downstream | On | 2500 | 145 | 159 | 0.92 | 0.92 | 0.92 | 2893 | 969 | Level | | |
| 86 | Winchester Canyon Rd | NB | Off | 2 | 65 | 626 | Right | 35 | 199 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 4150 | 69 | 77 | 0.92 | 0.92 | 0.92 | 760 | 219 | Level | | |
| 89 | Hollister Ave | SB | Off | 2 | 65 | 1418 | Right | 35 | 139 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 2600 | 395 | 435 | 0.92 | 0.92 | 0.92 | 1598 | 152 | Level | | |
| 93 | Glen Annie Rd | SB | Off | 2 | 65 | 1674 | Right | 35 | 239 | 1 | 190 | | #VALUE! | Yes | Downstream | On | 2700 | 1669 | 1827 | 0.92 | 0.92 | 0.92 | 1878 | 262 | Level | | |
| 96 | Los Carneros Rd | SB | Off | 3 | 65 | 3105 | Right | 35 | 333 | 1 | 1500 | | #VALUE! | Yes | Downstream | On | 2900 | 507 | 555 | 0.92 | 0.92 | 0.92 | 3432 | 364 | Level | | |
| 100 | Fairview Ave | SB | Off | 3 | 65 | 3285 | Right | 35 | 507 | 1 | 130 | | #VALUE! | Yes | Downstream | On | 2300 | 829 | 907 | 0.92 | 0.92 | 0.92 | 3631 | 557 | Level | | |
| 104 | Ward Memorial Blvd | SB | Off | 3 | 65 | 3607 | Right | 35 | 455 | 1 | 230 | | #VALUE! | Yes | Downstream | On | 1700 | 508 | 562 | 0.92 | 0.92 | 0.92 | 3987 | 498 | Level | | |
| 110 | Turnpike Rd | SB | Off | 3 | 65 | 4616 | Right | 35 | 553 | 1 | 140 | | #VALUE! | Yes | Downstream | On | 2300 | 894 | 979 | 0.92 | 0.92 | 0.92 | 5103 | 606 | Level | | |
| 114 | San Marcos Pass Rd | SB | Off | 3 | 65 | 4957 | Right | 35 | 429 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 3400 | 863 | 945 | 0.92 | 0.92 | 0.92 | 5480 | 467 | Level | | |
| 120 | Las Positas Rd | SB | Off | 3 | 65 | 5579 | Right | 35 | 612 | 1 | 90 | | #VALUE! | Yes | Downstream | On | 2250 | 650 | 708 | 0.92 | 0.92 | 0.92 | 6137 | 669 | Level | | |
| 126 | Carrillo St | SB | Off | 3 | 65 | 5346 | Right | 35 | 1226 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1700 | 648 | 720 | 0.92 | 0.92 | 0.92 | 5880 | 1342 | Level | | |
| 136 | Cabrillo Blvd | SB | Off | 2 | 60 | 3218 | Right | 35 | 89 | 1 | 120 | | #VALUE! | Yes | Downstream | Off | 550 | 418 | 460 | 0.92 | 0.92 | 0.92 | 3575 | 97 | Level | | |
| 137 | Cabrillo Blvd | SB | Off | 2 | 60 | 3129 | Left | 35 | 418 | 1 | 100 | | #VALUE! | Yes | Downstream | On | 2000 | 151 | 164 | 0.92 | 0.92 | 0.92 | 3476 | 460 | Level | | |
| 140 | Olive Mill Rd | SB | Off | 2 | 60 | 2861 | Right | 35 | 370 | 1 | 100 | | #VALUE! | Yes | Downstream | On | 2550 | 206 | 224 | 0.92 | 0.92 | 0.92 | 3179 | 405 | Level | | |
| 144 | Sheffield Dr | SB | Off | 2 | 60 | 2394 | Left | 35 | 353 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1300 | 59 | 65 | 0.92 | 0.92 | 0.92 | 2824 | 393 | Rolling | | |
| 149 | N Padaro Ln | SB | Off | 2 | 65 | 2052 | Right | 35 | 133 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1900 | 72 | 78 | 0.92 | 0.92 | 0.92 | 2302 | 145 | Level | | |
| 153 | S Padaro Ln | SB | Off | 2 | 65 | 1991 | Right | 35 | 121 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 4450 | 89 | 100 | 0.92 | 0.92 | 0.92 | 2234 | 133 | Level | | |
| 157 | Santa Ynez Ave | SB | Off | 2 | 65 | 1829 | Right | 35 | 48 | 1 | 180 | | #VALUE! | Yes | Downstream | On | 750 | 113 | 125 | 0.92 | 0.92 | 0.92 | 2052 | 52 | Level | | |
| 161 | Casitas Pass Rd | SB | Off | 2 | 65 | 1642 | Right | 35 | 250 | 1 | 160 | | #VALUE! | Yes | Downstream | On | 1400 | 239 | 263 | 0.92 | 0.92 | 0.92 | 1850 | 274 | Level | | |
| 165 | Bailard Rd | SB | Off | 2 | 65 | 1630 | Right | 35 | 375 | 1 | 150 | | #VALUE! | Yes | Downstream | On | 1900 | 50 | 55 | 0.92 | 0.92 | 0.92 | 1838 | 408 | Level | | |

Volume Adjustment (Volume Composition)

| ID | Percent Trucks and Buses on Freeway (%) | ET (fwy) | Percent Recreational Vehicles on Freeway (%) | ER (fwy) | Percent Trucks and Buses on Ramp (%) | ET (ramp) | Percent Recreational Vehicles on Ramp (%) | ER (ramp) | Percent Trucks and Buses on Adjacent Ramp (%) | ET (adjacent ramp) | Percent Recreational Vehicles on Adjacent Ramp (%) | ER (adjacent ramp) | Driver Population Adjustment fP | fHV (fwy) | fHV (ramp) | LEQ | PFD (1-Lane Off-Ramp) | PFD (2-Lane Off-Ramp) | V12 (1-Lane Off-Ramp) | V12 (2-Lane Off-Ramp) | VFO | V5 | VF4eff | V23 or V34 | fHV (adjacent ramp) | Max. Upstream, VFI, or Downstream Freeway Flow, VFO (pc/h) | Max Desirable Flow Entering Influence Area, V12 (pc/h) | Capacity Check: VF > Max. | Capacity Check: V12 > Max. | Capacity Check: VFO > Max. | Compute DR (pc/mi/h) | Ds | Compute SR (mph) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 7% | 1.5 | 1% | 1.2 | 8% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.960 | | 0.689 | 0.450 | 1946 | 1276 | 2805 | | | | 0.998 | 7050 | 4400 | No | No | No | 19.9 | 0.4 | 55.1 | B |
| 10 | 7% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.988 | | 1.000 | 1.000 | 2750 | 2750 | 2296 | | | | 0.988 | 4700 | 4401 | No | No | No | 27.1 | 0.5 | 54.2 | C |
| 15 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | | 1.000 | 1.000 | 3070 | 3070 | 2823 | | | | 0.993 | 4700 | 4402 | No | No | No | 29.8 | 0.5 | 54.6 | D |
| 19 | 7% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.983 | | 1.000 | 1.000 | 3200 | 3200 | 3044 | | | | 0.974 | 4700 | 4403 | No | No | No | 30.8 | 0.4 | 54.8 | D |
| 23 | 7% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.998 | | 1.000 | 1.000 | 3189 | 3189 | 3112 | | | | 0.993 | 4700 | 4404 | No | No | No | 30.9 | 0.4 | 55.0 | D |
| 27 | 6% | 2.5 | 1% | 2 | 6% | 2.5 | 1% | 2 | 2% | 2.5 | 1% | 2 | 1 | 0.909 | 0.909 | | 1.000 | 1.000 | 3704 | 3704 | 3627 | | | | 0.962 | 4700 | 4405 | No | No | No | 35.4 | 0.4 | 55.0 | E |
| 33 | 6% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | | 1.000 | 1.000 | 3645 | 3645 | 3471 | | | | 0.993 | 4600 | 4406 | No | No | No | 34.6 | 0.4 | 52.0 | D |
| 37 | 6% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | 250.01 | 1.000 | 1.000 | 3639 | 3639 | 3548 | | | | 0.988 | 4600 | 4407 | No | No | No | 34.4 | 0.4 | 52.1 | D |
| 38 | 6% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.988 | | 1.000 | 1.000 | 3546 | 3546 | 3296 | | | 3901 | 0.988 | 4600 | 4408 | No | No | No | 37.0 | 0.5 | 51.9 | E |
| 55 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | | 0.596 | 0.450 | 3550 | 2809 | 5081 | | | | 0.988 | 7050 | 4409 | No | No | No | 33.5 | 0.5 | 54.1 | D |
| 58 | 5% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.988 | | 0.569 | 0.450 | 3867 | 3219 | 5437 | | | | 0.988 | 7050 | 4410 | No | No | No | 35.6 | 0.5 | 53.6 | E |
| 63 | 5% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.988 | | 0.612 | 0.450 | 3419 | 2590 | 5123 | | | | 0.993 | 7050 | 4411 | No | No | No | 32.4 | 0.5 | 54.6 | D |
| 67 | 5% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.998 | | 0.591 | 0.450 | 3537 | 2855 | 4836 | | | | 0.993 | 7050 | 4412 | No | No | No | 33.0 | 0.5 | 53.8 | D |
| 71 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 2131.75 | 0.719 | 0.450 | 4186 | 2945 | 4621 | | | | 0.974 | 7050 | 4413 | No | No | No | 39.2 | 0.5 | 53.4 | E |
| 72 | 6% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.974 | | 0.580 | 0.450 | 3270 | 2850 | 3230 | | | | 0.988 | 7050 | 4414 | No | No | No | 30.6 | 0.6 | 52.3 | D |
| 76 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | | 0.604 | 0.450 | 2871 | 2463 | 2652 | | | | 0.983 | 7050 | 4415 | No | No | No | 27.4 | 0.5 | 52.5 | C |
| 80 | 7% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.998 | | 1.000 | 1.000 | 2893 | 2893 | 1924 | | | | 0.993 | 4700 | 4416 | No | No | No | 28.1 | 0.5 | 53.2 | D |
| 86 | 23% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 4% | 1.5 | 1% | 1.2 | 1 | 0.895 | 0.988 | | 1.000 | 1.000 | 760 | 760 | 541 | | | | 0.978 | 4700 | 4417 | No | No | No | 9.8 | 0.4 | 54.7 | A |
| 89 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | | 1.000 | 1.000 | 1598 | 1598 | 1446 | | | | 0.988 | 4700 | 4418 | No | No | No | 17.3 | 0.4 | 54.8 | B |
| 93 | 6% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.993 | | 1.000 | 1.000 | 1878 | 1878 | 1616 | | | | 0.993 | 4700 | 4419 | No | No | No | 18.7 | 0.5 | 54.6 | B |
| 96 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | | 0.657 | 0.450 | 2381 | 1745 | 3068 | | | | 0.993 | 7050 | 4420 | No | No | No | 11.2 | 0.5 | 54.4 | B |
| 100 | 3% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.988 | | 0.644 | 0.450 | 2535 | 1940 | 3074 | | | | 0.993 | 7050 | 4421 | No | No | No | 24.9 | 0.5 | 54.0 | C |
| 104 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | | 0.637 | 0.450 | 2722 | 2068 | 3489 | | | | 0.983 | 7050 | 4422 | No | No | No | 25.6 | 0.5 | 54.1 | C |
| 110 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | | 0.605 | 0.450 | 3325 | 2630 | 4497 | | | | 0.993 | 7050 | 4423 | No | No | No | 31.6 | 0.5 | 53.9 | D |
| 114 | 3% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 0.602 | 0.450 | 3482 | 2723 | 5013 | | | | 0.993 | 7050 | 4424 | No | No | No | 33.5 | 0.5 | 54.2 | D |
| 120 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.993 | | 0.576 | 0.450 | 3817 | 3130 | 5468 | | | | 0.998 | 7050 | 4425 | No | No | No | 36.3 | 0.5 | 53.8 | E |
| 126 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 4% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.993 | | 0.551 | 0.450 | 3844 | 3384 | 4538 | | | | 0.978 | 7050 | 4426 | No | No | No | 36.3 | 0.5 | 52.4 | E |
| 136 | 4% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 460.09 | 1.000 | 1.000 | 3575 | 3575 | 3478 | | | | 0.988 | 4600 | 4427 | No | No | No | 33.9 | 0.4 | 52.1 | D |
| 137 | 4% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | | 1.000 | 1.000 | 3476 | 3476 | 3016 | | | 3824 | 0.998 | 4600 | 4428 | No | No | No | 36.2 | 0.5 | 51.6 | E |
| 140 | 4% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | | 1.000 | 1.000 | 3179 | 3179 | 2774 | | | | 0.998 | 4600 | 4429 | No | No | No | 30.7 | 0.5 | 51.6 | D |
| 144 | 5% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1 | 0.922 | 0.976 | | 1.000 | 1.000 | 2824 | 2824 | 2431 | | | 3106 | 0.990 | 4600 | 4430 | No | No | No | 30.0 | 0.5 | 51.7 | D |
| 149 | 6% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | | 1.000 | 1.000 | 2302 | 2302 | 2157 | | | | 0.998 | 4700 | 4431 | No | No | No | 23.1 | 0.4 | 54.9 | C |
| 153 | 6% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 6% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.988 | | 1.000 | 1.000 | 2234 | 2234 | 2101 | | | | 0.969 | 4700 | 4432 | No | No | No | 22.7 | 0.4 | 54.9 | C |
| 157 | 6% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.988 | | 1.000 | 1.000 | 2052 | 2052 | 2000 | | | | 0.983 | 4700 | 4433 | No | No | No | 20.3 | 0.4 | 55.0 | C |
| 161 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | | 1.000 | 1.000 | 1850 | 1850 | 1576 | | | | 0.988 | 4700 | 4434 | No | No | No | 18.7 | 0.5 | 54.6 | B |
| 165 | 7% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.998 | | 1.000 | 1.000 | 1838 | 1838 | 1430 | | | | 0.988 | 4700 | 4435 | No | No | No | 18.7 | 0.5 | 54.3 | B |

# US 101 Ramp Divirge Analysis (HCM 2000)
## Weekday Morning Peak Hour

Freeway-Ramp Components and Characteristics (Freeway Data; Off-Ramp Data; Adjacent Ramp Data); Volume Components; Terrain

| ID | Interchange | Direction (NB or SB) | Ramp Type (On or Off) | Number of Lanes on Freeway (Each Direction), N | SFF (mph) | Volume (vph) | Side of Ramp (Left or Right) | SFR (mph) | Volume, VR (vph) | Lanes on Ramp, N | Length of 1st Deceleration Lane, LD1 (ft.) | Length of 2nd Deceleration Lane, LD2 (ft.) | LDeff | Exist (Yes or No) | Position of Adjacent Ramp (Upstream or Downstream) | Type of Adjacent Ramp (On or Off) | Distance to Adjacent Ramp (ft.) | Volume on Adjacent Ramp (vph) | VU or VD | Freeway PHF | Ramp PHF | Adjacent Ramp PHF | V15 (fwy) | V15 (ramp) | Type (Level, Rolling, Mountainous, Grade, Composite) | Grade (x.xx%) | Length (mi) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Rincon Pt. | NB | Off | 3 | 65 | 2501 | Right | 35 | 12 | 1 | 120 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 2819 | 14 | Level | | |
| 10 | Casitas Pass Rd | NB | Off | 2 | 65 | 2440 | Right | 35 | 413 | 1 | 90 | | #VALUE! | Yes | Upstream | On | 3500 | 250 | 274 | 0.92 | 0.92 | 0.92 | 2750 | 454 | Level | | |
| 15 | Santa Ynez Ave | NB | Off | 2 | 65 | 2724 | Right | 35 | 226 | 1 | 90 | | #VALUE! | Yes | Upstream | On | 3600 | 408 | 451 | 0.92 | 0.92 | 0.92 | 3070 | 247 | Level | | |
| 19 | S Padaro Ln | NB | Off | 2 | 65 | 2839 | Right | 35 | 141 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 5700 | 341 | 373 | 0.92 | 0.92 | 0.92 | 3200 | 156 | Level | | |
| 23 | N Padaro Ln | NB | Off | 2 | 65 | 2829 | Right | 35 | 71 | 1 | 90 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 3189 | 77 | Level | | |
| 27 | Evans Ave | NB | Off | 2 | 65 | 3098 | Right | 35 | 64 | 1 | 80 | | #VALUE! | Yes | Upstream | On | 2200 | 340 | 379 | 0.92 | 0.92 | 0.92 | 3704 | 77 | Rolling | | |
| 33 | San Ysidro Rd | NB | Off | 2 | 60 | 3249 | Right | 35 | 160 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 4000 | 194 | 211 | 0.92 | 0.92 | 0.92 | 3645 | 174 | Level | | |
| 37 | Hermosillo Rd | NB | Off | 2 | 60 | 3244 | Right | 35 | 84 | 1 | 130 | | #VALUE! | Yes | Upstream | Off | 3300 | 238 | 263 | 0.92 | 0.92 | 0.92 | 3639 | 91 | Level | | |
| 38 | Cabrillo Blvd | NB | Off | 2 | 60 | 3161 | Left | 35 | 227 | 1 | 90 | | #VALUE! | Yes | Upstream | Off | 1200 | 84 | 91 | 0.92 | 0.92 | 0.92 | 3546 | 250 | Level | | |
| 55 | Las Positas Rd | NB | Off | 3 | 65 | 5020 | Right | 35 | 478 | 1 | 140 | | #VALUE! | Yes | Upstream | Off | 1300 | 708 | 775 | 0.92 | 0.92 | 0.92 | 5604 | 523 | Level | | |
| 58 | La Cumbre Rd | NB | Off | 3 | 65 | 5562 | Right | 35 | 702 | 1 | 210 | | #VALUE! | Yes | Upstream | On | 2900 | 1020 | 1116 | 0.92 | 0.92 | 0.92 | 6209 | 772 | Level | | |
| 63 | El Sueno Rd | NB | Off | 3 | 65 | 4845 | Right | 35 | 259 | 1 | 140 | | #VALUE! | Yes | Upstream | On | 3000 | 459 | 505 | 0.92 | 0.92 | 0.92 | 5408 | 285 | Level | | |
| 67 | Turnpike Rd | NB | Off | 3 | 65 | 4940 | Right | 35 | 623 | 1 | 190 | | #VALUE! | Yes | Upstream | On | 4300 | 354 | 387 | 0.92 | 0.92 | 0.92 | 5515 | 679 | Level | | |
| 71 | Patterson Ave | NB | Off | 3 | 65 | 4915 | Right | 35 | 791 | 1 | 120 | | #VALUE! | Yes | Upstream | On | 3800 | 598 | 655 | 0.92 | 0.92 | 0.92 | 5487 | 866 | Level | | |
| 72 | Ward Memorial Blvd | NB | Off | 3 | 65 | 4124 | Right | 35 | 1251 | 1 | 200 | | #VALUE! | Yes | Upstream | Off | 800 | 791 | 866 | 0.92 | 0.92 | 0.92 | 4626 | 1396 | Level | | |
| 76 | Fairview Ave | NB | Off | 3 | 65 | 3513 | Right | 35 | 1160 | 1 | 170 | | #VALUE! | Yes | Upstream | On | 3650 | 640 | 704 | 0.92 | 0.92 | 0.92 | 3922 | 1270 | Level | | |
| 80 | Los Carneros Rd | NB | Off | 2 | 65 | 2567 | Right | 35 | 890 | 1 | 120 | | #VALUE! | Yes | Upstream | On | 4900 | 215 | 238 | 0.92 | 0.92 | 0.92 | 2893 | 969 | Level | | |
| 86 | Winchester Canyon Rd | NB | Off | 2 | 65 | 626 | Right | 35 | 199 | 1 | 110 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 760 | 219 | Level | | |
| 89 | Hollister Ave | SB | Off | 2 | 65 | 1418 | Right | 35 | 139 | 1 | 80 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1598 | 152 | Level | | |
| 93 | Glen Annie Rd | SB | Off | 2 | 65 | 1674 | Right | 35 | 239 | 1 | 190 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1878 | 262 | Level | | |
| 96 | Los Carneros Rd | SB | Off | 3 | 65 | 3105 | Right | 35 | 333 | 1 | 1500 | | #VALUE! | Yes | Upstream | On | 2800 | 1669 | 1818 | 0.92 | 0.92 | 0.92 | 3432 | 364 | Level | | |
| 100 | Fairview Ave | SB | Off | 3 | 65 | 3285 | Right | 35 | 507 | 1 | 130 | | #VALUE! | Yes | Upstream | On | 3650 | 513 | 562 | 0.92 | 0.92 | 0.92 | 3631 | 557 | Level | | |
| 104 | Ward Memorial Blvd | SB | Off | 3 | 65 | 3607 | Right | 35 | 455 | 1 | 230 | | #VALUE! | Yes | Upstream | On | 4100 | 829 | 907 | 0.92 | 0.92 | 0.92 | 3987 | 498 | Level | | |
| 110 | Turnpike Rd | SB | Off | 3 | 65 | 4616 | Right | 35 | 553 | 1 | 140 | | #VALUE! | Yes | Upstream | On | 1800 | 853 | 934 | 0.92 | 0.92 | 0.92 | 5103 | 606 | Level | | |
| 114 | San Marcos Pass Rd | SB | Off | 3 | 65 | 4957 | Right | 35 | 429 | 1 | 80 | | #VALUE! | Yes | Upstream | On | 5200 | 894 | 979 | 0.92 | 0.92 | 0.92 | 5480 | 467 | Level | | |
| 120 | Las Positas Rd | SB | Off | 3 | 65 | 5579 | Right | 35 | 612 | 1 | 90 | | #VALUE! | Yes | Upstream | On | 4550 | 551 | 603 | 0.92 | 0.92 | 0.92 | 6137 | 669 | Level | | |
| 126 | Carrillo St | SB | Off | 3 | 65 | 5346 | Right | 35 | 1226 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 3350 | 634 | 691 | 0.92 | 0.92 | 0.92 | 5880 | 1342 | Level | | |
| 136 | Cabrillo Blvd | SB | Off | 2 | 60 | 3218 | Right | 35 | 89 | 1 | 120 | | #VALUE! | Yes | Upstream | Off | 3300 | 548 | 600 | 0.92 | 0.92 | 0.92 | 3575 | 97 | Level | | |
| 137 | Cabrillo Blvd | SB | Off | 2 | 60 | 3129 | Left | 35 | 418 | 1 | 100 | | #VALUE! | Yes | Upstream | Off | 550 | 89 | 97 | 0.92 | 0.92 | 0.92 | 3476 | 460 | Level | | |
| 140 | Olive Mill Rd | SB | Off | 2 | 60 | 2861 | Right | 35 | 370 | 1 | 100 | | #VALUE! | Yes | Upstream | On | 2600 | 151 | 165 | 0.92 | 0.92 | 0.92 | 3179 | 405 | Level | | |
| 144 | Sheffield Dr | SB | Off | 2 | 60 | 2394 | Left | 35 | 353 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 5450 | 71 | 81 | 0.92 | 0.92 | 0.92 | 2824 | 393 | Rolling | | |
| 149 | N Padaro Ln | SB | Off | 2 | 65 | 2052 | Right | 35 | 133 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 2700 | 40 | 44 | 0.92 | 0.92 | 0.92 | 2302 | 145 | Level | | |
| 153 | S Padaro Ln | SB | Off | 2 | 65 | 1991 | Right | 35 | 121 | 1 | 80 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 2234 | 133 | Level | | |
| 157 | Santa Ynez Ave | SB | Off | 2 | 65 | 1829 | Right | 35 | 48 | 1 | 180 | | #VALUE! | Yes | Upstream | On | 5150 | 131 | 143 | 0.92 | 0.92 | 0.92 | 2052 | 52 | Level | | |
| 161 | Casitas Pass Rd | SB | Off | 2 | 65 | 1642 | Right | 35 | 250 | 1 | 160 | | #VALUE! | Yes | Upstream | Off | 3900 | 253 | 277 | 0.92 | 0.92 | 0.92 | 1850 | 274 | Level | | |
| 165 | Bailard Rd | SB | Off | 2 | 65 | 1630 | Right | 35 | 375 | 1 | 150 | | #VALUE! | Yes | Upstream | On | 3650 | 239 | 263 | 0.92 | 0.92 | 0.92 | 1838 | 408 | Level | | |

Volume Adjustment (Volume Composition)

| ID | Percent Trucks and Buses on Freeway (%) | ET (fwy) | Percent Recreational Vehicles on Freeway (%) | ER (fwy) | Percent Trucks and Buses on Ramp (%) | ET (ramp) | Percent Recreational Vehicles on Ramp (%) | ER (ramp) | Percent Trucks and Buses on Adjacent Ramp (%) | ET (adjacent ramp) | Percent Recreational Vehicles on Adjacent Ramp (%) | ER (adjacent ramp) | Driver Population Adjustment fP | fHV (fwy) | fHV (ramp) | LEQ | PFD (1-Lane Off-Ramp) | PFD (2-Lane Off-Ramp) | V12 (1-Lane Off-Ramp) | V12 (2-Lane Off-Ramp) | VFO | V5 | VF4eff | V23 or V34 | fHV (adjacent ramp) | Max. Upstream, VFI, or Downstream Freeway Flow, VFO (pc/h) | Max Desirable Flow Entering Influence Area, V12 (pc/h) | Capacity Check: VF > Max. | Capacity Check: V12 > Max. | Capacity Check: VFO > Max. | Compute DR (pc/mi/h) | Ds | Compute SR (mph) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 7% | 1.5 | 1% | 1.2 | 8% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.964 | 0.960 | | 0.689 | 0.450 | 1946 | 1276 | 2805 | | | | #VALUE! | 7050 | 4400 | No | No | No | 19.9 | 0.4 | 55.1 | B |
| 10 | 7% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.988 | 2747 | 1.000 | 1.000 | 2750 | 2750 | 2296 | | | | 0.993 | 4700 | 4401 | No | No | No | 27.1 | 0.5 | 54.2 | C |
| 15 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | 3672 | 1.000 | 1.000 | 3070 | 3070 | 2823 | | | | 0.983 | 4700 | 4402 | No | No | No | 29.8 | 0.5 | 54.6 | D |
| 19 | 7% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.983 | 2810 | 1.000 | 1.000 | 3200 | 3200 | 3044 | | | | 0.993 | 4700 | 4403 | No | No | No | 30.8 | 0.4 | 54.8 | D |
| 23 | 7% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.964 | 0.998 | | 1.000 | 1.000 | 3189 | 3189 | 3112 | | | | #VALUE! | 4700 | 4404 | No | No | No | 30.9 | 0.4 | 55.0 | D |
| 27 | 6% | 2.5 | 1% | 2 | 6% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 1 | 0.909 | 0.909 | 2521 | 1.000 | 1.000 | 3704 | 3704 | 3627 | | | | 0.976 | 4700 | 4405 | No | No | No | 35.4 | 0.4 | 55.0 | E |
| 33 | 6% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | 1490 | 1.000 | 1.000 | 3645 | 3645 | 3471 | | | | 0.998 | 4600 | 4406 | No | No | No | 34.6 | 0.4 | 52.0 | D |
| 37 | 6% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | | 1.000 | 1.000 | 3639 | 3639 | 3548 | | | | 0.983 | 4600 | 4407 | No | No | No | 34.4 | 0.4 | 52.1 | D |
| 38 | 6% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.988 | | 1.000 | 1.000 | 3546 | 3546 | 3296 | | | 3901 | 0.998 | 4600 | 4408 | No | No | No | 37.0 | 0.5 | 51.9 | E |
| 55 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | | 0.596 | 0.450 | 3550 | 2809 | 5081 | | | | 0.993 | 7050 | 4409 | No | No | No | 33.5 | 0.5 | 54.1 | D |
| 58 | 5% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.988 | 7194 | 0.707 | 0.450 | 4618 | 3219 | 5437 | | | | 0.993 | 7050 | 4410 | No | Yes | No | 42.1 | 0.5 | 53.6 | F |
| 63 | 5% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.988 | 2907 | 0.612 | 0.450 | 3419 | 2590 | 5123 | | | | 0.988 | 7050 | 4411 | No | No | No | 32.4 | 0.5 | 54.6 | D |
| 67 | 5% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.998 | 2646 | 0.591 | 0.450 | 3537 | 2855 | 4836 | | | | 0.993 | 7050 | 4412 | No | No | No | 33.0 | 0.5 | 53.8 | D |
| 71 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 4985 | 0.607 | 0.450 | 3671 | 2945 | 4621 | | | | 0.993 | 7050 | 4413 | No | No | No | 34.7 | 0.5 | 53.4 | D |
| 72 | 6% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.974 | | 0.580 | 0.450 | 3270 | 2850 | 3230 | | | | 0.993 | 7050 | 4414 | No | No | No | 30.6 | 0.6 | 52.3 | D |
| 76 | 5% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 10883 | 0.681 | 0.450 | 3075 | 2463 | 2652 | | | | 0.988 | 7050 | 4415 | No | No | No | 29.2 | 0.5 | 52.5 | D |
| 80 | 7% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.998 | 3725 | 1.000 | 1.000 | 2893 | 2893 | 1924 | | | | 0.983 | 4700 | 4416 | No | No | No | 28.1 | 0.5 | 53.2 | D |
| 86 | 23% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.895 | 0.988 | | 1.000 | 1.000 | 760 | 760 | 541 | | | | #VALUE! | 4700 | 4417 | No | No | No | 9.8 | 0.4 | 54.7 | A |
| 89 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.964 | 0.993 | | 1.000 | 1.000 | 1598 | 1598 | 1446 | | | | #VALUE! | 4700 | 4418 | No | No | No | 17.3 | 0.4 | 54.8 | B |
| 93 | 6% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.969 | 0.993 | | 1.000 | 1.000 | 1878 | 1878 | 1616 | | | | #VALUE! | 4700 | 4419 | No | No | No | 18.7 | 0.5 | 54.6 | B |
| 96 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 14868 | 0.975 | 0.450 | 3356 | 1745 | 3068 | | | | 0.998 | 7050 | 4420 | No | No | No | 19.6 | 0.5 | 54.4 | B |
| 100 | 3% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.988 | 5010 | 0.668 | 0.450 | 2612 | 1940 | 3074 | | | | 0.993 | 7050 | 4421 | No | No | No | 25.5 | 0.5 | 54.0 | C |
| 104 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 7265 | 0.695 | 0.450 | 2923 | 2068 | 3489 | | | | 0.993 | 7050 | 4422 | No | No | No | 27.3 | 0.5 | 54.1 | C |
| 110 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 6563 | 0.831 | 0.450 | 4345 | 2630 | 4497 | | | | 0.993 | 7050 | 4423 | No | No | No | 40.4 | 0.5 | 53.9 | E |
| 114 | 3% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 6060 | 0.617 | 0.450 | 3560 | 2723 | 5013 | | | | 0.993 | 7050 | 4424 | No | No | No | 34.1 | 0.5 | 54.2 | D |
| 120 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.993 | 3738 | 0.576 | 0.450 | 3817 | 3130 | 5468 | | | | 0.993 | 7050 | 4425 | No | No | No | 36.3 | 0.5 | 53.8 | E |
| 126 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.993 | 6628 | 0.612 | 0.450 | 4120 | 3384 | 4538 | | | | 0.998 | 7050 | 4426 | No | No | No | 38.7 | 0.5 | 52.4 | E |
| 136 | 4% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | | 1.000 | 1.000 | 3575 | 3575 | 3478 | | | | 0.993 | 4600 | 4427 | No | No | No | 33.9 | 0.4 | 52.1 | D |
| 137 | 4% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | | 1.000 | 1.000 | 3476 | 3476 | 3016 | | | 3824 | 0.993 | 4600 | 4428 | No | No | No | 36.2 | 0.5 | 51.6 | E |
| 140 | 4% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 1456 | 1.000 | 1.000 | 3179 | 3179 | 2774 | | | | 0.993 | 4600 | 4429 | No | No | No | 30.7 | 0.5 | 51.6 | D |
| 144 | 5% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 3% | 2.5 | 1% | 2 | 1 | 0.922 | 0.976 | 764 | 1.000 | 1.000 | 2824 | 2824 | 2431 | | | 3106 | 0.948 | 4600 | 4430 | No | No | No | 30.0 | 0.5 | 51.7 | D |
| 149 | 6% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | 390 | 1.000 | 1.000 | 2302 | 2302 | 2157 | | | | 0.998 | 4700 | 4431 | No | No | No | 23.1 | 0.4 | 54.9 | C |
| 153 | 6% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.969 | 0.988 | | 1.000 | 1.000 | 2234 | 2234 | 2101 | | | | #VALUE! | 4700 | 4432 | No | No | No | 22.7 | 0.4 | 54.9 | C |
| 157 | 6% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.988 | 1252 | 1.000 | 1.000 | 2052 | 2052 | 2000 | | | | 0.993 | 4700 | 4433 | No | No | No | 20.3 | 0.4 | 55.0 | C |
| 161 | 7% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.993 | | 1.000 | 1.000 | 1850 | 1850 | 1576 | | | | 0.993 | 4700 | 4434 | No | No | No | 18.7 | 0.5 | 54.6 | B |
| 165 | 7% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.998 | 3197 | 1.000 | 1.000 | 1838 | 1838 | 1430 | | | | 0.988 | 4700 | 4435 | No | No | No | 18.7 | 0.5 | 54.3 | B |

