Oceanside Circulation Element Update

Appendix E

Traffic Impact Analysis Report

Prepared by IBI Group

April 2012

TRAFFIC IMPACT ANALYSIS REPORT

CITY OF OCEANSIDE
MASTER TRANSPORTATION PLAN

FINAL

APRIL 2012

Prepared by:

IBI GROUP

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1.0 INTRODUCTION

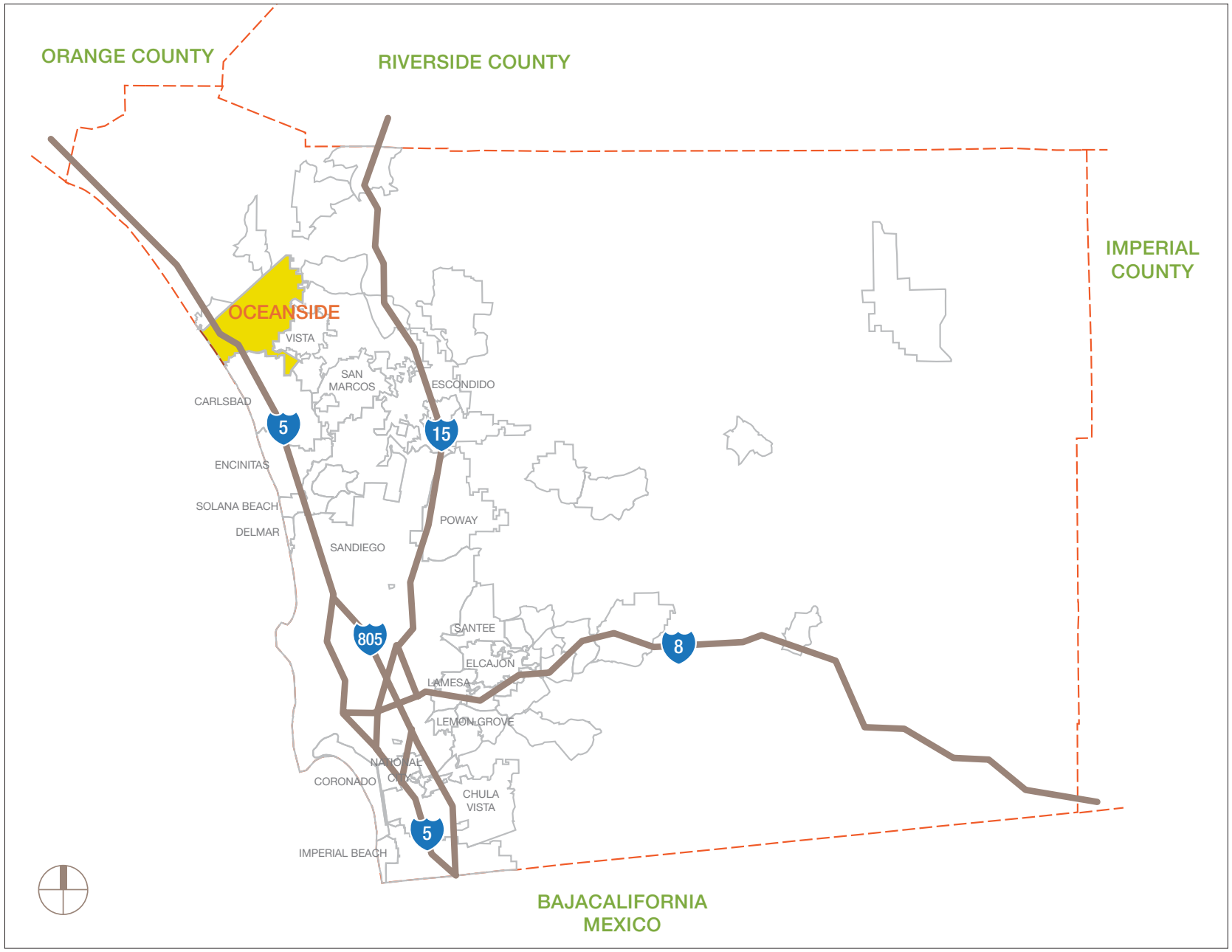
This traffic analysis report has been prepared as part of the Circulation Element Environmental Impact Report (EIR). The Circulation Element update traffic analysis consists of reviewing the current Circulation Element and development of several network alternatives. All potential Modified 1995 Circulation Element (Modified 1995 CE) baselines and alternatives were first reviewed and discussed through a series of meetings with City staff, public outreach meetings held with the community, and direction received from the City Council. The Modified 1995 CE baseline and preferred network alternative analysis results will be included in the Master Transportation/Circulation Plan of the Circulation Element which is part of the City's General Plan.

The City boundaries/project study area is shown in Figure 1.1.

This report includes the following sections:

- Project Description
- Roadway Classifications
- Analysis Methodology
- Existing Conditions
- Year 2030 Modeling
- Modified 1995 CE Analysis
- Network Alternatives 1 and 2 Analysis
- Selected Network Alternatives Summary
- Potential Mitigation Measures
- Conclusions

This report is used as part of the Program EIR for the Circulation Element. The Program EIR includes the results and findings of this traffic study report. It identifies the significant effects of the proposed project and the alternatives analyzed. The draft Program EIR will be available to the public for review and comment.





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City of Oceanside Circulation Element

Project Location

Figure 1.1

2.0 PROJECT DESCRIPTION

This section provides an overview of the project background and traffic study analyses necessary to update of the Circulation Element. In addition, this section describes the network alternatives derived throughout the public outreach and planning process. It details the alternatives presented before the community and the resulting network alternatives identified for detailed analysis.

2.1 BACKGROUND HISTORY

The Circulation Element was developed to be a set of guidelines to ensure that the City's Master Transportation/Circulation Plan and its implementation policies and programs would safely and efficiently accommodate the growth envisioned in the Land Use Element for the City of Oceanside. The previous Circulation Element was adopted by City Council in 1981 and was partially amended several times in response to changes in the City's land uses. In 1995, the City of Oceanside prepared and approved the update to the 1981 document.

The most recent update to the City of Oceanside Circulation Element was authorized by City Council in December 2005. The project was initiated with the purpose to update the Circulation Element in its entirety including the following key components:

- Master Transportation Plan
- Level of Service Policies
- Transportation Demand Management
- Public Transit & Railway Systems
- Bicycle & Equestrian Facilities
- Pedestrian Facilities
- Intelligent Transportation System Technologies
- Neighborhood Traffic Calming

One component of the Circulation Element update as it relates to this traffic impact study is the Master Transportation/Circulation Plan section. The traffic analyses completed for this traffic study will contribute to the update of the Master Transportation/Circulation Plan section of the Circulation Element.

The traffic analysis for the project began in 2006 using the current (what was then current) Series 10 – 2030 Regional Traffic Model. During initial stages of the Circulation Element update traffic analysis, SANDAG began working to update the Series 10 Traffic Forecasting Model with a new model that included a Sub-Area Model for the cities in North County. At the direction of Oceanside City Council, the Circulation Element update would use the updated Series 11 Sub-Area Model for North County for all traffic analysis.

The Series 11 North County Sub-Area Model was updated by SANDAG with the efforts and collaboration of the six North County cities. The Series 11 North County Sub-Area Model was completed in March 2009.

2.2 MODIFIED 1995 CIRCULATION ELEMENT SCENARIO

The Modified 1995 CE Scenario (Year 2030) is based on the currently adopted 1995 Circulation Element and General Plan Amendments. The Modified 1995 CE Scenario is used as the point of

comparison for all of the network alternatives. The key network elements shown in the Modified 1995 CE Scenario, which is a representative of the 1995 adopted Circulation Element, consists of the following:

- State Route 76 (SR76) is 6 Lanes to Melrose Drive
- Rancho Del Oro Road / State Route 78 Interchange is Included
- College Boulevard is 6 Lanes
- Melrose Drive between North River Road to State Route 76 is Included
- Melrose Drive between Spur Avenue to North Santa Fe Avenue is Included
- Pala Road is Connected to Foussat Road

In addition, there were two adjustments made to the 1995 Circulation Element network. These adjustments included the removal of Jeffries Ranch Road connection to SR76 and the Old Ranch Road connection between Guajome Lake Road and Melrose Drive. The Old Ranch Road connection has environmental issues and local support to ensure this connection does not occur. The Jeffries Ranch Road connection to SR76 was removed based on the Caltrans SR76 widening project which calls for the closure of Jeffries Ranch Road at SR76. These adjustments did not affect the overall Circulation Element modeling efforts; therefore, these two network connections were not included in the Modified 1995 CE Scenario. However, it should be noted that a separate study was conducted for the Jeffries Ranch Community Alternative Access, and a right-in/out access to SR76 could potentially be provided in the future should a funding source be identified.

2.3 NETWORK ALTERNATIVES

There were many potential 2030 network alternatives developed for the updated Circulation Element analysis. In developing the potential network alternatives, a review of the existing (present day) network and the adopted 1995 Circulation Element network was conducted. The currently adopted 1995 Circulation Element network is included in Appendix A. A total of 18 potential alternatives to the 1995 Circulation Element version of the model network were created. The 18 potential model alternatives were formed based on future potential projects, discussions with City staff, and input received at public outreach meetings.

The 18 potential model alternatives contained variations to the following network elements:

- State Route 76 (SR76): Either 4 or 6 Lanes to Melrose Drive
- Rancho Del Oro Road / State Route 78 Interchange: Included or Not Included
- College Boulevard: Either 4 or 6 Lanes or Hybrid of both 4 and 6 Lanes
- Melrose Drive: North River Road to State Route 76 Either Included or Not Included
- Melrose Drive: Spur Avenue to North Santa Fe Avenue Either Included or Not Included
- Pala Road: Connection to Foussat Road Either Included or Not Included
- Old Ranch Road: Connection Not Included
- Jeffries Ranch Road: Connection to SR76 Not Included

The 18 potential network alternatives were run using the Series 11 Sub-Area Model. Appendix B also contains a matrix that shows the details for all 18 model alternatives key network assumptions and combinations. Five out of the 18 potential alternatives were selected for further evaluation for the Circulation Element and presented at three public outreach meetings in January and February 2010. The five selected alternatives are described below and the assumptions are summarized in Table 2-1.

Alternative A: Assumes the Rancho Del Oro Road/SR78 Interchange would not be included in this scenario. College Boulevard, Melrose Drive, and Pala Road are assumed per the currently adopted Circulation Element.

Alternative B: Assumes that the Melrose Drive extensions between North River Road and SR76 and Spur Avenue and North Santa Fe Avenue are not included. The Rancho Del Oro Road/SR78 Interchange, College Boulevard, and Pala Road are assumed per the currently adopted Circulation Element.

Alternative C: Assumes that College Boulevard is a hybrid of both 4 and 6 lanes. College Boulevard would be 6 lanes between Avenida de la Plata and Olive Drive. It would remain 4 lanes between Olive Drive and Waring Road. The Melrose Drive northern extension between North River Road and SR76 is not included. The Rancho Del Oro Road/SR78 Interchange, Melrose Drive between Spur Avenue and N. Santa Fe Avenue, and the Pala Road extension are assumed per the currently adopted Circulation Element.

Alternative D: Assumes the Rancho Del Oro Road/SR78 Interchange would not be included in this scenario. College Boulevard is a hybrid of both 4 and 6 lanes. College Boulevard would be 6 lanes between Avenida de la Plata and Olive Drive. It would remain 4 lanes between Olive Drive and Waring Road. The Melrose Drive extensions between North River Road and SR76 and Spur Avenue and North Santa Fe Avenue are not included. The Pala Road is assumed per the currently adopted Circulation Element.

Alternative E: Assumes the Rancho Del Oro Road/SR78 Interchange would not be included in this scenario. College Boulevard is a hybrid of both 4 and 6 lanes. College Boulevard would be 6 lanes between Avenida de la Plata and Olive Drive. It would remain 4 lanes between Olive Drive and Waring Road. The Melrose Drive extensions between North River Road and SR76 and Spur Avenue and North Santa Fe Avenue are not included. This scenario does not include the Pala Road connection to Foussat Road.