# US 101 Ramp Merge Analysis (HCM 2000)
## Weekday Afternoon Peak Hour

Freeway-Ramp Components and Characteristics (Freeway Data; On-Ramp Data; Adjacent Ramp Data); Volume Components; Terrain

| ID | Interchange | Direction (NB or SB) | Ramp Type (On or Off) | Number of Lanes on Freeway (Each Direction), N | SFF (mph) | Volume (vph) | Side of Ramp (Left or Right) | SFR (mph) | Volume, VR (vph) | Lanes on Ramp, N | Length of 1st Acceleration Lane, LA1 (ft.) | Length of 2nd Acceleration Lane, LA2 (ft.) | LAeff | Exist (Yes or No) | Position of Adjacent Ramp (Upstream or Downstream) | Type of Adjacent Ramp (On or Off) | Distance to Adjacent Ramp (ft.) | Volume on Adjacent Ramp (vph) | VD | Freeway PHF | Ramp PHF | Adjacent Ramp PHF | V15 (fwy) | V15 (ramp) | Type (Level, Rolling, Mountainous, Grade, Composite) | Grade (x.xx%) | Length (mi) | Percent Trucks and Buses on Freeway (%) | ET (fwy) | Percent Recreational Vehicles on Freeway (%) | ER (fwy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Bailard Rd | NB | On | 2 | 65 | 1643 | Right | 35 | 27 | 1 | 205 | | #VALUE! | Yes | Downstream | Off | 3500 | 288 | 317 | 0.92 | 0.92 | 0.92 | 1843 | 29 | Level | | | 6% | 1.5 | 1% | 1.2 |
| 12 | Casitas Pass Rd | NB | On | 2 | 65 | 1820 | Right | 35 | 230 | 1 | 100 | | #VALUE! | Yes | Downstream | On | 1500 | 184 | 201 | 0.92 | 0.92 | 0.92 | 2032 | 253 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 13 | Linden Ave | NB | On | 2 | 65 | 2050 | Right | 35 | 184 | 1 | 120 | | #VALUE! | Yes | Downstream | Off | 3600 | 205 | 224 | 0.92 | 0.92 | 0.92 | 2288 | 201 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 17 | Santa Ynez Ave | NB | On | 2 | 65 | 2029 | Right | 35 | 219 | 1 | 240 | | #VALUE! | Yes | Downstream | Off | 5700 | 205 | 224 | 0.92 | 0.92 | 0.92 | 2265 | 239 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 21 | S Padaro Ln | NB | On | 2 | 65 | 2158 | Right | 35 | 109 | 1 | 280 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 2397 | 122 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 25 | N Padaro Ln | NB | On | 2 | 65 | 2215 | Right | 35 | 142 | 1 | 170 | | #VALUE! | Yes | Downstream | Off | 2200 | 55 | 60 | 0.92 | 0.92 | 0.92 | 2461 | 155 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 31 | Sheffield Dr | NB | On | 2 | 60 | 2407 | Right | 35 | 191 | 1 | 220 | | #VALUE! | Yes | Downstream | Off | 4000 | 88 | 97 | 0.92 | 0.92 | 0.92 | 2799 | 213 | Rolling | | | 4% | 2.5 | 1% | 2 |
| 57 | Las Positas Rd | NB | On | 3 | 65 | 4866 | Right | 35 | 749 | 1 | 240 | | #VALUE! | Yes | Downstream | Off | 2900 | 807 | 883 | 0.92 | 0.92 | 0.92 | 5405 | 820 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 62 | SR-154 | NB | On | 3 | 65 | 4333 | Right | 35 | 515 | 1 | 180 | | #VALUE! | Yes | Downstream | Off | 3000 | 221 | 243 | 0.92 | 0.92 | 0.92 | 4813 | 564 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 65 | El Sueno Rd | NB | On | 3 | 65 | 4626 | Right | 35 | 295 | 1 | 140 | | #VALUE! | Yes | Downstream | Off | 4300 | 832 | 906 | 0.92 | 0.92 | 0.92 | 5139 | 321 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 69 | Turnpike Rd | NB | On | 3 | 65 | 4090 | Right | 35 | 615 | 1 | 240 | | #VALUE! | Yes | Downstream | Off | 3800 | 916 | 1003 | 0.92 | 0.92 | 0.92 | 4543 | 673 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 74 | Ward Memorial Blvd | NB | On | 3 | 65 | 2497 | Right | 35 | 667 | 1 | 140 | | #VALUE! | Yes | Downstream | Off | 3650 | 801 | 877 | 0.92 | 0.92 | 0.92 | 2787 | 730 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 78 | Fairview Ave | NB | On | 2 | 65 | 2363 | Right | 35 | 474 | 1 | 220 | | #VALUE! | Yes | Downstream | Off | 4900 | 517 | 563 | 0.92 | 0.92 | 0.92 | 2638 | 519 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 84 | Glen Annie Rd | NB | On | 2 | 65 | 1182 | Right | 35 | 207 | 1 | 280 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1345 | 227 | Level | | | 9% | 1.5 | 1% | 1.2 |
| 88 | Hollister Ave | NB | On | 2 | 65 | 1091 | Right | 35 | 213 | 1 | 120 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1242 | 235 | Level | | | 9% | 1.5 | 1% | 1.2 |
| 91 | Hollister Ave | SB | On | 2 | 65 | 699 | Right | 35 | 221 | 1 | 130 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 807 | 243 | Level | | | 12% | 1.5 | 1% | 1.2 |
| 95 | Glen Annie Rd | SB | On | 2 | 65 | 861 | Right | 35 | 1289 | 2 | 110 | 1500 | 1720 | Yes | Downstream | Off | 2800 | 125 | 136 | 0.92 | 0.92 | 0.92 | 993 | 1404 | Level | | | 12% | 1.5 | 1% | 1.2 |
| 98 | Los Carneros Rd | SB | On | 2 | 65 | 2064 | Right | 35 | 1046 | 1 | 260 | | #VALUE! | Yes | Downstream | Off | 3650 | 342 | 372 | 0.92 | 0.92 | 0.92 | 2293 | 1139 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 102 | Fairview Ave | SB | On | 2 | 65 | 2768 | Right | 35 | 1076 | 1 | 1500 | | #VALUE! | Yes | Downstream | Off | 4200 | 480 | 523 | 0.92 | 0.92 | 0.92 | 3060 | 1171 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 106 | Ward Memorial Blvd | SB | On | 3 | 65 | 3331 | Right | 35 | 1296 | 1 | 400 | | #VALUE! | Yes | Downstream | On | 1800 | 809 | 886 | 0.92 | 0.92 | 0.92 | 3683 | 1432 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 108 | Patterson Ave | SB | On | 3 | 65 | 4627 | Right | 35 | 1013 | 1 | 210 | | #VALUE! | Yes | Downstream | Off | 3300 | 652 | 710 | 0.92 | 0.92 | 0.92 | 5115 | 1108 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 112 | Turnpike Rd | SB | On | 3 | 65 | 5009 | Right | 35 | 642 | 1 | 120 | | #VALUE! | Yes | Downstream | Off | 4200 | 604 | 658 | 0.92 | 0.92 | 0.92 | 5537 | 700 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 118 | La Cumbre Rd | SB | On | 3 | 65 | 5356 | Right | 35 | 666 | 1 | 250 | | #VALUE! | Yes | Downstream | Off | 4550 | 887 | 966 | 0.92 | 0.92 | 0.92 | 5891 | 725 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 124 | Mission St | SB | On | 3 | 65 | 4789 | Right | 35 | 546 | 1 | 140 | | #VALUE! | Yes | Downstream | Off | 3350 | 1304 | 1420 | 0.92 | 0.92 | 0.92 | 5267 | 595 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 134 | Milpas St | SB | On | 2 | 60 | 2974 | Right | 35 | 771 | 1 | 240 | | #VALUE! | Yes | Downstream | Off | 3300 | 27 | 29 | 0.92 | 0.92 | 0.92 | 3304 | 844 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 139 | Cabrillo Blvd | SB | On | 2 | 60 | 3430 | Left | 35 | 389 | 1 | 200 | | #VALUE! | Yes | Downstream | Off | 2600 | 147 | 161 | 0.92 | 0.92 | 0.92 | 3792 | 425 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 143 | San Ysidro Rd | SB | On | 2 | 60 | 3784 | Right | 35 | 152 | 1 | 110 | | #VALUE! | Yes | Downstream | Off | 5450 | 124 | 135 | 0.92 | 0.92 | 0.92 | 4182 | 166 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 148 | Evans St | SB | On | 2 | 65 | 3736 | Right | 35 | 98 | 1 | 180 | | #VALUE! | Yes | Downstream | Off | 2700 | 233 | 256 | 0.92 | 0.92 | 0.92 | 4284 | 109 | Rolling | | | 3% | 2.5 | 1% | 2 |
| 151 | N Padaro Ln | SB | On | 2 | 65 | 3601 | Right | 35 | 86 | 1 | 200 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 3980 | 94 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 163 | Casitas Pass Rd | SB | On | 2 | 65 | 2793 | Right | 35 | 436 | 1 | 300 | | #VALUE! | Yes | Downstream | Off | 3650 | 227 | 248 | 0.92 | 0.92 | 0.92 | 3103 | 479 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 171 | Rincon Pt. | SB | On | 2 | 65 | 3289 | Right | 35 | 29 | 1 | 530 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 3654 | 31 | Level | | | 4% | 1.5 | 1% | 1.2 |

Volume Adjustment; Volume Composition

| ID | Percent Trucks and Buses on Ramp (%) | ET (ramp) | Percent Recreational Vehicles on Ramp (%) | ER (ramp) | Percent Trucks and Buses on Adjacent Ramp (%) | ET (adjacent ramp) | Percent Recreational Vehicles on Adjacent Ramp (%) | ER (adjacent ramp) | Driver Population Adjustment fP | fHV (fwy) | fHV (ramp) | fHV (adjacent ramp) | LEQ | PFM (1-Lane On-Ramp) | PFM (2-Lane On-Ramp) | V12 (1-Lane On-Ramp) | V12 (2-Lane On-Ramp) | VFO | VR12 or VR23 or VR34 | V5 | VF4eff | V23 or V34 | Max. Downstream Freeway Flow, v (pc/h) | Max Desirable Flow Entering Influence Area, VR12 (pc/h) | Capacity Check: VFO > Max. | Capacity Check: VR12 > Max. | Compute DR (pc/mi/h) | Ms | Compute SR (mph) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 0% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | 0.988 | 2410 | 1.000 | 1.000 | 1843 | 1843 | 1872 | 1872 | | | | 4700 | 4600 | No | No | 18.8 | 0.3 | 57 | B |
| 12 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.988 | 0.993 | | 1.000 | 1.000 | 2032 | 2032 | 2285 | 2285 | | | | 4700 | 4600 | No | No | 22.6 | 0.4 | 57 | C |
| 13 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.993 | 1829 | 1.000 | 1.000 | 2288 | 2288 | 2489 | 2489 | | | | 4700 | 4600 | No | No | 24.0 | 0.4 | 57 | C |
| 17 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.998 | 0.993 | 1656 | 1.000 | 1.000 | 2265 | 2265 | 2504 | 2504 | | | | 4700 | 4600 | No | No | 23.4 | 0.4 | 57 | C |
| 21 | 5% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.978 | 0.974 | #VALUE! | | 1.000 | 1.000 | 2397 | 2397 | 2519 | 2519 | | | | 4700 | 4600 | No | No | 23.3 | 0.3 | 57 | C |
| 25 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.998 | 470 | 1.000 | 1.000 | 2461 | 2461 | 2616 | 2616 | | | | 4700 | 4600 | No | No | 24.7 | 0.4 | 57 | C |
| 31 | 1% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1 | 0.935 | 0.976 | 0.990 | 729 | 1.000 | 1.000 | 2799 | 2799 | 3012 | 3012 | | | | 4600 | 4600 | No | No | 27.5 | 0.4 | 53 | C |
| 57 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.993 | 6527 | 0.629 | 0.555 | 3398 | 3000 | 6225 | 4218 | | | | 7050 | 4600 | No | No | 36.5 | 0.6 | 52 | E |
| 62 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.988 | 1886 | 0.583 | 0.555 | 2804 | 2671 | 5377 | 3368 | | | | 7050 | 4600 | No | No | 30.4 | 0.4 | 55 | D |
| 65 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 0.998 | 7272 | 0.604 | 0.555 | 3104 | 2852 | 5460 | 3425 | | | | 7050 | 4600 | No | No | 31.2 | 0.4 | 55 | D |
| 69 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.993 | 7414 | 0.618 | 0.555 | 2808 | 2521 | 5216 | 3481 | | | | 7050 | 4600 | No | No | 30.8 | 0.4 | 55 | D |
| 74 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.993 | 7040 | 0.612 | 0.555 | 1705 | 1547 | 3517 | 2435 | | | | 7050 | 4600 | No | No | 23.3 | 0.4 | 57 | C |
| 78 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.998 | 4229 | 1.000 | 1.000 | 2638 | 2638 | 3157 | 3157 | | | | 4700 | 4600 | No | No | 28.5 | 0.4 | 56 | D |
| 84 | 1% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.955 | 0.993 | #VALUE! | | 1.000 | 1.000 | 1345 | 1345 | 1572 | 1572 | | | | 4700 | 4600 | No | No | 15.9 | 0.3 | 58 | B |
| 88 | 3% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.955 | 0.983 | #VALUE! | | 1.000 | 1.000 | 1242 | 1242 | 1477 | 1477 | | | | 4700 | 4600 | No | No | 16.1 | 0.3 | 57 | B |
| 91 | 2% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.942 | 0.988 | #VALUE! | | 1.000 | 1.000 | 807 | 807 | 1050 | 1050 | | | | 4700 | 4600 | No | No | 12.7 | 0.3 | 58 | B |
| 95 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.942 | 0.998 | 0.998 | 1120.54 | 1.000 | 1.000 | 993 | 993 | 2397 | 2397 | | | | 4700 | 4600 | No | No | 12.7 | 0.2 | 59 | B |
| 98 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 0.998 | 2707.03 | 1.000 | 1.000 | 2293 | 2293 | 3432 | 3432 | | | | 4700 | 4600 | No | No | 30.1 | 0.4 | 55 | D |
| 102 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 0.998 | 1936.32 | 1.000 | 1.000 | 3060 | 3060 | 4231 | 4231 | | | | 4700 | 4600 | No | No | 28.5 | 0.5 | 54 | D |
| 106 | 3% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.983 | 0.993 | | 0.589 | 0.555 | 2168 | 2044 | 5115 | 3600 | | | | 7050 | 4600 | No | No | 30.4 | 0.4 | 55 | D |
| 108 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.998 | 5375.94 | 0.605 | 0.555 | 3096 | 2839 | 6223 | 4204 | | | | 7050 | 4600 | No | No | 36.4 | 0.6 | 52 | E |
| 112 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 0.998 | 5374 | 0.590 | 0.555 | 3266 | 3073 | 6237 | 3966 | | | | 7050 | 4600 | No | No | 35.3 | 0.5 | 53 | E |
| 118 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 0.998 | 7085 | 0.604 | 0.555 | 3561 | 3270 | 6616 | 4286 | | | | 7050 | 4600 | No | No | 37.0 | 0.6 | 52 | E |
| 124 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 0.998 | 11398 | 0.660 | 0.555 | 3477 | 2923 | 5862 | 4072 | | | | 7050 | 4600 | No | No | 36.1 | 0.5 | 53 | E |
| 134 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.998 | 214 | 1.000 | 1.000 | 3304 | 3304 | 4148 | 4148 | | | | 4600 | 4600 | No | No | 35.9 | 0.6 | 50 | E |
| 139 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.993 | 1229 | 1.000 | 1.000 | 3792 | 3792 | 4217 | 4975 | | | 4550 | 4600 | 4600 | No | Yes | 42.8 | 0.9 | 44 | F |
| 143 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 0.998 | 1112 | 1.000 | 1.000 | 4182 | 4182 | 4348 | 4348 | | | | 4600 | 4600 | No | No | 38.6 | 0.6 | 49 | E |
| 148 | 1% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1 | 0.948 | 0.976 | 0.990 | 1987 | 1.000 | 1.000 | 4284 | 4284 | 4393 | 4393 | | | | 4700 | 4600 | No | No | 38.6 | 0.6 | 51 | E |
| 151 | 0% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.983 | 0.998 | #VALUE! | | 1.000 | 1.000 | 3980 | 3980 | 4074 | 4074 | | | | 4700 | 4600 | No | No | 36.0 | 0.5 | 53 | E |
| 163 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | 0.993 | 1750 | 1.000 | 1.000 | 3103 | 3103 | 3582 | 3582 | | | | 4700 | 4600 | No | No | 31.3 | 0.4 | 55 | D |
| 171 | 0% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.978 | 0.998 | #VALUE! | | 1.000 | 1.000 | 3654 | 3654 | 3685 | 3685 | | | | 4700 | 4600 | No | No | 30.9 | 0.4 | 55 | D |

# US 101 Ramp Merge Analysis (HCM 2000)
## Weekday Afternoon Peak Hour

Freeway-Ramp Components and Characteristics (Freeway Data; On-Ramp Data; Adjacent Ramp Data); Volume Components; Terrain

| ID | Interchange | Direction (NB or SB) | Ramp Type (On or Off) | Number of Lanes on Freeway (Each Direction), N | SFF (mph) | Volume (vph) | Side of Ramp (Left or Right) | SFR (mph) | Volume, VR (vph) | Lanes on Ramp, N | Length of 1st Acceleration Lane, LA1 (ft.) | Length of 2nd Acceleration Lane, LA2 (ft.) | LAeff | Exist (Yes or No) | Position of Adjacent Ramp (Upstream or Downstream) | Type of Adjacent Ramp (On or Off) | Distance to Adjacent Ramp (ft.) | Volume on Adjacent Ramp (vph) | VD | Freeway PHF | Ramp PHF | Adjacent Ramp PHF | V15 (fwy) | V15 (ramp) | Type (Level, Rolling, Mountainous, Grade, Composite) | Grade (x.xx%) | Length (mi) | Percent Trucks and Buses on Freeway (%) | ET (fwy) | Percent Recreational Vehicles on Freeway (%) | ER (fwy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Bailard Rd | NB | On | 2 | 65 | 1643 | Right | 35 | 27 | 1 | 205 | | #VALUE! | Yes | Upstream | Off | 2100 | 18 | 20 | 0.92 | 0.92 | 0.92 | 1843 | 29 | Level | | | 6% | 1.5 | 1% | 1.2 |
| 12 | Casitas Pass Rd | NB | On | 2 | 65 | 1820 | Right | 35 | 230 | 1 | 100 | | #VALUE! | Yes | Upstream | Off | 2300 | 288 | 317 | 0.92 | 0.92 | 0.92 | 2032 | 253 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 13 | Linden Ave | NB | On | 2 | 65 | 2050 | Right | 35 | 184 | 1 | 120 | | #VALUE! | Yes | Upstream | On | 1500 | 230 | 253 | 0.92 | 0.92 | 0.92 | 2288 | 201 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 17 | Santa Ynez Ave | NB | On | 2 | 65 | 2029 | Right | 35 | 219 | 1 | 240 | | #VALUE! | Yes | Upstream | Off | 2550 | 205 | 224 | 0.92 | 0.92 | 0.92 | 2265 | 239 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 21 | S Padaro Ln | NB | On | 2 | 65 | 2158 | Right | 35 | 109 | 1 | 280 | | #VALUE! | Yes | Upstream | Off | 4000 | 90 | 99 | 0.92 | 0.92 | 0.92 | 2397 | 122 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 25 | N Padaro Ln | NB | On | 2 | 65 | 2215 | Right | 35 | 142 | 1 | 170 | | #VALUE! | Yes | Upstream | Off | 2300 | 52 | 57 | 0.92 | 0.92 | 0.92 | 2461 | 155 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 31 | Sheffield Dr | NB | On | 2 | 60 | 2407 | Right | 35 | 191 | 1 | 220 | | #VALUE! | Yes | Upstream | Off | 1400 | 48 | 53 | 0.92 | 0.92 | 0.92 | 2799 | 213 | Rolling | | | 4% | 2.5 | 1% | 2 |
| 57 | Las Positas Rd | NB | On | 3 | 65 | 4866 | Right | 35 | 749 | 1 | 240 | | #VALUE! | Yes | Upstream | Off | 2900 | 683 | 744 | 0.92 | 0.92 | 0.92 | 5405 | 820 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 62 | SR-154 | NB | On | 3 | 65 | 4333 | Right | 35 | 515 | 1 | 180 | | #VALUE! | Yes | Upstream | Off | 1850 | 906 | 992 | 0.92 | 0.92 | 0.92 | 4813 | 564 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 65 | El Sueno Rd | NB | On | 3 | 65 | 4626 | Right | 35 | 295 | 1 | 140 | | #VALUE! | Yes | Upstream | Off | 1150 | 221 | 243 | 0.92 | 0.92 | 0.92 | 5139 | 321 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 69 | Turnpike Rd | NB | On | 3 | 65 | 4090 | Right | 35 | 615 | 1 | 240 | | #VALUE! | Yes | Upstream | Off | 2400 | 832 | 906 | 0.92 | 0.92 | 0.92 | 4543 | 673 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 74 | Ward Memorial Blvd | NB | On | 3 | 65 | 2497 | Right | 35 | 667 | 1 | 140 | | #VALUE! | Yes | Upstream | Off | 2000 | 1291 | 1441 | 0.92 | 0.92 | 0.92 | 2787 | 730 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 78 | Fairview Ave | NB | On | 2 | 65 | 2363 | Right | 35 | 474 | 1 | 220 | | #VALUE! | Yes | Upstream | Off | 1600 | 801 | 877 | 0.92 | 0.92 | 0.92 | 2638 | 519 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 84 | Glen Annie Rd | NB | On | 2 | 65 | 1182 | Right | 35 | 207 | 1 | 280 | | #VALUE! | Yes | Upstream | Off | 3000 | 1548 | 1703 | 0.92 | 0.92 | 0.92 | 1345 | 227 | Level | | | 9% | 1.5 | 1% | 1.2 |
| 88 | Hollister Ave | NB | On | 2 | 65 | 1091 | Right | 35 | 213 | 1 | 120 | | #VALUE! | Yes | Upstream | Off | 4150 | 295 | 325 | 0.92 | 0.92 | 0.92 | 1242 | 235 | Level | | | 9% | 1.5 | 1% | 1.2 |
| 91 | Hollister Ave | SB | On | 2 | 65 | 699 | Right | 35 | 221 | 1 | 130 | | #VALUE! | Yes | Upstream | Off | 2600 | 56 | 61 | 0.92 | 0.92 | 0.92 | 807 | 243 | Level | | | 12% | 1.5 | 1% | 1.2 |
| 95 | Glen Annie Rd | SB | On | 2 | 65 | 861 | Right | 35 | 1289 | 2 | 110 | 1500 | 1720 | Yes | Upstream | Off | 2700 | 59 | 65 | 0.92 | 0.92 | 0.92 | 993 | 1404 | Level | | | 12% | 1.5 | 1% | 1.2 |
| 98 | Los Carneros Rd | SB | On | 2 | 65 | 2064 | Right | 35 | 1046 | 1 | 260 | | #VALUE! | Yes | Upstream | Off | 2900 | 125 | 136 | 0.92 | 0.92 | 0.92 | 2293 | 1139 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 102 | Fairview Ave | SB | On | 2 | 65 | 2768 | Right | 35 | 1076 | 1 | 1500 | | #VALUE! | Yes | Upstream | Off | 2300 | 342 | 372 | 0.92 | 0.92 | 0.92 | 3060 | 1171 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 106 | Ward Memorial Blvd | SB | On | 3 | 65 | 3331 | Right | 35 | 1296 | 1 | 400 | | #VALUE! | Yes | Upstream | Off | 1700 | 480 | 523 | 0.92 | 0.92 | 0.92 | 3683 | 1432 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 108 | Patterson Ave | SB | On | 3 | 65 | 4627 | Right | 35 | 1013 | 1 | 210 | | #VALUE! | Yes | Upstream | On | 1800 | 534 | 590 | 0.92 | 0.92 | 0.92 | 5115 | 1108 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 112 | Turnpike Rd | SB | On | 3 | 65 | 5009 | Right | 35 | 642 | 1 | 120 | | #VALUE! | Yes | Upstream | Off | 2300 | 652 | 710 | 0.92 | 0.92 | 0.92 | 5537 | 700 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 118 | La Cumbre Rd | SB | On | 3 | 65 | 5356 | Right | 35 | 666 | 1 | 250 | | #VALUE! | Yes | Upstream | Off | 1850 | 811 | 905 | 0.92 | 0.92 | 0.92 | 5891 | 725 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 124 | Mission St | SB | On | 3 | 65 | 4789 | Right | 35 | 546 | 1 | 140 | | #VALUE! | Yes | Upstream | Off | 1950 | 1043 | 1142 | 0.92 | 0.92 | 0.92 | 5267 | 595 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 134 | Milpas St | SB | On | 2 | 60 | 2974 | Right | 35 | 771 | 1 | 240 | | #VALUE! | Yes | Upstream | Off | 2950 | 1133 | 1234 | 0.92 | 0.92 | 0.92 | 3304 | 844 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 139 | Cabrillo Blvd | SB | On | 2 | 60 | 3430 | Left | 35 | 389 | 1 | 200 | | #VALUE! | Yes | Upstream | Off | 2000 | 288 | 314 | 0.92 | 0.92 | 0.92 | 3792 | 425 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 143 | San Ysidro Rd | SB | On | 2 | 60 | 3784 | Right | 35 | 152 | 1 | 110 | | #VALUE! | Yes | Upstream | Off | 2400 | 258 | 281 | 0.92 | 0.92 | 0.92 | 4182 | 166 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 148 | Evans St | SB | On | 2 | 65 | 3736 | Right | 35 | 98 | 1 | 180 | | #VALUE! | Yes | Upstream | Off | 3500 | 167 | 186 | 0.92 | 0.92 | 0.92 | 4284 | 109 | Rolling | | | 3% | 2.5 | 1% | 2 |
| 151 | N Padaro Ln | SB | On | 2 | 65 | 3601 | Right | 35 | 86 | 1 | 200 | | #VALUE! | Yes | Upstream | Off | 1900 | 233 | 254 | 0.92 | 0.92 | 0.92 | 3980 | 94 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 163 | Casitas Pass Rd | SB | On | 2 | 65 | 2793 | Right | 35 | 436 | 1 | 300 | | #VALUE! | Yes | Upstream | Off | 1400 | 343 | 375 | 0.92 | 0.92 | 0.92 | 3103 | 479 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 171 | Rincon Pt. | SB | On | 2 | 65 | 3289 | Right | 35 | 29 | 1 | 530 | | #VALUE! | Yes | Upstream | Off | 2200 | 29 | 32 | 0.92 | 0.92 | 0.92 | 3654 | 31 | Level | | | 4% | 1.5 | 1% | 1.2 |