It should be noted that State Route 76 is six-lanes from I-5 to Melrose Drive in all five alternatives. SR76 is assumed to be six lanes in the future as stated in the currently adopted Circulation Element. If SR76 were to remain as four-lanes, it would result in major congestion and deficient roadway levels of service on the expressway. Therefore, it was not deemed necessary to analyze SR76 as four-lanes in any of the five alternatives. In addition, the Old Ranch Road connection between Guajome Lake Road and Melrose Drive and the Jeffries Ranch Road connection to SR76 is not included in any of the five alternatives.

Table 2-1
Five Focused Potential Network Alternatives Key Network Assumptions

Roadway	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
State Route 76	6 Lanes	6 Lanes	6 Lanes	6 Lanes	6 Lanes
Rancho Del Oro Rd/SR78 Interchange	**Not Included**	Included	Included	**Not Included**	**Not Included**
College Boulevard	6 Lanes	6 Lanes	**4 and 6 Lane Hybrid**	**4 and 6 Lane Hybrid**	**4 and 6 Lane Hybrid**
Melrose Drive: N. River Rd to SR76	Extension Included	**Extension Not Included**	**Extension Not Included**	**Extension Not Included**	**Extension Not Included**
Melrose Drive: Spur Ave to N. Santa Fe Ave	Extension Included	**Extension Not Included**	Extension Included	**Extension Not Included**	**Extension Not Included**
Pala Road	Connection Included	Connection Included	Connection Included	Connection Included	**Connection Not Included**
Old Ranch Road	**Connection Not Included**	**Connection Not Included**	**Connection Not Included**	**Connection Not Included**	**Connection Not Included**
Jeffries Ranch Road*	**Connection Not Included**	**Connection Not Included**	**Connection Not Included**	**Connection Not Included**	**Connection Not Included**

Notes:

Bold and Red text under alternatives columns indicates a change from the adopted 1995 Circulation Element future network.

*The closure of Jeffries Ranch Road has been reviewed under a separate study & potentially could provide right-in/out access to SR76 should a funding source be identified.

2.4 TWO SELECTED NETWORK ALTERNATIVES

The five scenarios were reviewed by City staff and presented at the public meetings with the understanding that two of the alternatives or two variations of the five would be selected for further detailed analysis. The input received from the community on the alternatives varied but several pieces of the network were specifically a point of concern. The network elements of major concern for the residents of Oceanside were:

- Melrose Drive Extensions (SR76 to N. River Rd; Spur Ave to N. Santa Fe Ave.)
- Rancho Del Oro Rd/SR78 Interchange
- College Boulevard (Avenida de la Plata to Waring Rd)

Throughout the review and selection process, there were additional studies conducted that would affect the Circulation Element network. These included Coast Highway as a two-lane roadway with roundabouts at key intersections as part of the Coast Highway Vision & Strategic Plan and Mission Avenue as a one-way two-lane couplet between Cleveland Street and Clementine Street as part of the Mission Avenue Corridor Improvements (One-Way Couplet Study). These two projects were determined necessary to include in the two final network alternatives selected. Based on all the information gathered and community input received, two alternatives were created to move forward for detailed analysis. The two alternatives selected reflect the best combination of the network alternatives to analyze the potential network links of key concern to the City and the community. Both Alternatives 1 and 2 will be compared to the Modified 1995 Circulation Element Scenario.

Alternative 1: Alternative 1 is a variation of Alternative C with some additional changes to Mission Avenue. Alternative 1 assumes that Mission Avenue would be reconfigured to a one-way two-lane couplet between Cleveland Street and Clementine Street. Alternative 1 assumes that SR76 will remain as six-lanes. The Rancho Del Oro Road/SR78 interchange is included. It assumes that College Boulevard is a hybrid of both 4 and 6 lanes. College Boulevard would be 6 lanes between Avenida de la Plata and Olive Drive, but it would remain 4 lanes between Olive Drive and Waring Road. The Melrose Drive northern extension between North River Road and SR76 is not included; however, the southern extension between Spur Avenue and North Santa Fe Avenue is included. The Pala Road connection to Foussat Road is included. It also assumes the Old Ranch Road connection and Jeffries Ranch Road connection to SR76 would not be included.

Alternative 2: Alternative 2 is essentially the same as Alternative E with additional changes to Mission Avenue and Coast Highway. It assumes that Mission Avenue between Cleveland Street and Clementine Street would be a four-lane secondary collector and not a four-lane major as is currently shown in the Circulation Element. It also assumes that Coast Highway would have two lanes between Harbor Drive and the southern City limits with roundabouts at key intersections and not a four-lane secondary collector. Similar to Alternative E, Alternative 2 assumes that SR76 will remain as six-lanes. It also assumes the Rancho Del Oro Road/SR78 Interchange would not be included. College Boulevard is a hybrid of both 4 and 6 lanes where it would be 6 lanes between Avenida de la Plata and Olive Drive, but it would remain 4 lanes between Olive Drive and Waring Road. The Melrose Drive extensions between North River Road and SR76 and Spur Avenue and North Santa Fe Avenue are not included. Alternative 2 also does not include the Pala Road connection to Foussat Road. It also assumes the Old Ranch Road connection and Jeffries Ranch Road connection to SR76 would not be included.

Table 2-2 summarizes the two selected alternatives. Figure 2.1 highlights the Alternative 1 network assumptions, and Figure 2.2 highlights the Alternative 2 network assumptions. Both Alternatives 1 and 2 will be compared to the Modified 1995 Circulation Element Scenario.

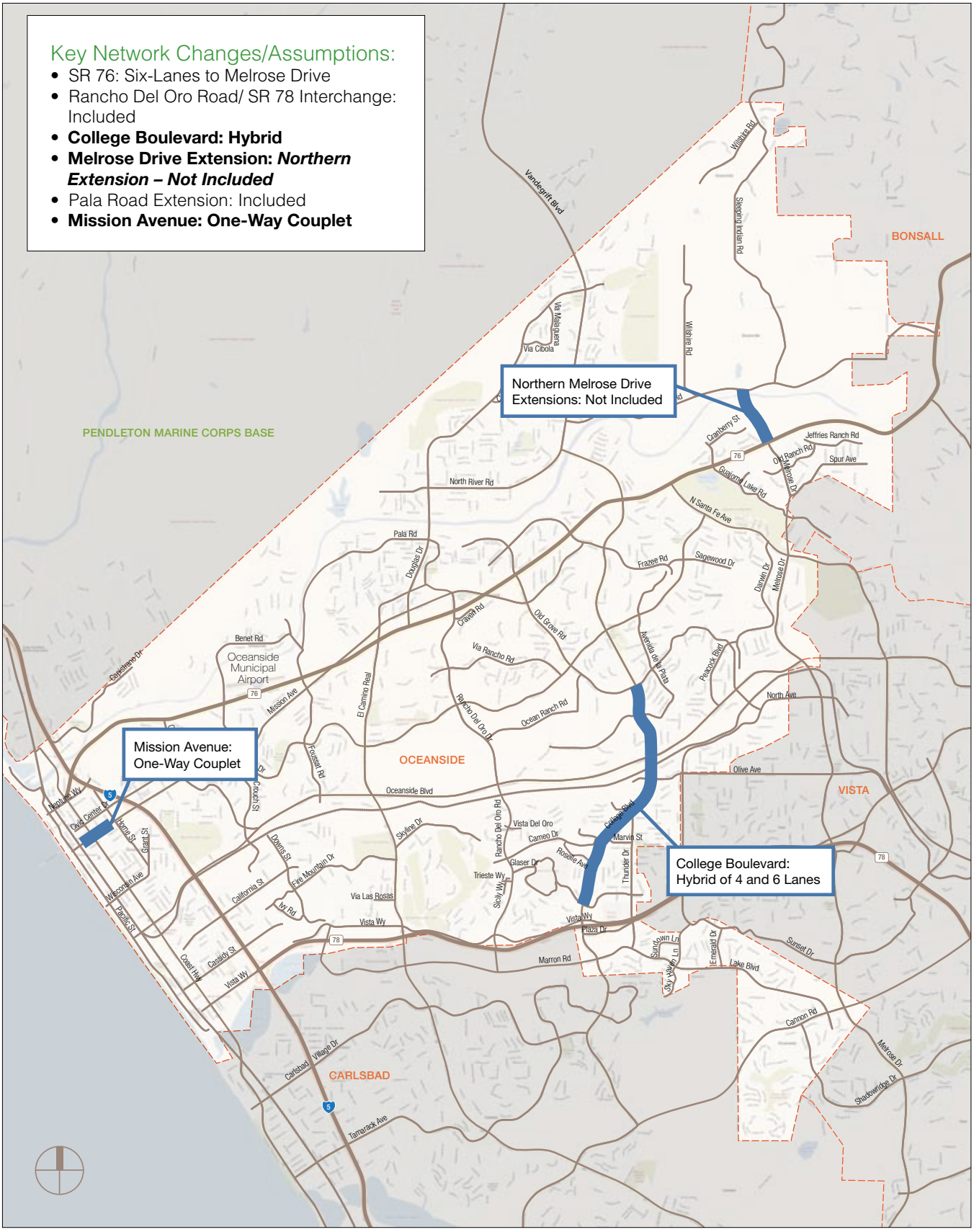
Table 2-2
Two Selected Network Alternatives Key Network Assumptions

Roadway	Alternative 1	Alternative 2
State Route 76	6 Lanes	6 Lanes
Rancho Del Oro Rd/SR78 Interchange	Included	**Not Included**
College Boulevard	**4 and 6 Lane Hybrid**	**4 and 6 Lane Hybrid**
Melrose Drive: N. River Rd to SR76	**Extension Not Included**	**Extension Not Included**
Melrose Drive: Spur Ave to N. Santa Fe Ave	Extension Included	**Extension Not Included**
Pala Road	Connection Included	**Connection Not Included**
Mission Avenue	**One-Way Couplet btwn Cleveland St & Clementine St**	**4 Lane Secondary Collector**
Coast Highway	4 Lane Secondary Collector	**2 Lanes with Roundabouts**
Old Ranch Road	**Connection Not Included**	**Connection Not Included**
Jeffries Ranch Road*	**Connection Not Included**	**Connection Not Included**

Notes:

Bold and Red text under alternatives columns indicates a change from the adopted 1995 Circulation Element future network.

*The closure of Jeffries Ranch Road has been reviewed under a separate study & potentially could provide right-in/out access to SR76 should a funding source be identified.



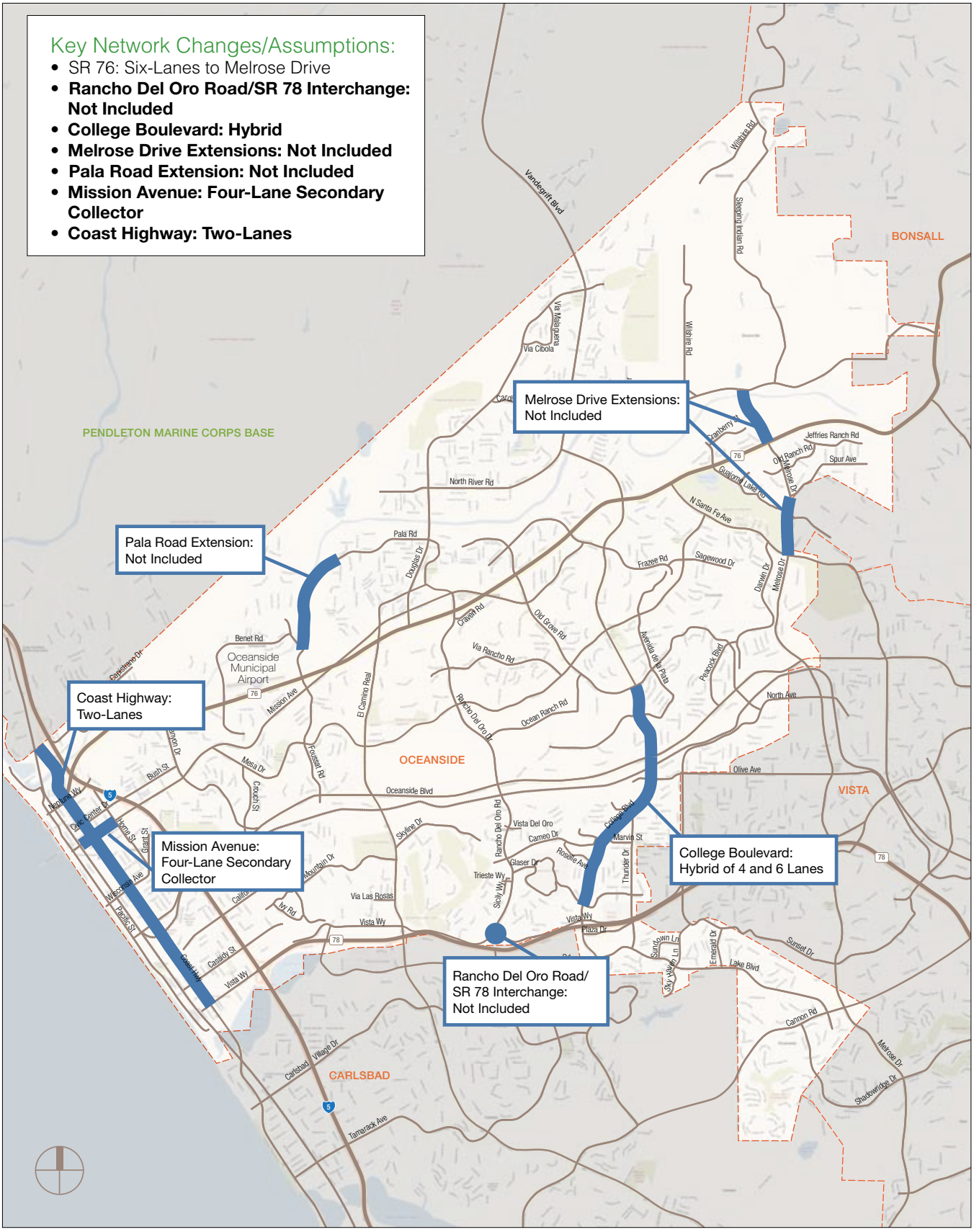
Note: This network represents the current adopted 1995 Circulation Element future roadway network with modifications as highlighted. Neighboring cities, Carlsbad and Vista Circulation Element future roadway networks are also shown.

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City of Oceanside Circulation Element

Alternative 1 Year 2030 Network Assumptions

Figure 2.1


Key Network Changes/Assumptions:
• SR 76: Six-Lanes to Melrose Drive
• Rancho Del Oro Road/SR 78 Interchange: Not Included
• College Boulevard: Hybrid
• Melrose Drive Extensions: Not Included
• Pala Road Extension: Not Included
• Mission Avenue: Four-Lane Secondary Collector
• Coast Highway: Two-Lanes
Melrose Drive Extensions: Not Included
Pala Road Extension: Not Included
Coast Highway: Two-Lanes
Mission Avenue: Four-Lane Secondary Collector
College Boulevard: Hybrid of 4 and 6 Lanes
Rancho Del Oro Road/ SR 78 Interchange: Not Included
PENDLETON MARINE CORPS BASE
BONSALL
OCEANSIDE
VISTA
CARLSBAD
Oceanside Municipal Airport
Vandegrift Blvd
Via Cibola
Via Mataguay
Wilshire Rd
Old Ranch Rd
Jeffries Ranch Rd
Spur Ave
Guajome Lake Rd
North River Rd
N Santa Fe Ave
Pala Rd
Douglas Dr
Craven Rd
Old Grove Rd
Via Rancho Rd
Frazee Rd
Sagewood Dr
Melrose Dr
Benet Rd
Mission Ave
El Camino Real
Rancho Del Oro Dr
Ocean Ranch Rd
Avenida de la Plata
Peacock Blvd
North Ave
Olive Ave
Oceanside Blvd
Mesa Dr
Foussat Rd
Bush St
Grant St
Skyline Dr
Vista Del Oro
Cameo Dr
Glaser Dr
Trieste Wy
Sicily Wy
Marvin St
Thunder Dr
Rancho Del Oro Rd
College Blvd
Mountain Dr
Via Las Rosas
Ivy Rd
Vista Wy
Vista Wy Plaza Dr
Sunset Dr
Lake Blvd
Cannon Rd
Shadowridge Dr
Carlsbad Village Dr
Tamarack Ave
Cassidy St
Paseo Del Norte
Carlsbad Blvd
Carlsbad Blvd
Cypress Canyon Rd
Jefferson St
Harbor Dr
Newport Wy
Cove Center Dr
Jones St
Grant St
Wesmere Ave
Ramona St
Cassidy St
Vista Wy
Ivy Rd
Via Las Rosas
Mountain Dr
Skyline Dr
Vista Del Oro
Cameo Dr
Glaser Dr
Trieste Wy
Sicily Wy
Marvin St
Thunder Dr
Rancho Del Oro Rd
College Blvd
Vista Wy Plaza Dr
Sunset Dr
Lake Blvd
Cannon Rd
Shadowridge Dr
Carlsbad Village Dr
Tamarack Ave

3.0 CIRCULATION ELEMENT ROADWAY CLASSIFICATIONS

The Circulation Element contains a circulation plan that uses a hierarchy of roadway classifications. Each classification is described by size and function and has specific physical dimensions and characteristics. The Circulation Element establishes eight roadway classifications of arterial roadways. The following are brief descriptions of each classification.

3.1 DESCRIPTIONS

Expressway - It is designed to provide express direct travel through or around a city with several lanes of travel in each direction. It is a multilane roadway that is often a divided highway for through traffic with fully controlled access to intersections and with grade separations at most intersections (except SR76 which has mostly at-grade intersections). Expressways are constructed and maintained by the California Department of Transportation (Caltrans). Expressways in the City of Oceanside are generally four or six lanes. The Caltrans Highway Design Manual (Index 405.5) states that median opening (includes intersections) should be spaced at intervals no closer than 1,600 feet. The cross section for an expressway is 102/160 or 122/200 feet (curb-to-curb/total right-of-way width).

Prime Arterial - It is designed to provide regional, sub-regional, and intra-city travel. It includes high design standards with six lanes of travel, raised and landscaped medians, 8-foot shoulders, highly restricted direct access, and on-street parking is not allowed. The cross section for a prime arterial is 104/124 feet (curb-to-curb/total right-of-way width).

Major Arterial - It is designed to provide intra-city and sub-regional service. Direct access is allowed, but selectively restricted to assure proper function of the roadway. Typical design standards include the provision of four or six lanes of travel with a raised and landscaped median, 8-foot shoulders for emergency parking and bike lanes, and left turn lanes are typically protected along the roadway. The cross section of a major arterial is 102/122 or 104/124 feet (curb-to-curb/total right-of-way width).

Secondary Collector - It is designed for intra-city travel as a link between arterial and collector roadways. It frequently provides direct access to abutting properties; however, that is not its primary purpose. The typical design features include the provision of four travel lanes with a center two-way left turn lane and includes bike lanes or four lanes with left turn pockets without a raised median. The cross section of a secondary collector is 64/84 (curb-to-curb/total right-of-way width) with a two-way left-turn lane and 54/74, 60/80 feet without a two-way left-turn lane.

Collector - It is designed to connect local streets with the adjacent arterial street network. The design standards typically include the provision for two travel lanes and on-street parking is allowed, except in specific locations where parking is removed to provide turn lanes at intersections. Collector streets frequently provide direct access to abutting properties, although the desire is to limit access where possible to reduce conflict. Collectors are generally two lanes with or without a center two-way left turn lane. The cross section of a collector is 50/70 (curb-to-curb/total right-of-way width) with a two-way left-turn lane and 40/60, 50/70 feet without a two-way left-turn lane.

Local Street - It is designed to provide direct access to abutting properties and to provide connection between neighborhood streets and the collector street network. The Local Street is

commonly discontinuous to discourage through trips. The typical design standards include the provision for two travel lanes, parking lanes on both sides of the street, and direct driveway access. The cross section of a local street is 36/56 or 40/60 (curb-to-curb/total right-of-way width).

3.2 ROADWAY VOLUME CAPACITIES

The available and utilized capacity of a roadway is typically characterized by level of service (LOS). Level of service designations are based on a volume-to-capacity ratio, and range from "A" to "F." Level of service is a way to measure a roadway's congestion in the form of delay. The volume-to-capacity ratio is the total volume of traffic compared to the design capacity of the roadway. The goal is to provide the right balance of paved roadway to serve the surrounding uses with an acceptable amount of peak period delay.

Each classification in the Circulation Element hierarchy of arterial roadways has a design capacity and associated level of service thresholds in the form of known traffic volumes on an average daily basis. In preparation for the Circulation Element update, the City of Oceanside reviewed their current roadway classification level of service and capacity thresholds. The 1995 Oceanside Circulation Element shows that the acceptable level of service for roadways is LOS C. After a review of the roadway level of service standards and capacities throughout the San Diego region, it was determined that LOS D is the acceptable level of service standard in the San Diego region and in other coastal cities in Southern California. Therefore, based on the research conducted and review by City staff, the level of service standard for roadways is now LOS D in the City of Oceanside. The proposed LOS D threshold will be included and adopted with the updated Circulation Element. The LOS D threshold is also used for the analysis within this traffic impact analysis report. The recommended levels of service and volume capacity for the Circulation Element roadways are shown in Table 3-1.

Table 3-1
Circulation Element Roadway Classification LOS & Capacity

Class	Lanes	Cross Section[1]	Level of Service				
			A	B	C	D	E
Expressway	6	102/160, 122/200	30,000	42,000	60,000	70,000	80,000
Expressway	4	102/160, 122/200	25,000	35,000	50,000	55,000	60,000
Prime Arterial	6	104/124	25,000	35,000	50,000	55,000	60,000
6-Lane Major Arterial	6	104/124	20,000	28,000	40,000	45,000	50,000
5-Lane Major Arterial[2]	5	102/122	17,500	24,500	35,000	40,000	45,000
4-Lane Major Arterial	4	80/100	15,000	21,000	30,000	35,000	40,000
Secondary Collector (4 lanes with 2-way left turn lane)	4	64/84	10,000	14,000	20,000	25,000	30,000
Secondary Collector (4 lanes without 2-way left-turn lane, with left turn pockets)	4	54/74, 60/80	9,000	13,000	18,000	22,000	25,000
Collector (commercial fronting, 2-lanes with 2-way left turn lane)[3]	2	50/70	5,000	7,000	10,000	13,000	15,000
Collector (residential streets in the Circulation Element or industrial fronting)	2	40/60, 50/70	4,000	5,500	7,500	9,000	10,000
Local Street (residential streets NOT in the Circulation Element)	2	36/56, 40/60	—	—	2,200	—	—

Note:

1. Cross sections are listed as curb-to-curb width/total right-of-way width, in feet.
2. Vandegrift Boulevard is the only roadway designated as a 5-Lane Major Arterial. It is not intended that other roadways be built to 5-lane Major Arterial standards.
3. This capacity will also be assumed for two-lane one-way collectors.

4.0 ANALYSIS METHODOLOGY

The traffic analysis conducted for the Circulation Element update has been prepared consistent with the City of Oceanside adopted 1995 Circulation Element and Traffic Study Guidelines.

The traffic study includes an assessment of traffic conditions for the Modified 1995 CE network currently in the Circulation Element and two selected network alternatives at 50 existing study intersections for the following analysis timeframes:

- Existing
- Modified 1995 CE: Year 2030
- Alternative 1: Year 2030
- Alternative 2: Year 2030

4.1 SEGMENT ANALYSIS & PERFORMANCE CRITERIA

The efficiency of traffic operations is measured in terms of Level of Service (LOS). The LOS refers to the quality of traffic flow along roadways. Evaluation of roadways involves the assignment of grades from "A" to "F," with LOS A representing the lowest level of congestion and LOS F representing extremely congested and restricted operations. The LOS level is determined by measuring the ratio of volume-to-capacity (V/C) based on the roadway classification and design. The analysis of the roadway segments is based on the guidelines set forth in the City of Oceanside Circulation Element and the Oceanside LOS criteria for roadway segments. Table 3-1 (*Section 3.2*) shows the LOS thresholds and roadway classification table for the Oceanside Circulation Element update.

Based on discussion with the City and a review of the roadway level of service standards and capacities throughout the San Diego region and southern California, it was determined that LOS D should be used as the segment level threshold for acceptable LOS in this study.