Volume Adjustment; Volume Composition

| ID | Percent Trucks and Buses on Ramp (%) | ET (ramp) | Percent Recreational Vehicles on Ramp (%) | ER (ramp) | Percent Trucks and Buses on Adjacent Ramp (%) | ET (adjacent ramp) | Percent Recreational Vehicles on Adjacent Ramp (%) | ER (adjacent ramp) | Driver Population Adjustment fP | fHV (fwy) | fHV (ramp) | fHV (adjacent ramp) | LEQ | PFM (1-Lane On-Ramp) | PFM (2-Lane On-Ramp) | V12 (1-Lane On-Ramp) | V12 (2-Lane On-Ramp) | VFO | VR12 or VR23 or VR34 | V5 | VF4eff | V23 or V34 | Max. Downstream Freeway Flow, v (pc/h) | Max Desirable Flow Entering Influence Area, VR12 (pc/h) | Capacity Check: VFO > Max. | Capacity Check: VR12 > Max. | Compute DR (pc/mi/h) | Ms | Compute SR (mph) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | 0.988 | -80.17 | 1.000 | 1.000 | 1843 | 1843 | 1872 | 1872 | | | | 4700 | 4600 | No | No | 18.8 | 0.3 | 57 | B |
| 12 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.988 | 0.988 | -38.41 | 1.000 | 1.000 | 2032 | 2032 | 2285 | 2285 | | | | 4700 | 4600 | No | No | 22.6 | 0.4 | 57 | C |
| 13 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.988 | | 1.000 | 1.000 | 2288 | 2288 | 2489 | 2489 | | | | 4700 | 4600 | No | No | 24.0 | 0.4 | 57 | C |
| 17 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.998 | 0.993 | 70.62 | 1.000 | 1.000 | 2265 | 2265 | 2504 | 2504 | | | | 4700 | 4600 | No | No | 23.4 | 0.4 | 57 | C |
| 21 | 5% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.974 | 0.988 | 91.59 | 1.000 | 1.000 | 2397 | 2397 | 2519 | 2519 | | | | 4700 | 4600 | No | No | 23.3 | 0.3 | 57 | C |
| 25 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.998 | 63.50 | 1.000 | 1.000 | 2461 | 2461 | 2616 | 2616 | | | | 4700 | 4600 | No | No | 24.7 | 0.4 | 57 | C |
| 31 | 1% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1 | 0.935 | 0.976 | 0.990 | 170.45 | 1.000 | 1.000 | 2799 | 2799 | 3012 | 3012 | | | | 4600 | 4600 | No | No | 27.5 | 0.4 | 53 | C |
| 57 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.998 | 866.91 | 0.584 | 0.555 | 3158 | 3000 | 6225 | 3978 | | | | 7050 | 4600 | No | No | 34.6 | 0.5 | 53 | D |
| 62 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.993 | 658.80 | 0.583 | 0.555 | 2804 | 2671 | 5377 | 3368 | | | | 7050 | 4600 | No | No | 30.4 | 0.4 | 55 | D |
| 65 | 0% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 0.988 | 658.80 | 0.581 | 0.555 | 2988 | 2852 | 5460 | 3309 | | | | 7050 | 4600 | No | No | 30.3 | 0.4 | 55 | D |
| 69 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.998 | 650.98 | 0.584 | 0.555 | 2654 | 2521 | 5216 | 3327 | | | | 7050 | 4600 | No | No | 29.6 | 0.4 | 56 | D |
| 74 | 1% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.974 | 243.00 | 0.581 | 0.555 | 1620 | 1547 | 3517 | 2350 | | | | 7050 | 4600 | No | No | 22.6 | 0.4 | 57 | C |
| 78 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 0.993 | 201.48 | 1.000 | 1.000 | 2638 | 2638 | 3157 | 3157 | | | | 4700 | 4600 | No | No | 28.5 | 0.4 | 56 | D |
| 84 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.955 | 0.993 | 0.988 | -111.07 | 1.000 | 1.000 | 1345 | 1345 | 1572 | 1572 | | | | 4700 | 4600 | No | No | 15.9 | 0.3 | 58 | B |
| 88 | 3% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.955 | 0.983 | 0.988 | -202.44 | 1.000 | 1.000 | 1242 | 1242 | 1477 | 1477 | | | | 4700 | 4600 | No | No | 16.1 | 0.3 | 57 | B |
| 91 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.942 | 0.988 | 0.998 | -289.38 | 1.000 | 1.000 | 807 | 807 | 1050 | 1050 | | | | 4700 | 4600 | No | No | 12.7 | 0.3 | 58 | B |
| 95 | 0% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.942 | 0.998 | 0.988 | -10.00 | 1.000 | 1.000 | 993 | 993 | 2397 | 2397 | | | | 4700 | 4600 | No | No | 12.7 | 0.2 | 59 | B |
| 98 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 0.998 | 278.09 | 1.000 | 1.000 | 2293 | 2293 | 3432 | 3432 | | | | 4700 | 4600 | No | No | 30.1 | 0.4 | 55 | D |
| 102 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 0.998 | 999.63 | 1.000 | 1.000 | 3060 | 3060 | 4231 | 4231 | | | | 4700 | 4600 | No | No | 28.5 | 0.5 | 54 | D |
| 106 | 3% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.983 | 0.998 | 700.41 | 0.589 | 0.555 | 2168 | 2044 | 5115 | 3600 | | | | 7050 | 4600 | No | No | 30.4 | 0.4 | 55 | D |
| 108 | 1% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.983 | | 0.583 | 0.555 | 2984 | 2839 | 6223 | 4092 | | | | 7050 | 4600 | No | No | 35.6 | 0.5 | 53 | E |
| 112 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 0.998 | 816.20 | 0.581 | 0.555 | 3216 | 3073 | 6237 | 3916 | | | | 7050 | 4600 | No | No | 34.9 | 0.5 | 53 | D |
| 118 | 0% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 0.974 | 955.02 | 0.585 | 0.555 | 3443 | 3270 | 6616 | 4168 | | | | 7050 | 4600 | No | No | 36.1 | 0.6 | 52 | E |
| 124 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 0.993 | 744.83 | 0.581 | 0.555 | 3062 | 2923 | 5862 | 3657 | | | | 7050 | 4600 | No | No | 32.8 | 0.5 | 54 | D |
| 134 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 0.998 | 422.43 | 1.000 | 1.000 | 3304 | 3304 | 4148 | 4148 | | | | 4600 | 4600 | No | No | 35.9 | 0.6 | 50 | E |
| 139 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 0.998 | 419.44 | 1.000 | 1.000 | 3792 | 3792 | 4217 | 4975 | | | 4550 | 4600 | 4600 | No | Yes | 42.8 | 0.9 | 44 | F |
| 143 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 0.998 | 407.51 | 1.000 | 1.000 | 4182 | 4182 | 4348 | 4348 | | | | 4600 | 4600 | No | No | 38.6 | 0.6 | 49 | E |
| 148 | 1% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 1 | 0.948 | 0.976 | 0.976 | 448.22 | 1.000 | 1.000 | 4284 | 4284 | 4393 | 4393 | | | | 4700 | 4600 | No | No | 38.6 | 0.6 | 51 | E |
| 151 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 0.998 | 388.84 | 1.000 | 1.000 | 3980 | 3980 | 4074 | 4074 | | | | 4700 | 4600 | No | No | 36.0 | 0.5 | 53 | E |
| 163 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | 0.993 | 327.95 | 1.000 | 1.000 | 3103 | 3103 | 3582 | 3582 | | | | 4700 | 4600 | No | No | 31.3 | 0.4 | 55 | D |
| 171 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 0.998 | 452.11 | 1.000 | 1.000 | 3654 | 3654 | 3685 | 3685 | | | | 4700 | 4600 | No | No | 30.9 | 0.4 | 55 | D |

# US 101 Ramp Diverge Analysis (HCM 2000)
## Weekday Afternoon Peak Hour

Freeway-Ramp Components and Characteristics (Freeway Data; On-Ramp Data; Adjacent Ramp Data); Volume Components; Terrain

| ID | Interchange | Direction (NB or SB) | Ramp Type (On or Off) | Number of Lanes on Freeway (Each Direction), N | SFF (mph) | Volume (vph) | Side of Ramp (Left or Right) | SFR (mph) | Volume, VR (vph) | Lanes on Ramp, N | Length of 1st Deceleration Lane, LD1 (ft.) | Length of 2nd Deceleration Lane, LD2 (ft.) | LDeff | Exist (Yes or No) | Position of Adjacent Ramp (Upstream or Downstream) | Type of Adjacent Ramp (On or Off) | Distance to Adjacent Ramp (ft.) | Volume on Adjacent Ramp (vph) | VU or VD | Freeway PHF | Ramp PHF | Adjacent Ramp PHF | V15 (fwy) | V15 (ramp) | Type (Level, Rolling, Mountainous, Grade, Composite) | Grade (x.xx%) | Length (mi) | Percent Trucks and Buses on Freeway (%) | ET (fwy) | Percent Recreational Vehicles on Freeway (%) | ER (fwy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Rincon Pt. | NB | Off | 3 | 65 | 1661 | Right | 35 | 18 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1800 | 27 | 29 | 0.92 | 0.92 | 0.92 | 1863 | 20 | Level | | | 6% | 1.5 | 1% | 1.2 |
| 10 | Casitas Pass Rd | NB | Off | 2 | 65 | 2107 | Right | 35 | 268 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 2300 | 230 | 253 | 0.92 | 0.92 | 0.92 | 2341 | 295 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 15 | Santa Ynez Ave | NB | Off | 2 | 65 | 2234 | Right | 35 | 205 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 1050 | 219 | 239 | 0.92 | 0.92 | 0.92 | 2482 | 224 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 19 | S Padaro Ln | NB | Off | 2 | 65 | 2248 | Right | 35 | 90 | 1 | 100 | | #VALUE! | Yes | Downstream | On | 2500 | 109 | 122 | 0.92 | 0.92 | 0.92 | 2497 | 99 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 23 | N Padaro Ln | NB | Off | 2 | 65 | 2267 | Right | 35 | 52 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 2300 | 142 | 155 | 0.92 | 0.92 | 0.92 | 2518 | 57 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 27 | Evans Ave | NB | Off | 2 | 65 | 2357 | Right | 35 | 55 | 1 | 70 | | #VALUE! | Yes | Downstream | On | 2300 | 152 | 172 | 0.92 | 0.92 | 0.92 | 2741 | 60 | Rolling | | | 4% | 2.5 | 1% | 2 |
| 33 | San Ysidro Rd | NB | Off | 2 | 60 | 2598 | Right | 35 | 88 | 1 | 100 | | #VALUE! | Yes | Downstream | On | 1450 | 414 | 453 | 0.92 | 0.92 | 0.92 | 2886 | 96 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 37 | Hermosillo Rd | NB | Off | 2 | 60 | 2731 | Right | 35 | 57 | 1 | 120 | | #VALUE! | Yes | Downstream | Off | 1200 | 151 | 165 | 0.92 | 0.92 | 0.92 | 3034 | 62 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 38 | Cabrillo Blvd | NB | Off | 2 | 60 | 2673 | Left | 35 | 151 | 1 | 90 | | #VALUE! | Yes | Downstream | On | 1700 | 203 | 221 | 0.92 | 0.92 | 0.92 | 2969 | 165 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 55 | Las Positas Rd | NB | Off | 3 | 65 | 5549 | Right | 35 | 683 | 1 | 130 | | #VALUE! | Yes | Downstream | On | 2900 | 749 | 820 | 0.92 | 0.92 | 0.92 | 6134 | 744 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 58 | La Cumbre Rd | NB | Off | 3 | 65 | 5238 | Right | 35 | 906 | 1 | 200 | | #VALUE! | Yes | Downstream | On | 1000 | 515 | 564 | 0.92 | 0.92 | 0.92 | 5790 | 992 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 63 | El Sueno Rd | NB | Off | 3 | 65 | 4848 | Right | 35 | 221 | 1 | 130 | | #VALUE! | Yes | Downstream | On | 1150 | 295 | 321 | 0.92 | 0.92 | 0.92 | 5385 | 243 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 67 | Turnpike Rd | NB | Off | 3 | 65 | 4921 | Right | 35 | 832 | 1 | 180 | | #VALUE! | Yes | Downstream | On | 2400 | 615 | 673 | 0.92 | 0.92 | 0.92 | 5467 | 906 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 71 | Patterson Ave | NB | Off | 3 | 65 | 4705 | Right | 35 | 916 | 1 | 110 | | #VALUE! | Yes | Downstream | Off | 800 | 1291 | 1434 | 0.92 | 0.92 | 0.92 | 5227 | 1003 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 72 | Ward Memorial Blvd | NB | Off | 3 | 65 | 3789 | Right | 35 | 1291 | 1 | 190 | | #VALUE! | Yes | Downstream | On | 2000 | 667 | 730 | 0.92 | 0.92 | 0.92 | 4209 | 1434 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 76 | Fairview Ave | NB | Off | 3 | 65 | 3164 | Right | 35 | 801 | 1 | 160 | | #VALUE! | Yes | Downstream | On | 1600 | 474 | 519 | 0.92 | 0.92 | 0.92 | 3532 | 877 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 80 | Los Carneros Rd | NB | Off | 2 | 65 | 2827 | Right | 35 | 517 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 2500 | 410 | 449 | 0.92 | 0.92 | 0.92 | 3140 | 563 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 86 | Winchester Canyon Rd | NB | Off | 2 | 65 | 1389 | Right | 35 | 295 | 1 | 100 | | #VALUE! | Yes | Downstream | On | 4150 | 213 | 235 | 0.92 | 0.92 | 0.92 | 1566 | 325 | Level | | | 7% | 1.5 | 1% | 1.2 |
| 89 | Hollister Ave | SB | Off | 2 | 65 | 755 | Right | 35 | 56 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 2600 | 221 | 242 | 0.92 | 0.92 | 0.92 | 875 | 60 | Level | | | 13% | 1.5 | 1% | 1.2 |
| 93 | Glen Annie Rd | SB | Off | 2 | 65 | 920 | Right | 35 | 59 | 1 | 190 | | #VALUE! | Yes | Downstream | On | 2700 | 1289 | 1404 | 0.92 | 0.92 | 0.92 | 1056 | 65 | Level | | | 11% | 1.5 | 1% | 1.2 |
| 96 | Los Carneros Rd | SB | Off | 3 | 65 | 2150 | Right | 35 | 86 | 1 | 1500 | | #VALUE! | Yes | Downstream | On | 2900 | 998 | 1087 | 0.92 | 0.92 | 0.92 | 2388 | 93 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 100 | Fairview Ave | SB | Off | 3 | 65 | 3110 | Right | 35 | 342 | 1 | 130 | | #VALUE! | Yes | Downstream | On | 2300 | 1076 | 1172 | 0.92 | 0.92 | 0.92 | 3438 | 372 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 104 | Ward Memorial Blvd | SB | Off | 3 | 65 | 3843 | Right | 35 | 512 | 1 | 230 | | #VALUE! | Yes | Downstream | On | 1700 | 534 | 590 | 0.92 | 0.92 | 0.92 | 4228 | 558 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 110 | Turnpike Rd | SB | Off | 3 | 65 | 5640 | Right | 35 | 631 | 1 | 140 | | #VALUE! | Yes | Downstream | On | 2300 | 642 | 699 | 0.92 | 0.92 | 0.92 | 6203 | 687 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 114 | San Marcos Pass Rd | SB | Off | 3 | 65 | 5651 | Right | 35 | 512 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 3400 | 852 | 933 | 0.92 | 0.92 | 0.92 | 6216 | 558 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 120 | Las Positas Rd | SB | Off | 3 | 65 | 6021 | Right | 35 | 887 | 1 | 90 | | #VALUE! | Yes | Downstream | On | 2250 | 679 | 740 | 0.92 | 0.92 | 0.92 | 6623 | 966 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 126 | Carrillo St | SB | Off | 3 | 65 | 5335 | Right | 35 | 1264 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1700 | 270 | 296 | 0.92 | 0.92 | 0.92 | 5897 | 1377 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 136 | Cabrillo Blvd | SB | Off | 2 | 60 | 3745 | Right | 35 | 27 | 1 | 120 | | #VALUE! | Yes | Downstream | Off | 550 | 288 | 314 | 0.92 | 0.92 | 0.92 | 4140 | 29 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 137 | Cabrillo Blvd | SB | Off | 2 | 60 | 3718 | Left | 35 | 288 | 1 | 100 | | #VALUE! | Yes | Downstream | On | 2000 | 389 | 426 | 0.92 | 0.92 | 0.92 | 4110 | 314 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 140 | Olive Mill Rd | SB | Off | 2 | 60 | 3819 | Right | 35 | 147 | 1 | 100 | | #VALUE! | Yes | Downstream | On | 2550 | 369 | 404 | 0.92 | 0.92 | 0.92 | 4222 | 160 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 144 | Sheffield Dr | SB | Off | 2 | 60 | 3936 | Left | 35 | 124 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1300 | 92 | 101 | 0.92 | 0.92 | 0.92 | 4513 | 136 | Rolling | | | 3% | 2.5 | 1% | 2 |
| 149 | N Padaro Ln | SB | Off | 2 | 65 | 3834 | Right | 35 | 233 | 1 | 110 | | #VALUE! | Yes | Downstream | On | 1900 | 86 | 94 | 0.92 | 0.92 | 0.92 | 4238 | 254 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 153 | S Padaro Ln | SB | Off | 2 | 65 | 3687 | Right | 35 | 237 | 1 | 80 | | #VALUE! | Yes | Downstream | On | 4450 | 215 | 237 | 0.92 | 0.92 | 0.92 | 4076 | 261 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 157 | Santa Ynez Ave | SB | Off | 2 | 65 | 3373 | Right | 35 | 111 | 1 | 180 | | #VALUE! | Yes | Downstream | On | 750 | 182 | 199 | 0.92 | 0.92 | 0.92 | 3728 | 121 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 161 | Casitas Pass Rd | SB | Off | 2 | 65 | 3136 | Right | 35 | 343 | 1 | 160 | | #VALUE! | Yes | Downstream | On | 1400 | 436 | 480 | 0.92 | 0.92 | 0.92 | 3484 | 375 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 165 | Bailard Rd | SB | Off | 2 | 65 | 3229 | Right | 35 | 227 | 1 | 150 | | #VALUE! | Yes | Downstream | On | 1900 | 149 | 164 | 0.92 | 0.92 | 0.92 | 3587 | 248 | Level | | | 4% | 1.5 | 1% | 1.2 |

Volume Adjustment; Volume Composition

| ID | Percent Trucks and Buses on Ramp (%) | ET (ramp) | Percent Recreational Vehicles on Ramp (%) | ER (ramp) | Percent Trucks and Buses on Adjacent Ramp (%) | ET (adjacent ramp) | Percent Recreational Vehicles on Adjacent Ramp (%) | ER (adjacent ramp) | Driver Population Adjustment fP | fHV (fwy) | fHV (ramp) | LEQ | PFD (1-Lane Off-Ramp) | PFD (2-Lane Off-Ramp) | V12 (1-Lane Off-Ramp) | V12 (2-Lane Off-Ramp) | VFO | V5 | VF4eff | V23 or V34 | fHV (adjacent ramp) | Max. Upstream, VFI, or Downstream Freeway Flow, VFO (pc/h) | Max Desirable Flow Entering Influence Area, V12 (pc/h) | Capacity Check: VF > Max. | Capacity Check: V12 > Max. | Capacity Check: VFO > Max. | Compute DR (pc/mi/h) | Ds | Compute SR (mph) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.969 | 0.998 | | 0.713 | 0.450 | 1333 | 849 | 1843 | | | | 0.998 | 7050 | 4400 | No | No | No | 14.7 | 0.4 | 55.1 | B |
| 10 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | | 1.000 | 1.000 | 2341 | 2341 | 2046 | | | | 0.988 | 4700 | 4401 | No | No | No | 23.7 | 0.5 | 54.5 | C |
| 15 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | | 1.000 | 1.000 | 2482 | 2482 | 2258 | | | | 0.998 | 4700 | 4402 | No | No | No | 24.9 | 0.4 | 54.7 | C |
| 19 | 2% | 1.5 | 1% | 1.2 | 5% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | | 1.000 | 1.000 | 2497 | 2497 | 2398 | | | | 0.974 | 4700 | 4403 | No | No | No | 24.8 | 0.4 | 55.0 | C |
| 23 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | | 1.000 | 1.000 | 2518 | 2518 | 2461 | | | | 0.993 | 4700 | 4404 | No | No | No | 25.2 | 0.4 | 55.0 | C |
| 27 | 0% | 2.5 | 1% | 2 | 2% | 2.5 | 1% | 2 | 1 | 0.935 | 0.990 | | 1.000 | 1.000 | 2741 | 2741 | 2681 | | | | 0.962 | 4700 | 4405 | No | No | No | 27.2 | 0.4 | 55.0 | C |
| 33 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | | 1.000 | 1.000 | 2886 | 2886 | 2790 | | | | 0.993 | 4600 | 4406 | No | No | No | 28.2 | 0.4 | 52.1 | D |
| 37 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 160.19 | 1.000 | 1.000 | 3034 | 3034 | 2972 | | | | 0.993 | 4600 | 4407 | No | No | No | 29.3 | 0.4 | 52.2 | D |
| 38 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | | 1.000 | 1.000 | 2969 | 2969 | 2804 | | | 3266 | 0.998 | 4600 | 4408 | No | No | No | 31.5 | 0.4 | 52.0 | D |
| 55 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 0.572 | 0.450 | 3829 | 3170 | 5390 | | | | 0.993 | 7050 | 4409 | No | No | No | 36.0 | 0.5 | 53.6 | E |
| 58 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | | 0.570 | 0.450 | 3725 | 3151 | 4798 | | | | 0.993 | 7050 | 4410 | No | No | No | 34.5 | 0.5 | 53.1 | D |
| 63 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | | 0.614 | 0.450 | 3401 | 2557 | 5142 | | | | 0.998 | 7050 | 4411 | No | No | No | 32.3 | 0.4 | 54.7 | D |
| 67 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | | 0.582 | 0.450 | 3559 | 2958 | 4561 | | | | 0.993 | 7050 | 4412 | No | No | No | 33.2 | 0.5 | 53.3 | D |
| 71 | 1% | 1.5 | 1% | 1.2 | 4% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 2340.73 | 0.730 | 0.450 | 4086 | 2904 | 4224 | | | | 0.978 | 7050 | 4413 | No | No | No | 38.4 | 0.5 | 53.1 | E |
| 72 | 4% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.978 | | 0.589 | 0.450 | 3068 | 2683 | 2775 | | | | 0.993 | 7050 | 4414 | No | No | No | 28.9 | 0.6 | 52.2 | D |
| 76 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | | 0.631 | 0.450 | 2553 | 2072 | 2655 | | | | 0.993 | 7050 | 4415 | No | No | No | 24.8 | 0.5 | 53.3 | C |
| 80 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | | 1.000 | 1.000 | 3140 | 3140 | 2577 | | | | 0.993 | 4700 | 4416 | No | No | No | 30.3 | 0.5 | 54.0 | D |
| 86 | 2% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.964 | 0.988 | | 1.000 | 1.000 | 1566 | 1566 | 1241 | | | | 0.983 | 4700 | 4417 | No | No | No | 16.8 | 0.5 | 54.5 | B |
| 89 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.937 | 0.998 | | 1.000 | 1.000 | 875 | 875 | 815 | | | | 0.993 | 4700 | 4418 | No | No | No | 11.1 | 0.4 | 55.0 | B |
| 93 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.946 | 0.988 | | 1.000 | 1.000 | 1056 | 1056 | 991 | | | | 0.998 | 4700 | 4419 | No | No | No | 11.6 | 0.4 | 55.0 | B |
| 96 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | | 0.696 | 0.450 | 1690 | 1126 | 2295 | | | | 0.998 | 7050 | 4420 | No | No | No | 5.3 | 0.4 | 55.0 | A |
| 100 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 0.657 | 0.450 | 2386 | 1752 | 3066 | | | | 0.998 | 7050 | 4421 | No | No | No | 23.6 | 0.5 | 54.4 | C |
| 104 | 0% | 1.5 | 1% | 1.2 | 3% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | | 0.629 | 0.450 | 2865 | 2210 | 3670 | | | | 0.983 | 7050 | 4422 | No | No | No | 26.8 | 0.5 | 54.0 | C |
| 110 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | | 0.573 | 0.450 | 3849 | 3169 | 5516 | | | | 0.998 | 7050 | 4423 | No | No | No | 36.1 | 0.5 | 53.7 | E |
| 114 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | | 0.579 | 0.450 | 3834 | 3104 | 5658 | | | | 0.993 | 7050 | 4424 | No | No | No | 36.5 | 0.5 | 54.0 | E |
| 120 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | | 0.550 | 0.450 | 4077 | 3512 | 5657 | | | | 0.998 | 7050 | 4425 | No | No | No | 38.5 | 0.5 | 53.2 | E |
| 126 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 0.549 | 0.450 | 3860 | 3411 | 4520 | | | | 0.993 | 7050 | 4426 | No | No | No | 36.5 | 0.6 | 52.3 | E |
| 136 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 311.87 | 1.000 | 1.000 | 4140 | 4140 | 4111 | | | | 0.998 | 4600 | 4427 | No | No | No | 38.8 | 0.4 | 52.2 | E |
| 137 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 1.000 | 1.000 | 4110 | 4110 | 3796 | | | 4521 | 0.993 | 4600 | 4428 | No | No | No | 42.2 | 0.5 | 51.8 | E |
| 140 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | | 1.000 | 1.000 | 4222 | 4222 | 4062 | | | | 0.993 | 4600 | 4429 | No | No | No | 39.7 | 0.4 | 52.0 | E |
| 144 | 0% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1 | 0.948 | 0.990 | | 1.000 | 1.000 | 4513 | 4513 | 4377 | | | 4964 | 0.990 | 4600 | 4430 | No | Yes | No | 46.0 | 0.4 | 52.1 | F |
| 149 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 1.000 | 1.000 | 4238 | 4238 | 3984 | | | | 0.998 | 4700 | 4431 | No | No | No | 39.7 | 0.5 | 54.6 | E |
| 153 | 2% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.988 | | 1.000 | 1.000 | 4076 | 4076 | 3815 | | | | 0.988 | 4700 | 4432 | No | No | No | 38.6 | 0.5 | 54.6 | E |
| 157 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 1.000 | 1.000 | 3728 | 3728 | 3607 | | | | 0.993 | 4700 | 4433 | No | No | No | 34.7 | 0.4 | 54.9 | D |
| 161 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | | 1.000 | 1.000 | 3484 | 3484 | 3109 | | | | 0.988 | 4700 | 4434 | No | No | No | 32.8 | 0.5 | 54.4 | D |
| 165 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | | 1.000 | 1.000 | 3587 | 3587 | 3339 | | | | 0.988 | 4700 | 4435 | No | No | No | 33.8 | 0.5 | 54.6 | D |