For facilities that are forecast to operate at a deficient LOS in the final selected preferred alternative condition, mitigation measures are recommended to return the LOS value back to an acceptable level of service. The City of Oceanside may decide to give a statement of overriding consideration for a facility with unavoidable significant impacts that cannot be mitigated to achieve the desirable LOS threshold. According to the California Environmental Quality Act, the City must state the specific reasons supporting the action based on the Final EIR or other substantial evidence in the record.

4.2 INTERSECTION ANALYSIS & PERFORMANCE CRITERIA

The efficiency of intersections operations is measured in terms of seconds of average delay and LOS. Also, the evaluation of intersections involves the assignment of grades from "A" to "F." The Highway Capacity Manual (HCM) LOS for intersections is determined by measuring delay by seconds per vehicle. Each LOS letter grade corresponds to a range of second/vehicle delay values, which are described in Tables 4-1 and 4-2 for signalized and unsignalized intersections, respectively.

Based on the current Circulation Element, LOS D is the acceptable threshold for intersections during peak hour operations. For intersections that are projected to be deficient in the final

selected preferred alternative scenario, mitigation measures are recommended to return the LOS value back to an acceptable level of service (unless there are overriding considerations).

Intersection Level of Service analysis was performed using Synchro (version 7) software. Synchro is a network-based interactive computer program that enables calculation of levels of service at signalized and unsignalized intersections. Synchro also calculates signal timing (green times and cycle lengths) and maximum queue lengths to assist in evaluating signalized intersections. In addition, intersection analysis was performed using Traffix (version 7.9) for all-way stop controlled intersections with more than two-lanes per intersection leg. Traffix is an interactive computer program that enables the calculation of levels of service at signalized and unsignalized intersections for a large number of intersections and scenarios that can be stored in a single database.

For signalized intersections, the methodology described in HCM 2000, Chapter 16 for signalized intersections is used. With this methodology, the average control delay per vehicle is estimated for each lane group and aggregated for each approach and for the intersection as a whole. The relationship between control total delay and LOS for signalized intersections is summarized in Table 4-1.

For unsignalized intersections, the methodology described in HCM 2000, Chapter 17 for unsignalized intersections is used. With this methodology, LOS is related to the control delay for each stop-controlled movement. The relationship between control total delay and LOS for unsignalized intersections is summarized in Table 4-2.

Table 4-1
HCM Level of Service Description for Signalized Intersections

Level of Service	Description of Traffic Conditions	Control Delay (sec/veh)
A	Insignificant delays: no approach phase is fully utilized and no vehicle waits longer than one red indication.	≤ 10
B	Minimal delays: an occasional approach phase is fully utilized. Drivers begin to feel restricted.	> 10 – 20
C	Acceptable delays: major approach phase may become fully utilized. Most drivers feel somewhat restricted.	> 20 – 35
D	Tolerable delays: drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays.	> 35 – 55
E	Significant delays: volumes approaching capacity. Vehicles may wait through several cycles and long vehicle queues form upstream.	> 55 – 80
F	Excessive delays: represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	> 80

Source: Highway Capacity Manual, Transportation Research Board, 2000.

Table 4-2
HCM Level of Service Description for Unsignalized Intersections

Level of Service	Description of Traffic Conditions	Control Delay (sec/veh)
A	No delay for stop-controlled approaches.	≤ 10
B	Operations with minor delay.	> 10 – 15
C	Operations with moderate delays.	> 15 – 25
D	Operations with some delays.	> 25 – 35
E	Operations with high delays and long queues.	> 35 – 50
F	Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers.	> 50

Source: Highway Capacity Manual, Transportation Research Board, 2000.

4.3 TRAFFIC COUNT DATA

The existing peak hour intersection count data and 24-hour roadway segment volumes were obtained from the City of Oceanside and commissioned by IBI Group. The existing traffic volumes spanned several years (2005-2009), so a growth rate was applied to counts older than 2008-2009 to normalize the count data to a consistent timeframe.

5.0 EXISTING CONDITIONS

The project study area includes major roadways and intersections located in the City of Oceanside. Descriptions of existing geometric features for roadways and intersections with level of service analysis results are included in this section.

5.1 ROADWAY CONDITIONS

5.1.1 Existing Roadway Network

Roadways within the City of Oceanside are described in this section. Items of note include existing geometry, bicycle facilities, adjacent land uses, and the City of Oceanside Circulation Element roadway classification designation. Figure 5.1 depicts the existing roadway conditions.

Cannon Road is a major arterial between the western city limits and Melrose Drive. It is a four-lane divided roadway that transitions to a two-lane divided roadway west of Leisure Village Drive. Cannon Road primarily provides access to commercial and retail shopping centers and connecting residential streets. Class II bicycle lanes are striped along both sides of the street within the city limits and on-street parking is not permitted. It currently does not connect to Cannon Road in the City of Carlsbad.

Canyon Drive is secondary collector between SR76 and Mission Avenue and a collector with a two-way left-turn lane between Mission Avenue and just west of Crouch Street. It primarily provides access to residential neighborhoods. It is a four-lane undivided roadway between SR76 and Mission Avenue and a two-lane roadway with a continuous two-way left turn lane between Mission Avenue and Oceanside Boulevard. Class II bicycle lanes are striped along both sides of the street within the study area and on-street parking is permitted intermittently between Loma Alta Drive and Crouch Street.

Coast Highway is a collector between Harbor Drive and SR76 and a secondary collector with left turn pockets between SR76 and the southern City limits. It primarily provides access to commercial and retail shopping centers. It is a two-lane undivided roadway between Harbor Drive and SR76 and a four-lane undivided roadway between SR76 and the southern City limits. There are no designated bicycle lanes but on-street parking is permitted.

College Boulevard is a major arterial and provides access to retail/commercial centers and residential neighborhoods. It is a six-lane divided roadway between N. River Road and SR76 (except on the bridge over the San Luis Rey River), a four-lane divided roadway between SR76 and Waring Road, and a six-lane divided roadway between Waring Road and Lake Boulevard, and a four-lane roadway between Lake Boulevard and the southern city limits. Class II bicycle lanes are striped along both sides of the street within the study area and on street parking is permitted between Thunder Drive and Roselle Street.

Douglas Drive is a secondary collector between North River Road and Vandegrift Boulevard and a major arterial between North River Road and SR76. It is a four-lane roadway with a two-way left turn lane between Vandegrift Boulevard and Via Malaguena, and it has a two-way left turn lane or striped median between Via Malaguena and North River Road. It is divided between North River Road and El Camino Real. There is a two-way left turn lane or striped median

between El Camino Real and SR76. Class II bicycle lanes are provided on both sides of the street between Vandegrift Boulevard and Mission Avenue. On-street parking is not permitted.

El Camino Real is a major arterial between Douglas Drive and Oceanside Boulevard and a prime arterial between Oceanside Boulevard and SR78. It provides access to retail/commercial centers and residential neighborhoods. It is a four-lane roadway with a continuous two-way left turn lane between Douglas Drive and Mission Avenue, a four-lane divided roadway between Mission Avenue and Oceanside Boulevard, and a six-lane divided roadway between Oceanside Boulevard and SR78. Class II bicycle lanes are striped along both sides of the street within the study area and on-street parking is not permitted.

Emerald Drive is a secondary collector between Sunset Drive and Lake Boulevard. It is a four-lane roadway with a continuous center two-way left-turn lane. Emerald Drive provides access to residential neighborhoods. Class II bicycle lanes are striped on both sides of the street and on-street parking is not permitted.

Frazee Road is a major arterial between Old Grove Road and College Boulevard and a collector road between College Boulevard and Sagewood Drive and west of Old Grove Road. It is a four-lane divided roadway between Old Grove Road and College Boulevar that primarily provides access to residential neighborhoods. Class II bicycle lanes are striped on both sides of the street and on-street parking is not permitted.

Lake Boulevard is a secondary collector that provides access to residential neighborhoods and retail/commercial centers. It is a four-lane roadway with a continuous two-way left-turn lane; however, it is a two-lane roadway with a continuous two-way left-turn lane between Thunder Drive and Sundown Lane. Class II bicycle lanes are striped on both sides of the street. On-street parking is permitted between Thunder Drive and Sundown Lane.

Melrose Drive is a major arterial between SR76 and Spur Avenue, an unimproved two-lane roadway between North Santa Fe Avenue and Sagewood Drive, a four-lane divided roadway between Sagewood Drive and Meadowbrook Drive and a two-lane unimproved roadway between Meadowbrook Drive and Oceanside Boulevard. It is five lanes (three southbound, two northbound) from Oceanside Boulevard to south of the railroad tracks and transitions to four-lanes within the City of Vista to SR78. It is a six-lane divided roadway within the city limits both north and south of Cannon Road. It provides access to retail/commercial shopping centers and residential neighborhoods. Class II bicycle lanes are striped on both sides of the street and on-street parking is not permitted.

Mesa Drive is a collector between Mission Avenue and Foussat Road and a secondary collector between Foussat Road and N. Santa Fe Avenue. It provides access to residential neighborhoods. It is a two-lane undivided roadway between Mission Avenue and just east of Foussat Road, and a two-lane roadway with a continuous two-way left-turn lane just east of Foussat Road to El Camino Real. It is four-lanes with a continuous two-way left-turn lane east of El Camino Real with raised medians just east and west of Rancho Del Oro Road. The two-way left-turn lane continues east of Rancho Del Oro Road to Via Empressa where it becomes a divided roadway with medians to College Boulevard. It is a four-lane roadway with a continuous two-way left-turn lane east of College Boulevard to N. Santa Fe Avenue. Class II bicycle lanes are striped along both sides of the street between Foussat Road and N. Santa Fe Avenue. On-street parking is not permitted.

Mission Avenue is a secondary collector between Pacific Street and Horne Street and a major arterial between Horne Street and just west of Rancho Del Oro Road. It provides access to commercial and retail shopping centers and districts. It also provides access to the beach and Oceanside Pier parking lots. Mission Avenue is a four-lane divided roadway between Pacific Street and Cleveland Street, a four-lane undivided roadway between Cleveland Street and Horne Street, and a four-lane divided roadway from Horne Street to just west of Rancho Del Oro Road. Mission Avenue becomes a two lane divided road between just west of Rancho Del Oro Road and west of Old Grove Road. It is a four-lane divided roadway west of Old Grove Road to Frazee Road; however, a section of Mission Avenue between Old Grove Road and Valley Heights Road is only two-lanes. Class II bicycle lanes are striped along both sides of the street between I-5 and Frazee Road and on-street parking is not permitted.

North Avenue is a secondary collector that provides access to residential neighborhoods, office complexes, and serves a connection to the City of Vista. It is a two-lane undivided roadway between Olive Drive and Seasons Road, a two-lane roadway with a center continuous two-way left-turn lane from Seasons Road to just west of Maryland Drive, and primarily a two-lane undivided roadway between Maryland Drive and Melrose Drive. Class II bicycle lanes are provided on western/southern side of North Avenue between Olive Drive and Seasons Drive. Class II bicycle lanes are also provided on both sides of the street between Seasons Drive and Lee Drive and on the southern side of North Avenue between Lee Drive and Maryland Drive. On-street parking is not permitted except between Lee Drive and Maryland Drive on the northern side of the street.

North River Road is a major arterial between Douglas Drive and Vandegrift Boulevard and a collector east of Vandegrift Boulevard to the city limits. It primarily provides access to residential neighborhoods. It is a four-lane divided roadway between Douglas Drive and Vandegrift Boulevard, a continuous two-lane with two-way left turn lane between Vandegrift Boulevard and Stallion Drive and a two-lane undivided roadway between Stallion Drive and the eastern city limits. Class II bicycle lanes are striped along both sides of the street between Douglas Drive and College Boulevard. On-street parking is not permitted.

North Santa Fe Avenue is a major arterial between SR76 and the eastern city limits. It primarily provides access to residential neighborhoods. It is a four-lane divided roadway between SR76 and the eastern city limits. Class II bicycle lanes are striped on both sides of the street between Mesa Drive and Melrose Drive. On-street parking is not permitted.