# US 101 Ramp Diverge Analysis (HCM 2000)
## Weekday Afternoon Peak Hour

Freeway-Ramp Components and Characteristics (Freeway Data; On-Ramp Data; Adjacent Ramp Data); Volume Components; Terrain

| ID | Interchange | Direction (NB or SB) | Ramp Type (On or Off) | Number of Lanes on Freeway (Each Direction), N | SFF (mph) | Volume (vph) | Side of Ramp (Left or Right) | SFR (mph) | Volume, VR (vph) | Lanes on Ramp, N | Length of 1st Deceleration Lane, LD1 (ft.) | Length of 2nd Deceleration Lane, LD2 (ft.) | LDeff | Exist (Yes or No) | Position of Adjacent Ramp (Upstream or Downstream) | Type of Adjacent Ramp (On or Off) | Distance to Adjacent Ramp (ft.) | Volume on Adjacent Ramp (vph) | VU or VD | Freeway PHF | Ramp PHF | Adjacent Ramp PHF | V15 (fwy) | V15 (ramp) | Type (Level, Rolling, Mountainous, Grade, Composite) | Grade (x.xx%) | Length (mi) | Percent Trucks and Buses on Freeway (%) | ET (fwy) | Percent Recreational Vehicles on Freeway (%) | ER (fwy) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Rincon Pt. | NB | Off | 3 | 65 | 1661 | Right | 35 | 18 | 1 | 110 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1863 | 20 | Level | | | 6% | 1.5 | 1% | 1.2 |
| 10 | Casitas Pass Rd | NB | Off | 2 | 65 | 2107 | Right | 35 | 268 | 1 | 80 | | #VALUE! | Yes | Upstream | On | 3500 | 442 | 481 | 0.92 | 0.92 | 0.92 | 2341 | 295 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 15 | Santa Ynez Ave | NB | Off | 2 | 65 | 2234 | Right | 35 | 205 | 1 | 80 | | #VALUE! | Yes | Upstream | On | 3600 | 184 | 201 | 0.92 | 0.92 | 0.92 | 2482 | 224 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 19 | S Padaro Ln | NB | Off | 2 | 65 | 2248 | Right | 35 | 90 | 1 | 100 | | #VALUE! | Yes | Upstream | On | 5700 | 219 | 239 | 0.92 | 0.92 | 0.92 | 2497 | 99 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 23 | N Padaro Ln | NB | Off | 2 | 65 | 2267 | Right | 35 | 52 | 1 | 80 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | 0.92 | 2518 | 57 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 27 | Evans Ave | NB | Off | 2 | 65 | 2357 | Right | 35 | 55 | 1 | 70 | | #VALUE! | Yes | Upstream | On | 2200 | 142 | 158 | 0.92 | 0.92 | 0.92 | 2741 | 60 | Rolling | | | 4% | 2.5 | 1% | 2 |
| 33 | San Ysidro Rd | NB | Off | 2 | 60 | 2598 | Right | 35 | 88 | 1 | 100 | | #VALUE! | Yes | Upstream | On | 4000 | 191 | 209 | 0.92 | 0.92 | 0.92 | 2886 | 96 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 37 | Hermosillo Rd | NB | Off | 2 | 60 | 2731 | Right | 35 | 57 | 1 | 120 | | #VALUE! | Yes | Upstream | Off | 3300 | 193 | 212 | 0.92 | 0.92 | 0.92 | 3034 | 62 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 38 | Cabrillo Blvd | NB | Off | 2 | 60 | 2673 | Left | 35 | 151 | 1 | 90 | | #VALUE! | Yes | Upstream | Off | 1200 | 57 | 62 | 0.92 | 0.92 | 0.92 | 2969 | 165 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 55 | Las Positas Rd | NB | Off | 3 | 65 | 5549 | Right | 35 | 683 | 1 | 130 | | #VALUE! | Yes | Upstream | Off | 1300 | 488 | 534 | 0.92 | 0.92 | 0.92 | 6134 | 744 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 58 | La Cumbre Rd | NB | Off | 3 | 65 | 5238 | Right | 35 | 906 | 1 | 200 | | #VALUE! | Yes | Upstream | On | 2900 | 749 | 820 | 0.92 | 0.92 | 0.92 | 5790 | 992 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 63 | El Sueno Rd | NB | Off | 3 | 65 | 4848 | Right | 35 | 221 | 1 | 130 | | #VALUE! | Yes | Upstream | On | 3000 | 515 | 564 | 0.92 | 0.92 | 0.92 | 5385 | 243 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 67 | Turnpike Rd | NB | Off | 3 | 65 | 4921 | Right | 35 | 832 | 1 | 180 | | #VALUE! | Yes | Upstream | On | 4300 | 295 | 321 | 0.92 | 0.92 | 0.92 | 5467 | 906 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 71 | Patterson Ave | NB | Off | 3 | 65 | 4705 | Right | 35 | 916 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 3800 | 615 | 673 | 0.92 | 0.92 | 0.92 | 5227 | 1003 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 72 | Ward Memorial Blvd | NB | Off | 3 | 65 | 3789 | Right | 35 | 1291 | 1 | 190 | | #VALUE! | Yes | Upstream | Off | 800 | 916 | 1003 | 0.92 | 0.92 | 0.92 | 4209 | 1434 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 76 | Fairview Ave | NB | Off | 3 | 65 | 3164 | Right | 35 | 801 | 1 | 160 | | #VALUE! | Yes | Upstream | On | 3650 | 667 | 730 | 0.92 | 0.92 | 0.92 | 3532 | 877 | Level | | | 5% | 1.5 | 1% | 1.2 |
| 80 | Los Carneros Rd | NB | Off | 2 | 65 | 2827 | Right | 35 | 517 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 4900 | 474 | 519 | 0.92 | 0.92 | 0.92 | 3140 | 563 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 86 | Winchester Canyon Rd | NB | Off | 2 | 65 | 1389 | Right | 35 | 295 | 1 | 100 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1566 | 325 | Level | | | 7% | 1.5 | 1% | 1.2 |
| 89 | Hollister Ave | SB | Off | 2 | 65 | 755 | Right | 35 | 56 | 1 | 80 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 875 | 60 | Level | | | 13% | 1.5 | 1% | 1.2 |
| 93 | Glen Annie Rd | SB | Off | 2 | 65 | 920 | Right | 35 | 59 | 1 | 190 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 1056 | 65 | Level | | | 11% | 1.5 | 1% | 1.2 |
| 96 | Los Carneros Rd | SB | Off | 3 | 65 | 2150 | Right | 35 | 86 | 1 | 1500 | | #VALUE! | Yes | Upstream | On | 2800 | 1289 | 1404 | 0.92 | 0.92 | 0.92 | 2388 | 93 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 100 | Fairview Ave | SB | Off | 3 | 65 | 3110 | Right | 35 | 342 | 1 | 130 | | #VALUE! | Yes | Upstream | On | 3650 | 998 | 1087 | 0.92 | 0.92 | 0.92 | 3438 | 372 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 104 | Ward Memorial Blvd | SB | Off | 3 | 65 | 3843 | Right | 35 | 512 | 1 | 230 | | #VALUE! | Yes | Upstream | On | 4100 | 1076 | 1172 | 0.92 | 0.92 | 0.92 | 4228 | 558 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 110 | Turnpike Rd | SB | Off | 3 | 65 | 5640 | Right | 35 | 631 | 1 | 140 | | #VALUE! | Yes | Upstream | On | 1800 | 809 | 886 | 0.92 | 0.92 | 0.92 | 6203 | 687 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 114 | San Marcos Pass Rd | SB | Off | 3 | 65 | 5651 | Right | 35 | 512 | 1 | 80 | | #VALUE! | Yes | Upstream | On | 5200 | 642 | 699 | 0.92 | 0.92 | 0.92 | 6216 | 558 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 120 | Las Positas Rd | SB | Off | 3 | 65 | 6021 | Right | 35 | 887 | 1 | 90 | | #VALUE! | Yes | Upstream | On | 4550 | 638 | 695 | 0.92 | 0.92 | 0.92 | 6623 | 966 | Level | | | 2% | 1.5 | 1% | 1.2 |
| 126 | Carrillo St | SB | Off | 3 | 65 | 5335 | Right | 35 | 1264 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 3350 | 546 | 595 | 0.92 | 0.92 | 0.92 | 5897 | 1377 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 136 | Cabrillo Blvd | SB | Off | 2 | 60 | 3745 | Right | 35 | 27 | 1 | 120 | | #VALUE! | Yes | Upstream | Off | 3300 | 771 | 844 | 0.92 | 0.92 | 0.92 | 4140 | 29 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 137 | Cabrillo Blvd | SB | Off | 2 | 60 | 3718 | Left | 35 | 288 | 1 | 100 | | #VALUE! | Yes | Upstream | Off | 550 | 27 | 29 | 0.92 | 0.92 | 0.92 | 4110 | 314 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 140 | Olive Mill Rd | SB | Off | 2 | 60 | 3819 | Right | 35 | 147 | 1 | 100 | | #VALUE! | Yes | Upstream | On | 2600 | 147 | 161 | 0.92 | 0.92 | 0.92 | 4222 | 160 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 144 | Sheffield Dr | SB | Off | 2 | 60 | 3936 | Left | 35 | 124 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 5450 | 152 | 167 | 0.92 | 0.92 | 0.92 | 4513 | 136 | Rolling | | | 3% | 2.5 | 1% | 2 |
| 149 | N Padaro Ln | SB | Off | 2 | 65 | 3834 | Right | 35 | 233 | 1 | 110 | | #VALUE! | Yes | Upstream | On | 2700 | 98 | 107 | 0.92 | 0.92 | 0.92 | 4238 | 254 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 153 | S Padaro Ln | SB | Off | 2 | 65 | 3687 | Right | 35 | 237 | 1 | 80 | | #VALUE! | No | | | | | #VALUE! | 0.92 | 0.92 | | 4076 | 261 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 157 | Santa Ynez Ave | SB | Off | 2 | 65 | 3373 | Right | 35 | 111 | 1 | 180 | | #VALUE! | Yes | Upstream | On | 5150 | 292 | 318 | 0.92 | 0.92 | 0.92 | 3728 | 121 | Level | | | 3% | 1.5 | 1% | 1.2 |
| 161 | Casitas Pass Rd | SB | Off | 2 | 65 | 3136 | Right | 35 | 343 | 1 | 160 | | #VALUE! | Yes | Upstream | Off | 3900 | 307 | 336 | 0.92 | 0.92 | 0.92 | 3484 | 375 | Level | | | 4% | 1.5 | 1% | 1.2 |
| 165 | Bailard Rd | SB | Off | 2 | 65 | 3229 | Right | 35 | 227 | 1 | 150 | | #VALUE! | Yes | Upstream | On | 3650 | 436 | 480 | 0.92 | 0.92 | 0.92 | 3587 | 248 | Level | | | 4% | 1.5 | 1% | 1.2 |

Volume Adjustment; Volume Composition

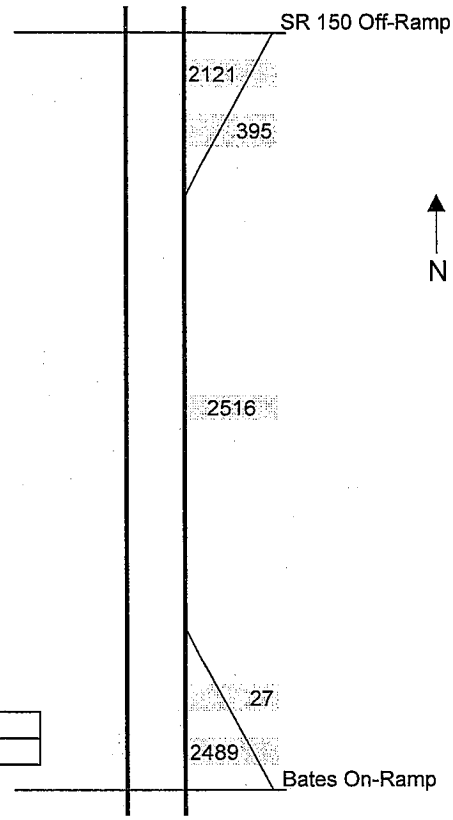
| ID | Percent Trucks and Buses on Ramp (%) | ET (ramp) | Percent Recreational Vehicles on Ramp (%) | ER (ramp) | Percent Trucks and Buses on Adjacent Ramp (%) | ET (adjacent ramp) | Percent Recreational Vehicles on Adjacent Ramp (%) | ER (adjacent ramp) | Driver Population Adjustment fP | fHV (fwy) | fHV (ramp) | LEQ | PFD (1-Lane Off-Ramp) | PFD (2-Lane Off-Ramp) | V12 (1-Lane Off-Ramp) | V12 (2-Lane Off-Ramp) | VFO | V5 | VF4eff | V23 or V34 | fHV (adjacent ramp) | Max. Upstream, VFI, or Downstream Freeway Flow, VFO (pc/h) | Max Desirable Flow Entering Influence Area, V12 (pc/h) | Capacity Check: VF > Max. | Capacity Check: V12 > Max. | Capacity Check: VFO > Max. | Compute DR (pc/mi/h) | Ds | Compute SR (mph) | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.969 | 0.998 | | 0.713 | 0.450 | 1333 | 849 | 1843 | | | | #VALUE! | 7050 | 4400 | No | No | No | 14.7 | 0.4 | 55.1 | B |
| 10 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | 4696.21 | 1.000 | 1.000 | 2341 | 2341 | 2046 | | | | 0.998 | 4700 | 4401 | No | No | No | 23.7 | 0.5 | 54.5 | C |
| 15 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 1809.80 | 1.000 | 1.000 | 2482 | 2482 | 2258 | | | | 0.993 | 4700 | 4402 | No | No | No | 24.9 | 0.4 | 54.7 | C |
| 19 | 2% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | 1976.73 | 1.000 | 1.000 | 2497 | 2497 | 2398 | | | | 0.998 | 4700 | 4403 | No | No | No | 24.8 | 0.4 | 55.0 | C |
| 23 | 0% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.978 | 0.998 | | 1.000 | 1.000 | 2518 | 2518 | 2461 | | | | #VALUE! | 4700 | 4404 | No | No | No | 25.2 | 0.4 | 55.0 | C |
| 27 | 0% | 2.5 | 1% | 2 | 1% | 2.5 | 1% | 2 | 1 | 0.935 | 0.990 | 1220.24 | 1.000 | 1.000 | 2741 | 2741 | 2681 | | | | 0.976 | 4700 | 4405 | No | No | No | 27.2 | 0.4 | 55.0 | C |
| 33 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 1606.68 | 1.000 | 1.000 | 2886 | 2886 | 2790 | | | | 0.993 | 4600 | 4406 | No | No | No | 28.2 | 0.4 | 52.1 | D |
| 37 | 0% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | | 1.000 | 1.000 | 3034 | 3034 | 2972 | | | | 0.988 | 4600 | 4407 | No | No | No | 29.3 | 0.4 | 52.2 | D |
| 38 | 1% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | | 1.000 | 1.000 | 2969 | 2969 | 2804 | | | 3266 | 0.998 | 4600 | 4408 | No | No | No | 31.5 | 0.4 | 52.0 | D |
| 55 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 0.572 | 0.450 | 3829 | 3170 | 5390 | | | | 0.993 | 7050 | 4409 | No | No | No | 36.0 | 0.5 | 53.6 | E |
| 58 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 6367.55 | 0.662 | 0.450 | 4168 | 3151 | 4798 | | | | 0.993 | 7050 | 4410 | No | No | No | 38.3 | 0.5 | 53.1 | E |
| 63 | 2% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.988 | 3197.51 | 0.621 | 0.450 | 3434 | 2557 | 5142 | | | | 0.993 | 7050 | 4411 | No | No | No | 32.6 | 0.4 | 54.7 | D |
| 67 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 2510.07 | 0.582 | 0.450 | 3559 | 2958 | 4561 | | | | 0.998 | 7050 | 4412 | No | No | No | 33.2 | 0.5 | 53.3 | D |
| 71 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 5852.53 | 0.620 | 0.450 | 3622 | 2904 | 4224 | | | | 0.993 | 7050 | 4413 | No | No | No | 34.4 | 0.5 | 53.1 | D |
| 72 | 4% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.978 | | 0.589 | 0.450 | 3068 | 2683 | 2775 | | | | 0.993 | 7050 | 4414 | No | No | No | 28.9 | 0.6 | 52.2 | D |
| 76 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.974 | 0.993 | 8529.63 | 0.700 | 0.450 | 2736 | 2072 | 2655 | | | | 0.993 | 7050 | 4415 | No | No | No | 26.3 | 0.5 | 53.3 | C |
| 80 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 5167.68 | 1.000 | 1.000 | 3140 | 3140 | 2577 | | | | 0.993 | 4700 | 4416 | No | No | No | 30.3 | 0.5 | 54.0 | D |
| 86 | 2% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.964 | 0.988 | | 1.000 | 1.000 | 1566 | 1566 | 1241 | | | | #VALUE! | 4700 | 4417 | No | No | No | 16.8 | 0.5 | 54.5 | B |
| 89 | 0% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.937 | 0.998 | | 1.000 | 1.000 | 875 | 875 | 815 | | | | #VALUE! | 4700 | 4418 | No | No | No | 11.1 | 0.4 | 55.0 | B |
| 93 | 2% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.946 | 0.988 | | 1.000 | 1.000 | 1056 | 1056 | 991 | | | | #VALUE! | 4700 | 4419 | No | No | No | 11.6 | 0.4 | 55.0 | B |
| 96 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.998 | 11812.61 | 0.927 | 0.450 | 2220 | 1126 | 2295 | | | | 0.998 | 7050 | 4420 | No | No | No | 9.8 | 0.4 | 55.0 | A |
| 100 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 8924.32 | 0.763 | 0.450 | 2711 | 1752 | 3066 | | | | 0.998 | 7050 | 4421 | No | No | No | 26.4 | 0.5 | 54.4 | C |
| 104 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 9313.71 | 0.725 | 0.450 | 3218 | 2210 | 3670 | | | | 0.998 | 7050 | 4422 | No | No | No | 29.9 | 0.5 | 54.0 | D |
| 110 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 5487.53 | 0.772 | 0.450 | 4947 | 3169 | 5516 | | | | 0.993 | 7050 | 4423 | No | Yes | No | 45.5 | 0.5 | 53.7 | F |
| 114 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 4074.38 | 0.579 | 0.450 | 3834 | 3104 | 5658 | | | | 0.998 | 7050 | 4424 | No | No | No | 36.5 | 0.5 | 54.0 | E |
| 120 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.988 | 0.998 | 4636.02 | 0.551 | 0.450 | 4083 | 3512 | 5657 | | | | 0.998 | 7050 | 4425 | No | No | No | 38.6 | 0.5 | 53.2 | E |
| 126 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 5834.53 | 0.594 | 0.450 | 4063 | 3411 | 4520 | | | | 0.998 | 7050 | 4426 | No | No | No | 38.2 | 0.6 | 52.3 | E |
| 136 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 1.000 | 1.000 | 4140 | 4140 | 4111 | | | | 0.993 | 4600 | 4427 | No | No | No | 38.8 | 0.4 | 52.2 | E |
| 137 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | | 1.000 | 1.000 | 4110 | 4110 | 3796 | | | 4521 | 0.998 | 4600 | 4428 | No | No | No | 42.2 | 0.5 | 51.8 | E |
| 140 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.993 | 1032.41 | 1.000 | 1.000 | 4222 | 4222 | 4062 | | | | 0.993 | 4600 | 4429 | No | No | No | 39.7 | 0.4 | 52.0 | E |
| 144 | 0% | 2.5 | 1% | 2 | 0% | 2.5 | 1% | 2 | 1 | 0.948 | 0.990 | 1015.43 | 1.000 | 1.000 | 4513 | 4513 | 4377 | | | 4964 | 0.990 | 4600 | 4430 | No | Yes | No | 46.0 | 0.4 | 52.1 | F |
| 149 | 0% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 717.30 | 1.000 | 1.000 | 4238 | 4238 | 3984 | | | | 0.993 | 4700 | 4431 | No | No | No | 39.7 | 0.5 | 54.6 | E |
| 153 | 2% | 1.5 | 1% | 1.2 | | 1.5 | | 1.2 | 1 | 0.983 | 0.988 | | 1.000 | 1.000 | 4076 | 4076 | 3815 | | | | #VALUE! | 4700 | 4432 | No | No | No | 38.6 | 0.5 | 54.6 | E |
| 157 | 0% | 1.5 | 1% | 1.2 | 0% | 1.5 | 1% | 1.2 | 1 | 0.983 | 0.998 | 2155.23 | 1.000 | 1.000 | 3728 | 3728 | 3607 | | | | 0.998 | 4700 | 4433 | No | No | No | 34.7 | 0.4 | 54.9 | D |
| 161 | 1% | 1.5 | 1% | 1.2 | 1% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | | 1.000 | 1.000 | 3484 | 3484 | 3109 | | | | 0.993 | 4700 | 4434 | No | No | No | 32.8 | 0.5 | 54.4 | D |
| 165 | 1% | 1.5 | 1% | 1.2 | 2% | 1.5 | 1% | 1.2 | 1 | 0.978 | 0.993 | 3564.72 | 1.000 | 1.000 | 3587 | 3587 | 3339 | | | | 0.988 | 4700 | 4435 | No | No | No | 33.8 | 0.5 | 54.6 | D |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Bates On-Ramp to SR 150 Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 7% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.04 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1400 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2489 | - | 394 | = | 2,095 | V A-C | *2,173* |
| Volume 2: | 395 | - | 1 | = | 394 | V A-D | *408* |
| Volume 3: | 27 | * | 0.95 | = | 26 | V B-C | *27* |
| Volume 4: | 27 | * | 0.05 | = | 1 | V B-D | *1* |
| Total Volume | | | | | | | *2,609* |

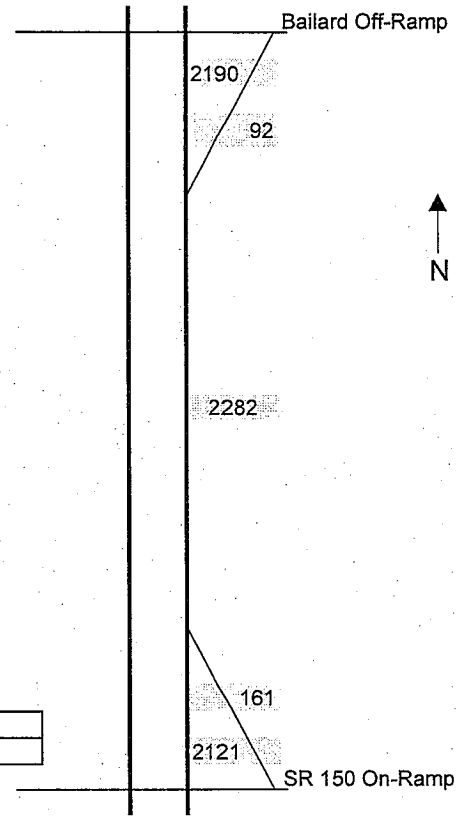
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 27 | 408 | 435 | 2,609 | 0.06 | 1400 | 3 | 3 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 SR 150 On-Ramp to Bailard Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 8% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.04 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 2400 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2121 | - | 84 | = | 2,037 | V A-C | *2,115* |
| Volume 2: | 92 | - | 8 | = | 84 | V A-D | *87* |
| Volume 3: | 161 | * | 0.95 | = | 153 | V B-C | *159* |
| Volume 4: | 161 | * | 0.05 | = | 8 | V B-D | *8* |
| Total Volume | | | | | | | *2,370* |

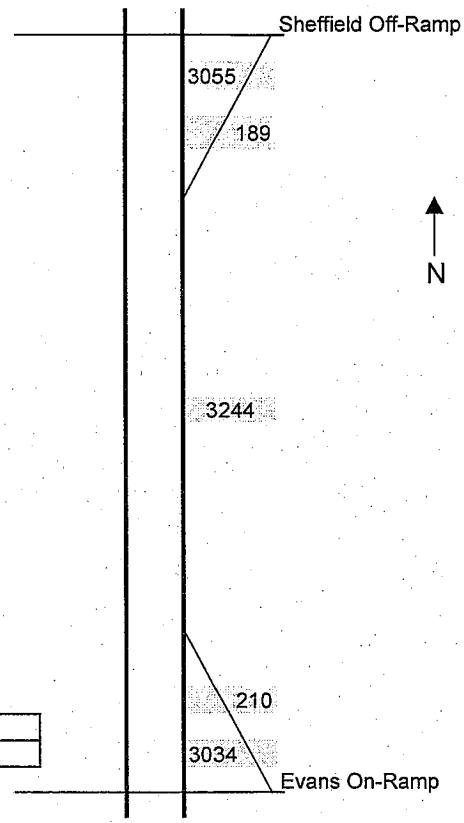
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 159 | 87 | 246 | #### | 0.35 | 2400 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Evans On-Ramp to Sheffield Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 2000 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3034 | - | 179 | = | 2,856 | V A-C | *2,941* |
| Volume 2: | 189 | - | 11 | = | 179 | V A-D | *184* |
| Volume 3: | 210 | * | 0.95 | = | 200 | V B-C | *205* |
| Volume 4: | 210 | * | 0.05 | = | 11 | V B-D | *11* |
| Total Volume | | | | | | | *3,341* |

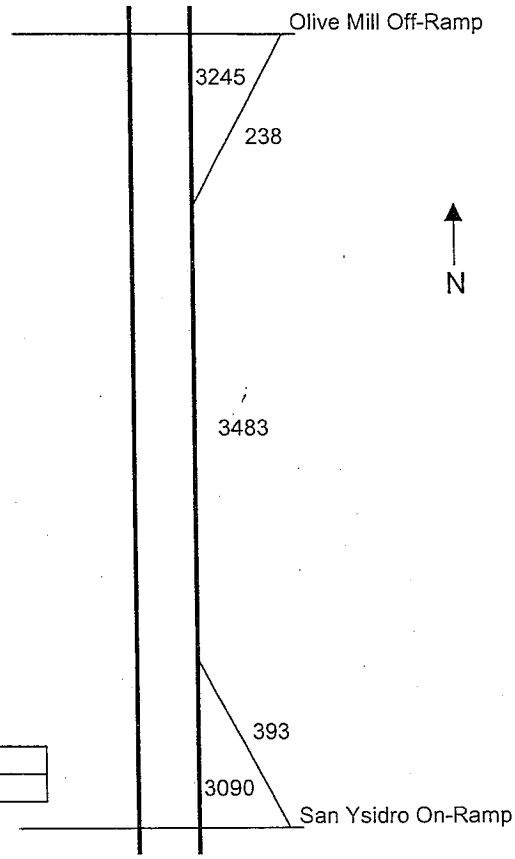
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 205 | 184 | 389 | 3,341 | 0.47 | 2000 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 San Ysidro On-Ra to Olive Mill Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (m) | 1150 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3090 | - | 218 | = | 2,872 | V A-C | *2,952* |
| Volume 2: | 238 | - | 20 | = | 218 | V A-D | *224* |
| Volume 3: | 393 | * | 0.95 | = | 373 | V B-C | *384* |
| Volume 4: | 393 | * | 0.05 | = | 20 | V B-D | *20* |
| Total Volume | | | | | | | *3,581* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 384 | 224 | 608 | #### | 0.37 | 1150 | 2 | 2 |

AM NB San Ysidro → Olive Mill

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 608 | pcph |
| Smaller weaving volume: | W2 | = | 224 | pcph |
| Total volume: | V | = | 3581 | pcph |
| Number of basic lanes on approach: | Nb | = | 2 | |
| Length of weaving section: | L | = | 1150 | ft |
| Number of lanes in weaving section: | N | = | 2 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .368 | |
| Weaving intensity factor: | K | = | 1.00 | |
| Initial average running speed, weaving traffic: | Sw | = | 53.0 | mph |
| Initial weaving traffic LOS: | LOS | = | A | |
| Initial weaving traffic fractional LOS: | LOS | = | A .39 | |
| Service flow within the weaving section: | SF | = | 1791 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .68 | |

OUTPUTS VIA NOMOGRAPH 3:

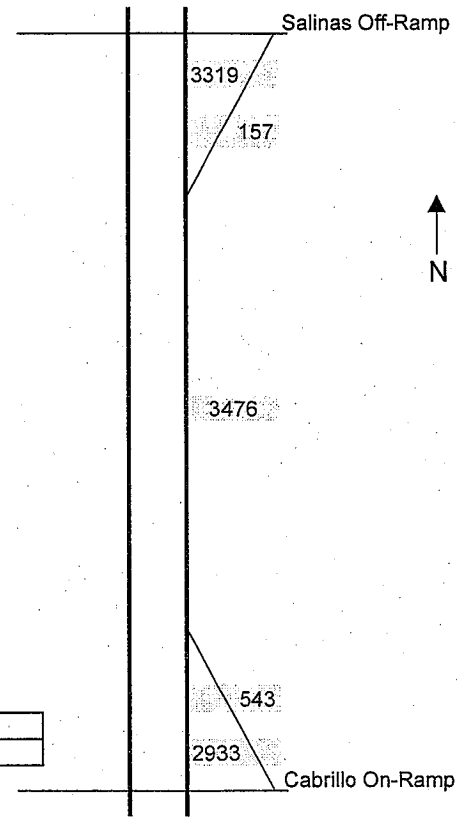
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .170 | |
| Average running spd of all traffic in weaving section: | S | = | 34.6 | mph |
| Final average running speed of weaving traffic: | Sw | = | 32.7 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 35.0 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .53 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .23 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Cabrillo On-Ramp to Salinas Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 2400 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2933 | - | 130 | = | 2,803 | V A-C | *2,882* |
| Volume 2: | 157 | - | 27 | = | 130 | V A-D | *133* |
| Volume 3: | 543 | * | 0.95 | = | 516 | V B-C | *530* |
| Volume 4: | 543 | * | 0.05 | = | 27 | V B-D | *28* |
| Total Volume | | | | | | | *3,573* |