Oceanside Boulevard is a collector between Pacific Street and Coast Highway, a secondary collector between Coast Highway and El Camino Real, a prime arterial between El Camino Real and College Boulevard, and a major arterial between College Boulevard and the eastern city limits. It provides access to industrial, residential, and retail/commercial centers. It is a two-lane undivided roadway between Pacific Street and Coast Highway, a four-lane undivided roadway between Coast Highway and I-5, a four-lane roadway with a continuous two-way left turn lane between I-5 and El Camino Real, a six-lane undivided roadway between El Camino Real and Rancho Del Oro Road, a six-lane divided roadway between Rancho Del Oro Road and College Boulevard, and a four-lane divided roadway between College Boulevard and the eastern city limits. Class II bicycle lanes are provided on both sides of the street and on-street parking is not permitted.

Old Grove Road is a collector north of Frazee Road, a major arterial between Frazee Road and College Boulevard, and a collector between College Boulevard and Pine Ridge Road. It provides access to residential neighborhoods, retail/commercial centers, and to the Rancho Del Oro Industrial Park. It is a two-lane undivided roadway north of Frazee Road, a four-lane divided roadway between Frazee Road and College Boulevard, and a two-lane divided roadway between College Boulevard and Pine Ridge Road. There are Class II bicycle lanes striped along both sides of the street and on-street parking is not permitted.

Olive Drive is a secondary collector that primarily provides access to residential neighborhoods and serves as a connection to the City of Vista. It is a four-lane roadway with a center continuous two-way left-turn lane. There are no designated bicycle lanes and on-street parking is not permitted.

Pala Road is a secondary collector roadway from Douglas Drive to its westerly terminus and a collector east of Douglas Drive. It primarily provides access to residential neighborhoods. It is a two-lane roadway with a continuous two-way left turn lane. Class II bicycle lanes are striped along both sides of the street within the study area and on-street parking is not permitted. It currently does not connect to Foussat Road.

Plaza Drive is a secondary collector to just east of SR78 Eastbound on/off-ramps. It provides access to retail/commercial centers and access to the SR78 and the City of Vista. It is primarily a four-lane divided roadway between College Boulevard and just west of the SR78 Eastbound on/off ramp. It is unimproved from just east of SR78 Eastbound on/off-ramps to just west of Thunder Drive. From Thunder Drive to the eastern city limits, it is three lanes (two eastbound and one westbound) with a continuous two-way left-turn lane. There are no designated bicycle lanes within the study area, and on-street parking is not permitted.

Rancho Del Oro Drive/Road is a major arterial and primarily provides access to residential neighborhoods, a school, and Ocean Ranch Industrial Park. However, south of Oceanside Boulevard Rancho Del Oro Road does not operate as a four-lane major arterial but is more rural in character with stop controlled intersections leading to Vista Way with the exception of one traffic signal at Glaser Drive. It is a four-lane divided roadway. There are Class II bicycle lanes striped along both sides of the street and on-street parking is not provided.

Vandegrift Boulevard is a major arterial and provides access to commercial shopping centers and residential neighborhoods. It is a five-lane divided roadway between College Boulevard and the back gate of Camp Pendleton with three lanes northbound and two lanes southbound between College Boulevard and Douglas Drive. It is two lanes northbound and three lanes southbound between Douglas Drive and the back gate of Camp Pendleton. Vandegrift Boulevard provides access to residential neighborhoods, small commercial shopping, and direct access to Camp Pendleton to the north. Class II bicycle lanes are striped along both sides of the street and on-street parking is not permitted.

Vista Way is a secondary collector and provides access to residential neighborhoods and retail/commercial centers. It is a four-lane roadway with a continuous two-way left turn lane between Jefferson Street and the eastern city limits. Vista Way is a two-lane roadway with a continuous two-way left turn lane from Coast Highway to I-5/SR78 Interchange. Class II bicycle lanes are provided on both sides of the street and on-street parking is not permitted.

State Route 76 is an expressway between I-5 and Melrose Drive and a major arterial east of Melrose Drive. It is a four-lane divided expressway between I-5 and Melrose Drive and a two-lane undivided roadway east of Melrose Drive. SR76 is currently under construction east of Melrose Drive to be widened to a four-lane roadway. Class II bicycle lanes are striped along both sides of the street within the study area and on-street parking is not permitted.

5.1.2 Existing Average Daily Traffic (ADT) and Roadway Level of Service (LOS)

Average Daily Traffic (ADT) volumes for the study area network are summarized in Table 5-1. As seen in Table 5-1, the following roadway segments operate at a deficient LOS:

- Coast Highway: Wisconsin Avenue to Oceanside Boulevard (LOS E)
- College Boulevard: Old Grove Road to Oceanside Boulevard (LOS E)
- College Boulevard: Oceanside Boulevard to Olive Drive (LOS F)
- College Boulevard: Olive Drive to Thunder Drive (LOS E)
- Lake Boulevard: Thunder Drive to Sundown Lane (LOS E)
- Oceanside Boulevard: I-5 to Crouch Street (LOS E)
- Oceanside Boulevard: Crouch Street to Foussat Road (LOS F)
- Oceanside Boulevard: Foussat Road to El Camino Real (LOS E)
- Vista Way: Coast Highway to I-5 (LOS F)
- Vista Way: College Boulevard to SR78 WB Ramps (LOS E)
- SR76: Melrose Drive to Eastern City Limits (LOS F)

Figure 5.2 depicts the existing segment ADT volumes, and Figure 5.3 shows the roadway level of service operations.

Table 5-1
Existing Segment Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Cannon Road					
Melrose Drive to ~~Western City Limits~~Shadowridge Drive	4D	Major Arterial	40,000	10,400	A
Canyon Drive					
SR76 to Mission Avenue	4U	Secondary Collector	25,000	5,400	A
Mission Avenue to Oceanside Boulevard	2TWLT	Collector	15,000	8,100	C
Coast Highway					
Harbor Drive to SR76	2U	Collector	10,000	9,000	D
SR76 to Mission Avenue	4U	Secondary Collector	25,000	18,300	D
Mission Avenue to Wisconsin Avenue	4U	Secondary Collector	25,000	21,600	D
Wisconsin Avenue to Oceanside Boulevard	4U	Secondary Collector	25,000	**22,100**	**E**

Table 5-1
Existing Segment Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Oceanside Boulevard to Cassidy Street	4U	Secondary Collector	25,000	20,400	D
Cassidy Street to Vista Way	4U	Secondary Collector	25,000	19,600	D
Vista Way to Southern City Limits	4U	Secondary Collector	25,000	17,900	C
College Boulevard					
N. River Road to SR76	6D	Major Arterial	50,000	38,500	C
SR76 to Frazee Road	4D	Major Arterial	40,000	30,300	D
Frazee Road to Mesa Drive	4D	Major Arterial	40,000	32,700	D
Mesa Drive to Old Grove Road	4D	Major Arterial	40,000	29,000	C
Old Grove Road to Oceanside Boulevard	4D	Major Arterial	40,000	**38,200**	**E**
Oceanside Boulevard to Olive Drive	4D	Major Arterial	40,000	**46,700**	**F**
Olive Drive to Thunder Drive	4D	Major Arterial	40,000	**35,800**	**E**
Thunder Drive to Waring Road	4D	Major Arterial	40,000	31,100	D
Waring Road to Vista Way	6D	Major Arterial	50,000	40,200	D
Vista Way to SR78	6D	Major Arterial	50,000	38,300	C
SR78 to Plaza Drive	6D	Major Arterial	50,000	40,500	D
Plaza Drive to Lake Boulevard	6D	Major Arterial	50,000	33,800	C
Lake Boulevard to Southern City Limits	4D	Major Arterial	40,000	24,300	C
Douglas Drive					
Vandegrift Boulevard to Via Malaguena	4D/U	Secondary Collector	30,000	8,200	A
Via Malaguena to Cardiff Bay Drive	2D	Collector	10,000	8,200	D
Cardiff Bay Drive to N. River Road	4TWLT	Secondary Collector	30,000	14,100	C
N. River Road to Pala Road	4D	Major Arterial	40,000	32,700	D
Pala Road to El Camino Real	4D	Major Arterial	40,000	35,000	D
El Camino Real to Mission Avenue	4TWLT	Secondary Collector	30,000	21,000	D
Mission Avenue to SR76	4U	Major Arterial	40,000	20,400	B
El Camino Real					
Douglas Drive to Mission Avenue	4TWLT	Major Arterial	40,000	22,600	C
Mission Avenue to Mesa Drive	4D	Major Arterial	40,000	21,200	C
Mesa Drive to Oceanside Boulevard	4D	Major Arterial	40,000	33,000	D

Table 5-1
Existing Segment Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Oceanside Boulevard to Fire Mountain Road	6D	Prime Arterial	60,000	35,800	C
Fire Mountain Road to Via Las Rosas	6D	Prime Arterial	60,000	36,200	C
Via Las Rosas to Vista Way	6D	Prime Arterial	60,000	43,700	C
Vista Way to SR78	6D	Prime Arterial	60,000	51,100	D
Emerald Drive					
Lake Boulevard to Sunset Dr	4TWLT	Secondary Collector	30,000	2,300	A
Frazee Road					
Old Grove Road to SR76	4D	Major Arterial	40,000	5,500	A
SR76 to College Boulevard	4D	Major Arterial	40,000	9,300	A
College Boulevard to Sagewood Drive	2D/U	Collector	10,000	3,600	A
Lake Boulevard					
College Boulevard to Thunder Drive	4TWLT	Secondary Collector	30,000	13,100	B
Thunder Drive to Sundown Lane	2TWLT	Collector	15,000	**14,800**	**E**
Sundown Lane to Sky Haven Lane	4TWLT	Secondary Collector	30,000	14,800	C
Sky Haven Lane to Cannon Road	4TWLT	Secondary Collector	30,000	13,400	B
Melrose Drive					
SR76 to Spur Avenue	4D	Major Arterial	40,000	9,300	A
N. Santa Fe Avenue to Oceanside Boulevard	2/4D	Major Arterial	40,000	14,300	A
Oceanside Boulevard to City Limits	4D	Major Arterial	40,000	19,400	B
City Limits to Cannon Road	6D	Prime Arterial	60,000	27,400	B
Cannon Road to Southern City Limits	6D	Prime Arterial	60,000	30,000	B
Mesa Drive					
Mission Avenue to Foussat Road	2U	Collector	10,000	5,600	C
Foussat Road to El Camino Real	2TWLT	Collector	15,000	4,700	A
El Camino Real to Rancho Del Oro Road	4U/TWLT/D	Secondary Collector	30,000	13,300	B
Rancho Del Oro Road to Old Grove Road	4TWLT	Secondary Collector	30,000	11,400	B

Table 5-1
Existing Segment Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Old Grove Road to College Boulevard	4TWLT	Secondary Collector	30,000	14,800	C
College Boulevard to N. Santa Fe Avenue	4TWLT	Secondary Collector	30,000	11,800	B
Mission Avenue					
Pacific Street to Coast Hwy	4U	Secondary Collector	25,000	8,500	A
Coast Hwy to Horne Street	4U	Secondary Collector	25,000	8,500	A
Horne Street to I-5	4D	Major Arterial	40,000	15,600	B
I-5 to Canyon Drive	4D	Major Arterial	40,000	27,900	C
Canyon Drive to Mesa Drive	4D	Major Arterial	40,000	23,800	C
Mesa Drive to Foussat Road	4D	Major Arterial	40,000	19,500	B
Foussat Road to El Camino Real	4D	Major Arterial	40,000	23,800	C
El Camino Real to Douglas Drive	4D	Major Arterial	40,000	20,200	B
Douglas Drive to Rancho Del Oro Road	4D	Major Arterial	40,000	25,000	C
Rancho Del Oro Road to Old Grove Road	2U/4U	Secondary Collector	25,000	10,500	B
Old Grove Road to Frazee Road	4TWLT/ U/D & 2U	Secondary Collector	30,000	8,500	A
North Avenue					
Olive Drive to Temple Heights Drive	2TWLT	Collector	15,000	6,600	B
Temple Heights Drive to Melrose Drive	2TWLT	Collector	15,000	3,800	A
North River Road					
Douglas Drive to College Boulevard	4D	Major Arterial	40,000	19,500	B
College Boulevard to Vandegrift Boulevard	5D	Major Arterial	45,000	31,900	C
Vandegrift Boulevard to Stallion	2TWLT	Collector	15,000	10,100	D
Stallion Road to Eastern City Limits	2U	Collector	10,000	4,800	B
North Santa Fe Avenue					
SR76 to Mesa Drive	4D	Major Arterial	40,000	21,800	C
Mesa Drive to Melrose Drive	4D	Major Arterial	40,000	22,700	C
Melrose Drive to Eastern City Limits	4D	Secondary Collector	30,000	15,400	C

Table 5-1
Existing Segment Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Oceanside Boulevard					
Pacific Street to Coast Hwy	2U	Collector	10,000	5,400	B
Coast Highway to I-5	4U	Secondary Collector	25,000	21,700	D
I-5 to Crouch Street	4TWLT	Secondary Collector	30,000	**29,800**	**E**
Crouch Street to Foussat Road	4TWLT	Secondary Collector	30,000	**31,300**	**F**
Foussat Road to El Camino Real	4TWLT	Secondary Collector	30,000	**25,900**	**E**
El Camino Real to Rancho Del Oro Road	6D	Prime Arterial	60,000	29,900	B
Rancho Del Oro Road to College Boulevard	6D	Prime Arterial	60,000	29,700	B
College Boulevard to Melrose Drive	4D	Major Arterial	40,000	25,400	C
Melrose Drive to Eastern City Limits	4D	Major Arterial	40,000	17,900	B
Old Grove Road					
Frazee Road to SR76	4D	Major Arterial	40,000	7,500	A
SR76 to Mission Avenue	4D	Major Arterial	40,000	10,800	A
Mission Avenue to Mesa Drive	4D	Major Arterial	40,000	11,200	A
Mesa Drive to College Boulevard	4D	Major Arterial	40,000	11,600	A
Olive Drive					
College Boulevard to Emerald Drive	4TWLT	Secondary Collector	30,000	16,100	C
Pala Road					
Los Arbolitos Boulevard to Douglas Drive	2TWLT	Collector	15,000	4,900	A
Plaza Drive					
College Boulevard to SR78 EB on/off-ramps	4D	Secondary Collector	30,000	20,000	C
SR78 EB on/off-ramps to Eastern City Limits	4D	Secondary Collector	30,000	14,500	C
Rancho Del Oro Drive					
Mission Avenue to SR76	4D	Major Arterial	40,000	8,900	A
SR76 to Mesa Drive	4D	Major Arterial	40,000	14,300	A
Mesa Drive to Oceanside Boulevard	4D	Major Arterial	40,000	12,400	A
Oceanside Boulevard to Cameo Drive	4D	Major Arterial	40,000	12,600	A

Table 5-1
Existing Segment Volumes

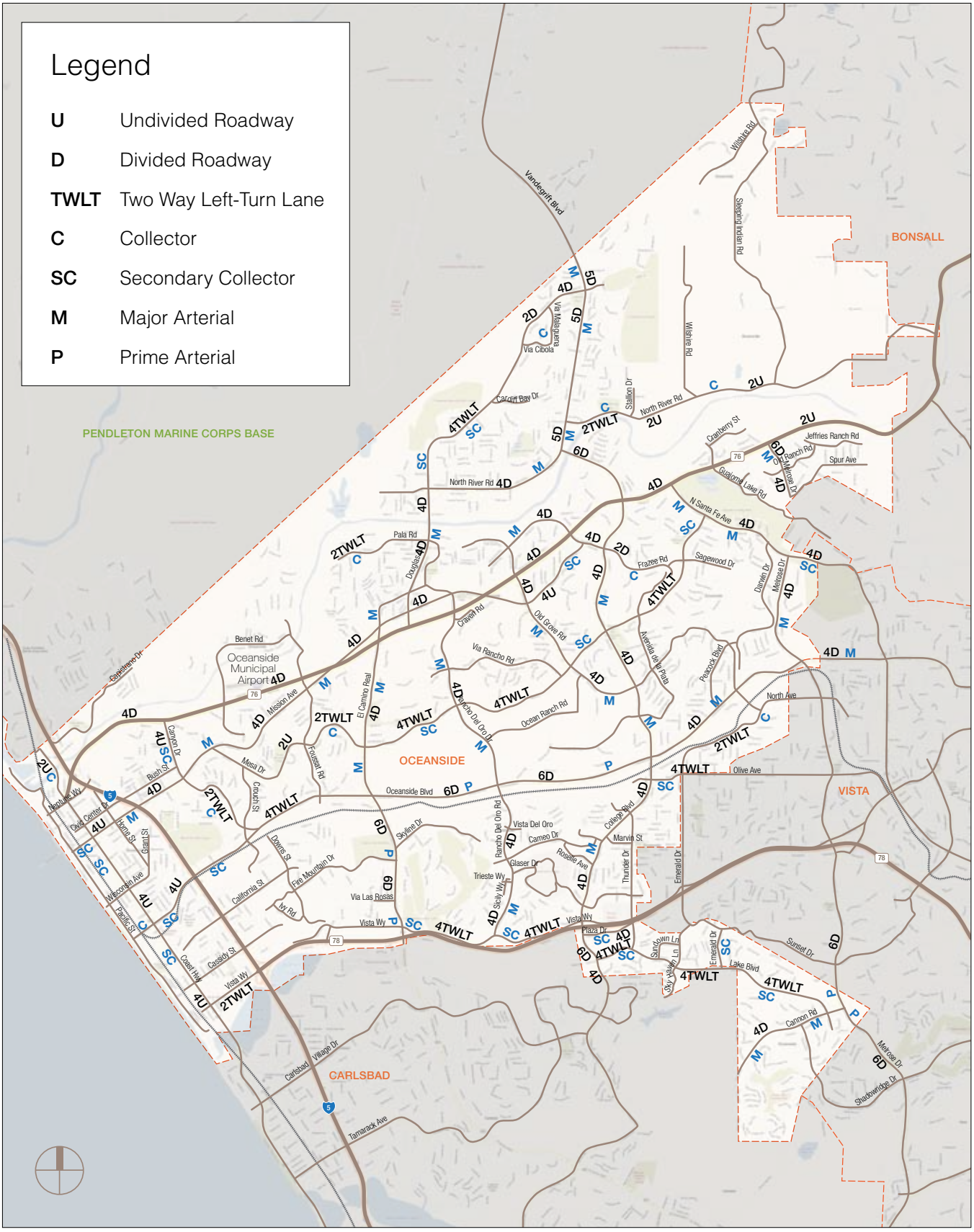
Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Cameo Drive to SR78	4D	Major Arterial	40,000	13,700	A
Vandegrift Boulevard					
Northern City Limits to Douglas Drive	5D	Major Arterial	45,000	21,700	B
Douglas Drive to N. River Road	5D	Major Arterial	45,000	22,800	B
Vista Way					
Coast Highway to I-5	2TWLT	Collector	15,000	**17,400**	**F**
Jefferson Street to El Camino Real	4TWLT	Secondary Collector	30,000	13,500	B
El Camino Real to Rancho Del Oro Road	4TWLT	Secondary Collector	30,000	14,300	C
Rancho Del Oro Road to College Boulevard	4TWLT	Secondary Collector	30,000	20,300	D
College Boulevard to SR78 WB Ramps	4TWLT	Secondary Collector	30,000	**28,000**	**E**
SR78 WB Ramps to Thunder Drive	4TWLT	Secondary Collector	30,000	16,200	C
State Route 76					
I-5 to Canyon Drive	4D	Expressway	60,000	49,500	C
Canyon Drive to Foussat Road	4D	Expressway	60,000	54,000	D
Foussat Road to Douglas Drive	4D	Expressway	60,000	51,000	D
Douglas Drive to Rancho Del Oro Road	4D	Expressway	60,000	45,500	C
Rancho Del Oro Road to Frazee Road	4D	Expressway	60,000	44,000	C
Frazee Road to College Boulevard	4D	Expressway	60,000	44,000	C
College Boulevard to N. Santa Fe Avenue	4D	Expressway	60,000	36,000	C
N. Santa Fe Avenue to Melrose Drive	4D	Expressway	60,000	40,000	C
Melrose Drive to Eastern City Limits	2U	Expressway	30,000	**35,500**	**F**

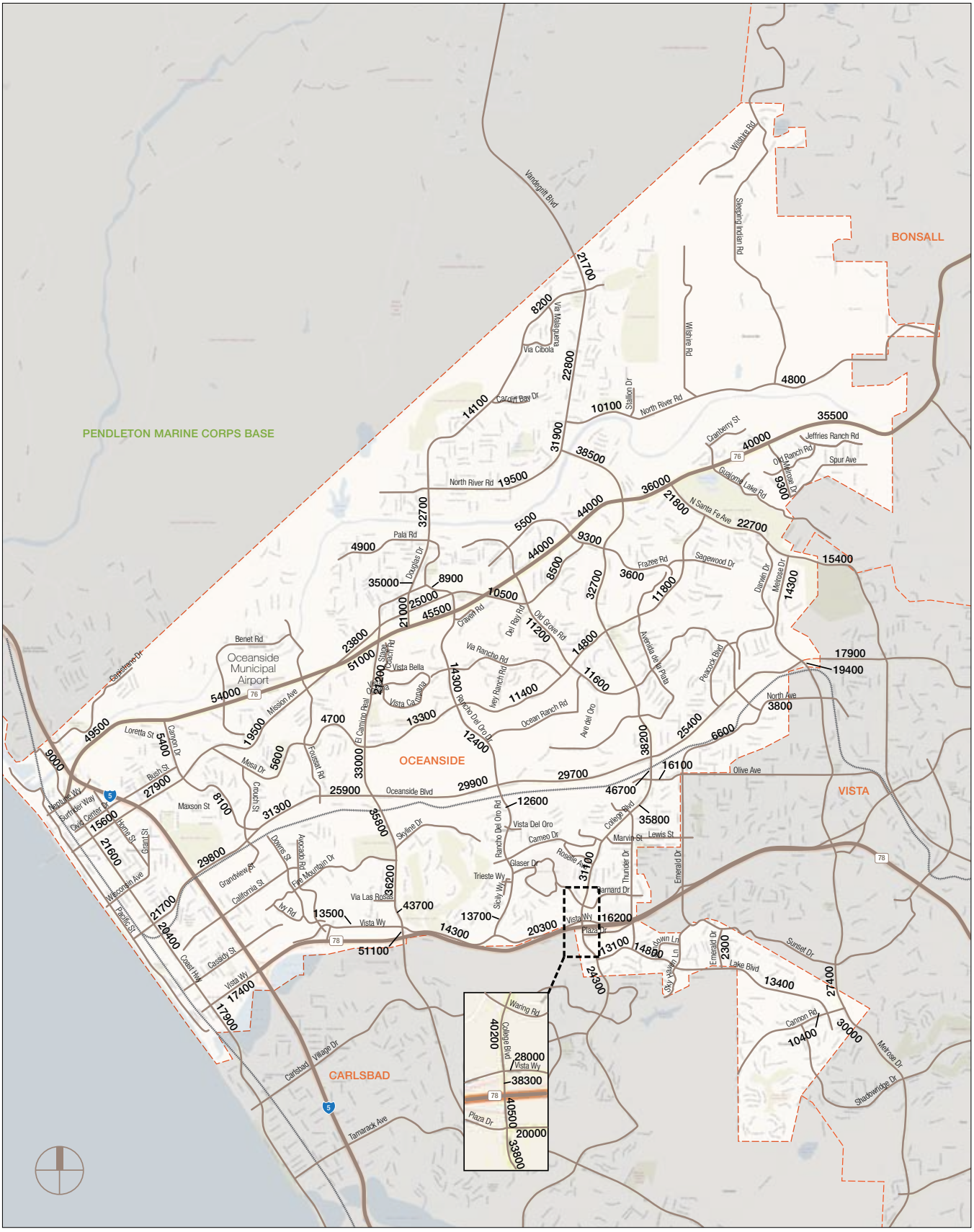
Footnotes:

a. #D – total number of lanes in both directions divided by a raised median; #U – total number of undivided lanes in both lanes, including facilities with a striped median island; and #TWLT – total number of lanes in both directions with a center continuous two-way left turn lane.
b. LOS E capacity is based on criteria established in the City of Oceanside Circulation Element Roadway Capacity Table (2009)
c. ADT – average daily traffic volumes
d. LOS – level of service

Notes:

1. **Bold** indicates an unacceptable level of service.
2. It should be noted that some existing streets are not currently built to their full capacity/classification.