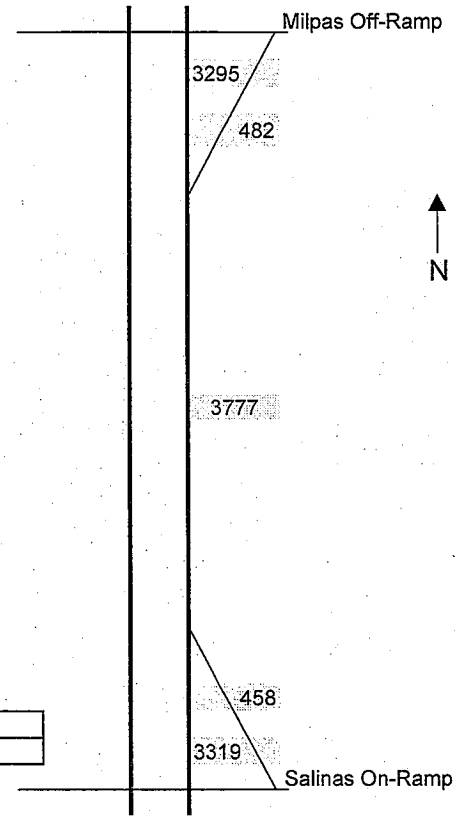
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 530 | 133 | 664 | #### | 0.20 | 2400 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Salinas On-Ramp to Milpas Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 5% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3319 | - | 459 | = | 2,860 | V A-C | *2,936* |
| Volume 2: | 482 | - | 23 | = | 459 | V A-D | *471* |
| Volume 3: | 458 | * | 0.95 | = | 435 | V B-C | *447* |
| Volume 4: | 458 | * | 0.05 | = | 23 | V B-D | *24* |
| Total Volume | | | | | | | *3,877* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 447 | 471 | 918 | 3,877 | 0.49 | 1900 | 2 | 2 |

AM NB Salinas → Milpas

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 918 | pcph |
| Smaller weaving volume: | W2 | = | 447 | pcph |
| Total volume: | V | = | 3877 | pcph |
| Number of basic lanes on approach: | Nb | = | 2 | |
| Length of weaving section: | L | = | 1900 | ft |
| Number of lanes in weaving section: | N | = | 2 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .487 | |
| Weaving intensity factor: | K | = | 1.00 | |
| Initial average running speed, weaving traffic: | Sw | = | 53.4 | mph |
| Initial weaving traffic LOS: | LOS | = | A | |
| Initial weaving traffic fractional LOS: | LOS | = | A .31 | |
| Service flow within the weaving section: | SF | = | 1939 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E max | |

OUTPUTS VIA NOMOGRAPH 3:

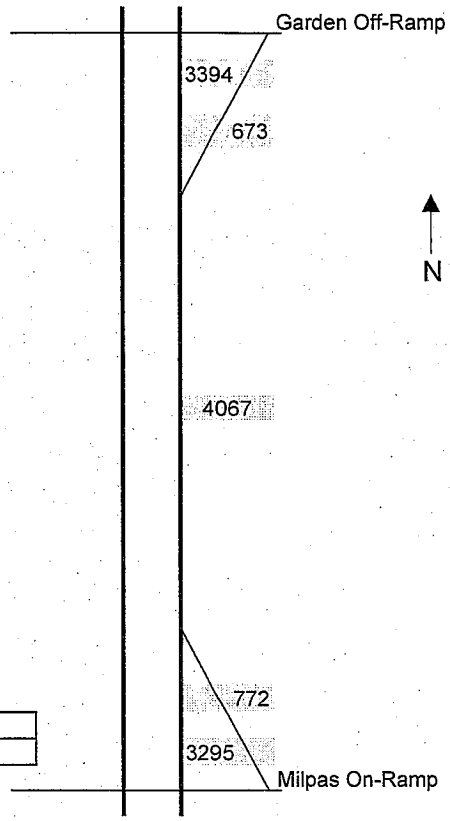
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .237 | |
| Average running spd of all traffic in weaving section: | S | = | 28.8 | mph |
| Final average running speed of weaving traffic: | Sw | = | 27.3 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 29.3 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E max | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .77 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Milpas On-Ramp to Garden Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1300 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3295 | - | 634 | = | 2,661 | V A-C | *2,734* |
| Volume 2: | 673 | - | 39 | = | 634 | V A-D | *652* |
| Volume 3: | 772 | * | 0.95 | = | 733 | V B-C | *754* |
| Volume 4: | 772 | * | 0.05 | = | 39 | V B-D | *40* |
| Total Volume | | | | | | | *4,179* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 754 | 652 | 1,405 | #### | 0.46 | 1300 | 3 | 3 |

AM NB Milpas → Garden

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1405 | pcph |
| Smaller weaving volume: | W2 | = | 652 | pcph |
| Total volume: | V | = | 4179 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1300 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .464 | |
| Weaving intensity factor: | K | = | 2.13 | |
| Initial average running speed, weaving traffic: | Sw | = | 42.1 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .57 | |
| Service flow within the weaving section: | SF | = | 1638 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .12 | |

OUTPUTS VIA NOMOGRAPH 3:

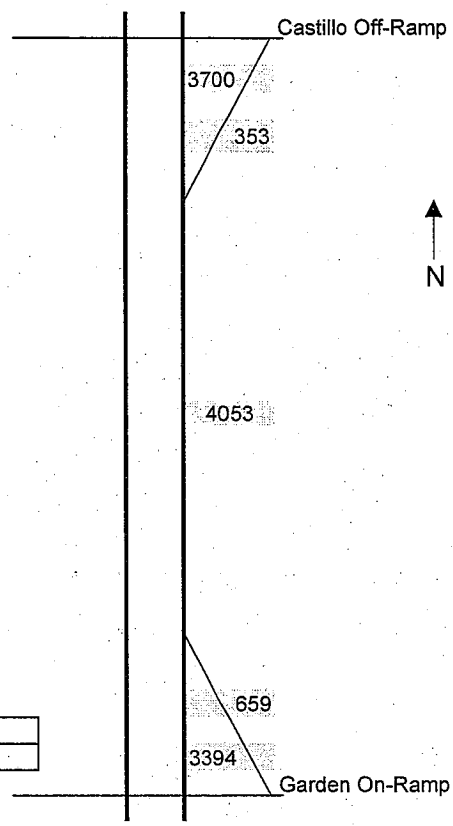
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .336 | |
| Average running spd of all traffic in weaving section: | S | = | 38.7 | mph |
| Final average running speed of weaving traffic: | Sw | = | 36.4 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 39.9 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .12 | |
| Final weaving traffic LOS : | LOS | = | D | |
| Final weaving traffic fractional LOS: | LOS | = | D .71 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Garden On-Ramp to Castillo Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1500 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3394 | - | 320 | = | 3,074 | V A-C | *3,165* |
| Volume 2: | 353 | - | 33 | = | 320 | V A-D | *329* |
| Volume 3: | 659 | * | 0.95 | = | 626 | V B-C | *645* |
| Volume 4: | 659 | * | 0.05 | = | 33 | V B-D | *34* |
| Total Volume | | | | | | | *4,173* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 645 | 329 | 974 | #### | 0.34 | 1500 | 3 | 3 |

AM NB Garden to Castillo

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 974 | pcph |
| Smaller weaving volume: | W2 | = | 329 | pcph |
| Total volume: | V | = | 4173 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1500 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .338 | |
| Weaving intensity factor: | K | = | 1.23 | |
| Initial average running speed, weaving traffic: | Sw | = | 48.8 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B .23 | |
| Service flow within the weaving section: | SF | = | 1416 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D .26 | |

OUTPUTS VIA NOMOGRAPH 3:

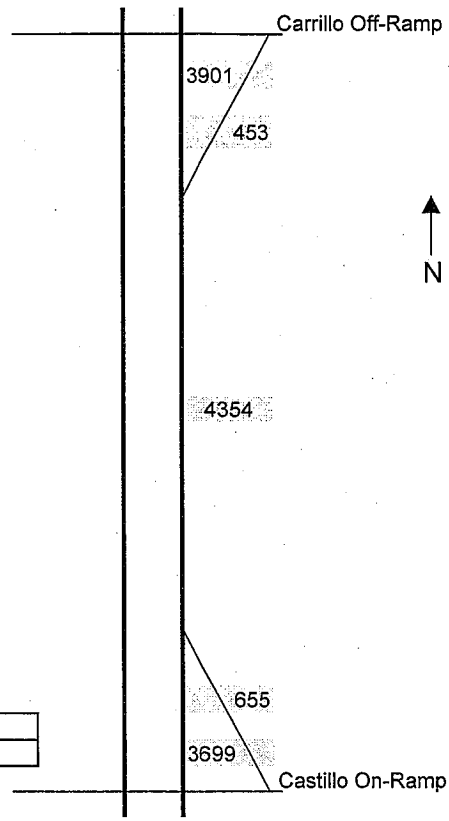
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .233 | |
| Average running spd of all traffic in weaving section: | S | = | 43.9 | mph |
| Final average running speed of weaving traffic: | Sw | = | 41.2 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 44.7 | mph |
| Final overall LOS: | LOS | = | D | |
| Final overall fractional LOS: | LOS | = | D .22 | |
| Final weaving traffic LOS : | LOS | = | C | |
| Final weaving traffic fractional LOS: | LOS | = | C .75 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Castillo On-Ramp to Carrillo Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1300 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3699 | - | 420 | = | 3,279 | V A-C | *3,369* |
| Volume 2: | 453 | - | 33 | = | 420 | V A-D | *432* |
| Volume 3: | 655 | * | 0.95 | = | 622 | V B-C | *639* |
| Volume 4: | 655 | * | 0.05 | = | 33 | V B-D | *34* |
| Total Volume | | | | | | | *4,474* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 639 | 432 | 1,071 | 4,474 | 0.40 | 1300 | 3 | 3 |

AM — Castillo on-Ramp to Carrillo Off-Ramp.

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1071 | pcph |
| Smaller weaving volume: | W2 | = | 432 | pcph |
| Total volume: | V | = | 4474 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1300 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .403 | |
| Weaving intensity factor: | K | = | 1.58 | |
| Initial average running speed, weaving traffic: | Sw | = | 45.2 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B max | |
| Service flow within the weaving section: | SF | = | 1575 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D max | |

OUTPUTS VIA NOMOGRAPH 3:

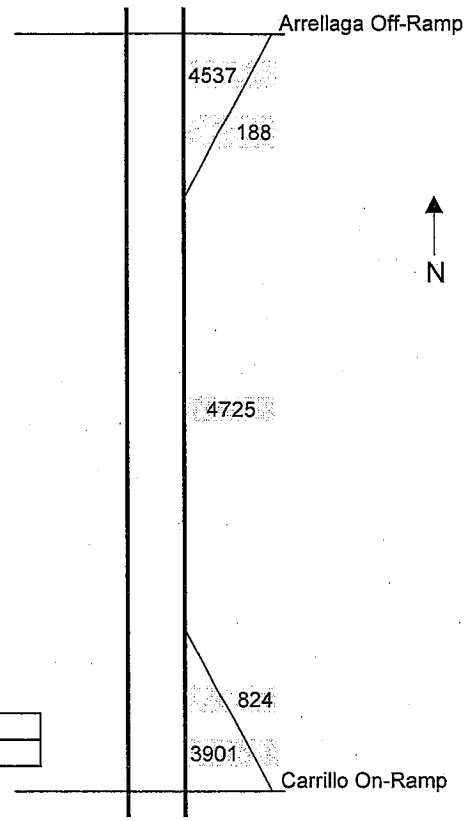
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .239 | |
| Average running spd of all traffic in weaving section: | S | = | 40.3 | mph |
| Final average running speed of weaving traffic: | Sw | = | 37.9 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 41.1 | mph |
| Final overall LOS: | LOS | = | D | |
| Final overall fractional LOS: | LOS | = | D max | |
| Final weaving traffic LOS : | LOS | = | D | |
| Final weaving traffic fractional LOS: | LOS | = | D .41 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Carrillo On-Ramp to Arrellaga Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 5% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1700 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3901 | - | 147 | = | 3,754 | V A-C | *3,852* |
| Volume 2: | 188 | - | 41 | = | 147 | V A-D | *151* |
| Volume 3: | 824 | * | 0.95 | = | 783 | V B-C | *803* |
| Volume 4: | 824 | * | 0.05 | = | 41 | V B-D | *42* |
| Total Volume | | | | | | | *4,848* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 803 | 151 | 954 | #### | 0.16 | 1700 | 3 | 3 |

AM- carrillo on to Arrellaga off

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 954 | pcph |
| Smaller weaving volume: | W2 | = | 151 | pcph |
| Total volume: | V | = | 4848 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1700 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .158 | |
| Weaving intensity factor: | K | = | 1.01 | |
| Initial average running speed, weaving traffic: | Sw | = | 50.8 | mph |
| Initial weaving traffic LOS: | LOS | = | A | |
| Initial weaving traffic fractional LOS: | LOS | = | A .84 | |
| Service flow within the weaving section: | SF | = | 1617 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D max | |

OUTPUTS VIA NOMOGRAPH 3:

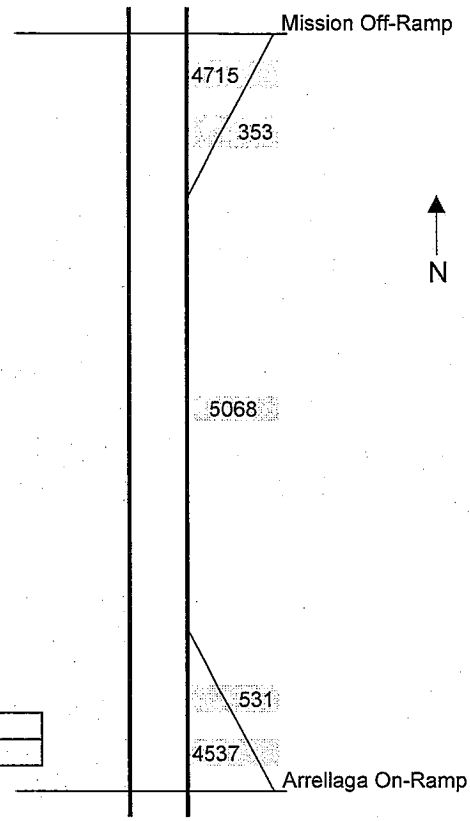
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .197 | |
| Average running spd of all traffic in weaving section: | S | = | 39.3 | mph |
| Final average running speed of weaving traffic: | Sw | = | 36.9 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 39.8 | mph |
| Final overall LOS: | LOS | = | D | |
| Final overall fractional LOS: | LOS | = | D max | |
| Final weaving traffic LOS : | LOS | = | D | |
| Final weaving traffic fractional LOS: | LOS | = | D .61 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Arrellaga On-Ram to Mission Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 5% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4537 | - | 326 | = | 4,211 | V A-C | *4,316* |
| Volume 2: | 353 | - | 27 | = | 326 | V A-D | *335* |
| Volume 3: | 531 | * | 0.95 | = | 504 | V B-C | *517* |
| Volume 4: | 531 | * | 0.05 | = | 27 | V B-D | *27* |
| Total Volume | | | | | | | *5,195* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 517 | 335 | 852 | 5,195 | 0.39 | 900 | 3 | 3 |

AM Peak - Arnelga on to Mission Off

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 852 | pcph |
| Smaller weaving volume: | W2 | = | 335 | pcph |
| Total volume: | V | = | 5195 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 900 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .393 | |
| Weaving intensity factor: | K | = | 1.81 | |
| Initial average running speed, weaving traffic: | Sw | = | 43.9 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .21 | |
| Service flow within the weaving section: | SF | = | 1822 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .74 | |

OUTPUTS VIA NOMOGRAPH 3:

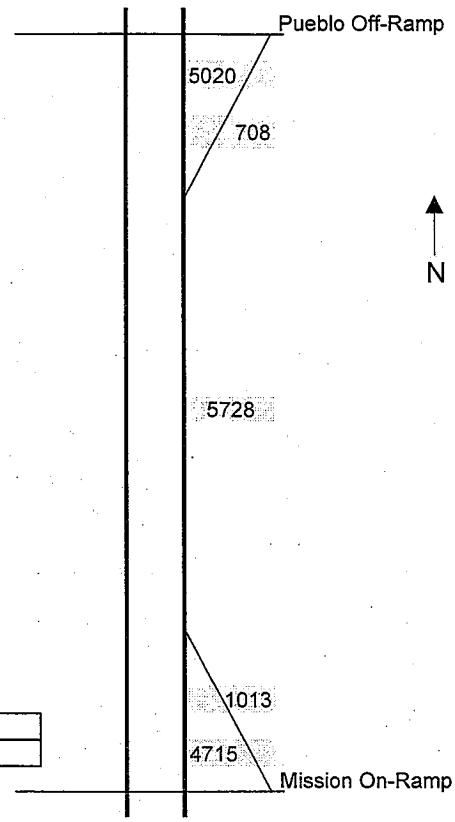
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .164 | |
| Average running spd of all traffic in weaving section: | S | = | 33.7 | mph |
| Final average running speed of weaving traffic: | Sw | = | 31.8 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 34.0 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .63 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .32 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Mission On-Ramp to Pueblo Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 3 |
| N | 4 |
| Weave Length (ft) | 550 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4715 | - | 657 | = | 4,058 | V A-C | *4,147* |
| Volume 2: | 708 | - | 51 | = | 657 | V A-D | *672* |
| Volume 3: | 1013 | * | 0.95 | = | 962 | V B-C | *984* |
| Volume 4: | 1013 | * | 0.05 | = | 51 | V B-D | *52* |
| Total Volume | | | | | | | *5,854* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 984 | 672 | 1,655 | 5,854 | 0.41 | 550 | 3 | 4 |

AM Peak - Mission ON-to- Pueblo off Ramp

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1655 | pcph |
| Smaller weaving volume: | W2 | = | 672 | pcph |
| Total volume: | V | = | 5854 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 550 | ft |
| Number of lanes in weaving section: | N | = | 4 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .406 | |
| Weaving intensity factor: | K | = | 3.00 | |
| Initial average running speed, weaving traffic: | Sw | = | 28.4 | mph |
| Initial weaving traffic LOS: | LOS | = | E | |
| Initial weaving traffic fractional LOS: | LOS | = | E .66 | |
| Service flow within the weaving section: | SF | = | 1800 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .66 | |

OUTPUTS VIA NOMOGRAPH 3:

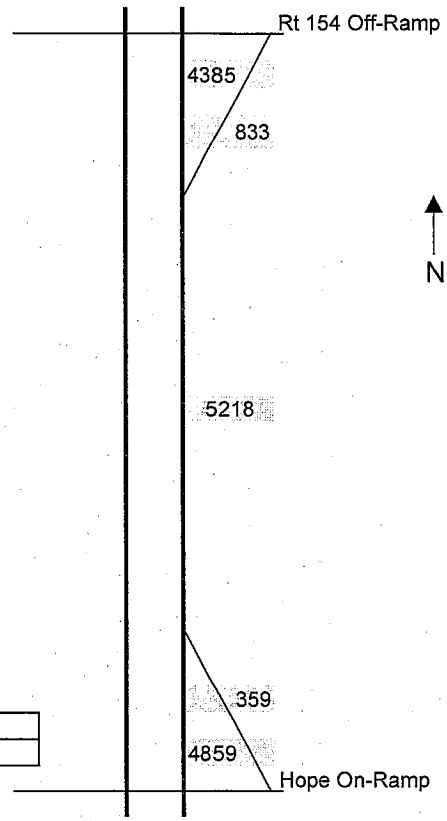
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .283 | |
| Average running spd of all traffic in weaving section: | S | = | 34.4 | mph |
| Final average running speed of weaving traffic: | Sw | = | 28.4 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 36.8 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .56 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .66 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Hope On-Ramp to Rt 154 Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 5% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 4 |
| N | 3 |
| Weave Length (ft) | 1900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4859 | - | 815 | = | 4,044 | V A-C | *4,141* |
| Volume 2: | 833 | - | 18 | = | 815 | V A-D | *835* |
| Volume 3: | 359 | * | 0.95 | = | 341 | V B-C | *349* |
| Volume 4: | 359 | * | 0.05 | = | 18 | V B-D | *18* |
| Total Volume | | | | | | | *5,343* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 349 | 835 | 1,184 | 5,343 | 0.30 | 1900 | 4 | 3 |

AM Peak – Hope on to RT 154 Off-Ramp.

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1184 | pcph |
| Smaller weaving volume: | W2 | = | 349 | pcph |
| Total volume: | V | = | 5343 | pcph |
| Number of basic lanes on approach: | Nb | = | 4 | |
| Length of weaving section: | L | = | 1900 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .295 | |
| Weaving intensity factor: | K | = | 1.20 | |
| Initial average running speed, weaving traffic: | Sw | = | 49.0 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B .20 | |
| Service flow within the weaving section: | SF | = | 1804 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .61 | |

OUTPUTS VIA NOMOGRAPH 3:

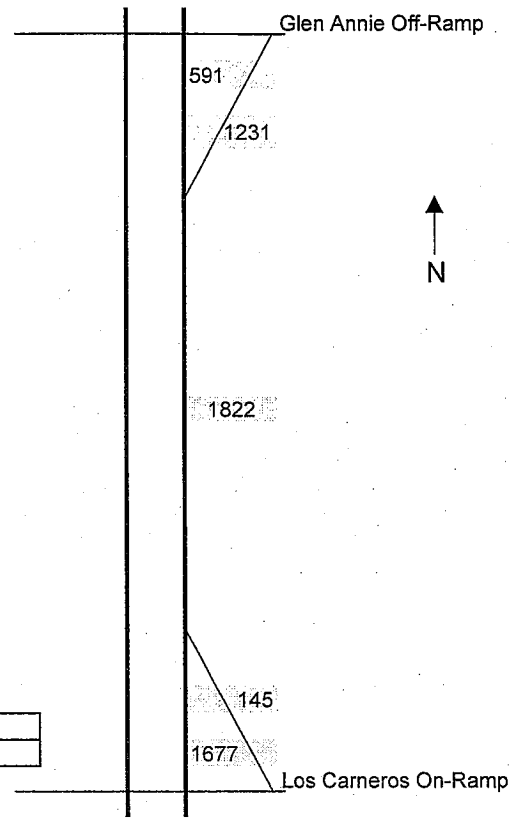
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .222 | |
| Average running spd of all traffic in weaving section: | S | = | 34.2 | mph |
| Final average running speed of weaving traffic: | Sw | = | 32.3 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 34.8 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .57 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .27 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | NB US 101 Los Carneros On- to Glen Annie Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 10% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.05 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1500 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 1677 | - | 1,224 | = | 453 | V A-C | *475* |
| Volume 2: | 1,231 | - | 7 | = | 1,224 | V A-D | *1,282* |
| Volume 3: | 145 | * | 0.95 | = | 138 | V B-C | *144* |
| Volume 4: | 145 | * | 0.05 | = | 7 | V B-D | *8* |
| Total Volume | | | | | | | *1,909* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 144 | 1,282 | 1,427 | 1,909 | 0.10 | 1500 | 2 | 2 |

AM Peak – Los Carneros on to Glen Annie Ofd

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1427 | pcph |
| Smaller weaving volume: | W2 | = | 144 | pcph |
| Total volume: | V | = | 1909 | pcph |
| Number of basic lanes on approach: | Nb | = | 2 | |
| Length of weaving section: | L | = | 1500 | ft |
| Number of lanes in weaving section: | N | = | 2 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .101 | |
| Weaving intensity factor: | K | = | 2.59 | |
| Initial average running speed, weaving traffic: | Sw | = | 43.6 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .28 | |
| Service flow within the weaving section: | SF | = | 1069 | pcphpl |
| Initial overall LOS: | LOS | = | C | |
| Initial overall fractional LOS: | LOS | = | C .27 | |

OUTPUTS VIA NOMOGRAPH 3:

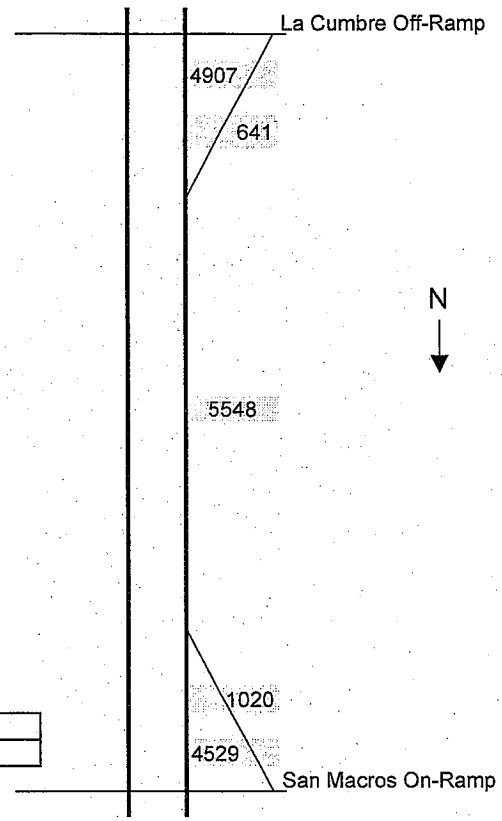
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .748 | |
| Average running spd of all traffic in weaving section: | S | = | 46.0 | mph |
| Final average running speed of weaving traffic: | Sw | = | 43.6 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 53.2 | mph |
| Final overall LOS: | LOS | = | C | |
| Final overall fractional LOS: | LOS | = | C .80 | |
| Final weaving traffic LOS : | LOS | = | C | |
| Final weaving traffic fractional LOS: | LOS | = | C .28 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:San Macros On-R to La Cumbre Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 2% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 4 |
| Weave Length (ft) | 1200 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4528.7 | - | 590 | = | 3,938 | V A-C | *3,978* |
| Volume 2: | 641 | - | 51 | = | 590 | V A-D | *596* |
| Volume 3: | 1019.5 | * | 0.95 | = | 969 | V B-C | *978* |
| Volume 4: | 1019.5 | * | 0.05 | = | 51 | V B-D | *51* |
| Total Volume | | | | | | | *5,604* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 978 | 596 | 1,574 | #### | 0.38 | 1200 | 3 | 4 |

SB AM — San Marcos to La Combre

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1574 | pcph |
| Smaller weaving volume: | W2 | = | 596 | pcph |
| Total volume: | V | = | 5604 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1200 | ft |
| Number of lanes in weaving section: | N | = | 4 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .379 | |
| Weaving intensity factor: | K | = | 2.52 | |
| Initial average running speed, weaving traffic: | Sw | = | 39.7 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C max | |
| Service flow within the weaving section: | SF | = | 1628 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D max | |

OUTPUTS VIA NOMOGRAPH 3:

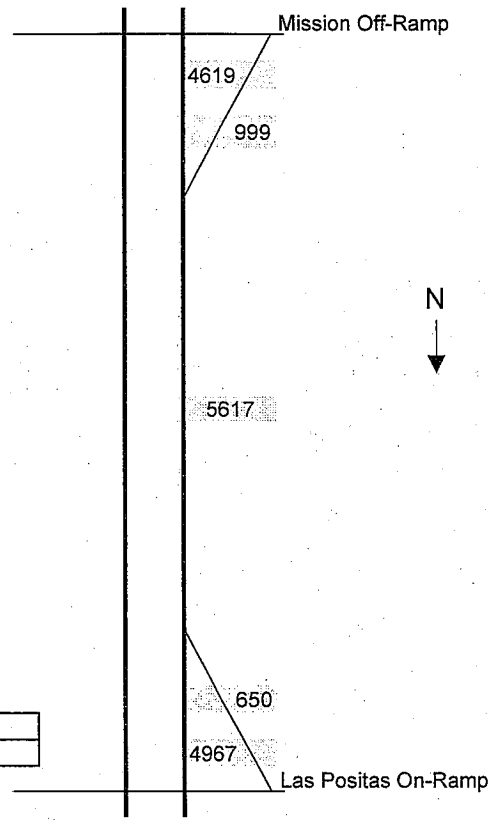
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .281 | |
| Average running spd of all traffic in weaving section: | S | = | 39.0 | mph |
| Final average running speed of weaving traffic: | Sw | = | 36.7 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 39.9 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .10 | |
| Final weaving traffic LOS : | LOS | = | D | |
| Final weaving traffic fractional LOS: | LOS | = | D .66 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:Las Positas On-R to Mission Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 2% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4967.3 | - | 966 | = | 4,001 | V A-C | *4,043* |
| Volume 2: | 999 | - | 33 | = | 966 | V A-D | *976* |
| Volume 3: | 650 | * | 0.95 | = | 618 | V B-C | *624* |
| Volume 4: | 650 | * | 0.05 | = | 33 | V B-D | *33* |
| Total Volume | | | | | | | *5,676* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 624 | 976 | 1,600 | #### | 0.39 | 1900 | 3 | 3 |