Legend
U Undivided Roadway
D Divided Roadway
TWLT Two Way Left-Turn Lane
C Collector
SC Secondary Collector
M Major Arterial
P Prime Arterial
PENDLETON MARINE CORPS BASE
BONSALL
OCEANSIDE
VISTA
CARLSBAD
Oceanside Municipal Airport
Vandegrift Blvd
Willastra Rd
Stagecoach Park Rd
Via Cibola
Via Mallorca
Cardiff Bay Dr
Stallion Dr
North River Rd
Cranberry St
Jeffries Ranch Rd
Spur Ave
Guajome Lake Rd
Melrose Dr
N Santa Fe Ave
Pala Rd
Douglas Dr
Frazee Rd
Sagewood Dr
Darwin Dr
Benet Rd
Capehorne Dr
Craven Rd
Via Rancho Rd
Old Grove Rd
Avenida de la Plata
Peacock Blvd
North Ave
Mission Ave
El Camino Real
Ocean Ranch Rd
Rancho Del Oro Dr
Canyon Dr
Bush St
Mesa Dr
Foussat Rd
Oceanside Blvd
Olive Ave
College Blvd
Marvin St
Vista Del Oro
Cameo Dr
Glaser Dr
Roselle Ave
Thunder Dr
Emerald Dr
Trieste Wy
Sicily Wy
Via Las Rosas
Fire Mountain Dr
Ivy Rd
Vista Wy
Plaza Dr
Sunset Dr
Lake Blvd
Cannon Rd
Shadowridge Dr
Harbor Dr
Grand St
Morro St
Wisconsin Ave
California St
Downs St
Cassidy St
Coast Hwy
Pacific St
Carlsbad Village Dr
Tamarack Ave
Skyline Dr
Cleveland St
Rancho Del Oro Rd
Via Melodia
Via Cibola
Ranch Rd
Mallorca Dr
Guajome Lake Rd
Sunglow Ln
Sky Valley Ln



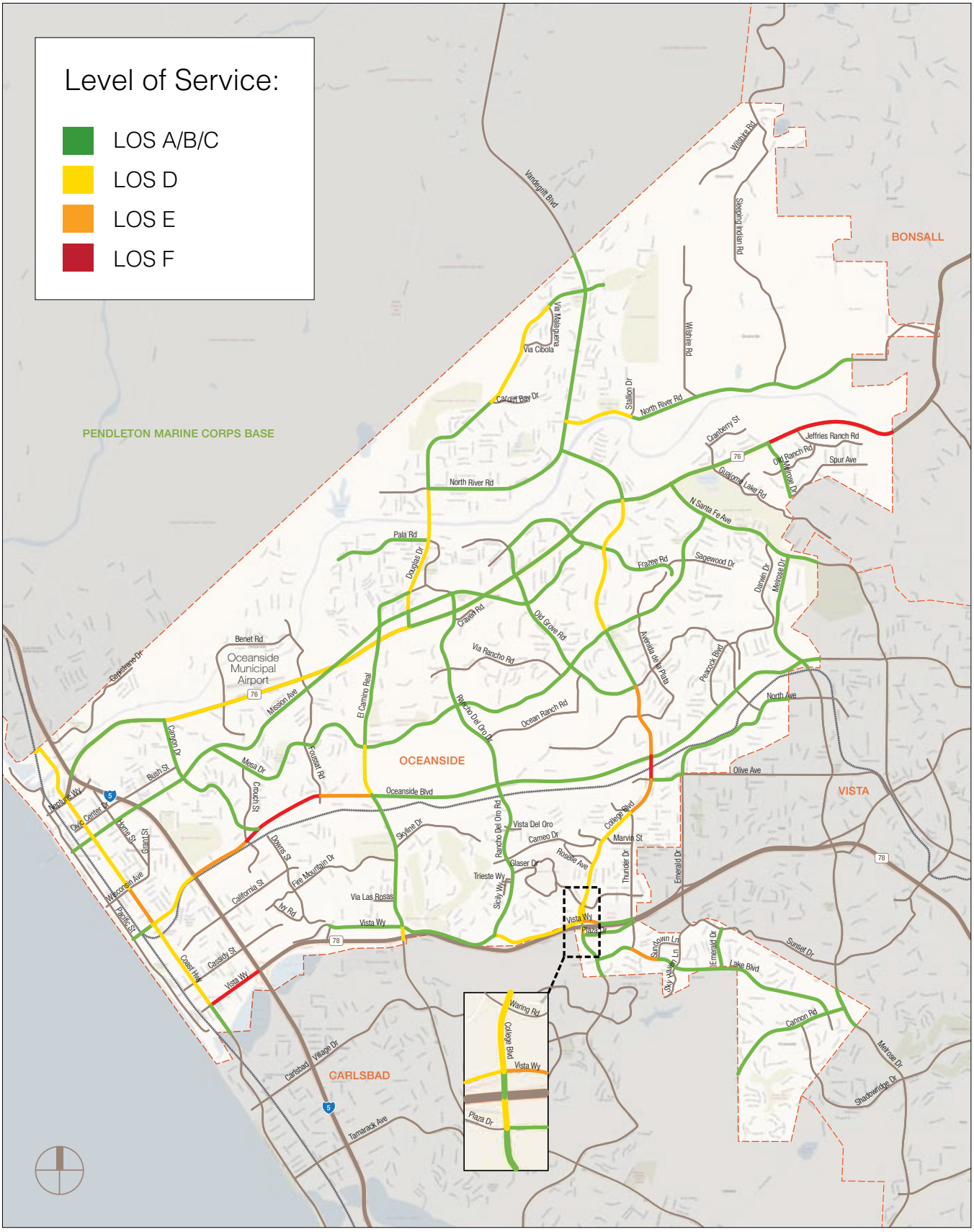
Note: Please refer to Table 5-1 for a complete listing of ADT volumes.

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City of Oceanside Circulation Element

Existing Average Daily Traffic Volumes

Figure 5.2



IBI GROUP

City of Oceanside Circulation Element

Existing Roadway Level of Service

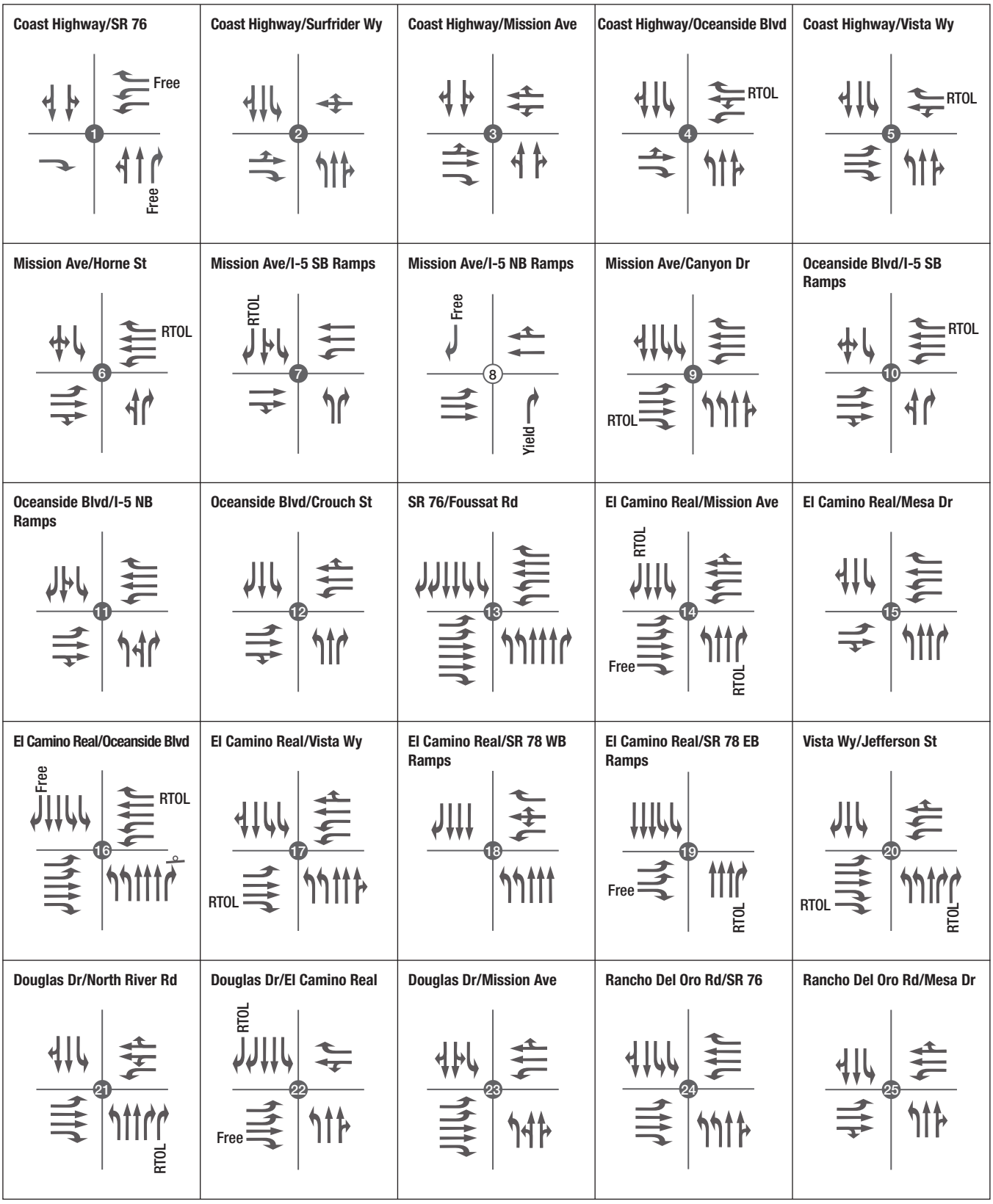
Figure 5.3

5.2 STUDY AREA INTERSECTIONS

5.2.1 Existing Intersection Geometry & Controls

Fifty study intersections have been selected for analysis based on the 1995 Circulation Element, city staff input, and major corridors. The lane geometry and traffic control for each of the existing intersections are presented in Figure 5.4. The list of study intersections includes:

1. Coast Highway & SR76
2. Coast Highway & Surfrider Way
3. Coast Highway & Mission Avenue
4. Coast Highway & Oceanside Boulevard
5. Coast Highway & Vista Way
6. Mission Avenue & Horne Street
7. Mission Avenue & I-5 SB Ramps
8. Mission Avenue & I-5 NB Ramps
9. Mission Avenue & Canyon Drive
10. Oceanside Boulevard & I-5 SB Ramps
11. Oceanside Boulevard & I-5 NB Ramps
12. Oceanside Boulevard & Crouch Street
13. SR76 & Foussat Road
14. El Camino Real & Mission Avenue
15. El Camino Real & Mesa Drive
16. El Camino Real & Oceanside Boulevard
17. El Camino Real & Vista Way
18. El Camino Real & SR78 WB Ramps
19. El Camino Real & SR78 EB Ramps
20. Vista Way & Jefferson Street
21. Douglas Drive & North River Road
22. Douglas Drive & El Camino Real
23. Douglas Drive & Mission Avenue
24. Rancho Del Oro Drive & SR76
25. Rancho Del Oro Drive & Mesa Drive
26. Rancho Del Oro Road & Oceanside Boulevard
27. Rancho Del Oro Road & Vista Del Oro Drive
28. Rancho Del Oro Road & Cameo Drive
29. Rancho Del Oro Road & Trieste Way & Sicily Way
30. Rancho Del Oro Road & Vista Way
31. Vandegrift Boulevard & Douglas Drive
32. Vandegrift Boulevard & North River Road
33. College Boulevard & North River Road
34. College Boulevard & SR76
35. College Boulevard & Mesa Drive
36. Old Grove Road & Mesa Drive
37. College Boulevard & Old Grove Road
38. College Boulevard & Oceanside Boulevard
39. College Boulevard & Olive Drive
40. College Boulevard & Vista Way
41. College Boulevard & Plaza Drive
42. College Boulevard & Lake Boulevard
43. North Santa Fe Avenue & Mesa Drive
44. Melrose Drive & SR76
45. Melrose Drive & North Santa Fe Avenue
46. Melrose Drive & Oceanside Boulevard
47. Melrose Drive & Cannon Road
48. College Boulevard & SR78 EB Ramp
49. Vista Way & SR78 WB Ramp
50. Plaza Drive & SR78 EB Ramp