SB AM – Las Positas to Mission

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1600 | pcph |
| Smaller weaving volume: | W2 | = | 624 | pcph |
| Total volume: | V | = | 5676 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1900 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .390 | |
| Weaving intensity factor: | K | = | 1.67 | |
| Initial average running speed, weaving traffic: | Sw | = | 44.7 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B max | |
| Service flow within the weaving section: | SF | = | 2032 | pcphpl |
| Initial overall LOS: | LOS | = | F | |
| Initial overall fractional LOS: | LOS | = | F | |

OUTPUTS VIA NOMOGRAPH 3:

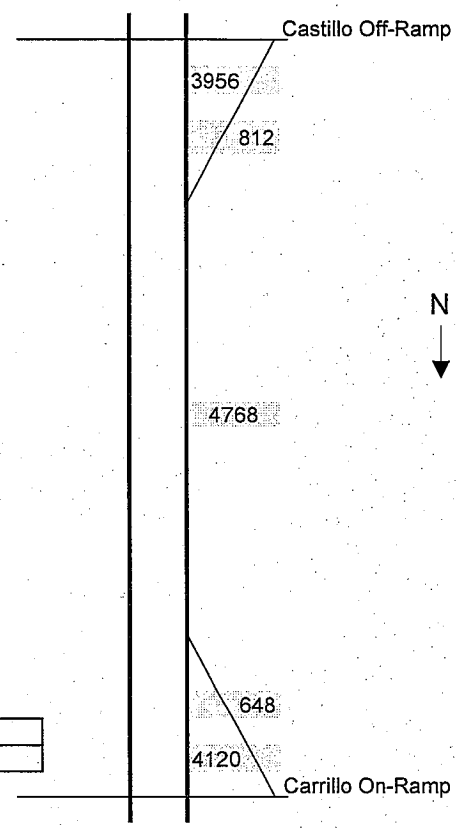
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .282 | |
| Average running spd of all traffic in weaving section: | S | = | 25.0 | mph |
| Final average running speed of weaving traffic: | Sw | = | 25.0 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 25.0 | mph |
| Final overall LOS: | LOS | = | F | |
| Final overall fractional LOS: | LOS | = | F .16 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E max | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:Carrillo On-Ramp to Castillo Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1400 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4120 | - | 780 | = | 3,340 | V A-C | *3,385* |
| Volume 2: | 812 | - | 32 | = | 780 | V A-D | *790* |
| Volume 3: | 648 | * | 0.95 | = | 616 | V B-C | *624* |
| Volume 4: | 648 | * | 0.05 | = | 32 | V B-D | *33* |
| Total Volume | | | | | | | *4,832* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 624 | 790 | 1,414 | #### | 0.44 | 1400 | 3 | 3 |

SB AM — Carrillo to Costillo St

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1414 | pcph |
| Smaller weaving volume: | W2 | = | 624 | pcph |
| Total volume: | V | = | 4832 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1400 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .441 | |
| Weaving intensity factor: | K | = | 1.99 | |
| Initial average running speed, weaving traffic: | Sw | = | 42.9 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .42 | |
| Service flow within the weaving section: | SF | = | 1817 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .72 | |

OUTPUTS VIA NOMOGRAPH 3:

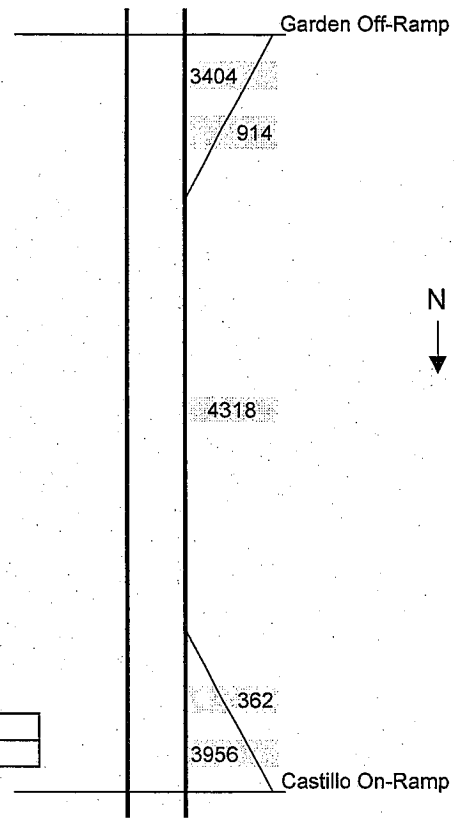
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .293 | |
| Average running spd of all traffic in weaving section: | S | = | 33.8 | mph |
| Final average running speed of weaving traffic: | Sw | = | 31.9 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 34.6 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .61 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .30 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:Castillo On-Ramp to Garden Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1650 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3956 | - | 896 | = | 3,060 | V A-C | *3,103* |
| Volume 2: | 914 | - | 18 | = | 896 | V A-D | *908* |
| Volume 3: | 362 | * | 0.95 | = | 344 | V B-C | *349* |
| Volume 4: | 362 | * | 0.05 | = | 18 | V B-D | *18* |
| Total Volume | | | | | | | *4,378* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 349 | 908 | 1,257 | #### | 0.28 | 1650 | 3 | 3 |

SB AM – Castillo to Garden

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1257 | pcph |
| Smaller weaving volume: | W2 | = | 349 | pcph |
| Total volume: | V | = | 4378 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1650 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .278 | |
| Weaving intensity factor: | K | = | 1.39 | |
| Initial average running speed, weaving traffic: | Sw | = | 46.4 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B .72 | |
| Service flow within the weaving section: | SF | = | 1504 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D .61 | |

OUTPUTS VIA NOMOGRAPH 3:

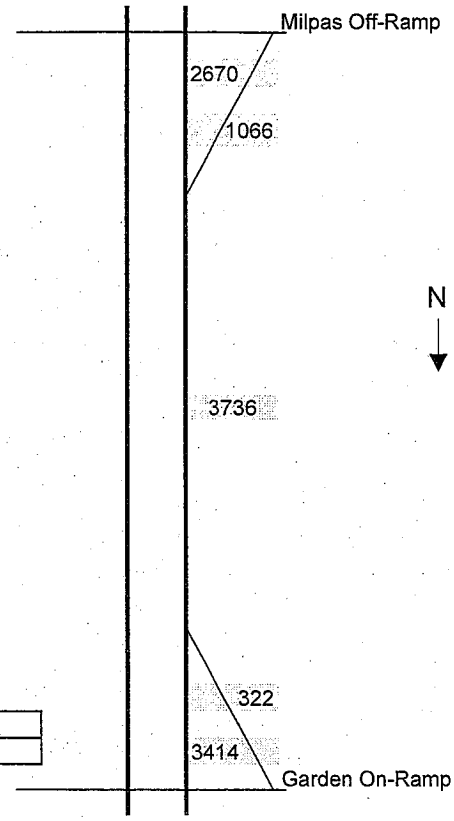
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .287 | |
| Average running spd of all traffic in weaving section: | S | = | 42.1 | mph |
| Final average running speed of weaving traffic: | Sw | = | 39.6 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 43.1 | mph |
| Final overall LOS: | LOS | = | D | |
| Final overall fractional LOS: | LOS | = | D .58 | |
| Final weaving traffic LOS : | LOS | = | C | |
| Final weaving traffic fractional LOS: | LOS | = | C max | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:Garden On-Ramp to Milpas Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1950 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3414 | - | 1,050 | = | 2,364 | V A-C | *2,401* |
| Volume 2: | 1,066 | - | 16 | = | 1,050 | V A-D | *1,066* |
| Volume 3: | 322 | * | 0.95 | = | 306 | V B-C | *311* |
| Volume 4: | 322 | * | 0.05 | = | 16 | V B-D | *16* |
| Total Volume | | | | | | | *3,794* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 311 | 1,066 | 1,377 | #### | 0.23 | 1950 | 3 | 3 |

SBAM – Garden to Milpas St

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1377 | pcph |
| Smaller weaving volume: | W2 | = | 311 | pcph |
| Total volume: | V | = | 3794 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1950 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .226 | |
| Weaving intensity factor: | K | = | 1.48 | |
| Initial average running speed, weaving traffic: | Sw | = | 47.3 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B .54 | |
| Service flow within the weaving section: | SF | = | 1314 | pcphpl |
| Initial overall LOS: | LOS | = | C | |
| Initial overall fractional LOS: | LOS | = | C .85 | |

OUTPUTS VIA NOMOGRAPH 3:

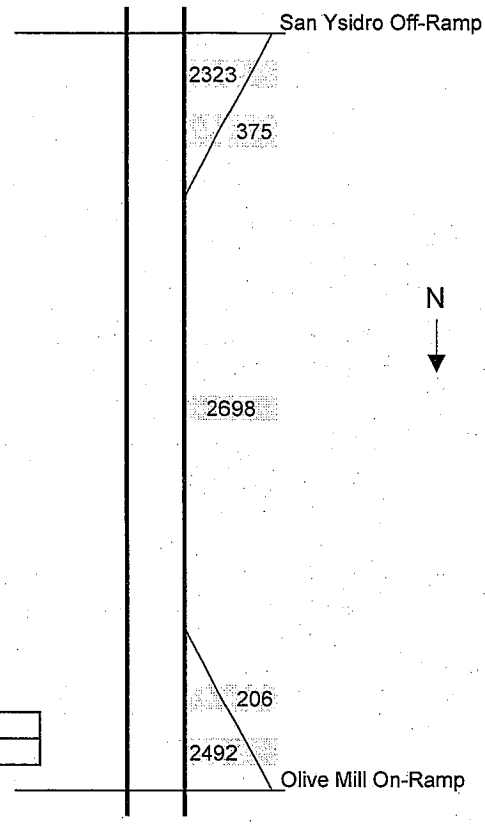
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .363 | |
| Average running spd of all traffic in weaving section: | S | = | 46.0 | mph |
| Final average running speed of weaving traffic: | Sw | = | 43.1 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 47.6 | mph |
| Final overall LOS: | LOS | = | C | |
| Final overall fractional LOS: | LOS | = | C .80 | |
| Final weaving traffic LOS : | LOS | = | C | |
| Final weaving traffic fractional LOS: | LOS | = | C .37 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:Olive Mill On-Ram to San Ysidro Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2492 | - | 365 | = | 2,127 | V A-C | *2,173* |
| Volume 2: | 375 | - | 10 | = | 365 | V A-D | *373* |
| Volume 3: | 206 | * | 0.95 | = | 196 | V B-C | *200* |
| Volume 4: | 206 | * | 0.05 | = | 10 | V B-D | *11* |
| Total Volume | | | | | | | *2,756* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 200 | 373 | 572 | #### | 0.35 | 900 | 2 | 2 |

SBAM – Olive Mill to San Ysidro

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 572 | pcph |
| Smaller weaving volume: | W2 | = | 373 | pcph |
| Total volume: | V | = | 2756 | pcph |
| Number of basic lanes on approach: | Nb | = | 2 | |
| Length of weaving section: | L | = | 900 | ft |
| Number of lanes in weaving section: | N | = | 2 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .652 | |
| Weaving intensity factor: | K | = | 0.00 | |
| Initial average running speed, weaving traffic: | Sw | = | 49.5 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B .10 | |
| Service flow within the weaving section: | SF | = | 1192 | pcphpl |
| Initial overall LOS: | LOS | = | C | |
| Initial overall fractional LOS: | LOS | = | C .76 | |

OUTPUTS VIA NOMOGRAPH 3:

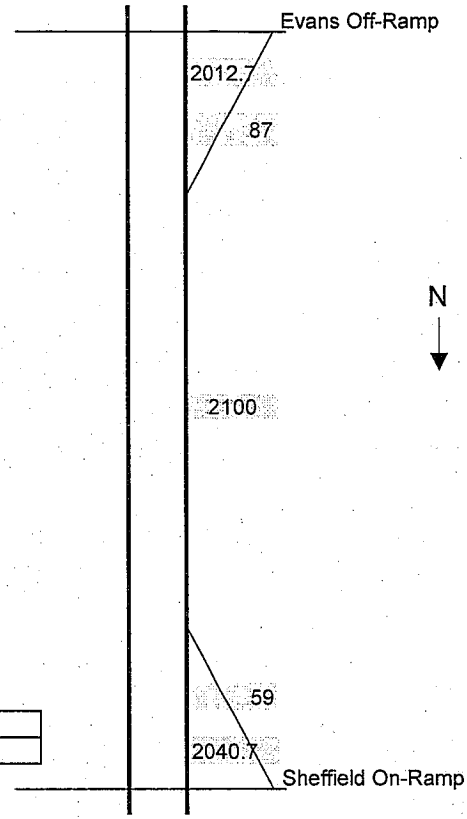
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .208 | |
| Average running spd of all traffic in weaving section: | S | = | 48.3 | mph |
| Final average running speed of weaving traffic: | Sw | = | 45.3 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 49.1 | mph |
| Final overall LOS: | LOS | = | C | |
| Final overall fractional LOS: | LOS | = | C .34 | |
| Final weaving traffic LOS : | LOS | = | B | |
| Final weaving traffic fractional LOS: | LOS | = | B max | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak<br>SB US 101:Sheffield On-Ram to Evans Off-Ramp | Revised by: | | Date: | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2040.7 | - | 84 | = | 1,957 | V A-C | *2,010* |
| Volume 2: | 87 | - | 3 | = | 84 | V A-D | *86* |
| Volume 3: | 59 | * | 0.95 | = | 56 | V B-C | *58* |
| Volume 4: | 59 | * | 0.05 | = | 3 | V B-D | *3* |
| Total Volume | | | | | | | *2,157* |

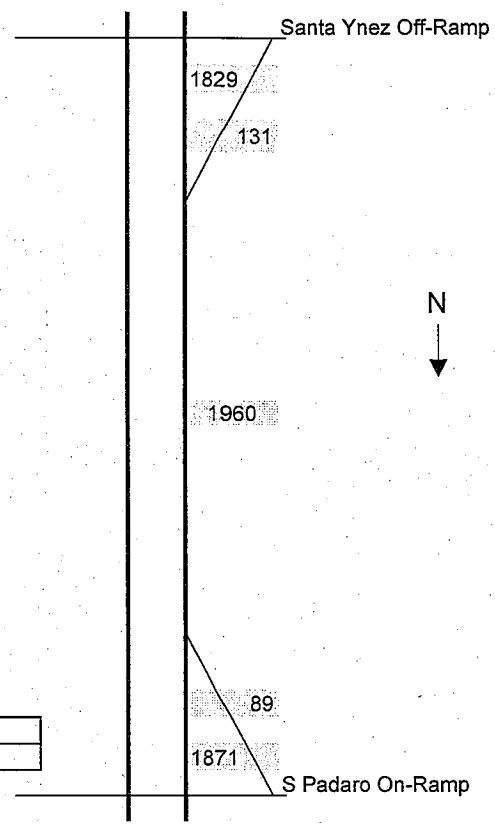
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 58 | 86 | 144 | #### | 0.40 | 1900 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:S Padaro On-Ram to Santa Ynez Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1600 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 1871 | - | 127 | = | 1,744 | V A-C | *1,793* |
| Volume 2: | 131 | - | 4 | = | 127 | V A-D | *130* |
| Volume 3: | 89 | * | 0.95 | = | 85 | V B-C | *87* |
| Volume 4: | 89 | * | 0.05 | = | 4 | V B-D | *5* |

Total Volume *2,015*

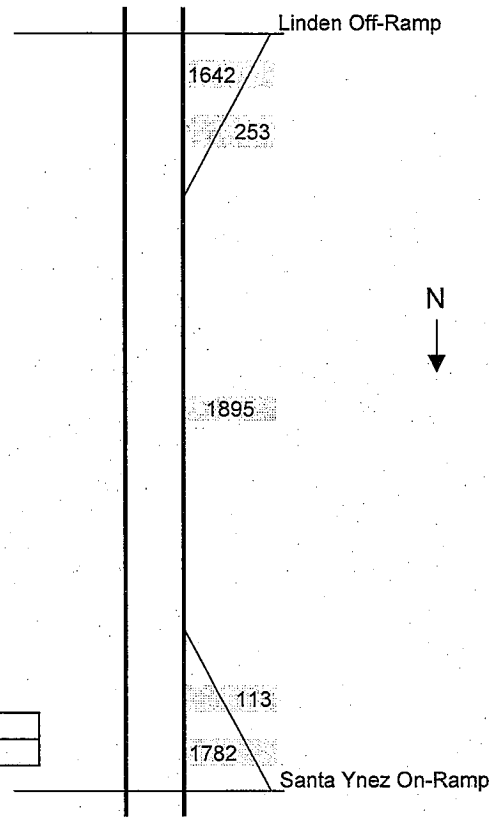
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 87 | 130 | 217 | #### | 0.40 | 1600 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:Santa Ynez On-R to Linden Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1700 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 1782 | - | 247 | = | 1,535 | V A-C | *1,579* |
| Volume 2: | 253 | - | 6 | = | 247 | V A-D | *255* |
| Volume 3: | 113 | * | 0.95 | = | 107 | V B-C | *110* |
| Volume 4: | 113 | * | 0.05 | = | 6 | V B-D | *6* |
| Total Volume | | | | | | | *1,950* |

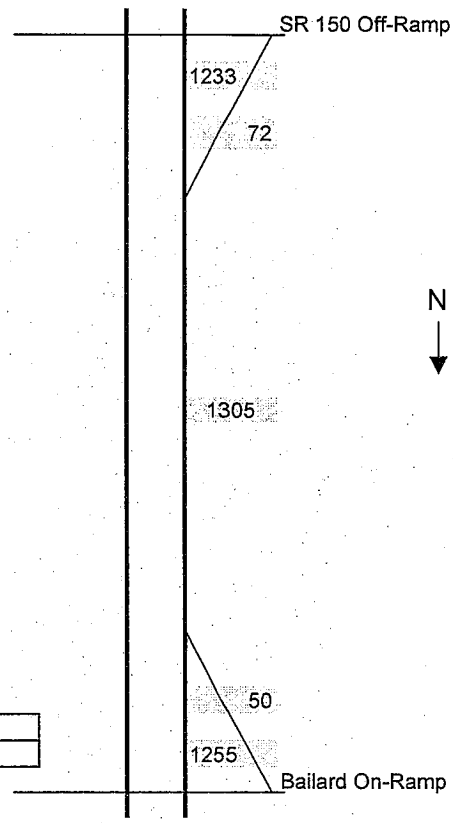
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 110 | 255 | 365 | #### | 0.30 | 1700 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:Bailard On-Ramp to SR 150 Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 9% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.04 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 2300 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 1255 | - | 70 | = | 1,186 | V A-C | *1,236* |
| Volume 2: | 72 | - | 3 | = | 70 | V A-D | *72* |
| Volume 3: | 50 | * | 0.95 | = | 48 | V B-C | *50* |
| Volume 4: | 50 | * | 0.05 | = | 3 | V B-D | *3* |
| Total Volume | | | | | | | *1,360* |

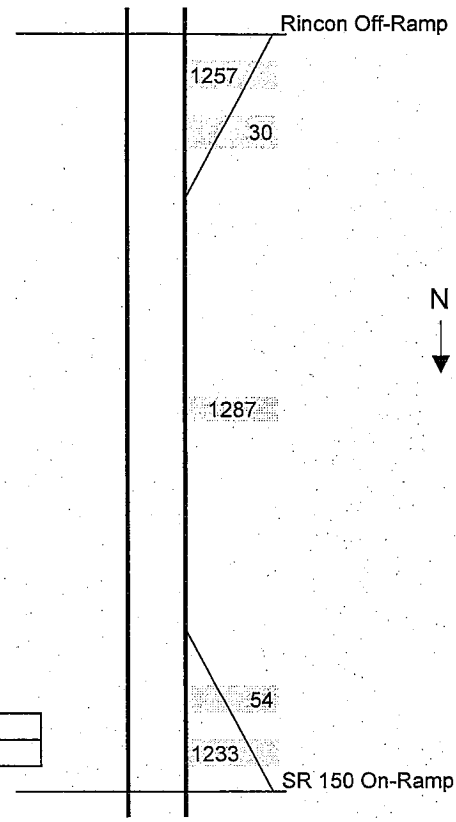
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 50 | 72 | 122 | #### | 0.41 | 2300 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - AM Peak | Revised by: | | Date: | |
| | SB US 101:SR 150 On-Ramp to Rincon Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 9% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.04 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1350 |
| Type: | Lane Balance |

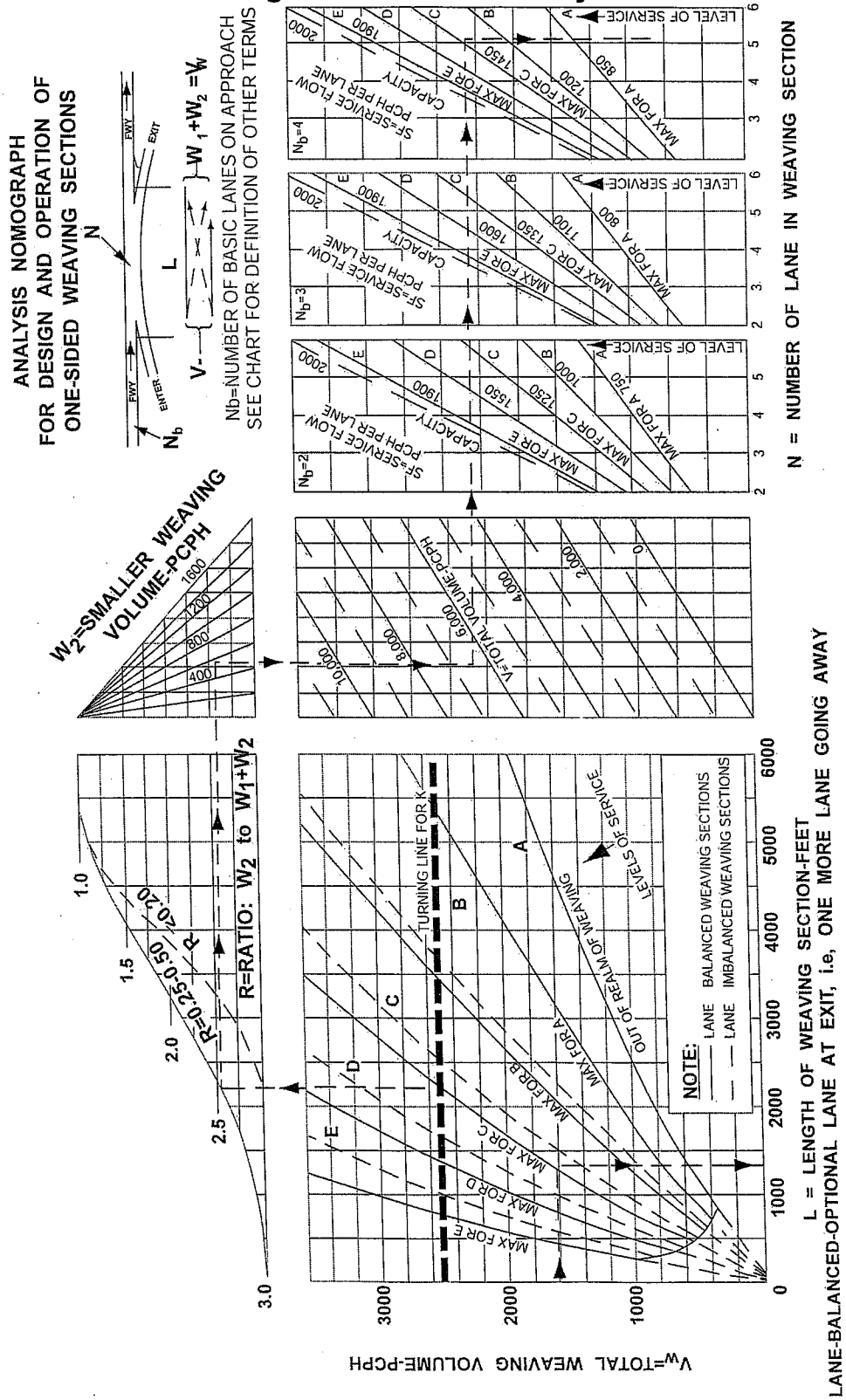



Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 1233 | - | 27 | = | 1,206 | V A-C | *1,258* |
| Volume 2: | 30 | - | 3 | = | 27 | V A-D | *28* |
| Volume 3: | 54 | * | 0.95 | = | 51 | V B-C | *54* |
| Volume 4: | 54 | * | 0.05 | = | 3 | V B-D | *3* |
| Total Volume | | | | | | | *1,343* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 54 | 28 | 82 | #### | 0.35 | 1350 | 2 | 2 |

# Figure 504.7A
## Design Curve for Freeway and Collector Weaving




**NOTE: EXTRAPOLATION OF CHART BEYOND THE BOUNDARIES GIVEN IS NOT ADVISED.**

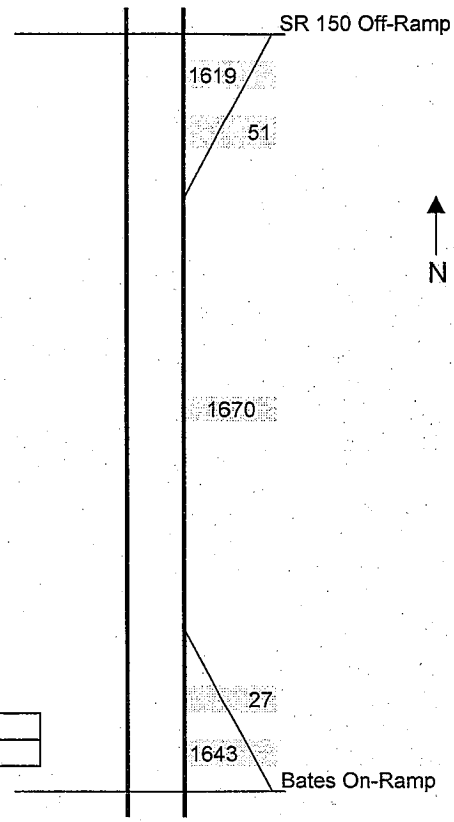
Example: The nomograph is entered on the left (see dashed line and arrows) with weaving volume, $W_1+W_2$ (or $V_W$) followed by projection to the right, intersecting the desired weaving LOS; a vertical drop from this point provides weaving distance L = 400 m. Returning to first intersection point of $V_W$ with LOS line, an upward projection along the LOS line is intersected with the horizontal, heavy dashed, "turning line for K:" from here the solution line is extended vertically to intersect the K values curve, from which a horizontal extension meets the desired $W_2$ volume. Then a downward turn to total volume, V, fom which the line is horizontally projected to the right, intersection (in this case) the desired LOS = C curve having an SF of 1450 (representing the overall or composite operation of the weaving section), from which a downward extension yields a N of 5.2; this would be rounded to N = 5 lanes.

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Bates On-Ramp to SR 150 Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 6% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1400 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 1643 | - | 50 | = | 1,593 | V A-C | *1,639* |
| Volume 2: | 51 | - | 1 | = | 50 | V A-D | *51* |
| Volume 3: | 27 | * | 0.95 | = | 26 | V B-C | *26* |
| Volume 4: | 27 | * | 0.05 | = | 1 | V B-D | *1* |
| Total Volume | | | | | | | *1,718* |

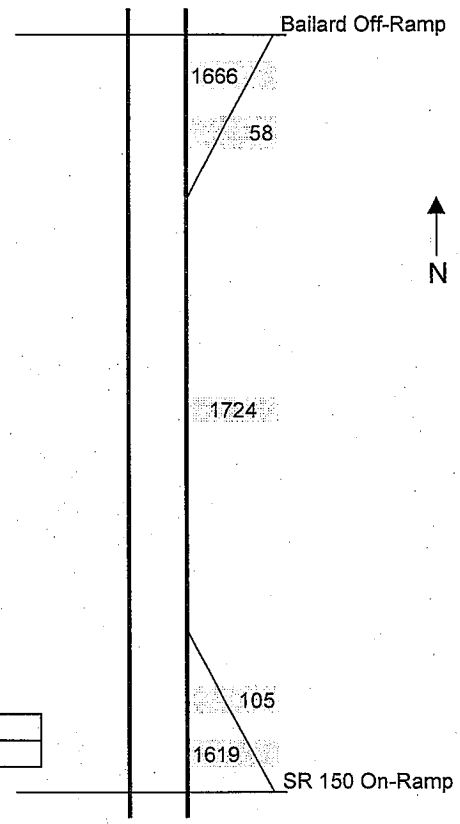
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 26 | 51 | 77 | ### | 0.34 | 1400 | 3 | 3 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 SR 150 On-Ramp to Bailard Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 5% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.03 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 2400 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 1619 | - | 53 | = | 1,566 | V A-C | *1,609* |
| Volume 2: | 58 | - | 5 | = | 53 | V A-D | *54* |
| Volume 3: | 105 | * | 0.95 | = | 100 | V B-C | *102* |
| Volume 4: | 105 | * | 0.05 | = | 5 | V B-D | *5* |
| Total Volume | | | | | | | *1,771* |

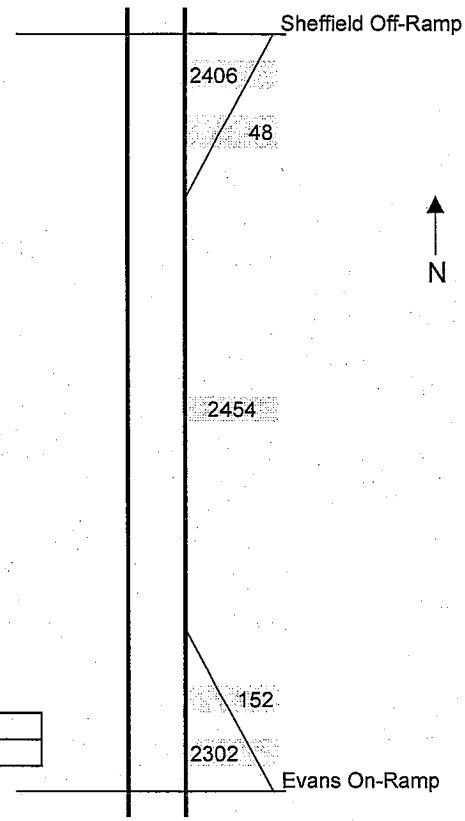
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 102 | 54 | 157 | ### | 0.35 | 2400 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Evans On-Ramp to Sheffield Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 2000 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2302 | - | 40 | = | 2,262 | V A-C | *2,308* |
| Volume 2: | 48 | - | 8 | = | 40 | V A-D | *41* |
| Volume 3: | 152 | * | 0.95 | = | 144 | V B-C | *147* |
| Volume 4: | 152 | * | 0.05 | = | 8 | V B-D | *8* |
| Total Volume | | | | | | | *2,504* |

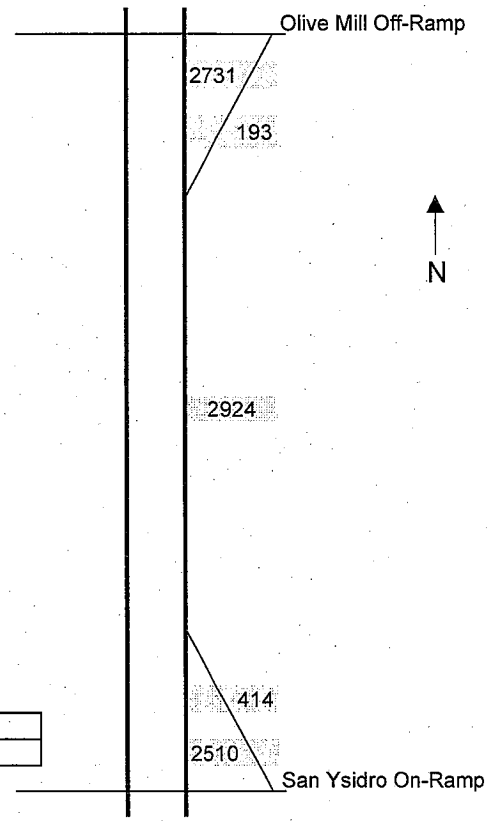
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 147 | 41 | 189 | 2,504 | 0.22 | 2000 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 San Ysidro On-Ra to Olive Mill Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1150 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2510 | - | 172 | = | 2,338 | V A-C | *2,380* |
| Volume 2: | 193 | - | 21 | = | 172 | V A-D | *175* |
| Volume 3: | 414 | * | 0.95 | = | 393 | V B-C | *400* |
| Volume 4: | 414 | * | 0.05 | = | 21 | V B-D | *21* |
| Total Volume | | | | | | | *2,977* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 400 | 175 | 576 | #### | 0.30 | 1150 | 2 | 2 |

PM – Sanysidro on to Olive Mill Off.

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 576 | pcph |
| Smaller weaving volume: | W2 | = | 175 | pcph |
| Total volume: | V | = | 2977 | pcph |
| Number of basic lanes on approach: | Nb | = | 2 | |
| Length of weaving section: | L | = | 1150 | ft |
| Number of lanes in weaving section: | N | = | 2 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .304 | |
| Weaving intensity factor: | K | = | 1.00 | |
| Initial average running speed, weaving traffic: | Sw | = | 54.2 | mph |
| Initial weaving traffic LOS: | LOS | = | A | |
| Initial weaving traffic fractional LOS: | LOS | = | A .16 | |
| Service flow within the weaving section: | SF | = | 1489 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D .79 | |

OUTPUTS VIA NOMOGRAPH 3:

| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .193 | |
| Average running spd of all traffic in weaving section: | S | = | 42.4 | mph |
| Final average running speed of weaving traffic: | Sw | = | 39.9 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 43.0 | mph |
| Final overall LOS: | LOS | = | D | |
| Final overall fractional LOS: | LOS | = | D .51 | |
| Final weaving traffic LOS : | LOS | = | C | |
| Final weaving traffic fractional LOS: | LOS | = | C max | |

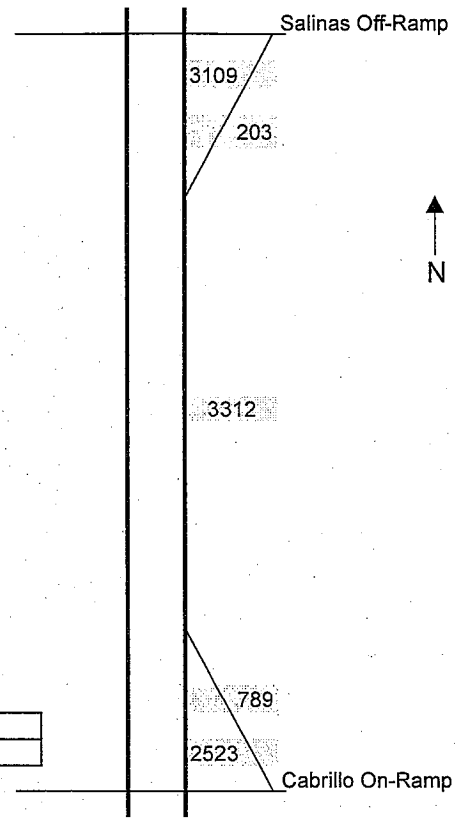
0

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Cabrillo On-Ramp to Salinas Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 2400 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2523 | - | 164 | = | 2,359 | V A-C | *2,399* |
| Volume 2: | 203 | - | 39 | = | 164 | V A-D | *166* |
| Volume 3: | 789 | * | 0.95 | = | 750 | V B-C | *762* |
| Volume 4: | 789 | * | 0.05 | = | 39 | V B-D | *40* |
| Total Volume | | | | | | | *3,367* |

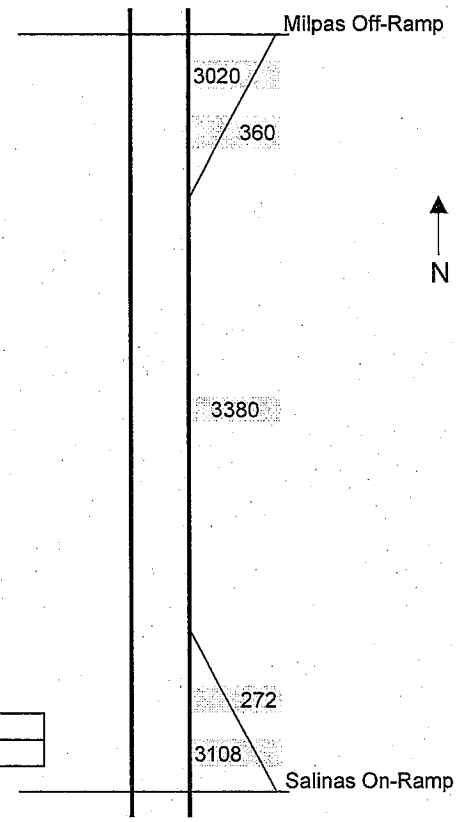
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 762 | 166 | 928 | 3,367 | 0.18 | 2400 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Salinas On-Ramp to Milpas Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3108 | - | 346 | = | 2,762 | V A-C | *2,808* |
| Volume 2: | 360 | - | 14 | = | 346 | V A-D | *352* |
| Volume 3: | 272 | * | 0.95 | = | 258 | V B-C | *263* |
| Volume 4: | 272 | * | 0.05 | = | 14 | V B-D | *14* |
| Total Volume | | | | | | | *3,436* |

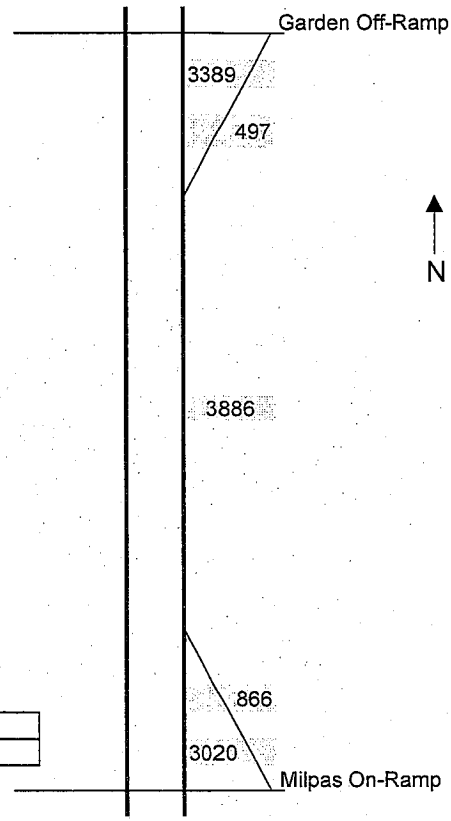
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 263 | 352 | 615 | 3,436 | 0.43 | 1900 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Milpas On-Ramp to Garden Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1300 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3020 | - | 454 | = | 2,566 | V A-C | *2,618* |
| Volume 2: | 497 | - | 43 | = | 454 | V A-D | *463* |
| Volume 3: | 866 | * | 0.95 | = | 823 | V B-C | *839* |
| Volume 4: | 866 | * | 0.05 | = | 43 | V B-D | *44* |
| Total Volume | | | | | | | *3,964* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 839 | 463 | 1,302 | 3,964 | 0.36 | 1300 | 3 | 3 |

PM Peak → Milpas On to Garden Off.

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1302 | pcph |
| Smaller weaving volume: | W2 | = | 463 | pcph |
| Total volume: | V | = | 3964 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1300 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .356 | |
| Weaving intensity factor: | K | = | 1.97 | |
| Initial average running speed, weaving traffic: | Sw | = | 43.1 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .38 | |
| Service flow within the weaving section: | SF | = | 1470 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D .48 | |

OUTPUTS VIA NOMOGRAPH 3:

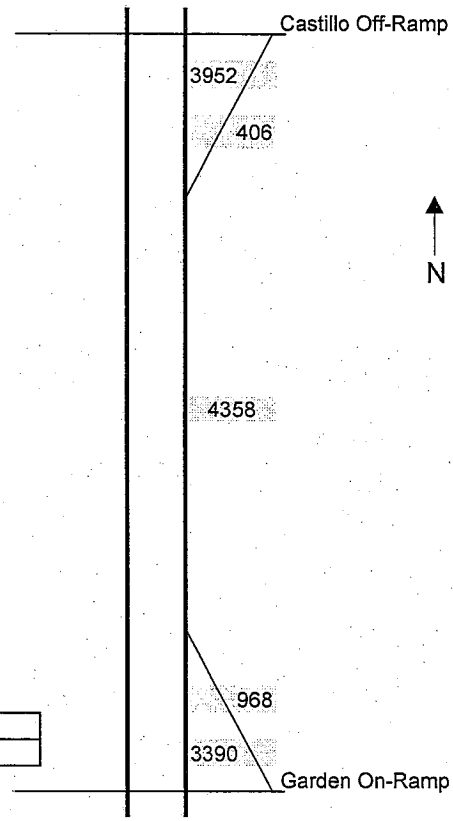
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .328 | |
| Average running spd of all traffic in weaving section: | S | = | 42.8 | mph |
| Final average running speed of weaving traffic: | Sw | = | 40.2 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 44.1 | mph |
| Final overall LOS: | LOS | = | D | |
| Final overall fractional LOS: | LOS | = | D .44 | |
| Final weaving traffic LOS : | LOS | = | C | |
| Final weaving traffic fractional LOS: | LOS | = | C max | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Garden On-Ramp to Castillo Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1500 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3390 | - | 358 | = | 3,032 | V A-C | *3,088* |
| Volume 2: | 406 | - | 48 | = | 358 | V A-D | *364* |
| Volume 3: | 968 | * | 0.95 | = | 920 | V B-C | *937* |
| Volume 4: | 968 | * | 0.05 | = | 48 | V B-D | *49* |
| Total Volume | | | | | | | *4,439* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 937 | 364 | 1,301 | 4,439 | 0.28 | 1500 | 3 | 3 |

PM Peak – Garden on to Castillo Off.

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1301 | pcph |
| Smaller weaving volume: | W2 | = | 364 | pcph |
| Total volume: | V | = | 4439 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1500 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .280 | |
| Weaving intensity factor: | K | = | 1.70 | |
| Initial average running speed, weaving traffic: | Sw | = | 44.6 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B max | |
| Service flow within the weaving section: | SF | = | 1565 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D .85 | |

OUTPUTS VIA NOMOGRAPH 3:

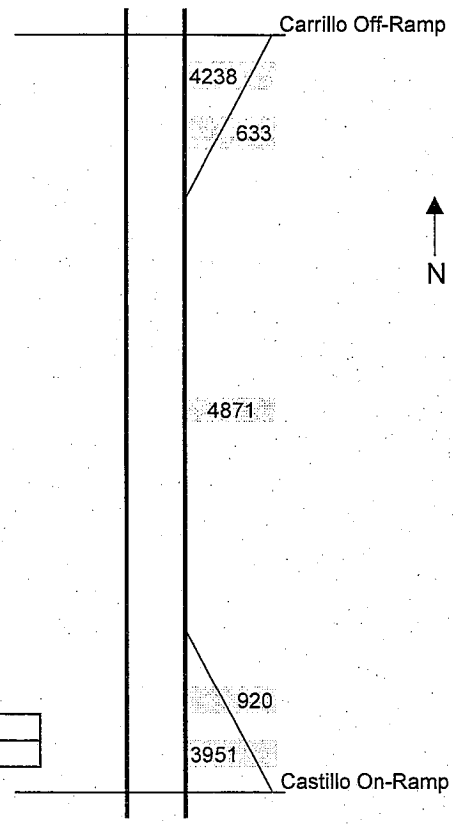
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .293 | |
| Average running spd of all traffic in weaving section: | S | = | 40.6 | mph |
| Final average running speed of weaving traffic: | Sw | = | 38.1 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 41.6 | mph |
| Final overall LOS: | LOS | = | D | |
| Final overall fractional LOS: | LOS | = | D .88 | |
| Final weaving traffic LOS : | LOS | = | D | |
| Final weaving traffic fractional LOS: | LOS | = | D .37 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Castillo On-Ramp to Carrillo Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1300 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3951 | - | 587 | = | 3,364 | V A-C | *3,421* |
| Volume 2: | 633 | - | 46 | = | 587 | V A-D | *597* |
| Volume 3: | 920 | * | 0.95 | = | 874 | V B-C | *889* |
| Volume 4: | 920 | * | 0.05 | = | 46 | V B-D | *47* |
| Total Volume | | | | | | | *4,954* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 889 | 597 | 1,486 | 4,954 | 0.40 | 1300 | 3 | 3 |

PM Peak – Castillo On to Carrillo Off

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1486 | pcph |
| Smaller weaving volume: | W2 | = | 597 | pcph |
| Total volume: | V | = | 4954 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1300 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .402 | |
| Weaving intensity factor: | K | = | 2.26 | |
| Initial average running speed, weaving traffic: | Sw | = | 41.4 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .72 | |
| Service flow within the weaving section: | SF | = | 1901 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E max | |

OUTPUTS VIA NOMOGRAPH 3:

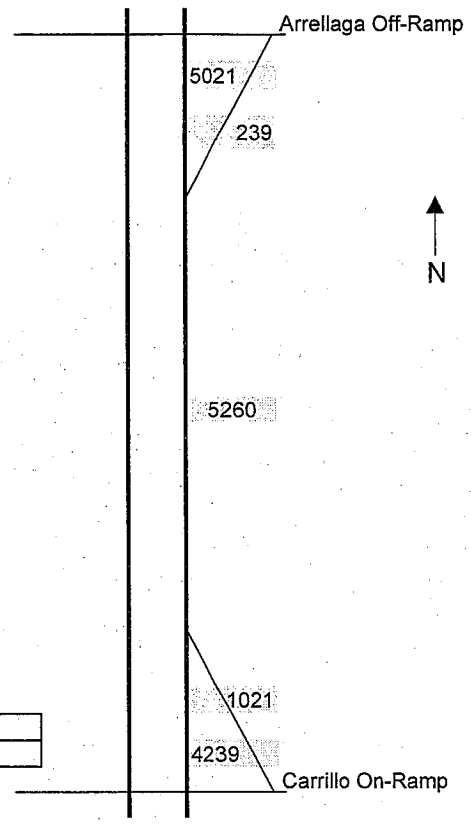
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .300 | |
| Average running spd of all traffic in weaving section: | S | = | 31.2 | mph |
| Final average running speed of weaving traffic: | Sw | = | 29.4 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 31.9 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .88 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .55 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Carrillo On-Ramp to Arrellaga Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1700 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4239 | - | 188 | = | 4,051 | V A-C | *4,116* |
| Volume 2: | 239 | - | 51 | = | 188 | V A-D | *191* |
| Volume 3: | 1021 | * | 0.95 | = | 970 | V B-C | *985* |
| Volume 4: | 1021 | * | 0.05 | = | 51 | V B-D | *52* |
| Total Volume | | | | | | | *5,344* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 985 | 191 | 1,176 | 5,344 | 0.16 | 1700 | 3 | 3 |

NB PM Peak – Carrillo On Ramp to Arrellaga Off Ramp

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1176 | pcph |
| Smaller weaving volume: | W2 | = | 191 | pcph |
| Total volume: | V | = | 5344 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1700 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .162 | |
| Weaving intensity factor: | K | = | 1.56 | |
| Initial average running speed, weaving traffic: | Sw | = | 47.8 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B .44 | |
| Service flow within the weaving section: | SF | = | 1817 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .72 | |

OUTPUTS VIA NOMOGRAPH 3:

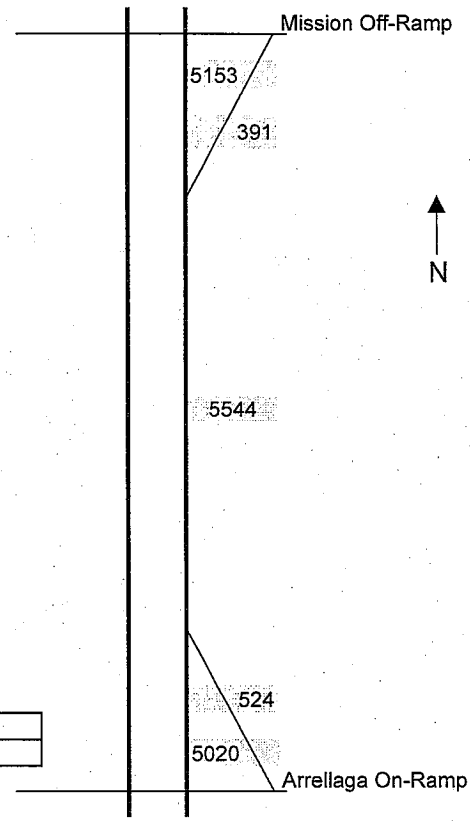
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .220 | |
| Average running spd of all traffic in weaving section: | S | = | 33.8 | mph |
| Final average running speed of weaving traffic: | Sw | = | 31.9 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 34.4 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .61 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .30 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Arrellaga On-Ram to Mission Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 5020 | - | 365 | = | 4,655 | V A-C | *4,725* |
| Volume 2: | 391 | - | 26 | = | 365 | V A-D | *370* |
| Volume 3: | 524 | * | 0.95 | = | 498 | V B-C | *505* |
| Volume 4: | 524 | * | 0.05 | = | 26 | V B-D | *27* |
| Total Volume | | | | | | | *5,627* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 505 | 370 | 876 | 5,627 | 0.42 | 900 | 3 | 3 |

P M Peak – Arrellaga on to Mission off.

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 876 | pcph |
| Smaller weaving volume: | W2 | = | 370 | pcph |
| Total volume: | V | = | 5627 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 900 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .422 | |
| Weaving intensity factor: | K | = | 1.86 | |
| Initial average running speed, weaving traffic: | Sw | = | 43.6 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .27 | |
| Service flow within the weaving section: | SF | = | 1982 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E max | |

OUTPUTS VIA NOMOGRAPH 3:

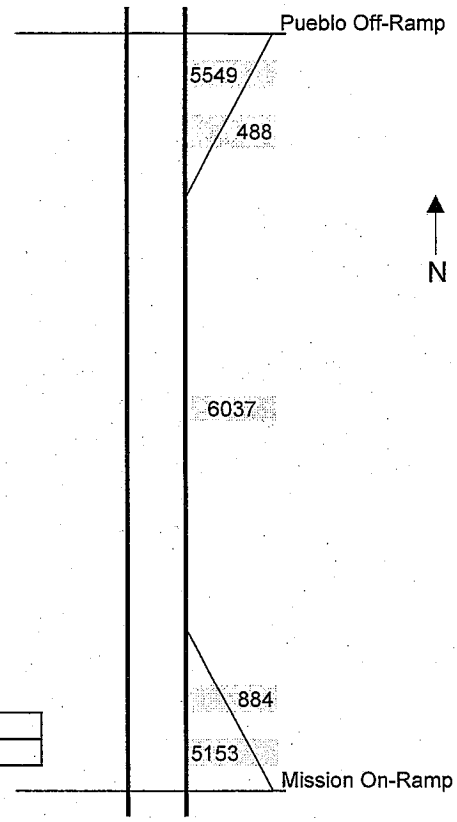
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .156 | |
| Average running spd of all traffic in weaving section: | S | = | 26.1 | mph |
| Final average running speed of weaving traffic: | Sw | = | 25.6 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 26.2 | mph |
| Final overall LOS: | LOS | = | F | |
| Final overall fractional LOS: | LOS | = | F .12 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E max | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Mission On-Ramp to Pueblo Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 4 |
| Weave Length (ft) | 550 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 5153 | - | 444 | = | 4,709 | V A-C | *4,777* |
| Volume 2: | 488 | - | 44 | = | 444 | V A-D | *450* |
| Volume 3: | 884 | * | 0.95 | = | 840 | V B-C | *852* |
| Volume 4: | 884 | * | 0.05 | = | 44 | V B-D | *45* |
| Total Volume | | | | | | | *6,125* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 852 | 450 | 1,302 | 6,125 | 0.35 | 550 | 3 | 4 |

NB PM – Mission on-to – Pueblo Off

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | |
|---|---|---|---|
| Total weaving volume: | W1+W2 = | 1302 | pcph |
| Smaller weaving volume: | W2 = | 450 | pcph |
| Total volume: | V = | 6125 | pcph |
| Number of basic lanes on approach: | Nb = | 3 | |
| Length of weaving section: | L = | 550 | ft |
| Number of lanes in weaving section: | N = | 4 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | |
|---|---|---|---|
| Weaving ratio: | R = | .346 | |
| Weaving intensity factor: | K = | 2.95 | |
| Initial average running speed, weaving traffic: | Sw = | 32.6 | mph |
| Initial weaving traffic LOS: | LOS = | E | |
| Initial weaving traffic fractional LOS: | LOS = | E .24 | |
| Service flow within the weaving section: | SF = | 1750 | pcphpl |
| Initial overall LOS: | LOS = | E | |
| Initial overall fractional LOS: | LOS = | E .50 | |

OUTPUTS VIA NOMOGRAPH 3:

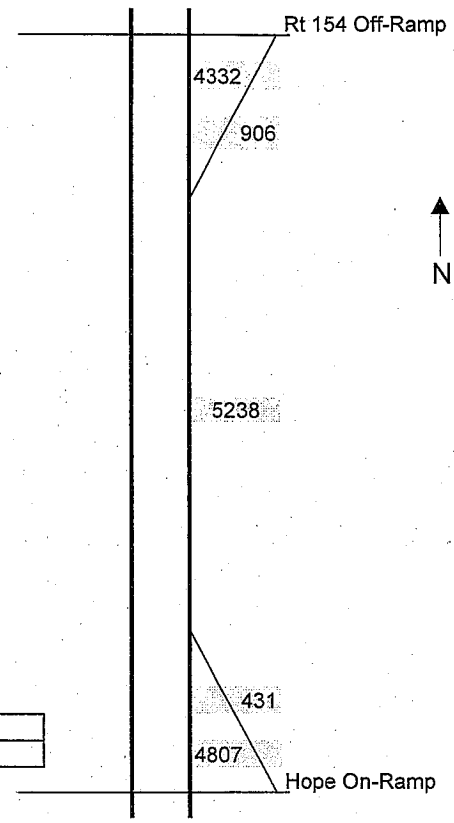
| | | | |
|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V = | .213 | |
| Average running spd of all traffic in weaving section: | S = | 35.8 | mph |
| Final average running speed of weaving traffic: | Sw = | 32.6 | mph |
| Average running speed of nonweaving traffic: | Snw = | 36.6 | mph |
| Final overall LOS: | LOS = | E | |
| Final overall fractional LOS: | LOS = | E .42 | |
| Final weaving traffic LOS : | LOS = | E | |
| Final weaving traffic fractional LOS: | LOS = | E .24 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Hope On-Ramp to Rt 154 Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 4 |
| N | 3 |
| Weave Length (ft) | 1900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4807 | - | 884 | = | 3,923 | V A-C | *3,987* |
| Volume 2: | 906 | - | 22 | = | 884 | V A-D | *899* |
| Volume 3: | 431 | * | 0.95 | = | 409 | V B-C | *416* |
| Volume 4: | 431 | * | 0.05 | = | 22 | V B-D | *22* |
| Total Volume | | | | | | | *5,324* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 416 | 899 | 1,315 | 5,324 | 0.32 | 1900 | 4 | 3 |

NB PM — HOPE ON TO RTE 154 OFF

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1315 | pcph |
| Smaller weaving volume: | W2 | = | 416 | pcph |
| Total volume: | V | = | 5324 | pcph |
| Number of basic lanes on approach: | Nb | = | 4 | |
| Length of weaving section: | L | = | 1900 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .316 | |
| Weaving intensity factor: | K | = | 1.17 | |
| Initial average running speed, weaving traffic: | Sw | = | 47.6 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B .47 | |
| Service flow within the weaving section: | SF | = | 1798 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .59 | |

OUTPUTS VIA NOMOGRAPH 3:

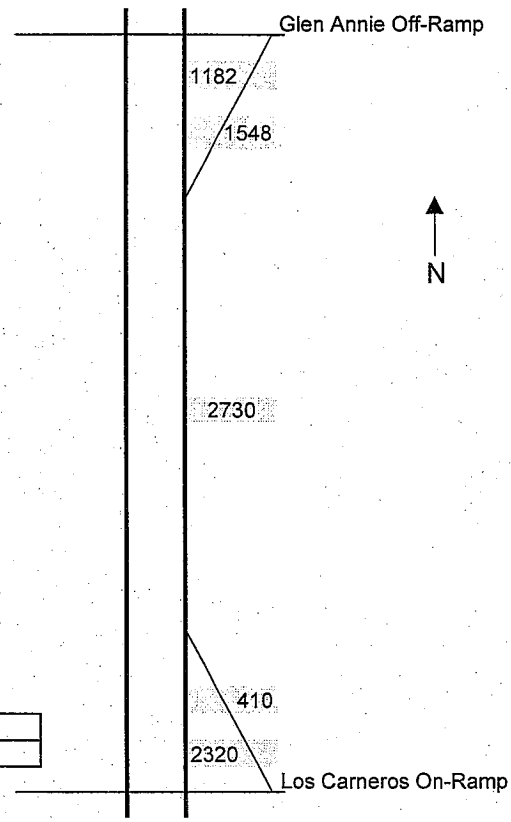
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .247 | |
| Average running spd of all traffic in weaving section: | S | = | 34.4 | mph |
| Final average running speed of weaving traffic: | Sw | = | 32.5 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 35.1 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .55 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .25 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/22/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | NB US 101 Los Carneros On- to Glen Annie Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 5% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1500 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2320 | - | 1,528 | = | 793 | V A-C | *811* |
| Volume 2: | 1,548 | - | 21 | = | 1,528 | V A-D | *1,563* |
| Volume 3: | 410 | * | 0.95 | = | 390 | V B-C | *398* |
| Volume 4: | 410 | * | 0.05 | = | 21 | V B-D | *21* |
| Total Volume | | | | | | | *2,793* |

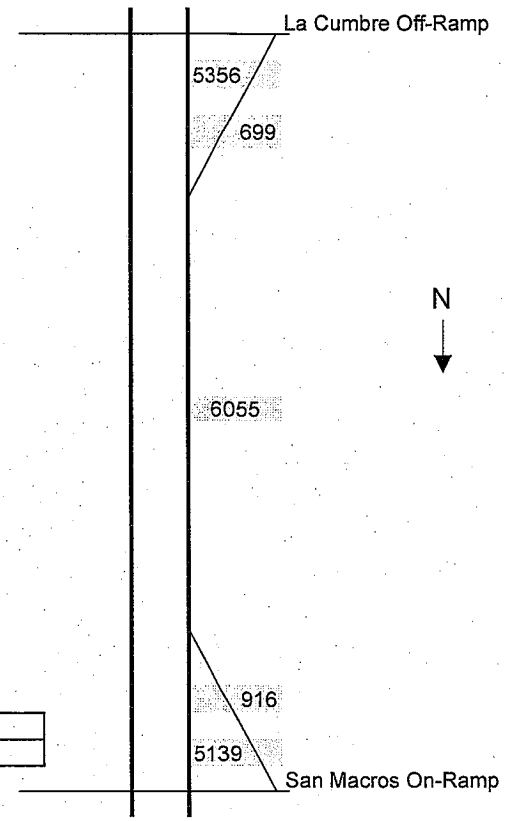
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 398 | 1,563 | 1,961 | #### | 0.20 | 1500 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:San Macros On-R to La Cumbre Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 2% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 4 |
| Weave Length (ft) | 1200 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 5138.5 | - | 653 | = | 4,485 | V A-C | *4,526* |
| Volume 2: | 699 | - | 46 | = | 653 | V A-D | *659* |
| Volume 3: | 916 | * | 0.95 | = | 870 | V B-C | *878* |
| Volume 4: | 916 | * | 0.05 | = | 46 | V B-D | *46* |
| Total Volume | | | | | | | *6,109* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 878 | 659 | 1,537 | #### | 0.43 | 1200 | 3 | 4 |

PM SB San Macros → La Cumbre

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1537 | pcph |
| Smaller weaving volume: | W2 | = | 659 | pcph |
| Total volume: | V | = | 6109 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1200 | ft |
| Number of lanes in weaving section: | N | = | 4 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .429 | |
| Weaving intensity factor: | K | = | 2.51 | |
| Initial average running speed, weaving traffic: | Sw | = | 39.9 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C max | |
| Service flow within the weaving section: | SF | = | 1775 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .58 | |

OUTPUTS VIA NOMOGRAPH 3:

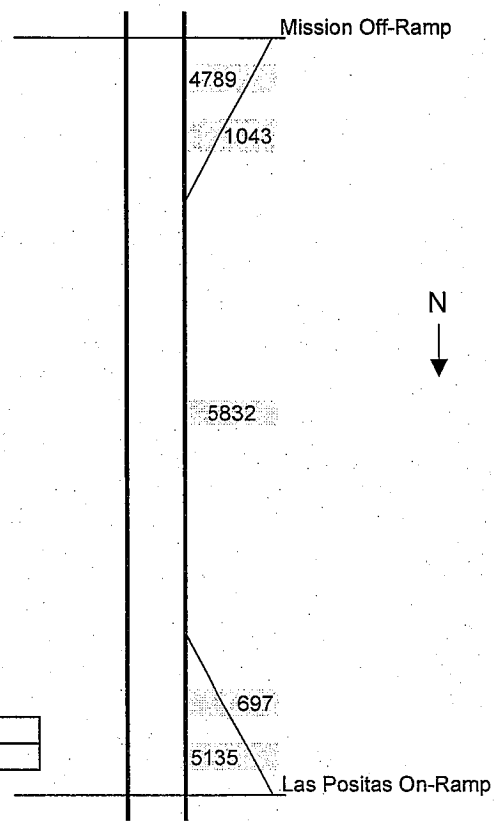
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .252 | |
| Average running spd of all traffic in weaving section: | S | = | 35.1 | mph |
| Final average running speed of weaving traffic: | Sw | = | 33.0 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 35.7 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .49 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .19 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:Las Positas On-R to Mission Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 2% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 5134.5 | - | 1,008 | = | 4,126 | V A-C | *4,166* |
| Volume 2: | 1,043 | - | 35 | = | 1,008 | V A-D | *1,018* |
| Volume 3: | 697 | * | 0.95 | = | 662 | V B-C | *668* |
| Volume 4: | 697 | * | 0.05 | = | 35 | V B-D | *35* |
| Total Volume | | | | | | | *5,887* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 668 | 1,018 | 1,686 | #### | 0.40 | 1900 | 3 | 3 |

PM SB Las Positas → Mission

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1686 | pcph |
| Smaller weaving volume: | W2 | = | 668 | pcph |
| Total volume: | V | = | 5887 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1900 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .396 | |
| Weaving intensity factor: | K | = | 1.78 | |
| Initial average running speed, weaving traffic: | Sw | = | 44.1 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .17 | |
| Service flow within the weaving section: | SF | = | 2136 | pcphpl |
| Initial overall LOS: | LOS | = | F | |
| Initial overall fractional LOS: | LOS | = | F | |

OUTPUTS VIA NOMOGRAPH 3:

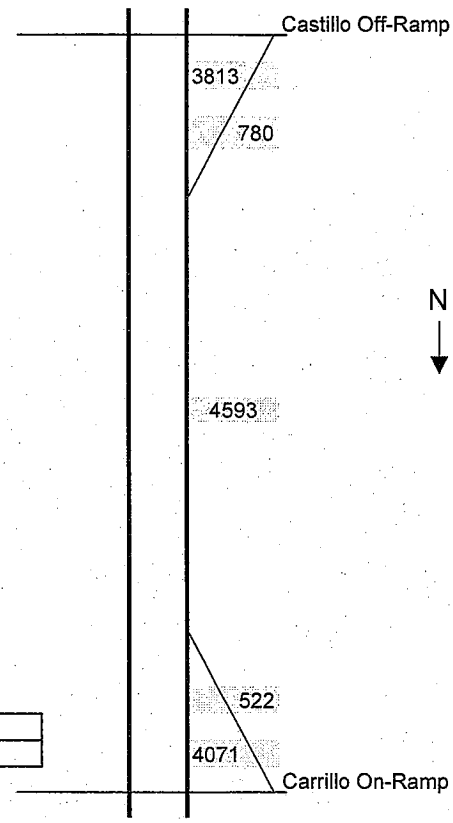
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .286 | |
| Average running spd of all traffic in weaving section: | S | = | 25.0 | mph |
| Final average running speed of weaving traffic: | Sw | = | 25.0 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 25.0 | mph |
| Final overall LOS: | LOS | = | F | |
| Final overall fractional LOS: | LOS | = | F .16 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E max | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:Carrillo On-Ramp to Castillo Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 2% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1400 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | Adjusted for HV |
|---|---|---|---|---|---|---|---|
| Volume 1: | 4070.8 | - | 754 | = | 3,317 | V A-C | *3,357* |
| Volume 2: | 780 | - | 26 | = | 754 | V A-D | *763* |
| Volume 3: | 522 | * | 0.95 | = | 496 | V B-C | *502* |
| Volume 4: | 522 | * | 0.05 | = | 26 | V B-D | *26* |
| Total Volume | | | | | | | *4,648* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 502 | 763 | 1,265 | #### | 0.40 | 1400 | 3 | 3 |

PM SB Carrillo → Castillo

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1265 | pcph |
| Smaller weaving volume: | W2 | = | 502 | pcph |
| Total volume: | V | = | 4648 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1400 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .397 | |
| Weaving intensity factor: | K | = | 1.77 | |
| Initial average running speed, weaving traffic: | Sw | = | 44.2 | mph |
| Initial weaving traffic LOS: | LOS | = | C | |
| Initial weaving traffic fractional LOS: | LOS | = | C .16 | |
| Service flow within the weaving section: | SF | = | 1678 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .26 | |

OUTPUTS VIA NOMOGRAPH 3:

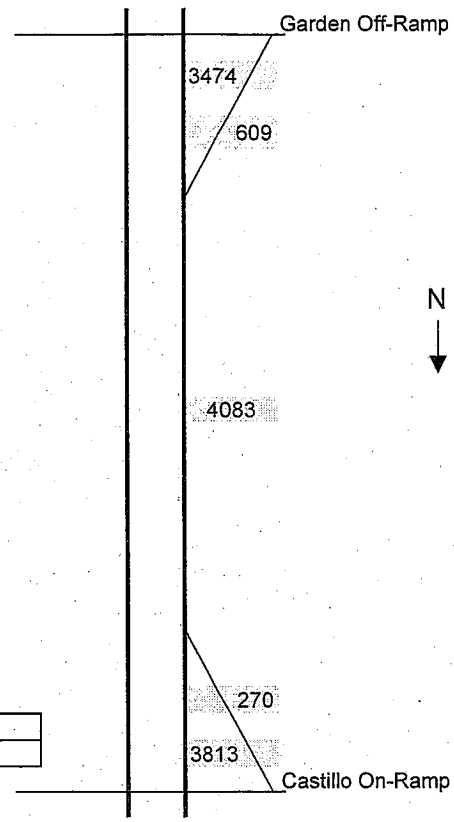
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .272 | |
| Average running spd of all traffic in weaving section: | S | = | 37.7 | mph |
| Final average running speed of weaving traffic: | Sw | = | 35.5 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 38.6 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .22 | |
| Final weaving traffic LOS : | LOS | = | D | |
| Final weaving traffic fractional LOS: | LOS | = | D .89 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:Castillo On-Ramp to Garden Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1650 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3812.8 | - | 596 | = | 3,217 | V A-C | *3,262* |
| Volume 2: | 609 | - | 14 | = | 596 | V A-D | *604* |
| Volume 3: | 270 | * | 0.95 | = | 257 | V B-C | *260* |
| Volume 4: | 270 | * | 0.05 | = | 14 | V B-D | *14* |
| Total Volume | | | | | | | *4,140* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 260 | 604 | 864 | #### | 0.30 | 1650 | 3 | 3 |

PM SB Castillo → Garden

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 864 | pcph |
| Smaller weaving volume: | W2 | = | 260 | pcph |
| Total volume: | V | = | 4140 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1650 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .301 | |
| Weaving intensity factor: | K | = | 1.00 | |
| Initial average running speed, weaving traffic: | Sw | = | 52.3 | mph |
| Initial weaving traffic LOS: | LOS | = | A | |
| Initial weaving traffic fractional LOS: | LOS | = | A .54 | |
| Service flow within the weaving section: | SF | = | 1380 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D .11 | |

OUTPUTS VIA NOMOGRAPH 3:

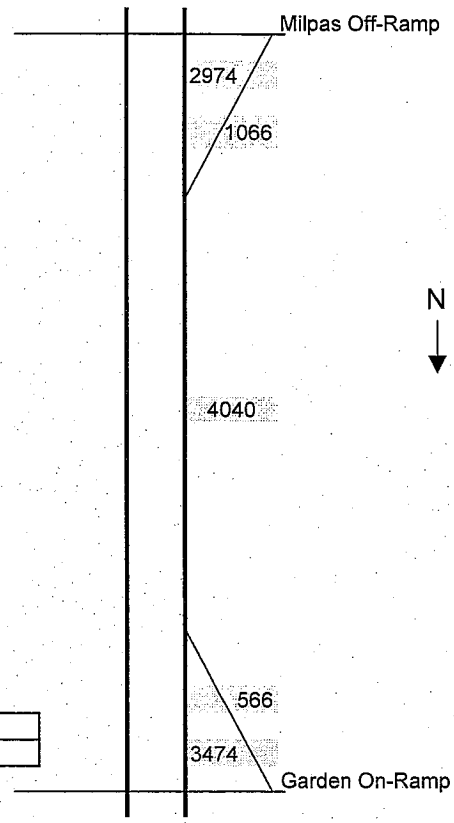
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .209 | |
| Average running spd of all traffic in weaving section: | S | = | 44.6 | mph |
| Final average running speed of weaving traffic: | Sw | = | 41.9 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 45.3 | mph |
| Final overall LOS: | LOS | = | C | |
| Final overall fractional LOS: | LOS | = | C max | |
| Final weaving traffic LOS : | LOS | = | C | |
| Final weaving traffic fractional LOS: | LOS | = | C .61 | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:Garden On-Ramp to Milpas Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 3 |
| N | 3 |
| Weave Length (ft) | 1950 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3473.8 | - | 1,037 | = | 2,437 | V A-C | *2,482* |
| Volume 2: | 1,066 | - | 28 | = | 1,037 | V A-D | *1,056* |
| Volume 3: | 566 | * | 0.95 | = | 538 | V B-C | *548* |
| Volume 4: | 566 | * | 0.05 | = | 28 | V B-D | *29* |
| Total Volume | | | | | | | *4,115* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 548 | 1,056 | 1,604 | #### | 0.34 | 1950 | 3 | 3 |

PM SB Garden → Milpas

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1604 | pcph |
| Smaller weaving volume: | W2 | = | 548 | pcph |
| Total volume: | V | = | 4115 | pcph |
| Number of basic lanes on approach: | Nb | = | 3 | |
| Length of weaving section: | L | = | 1950 | ft |
| Number of lanes in weaving section: | N | = | 3 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .342 | |
| Weaving intensity factor: | K | = | 1.63 | |
| Initial average running speed, weaving traffic: | Sw | = | 44.9 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B max | |
| Service flow within the weaving section: | SF | = | 1488 | pcphpl |
| Initial overall LOS: | LOS | = | D | |
| Initial overall fractional LOS: | LOS | = | D .55 | |

OUTPUTS VIA NOMOGRAPH 3:

| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .390 | |
| Average running spd of all traffic in weaving section: | S | = | 42.4 | mph |
| Final average running speed of weaving traffic: | Sw | = | 39.9 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 44.1 | mph |
| Final overall LOS: | LOS | = | D | |
| Final overall fractional LOS: | LOS | = | D .51 | |
| Final weaving traffic LOS : | LOS | = | C | |
| Final weaving traffic fractional LOS: | LOS | = | C max | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:Olive Mill On-Ram to San Ysidro Off-Ramp | | | | |

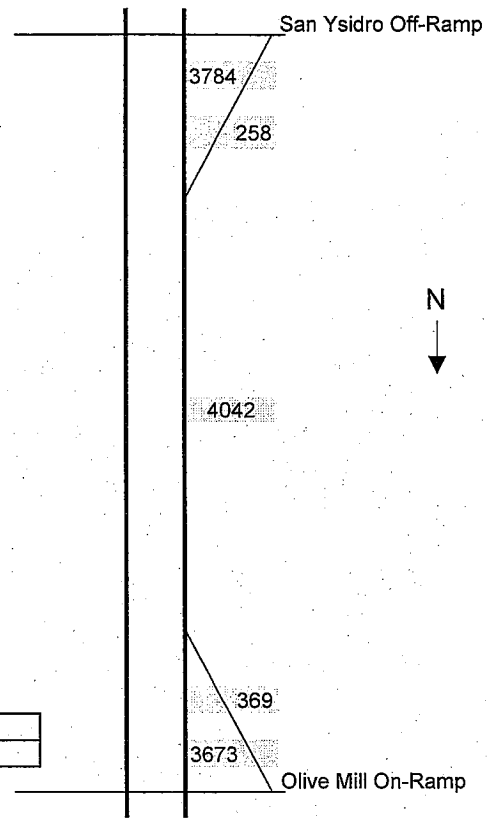
Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.01 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 900 |
| Type: | Lane Balance |

Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3672.5 | - | 240 | = | 3,433 | V A-C | *3,484* |
| Volume 2: | 258 | - | 18 | = | 240 | V A-D | *243* |
| Volume 3: | 369 | * | 0.95 | = | 351 | V B-C | *356* |
| Volume 4: | 369 | * | 0.05 | = | 18 | V B-D | *19* |
| Total Volume | | | | | | | *4,102* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 356 | 243 | 599 | #### | 0.41 | 900 | 2 | 2 |



PM SB Olive Mill → San Ysidro

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 599 | pcph |
| Smaller weaving volume: | W2 | = | 243 | pcph |
| Total volume: | V | = | 4102 | pcph |
| Number of basic lanes on approach: | Nb | = | 2 | |
| Length of weaving section: | L | = | 900 | ft |
| Number of lanes in weaving section: | N | = | 2 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .406 | |
| Weaving intensity factor: | K | = | 1.22 | |
| Initial average running speed, weaving traffic: | Sw | = | 48.9 | mph |
| Initial weaving traffic LOS: | LOS | = | B | |
| Initial weaving traffic fractional LOS: | LOS | = | B .22 | |
| Service flow within the weaving section: | SF | = | 2078 | pcphpl |
| Initial overall LOS: | LOS | = | F | |
| Initial overall fractional LOS: | LOS | = | F | |

OUTPUTS VIA NOMOGRAPH 3:

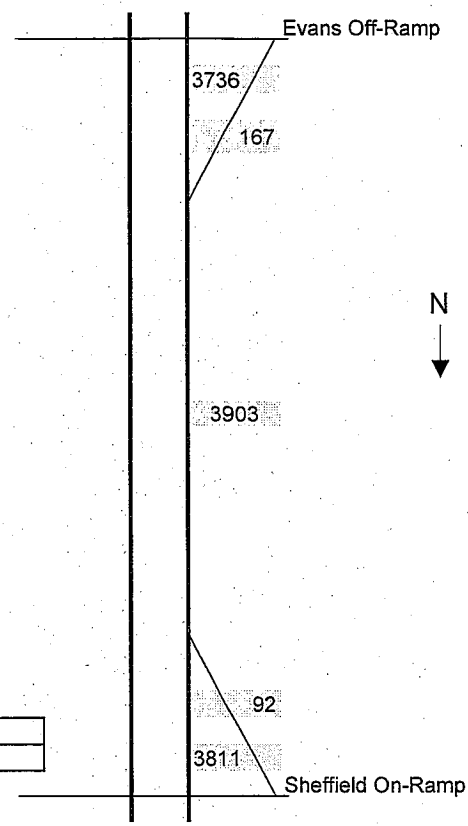
| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .146 | |
| Average running spd of all traffic in weaving section: | S | = | 25.0 | mph |
| Final average running speed of weaving traffic: | Sw | = | 25.0 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 25.0 | mph |
| Final overall LOS: | LOS | = | F | |
| Final overall fractional LOS: | LOS | = | F .16 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E max | |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:Sheffield On-Ram to Evans Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1900 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3811.2 | - | 162 | = | 3,649 | V A-C | *3,703* |
| Volume 2: | 167 | - | 5 | = | 162 | V A-D | *165* |
| Volume 3: | 92 | * | 0.95 | = | 87 | V B-C | *89* |
| Volume 4: | 92 | * | 0.05 | = | 5 | V B-D | *5* |
| Total Volume | | | | | | | *3,962* |

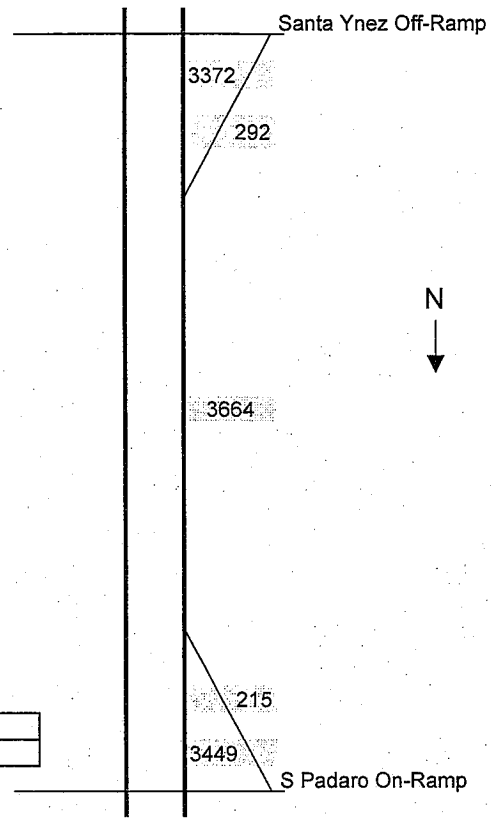
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 89 | 165 | 254 | #### | 0.35 | 1900 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:S Padaro On-Ram to Santa Ynez Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1600 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3449 | - | 281 | = | 3,168 | V A-C | *3,215* |
| Volume 2: | 292 | - | 11 | = | 281 | V A-D | *285* |
| Volume 3: | 215 | * | 0.95 | = | 204 | V B-C | *207* |
| Volume 4: | 215 | * | 0.05 | = | 11 | V B-D | *11* |
| Total Volume | | | | | | | *3,719* |

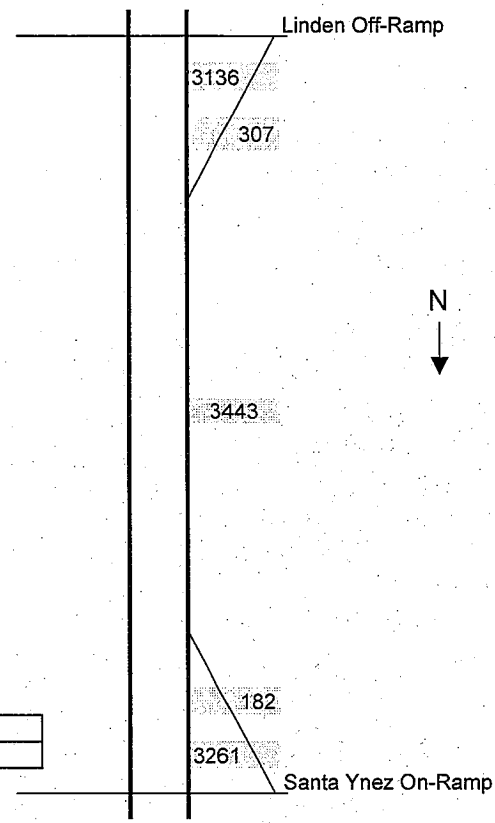
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 207 | 285 | 493 | #### | 0.42 | 1600 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:Santa Ynez On-R to Linden Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 3% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1700 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3261 | - | 298 | = | 2,963 | V A-C | *3,011* |
| Volume 2: | 307 | - | 9 | = | 298 | V A-D | *303* |
| Volume 3: | 182 | * | 0.95 | = | 173 | V B-C | *176* |
| Volume 4: | 182 | * | 0.05 | = | 9 | V B-D | *9* |
| Total Volume | | | | | | | *3,498* |

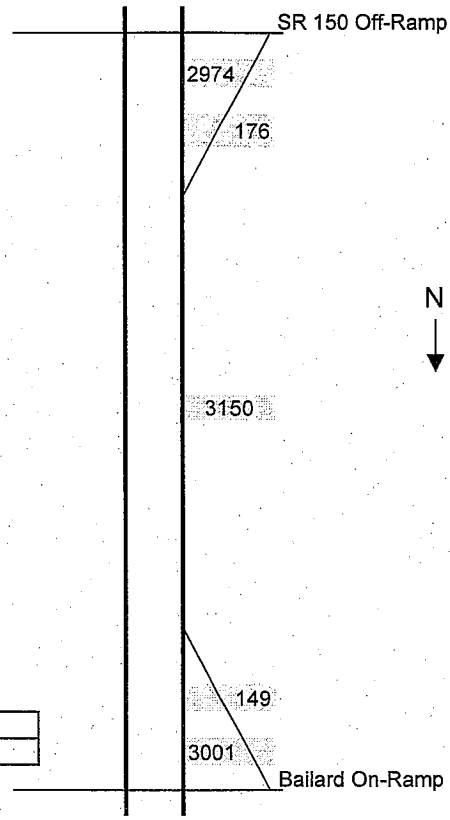
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 176 | 303 | 478 | #### | 0.37 | 1700 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project | US 101 Widening | Project No.: | P07106 | | |
| Title: | Weaving Analysis | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak | Revised by: | | Date: | |
| | SB US 101:Bailard On-Ramp to SR 150 Off-Ramp | | | | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 2300 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 3001 | - | 169 | = | 2,832 | V A-C | *2,883* |
| Volume 2: | 176 | - | 7 | = | 169 | V A-D | *172* |
| Volume 3: | 149 | * | 0.95 | = | 142 | V B-C | *144* |
| Volume 4: | 149 | * | 0.05 | = | 7 | V B-D | *8* |
| Total Volume | | | | | | | *3,207* |

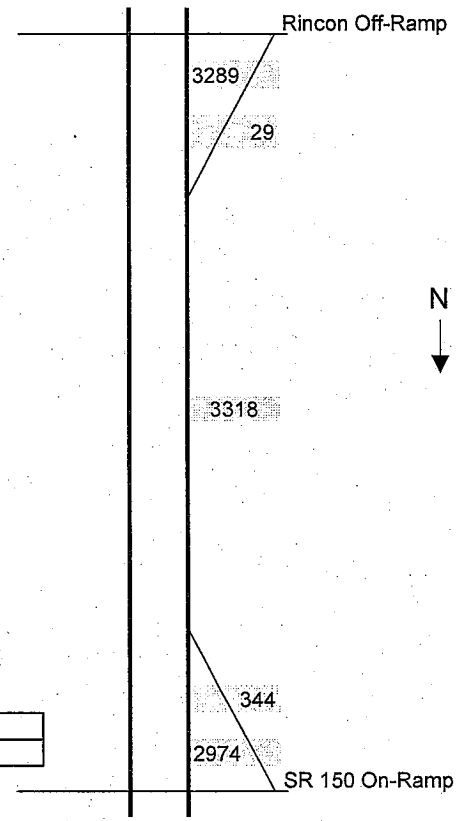
| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 144 | 172 | 316 | #### | 0.46 | 2300 | 2 | 2 |

## CALCULATION SHEET

| | | | | | |
|---|---|---|---|---|---|
| Project Title: | US 101 Widening<br>Weaving Analysis | Project No.: | P07106 | | |
| | | Made by: | CS | Date: | 7/24/2008 |
| | | Checked by: | | Date: | |
| Subject: | 2008 Existing Conditions - PM Peak<br>SB US 101:SR 150 On-Ramp to Rincon Off-Ramp | Revised by: | | Date: | |

Assumptions

| | |
|---|---|
| % Truck | 4% |
| PCE for truck | 1.5 |
| Trucks&Buses factor: | 1.02 |
| $N_b$ | 2 |
| N | 2 |
| Weave Length (ft) | 1350 |
| Type: | Lane Balance |




Volume 1: Non-weaving vehicles on freeway
Volume 2: Down weaving vehicles
Volume 3: Up weaving vehicles
Volume 4: Ramp to ramp non-weaving vehicles

| Northbound Volumes | | | | | | | *Adjusted for HV* |
|---|---|---|---|---|---|---|---|
| Volume 1: | 2974 | - | 12 | = | 2,962 | V A-C | *3,014* |
| Volume 2: | 29 | - | 17 | = | 12 | V A-D | *12* |
| Volume 3: | 344 | * | 0.95 | = | 327 | V B-C | *333* |
| Volume 4: | 344 | * | 0.05 | = | 17 | V B-D | *18* |
| Total Volume | | | | | | | *3,376* |

| W1 | W2 | Vw | Vtot | R | L | Nb | N |
|---|---|---|---|---|---|---|---|
| 333 | 12 | 345 | #### | 0.03 | 1350 | 2 | 2 |

PM Peak — Los Carneros on to Glenn Annie Off.

INPUTS:

Jack Leisch & Associates method
Simple weaving section
Operational analysis problem
One-sided configuration
Lane-balance weaving section

| | | | | |
|---|---|---|---|---|
| Total weaving volume: | W1+W2 | = | 1961 | pcph |
| Smaller weaving volume: | W2 | = | 398 | pcph |
| Total volume: | V | = | 2793 | pcph |
| Number of basic lanes on approach: | Nb | = | 2 | |
| Length of weaving section: | L | = | 1500 | ft |
| Number of lanes in weaving section: | N | = | 2 | |

OUTPUTS VIA NOMOGRAPH 1:

| | | | | |
|---|---|---|---|---|
| Weaving ratio: | R | = | .203 | |
| Weaving intensity factor: | K | = | 2.93 | |
| Initial average running speed, weaving traffic: | Sw | = | 39.5 | mph |
| Initial weaving traffic LOS: | LOS | = | D | |
| Initial weaving traffic fractional LOS: | LOS | = | D .10 | |
| Service flow within the weaving section: | SF | = | 1780 | pcphpl |
| Initial overall LOS: | LOS | = | E | |
| Initial overall fractional LOS: | LOS | = | E .65 | |

OUTPUTS VIA NOMOGRAPH 3:

| | | | | |
|---|---|---|---|---|
| Weaving volume to total volume ratio: | Vw/V | = | .702 | |
| Average running spd of all traffic in weaving section: | S | = | 32.5 | mph |
| Final average running speed of weaving traffic: | Sw | = | 30.6 | mph |
| Average running speed of nonweaving traffic: | Snw | = | 36.8 | mph |
| Final overall LOS: | LOS | = | E | |
| Final overall fractional LOS: | LOS | = | E .75 | |
| Final weaving traffic LOS : | LOS | = | E | |
| Final weaving traffic fractional LOS: | LOS | = | E .43 | |