LEGEND

NS Street/EW Street

EW

NS

● Study Intersection - Signalized

○ Study Intersection - Unsignalized

\# Study Intersection Number

RTOL Right-turn overlap

Lane Geometry

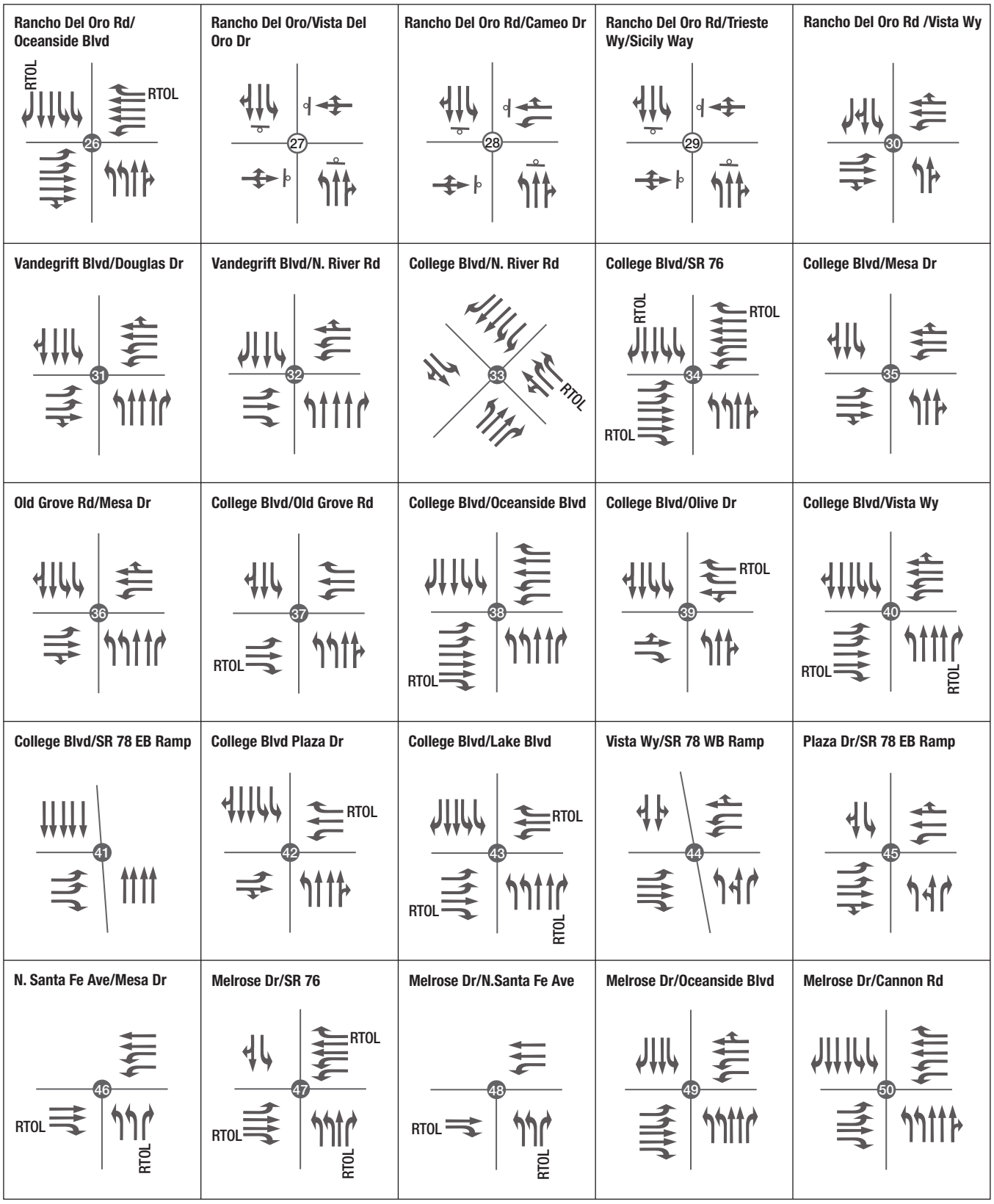
Stop Sign Control

IBI GROUP

City of Oceanside Circulation Element

Existing Study Area Intersection Geometry and Control

Figure 5.4



LEGEND

NS Street/EW Street

EW

NS

● Study Intersection - Signalized

○ Study Intersection - Unsignalized

\# Study Intersection Number

RTOL Right-turn overlap

Lane Geometry

Stop Sign Control

IBI GROUP

City of Oceanside Circulation Element

Existing Study Area Intersection Geometry and Control

Figure 5.4

5.2.2 Existing Intersection Level of Service (LOS)

Existing AM and PM peak hour turning movement volumes at study intersections are shown in Figure 5.5. A summary of the peak hour level of service analysis results for the existing condition is included in Table 5-2 and shown in Figure 5.6. Appendix C contains the existing conditions intersection calculation sheets. As shown in Table 5-2, there are several intersections that operate at a deficient level of service E or F under existing conditions:

- Mission Avenue & I-5 NB Ramps (PM - LOS F)
- Oceanside Boulevard & I-5 SB Ramps (PM - LOS E)
- Rancho Del Oro Road & Cameo Drive (AM & PM - LOS E)
- College Boulevard & North River Road (PM - LOS E)
- College Boulevard & SR 76 (PM - LOS F)

Table 5-2
Existing Peak Hour Intersection LOS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
1. Coast Hwy & SR76	Signal	AM PM	15.1 18.7	B B
2. Coast Hwy & Surfrider Way	Signal	AM PM	11.1 13.1	B B
3. Coast Hwy & Mission Ave	Signal	AM PM	11.6 12.7	B B
4. Coast Hwy & Oceanside Blvd	Signal	AM PM	36.4 42.1	D D
5. Coast Hwy & Vista Way	Signal	AM PM	24.6 36.2	C D
6. Mission Ave & Horne St	Signal	AM PM	22.8 33.3	C C
7. Mission Ave & I-5SB Ramps	Signal	AM PM	24.3 30.7	C C
8. Mission Ave & I-5NB Ramps	Unsignalized	AM PM	23.3 **309.8**	C **F**
9. Mission Ave & Canyon Dr	Signal	AM PM	32.5 31.5	C C

Table 5-2
Existing Peak Hour Intersection LOS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
10. Oceanside Blvd & I-5 SB Ramps	Signal	AM PM	34.1 **55.3**	C **E**
11. Oceanside Blvd & I-5 NB Ramps	Signal	AM PM	20.5 31.6	C C
12. Oceanside Blvd & Crouch St	Signal	AM PM	27.5 39.1	C D
13. SR76 & Foussat Rd	Signal	AM PM	44.5 24.0	D C
14. El Camino Real & Mission Ave	Signal	AM PM	36.9 35.0	D C
15. El Camino Real & Mesa Dr	Signal	AM PM	31.5 26.0	C C
16. El Camino Real & Oceanside Blvd	Signal	AM PM	49.2 30.2	D C
17. El Camino Real & Vista Way	Signal	AM PM	35.5 48.7	D D
18. El Camino Real & SR78 WB Ramps	Signal	AM PM	23.9 29.5	C C
19. El Camino Real & SR78 EB Ramps	Signal	AM PM	23.3 39.6	C D
20. Vista Way & Jefferson St	Signal	AM PM	23.9 33.5	C C
21. Douglas Dr & North River Rd	Signal	AM PM	32.1 32.2	C C
22. Douglas Dr & El Camino Real	Signal	AM PM	54.2 33.1	D C
23. Douglas Dr & Mission Ave	Signal	AM PM	34.1 39.0	C D
24. Rancho Del Oro Dr & SR76	Signal	AM PM	36.8 47.9	D D

Table 5-2
Existing Peak Hour Intersection LOS

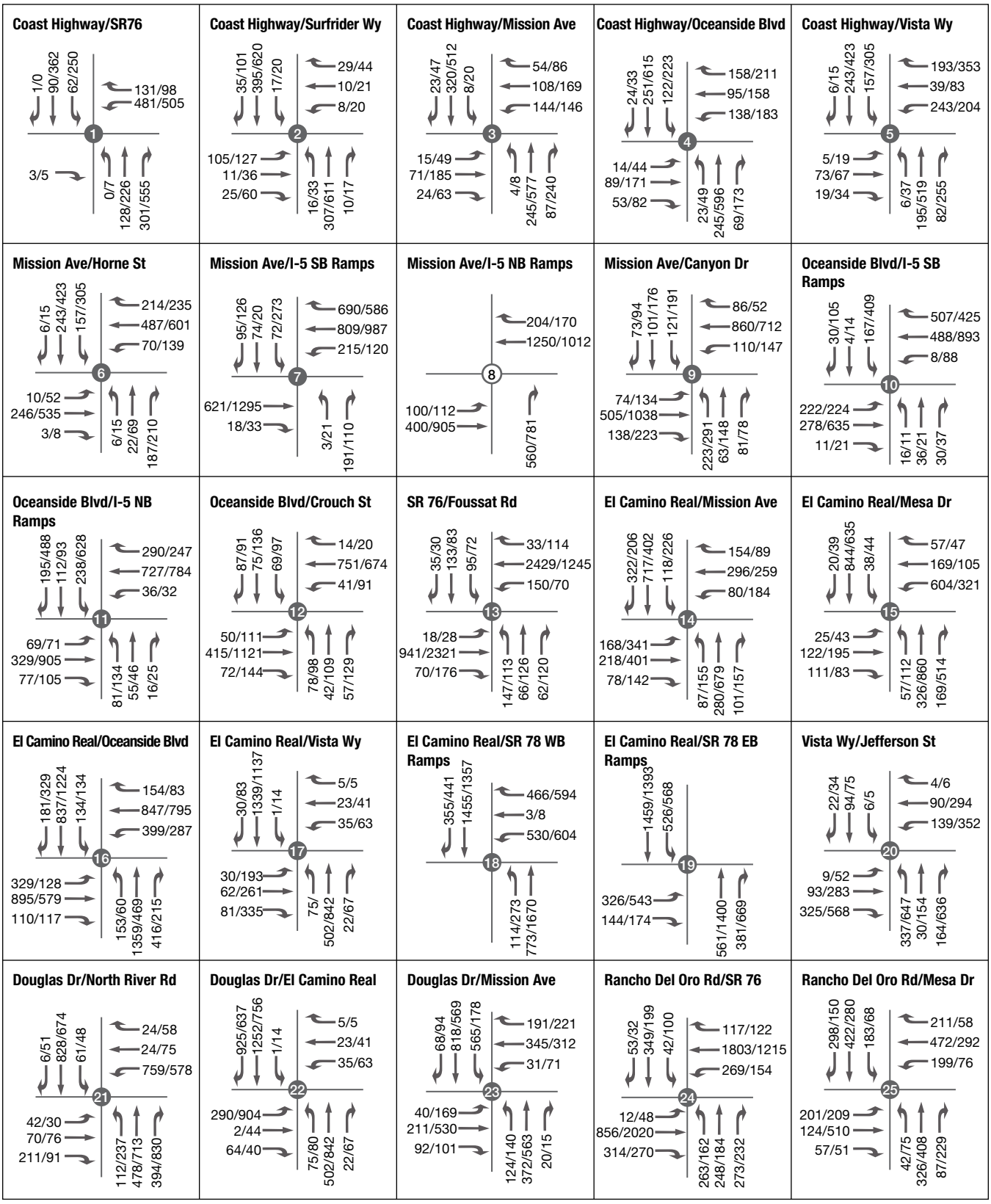
Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
25. Rancho Del Oro Dr & Mesa Dr	Signal	AM PM	33.3 24.7	C C
26. Rancho Del Oro Rd & Oceanside Blvd	Signal	AM PM	25.0 27.2	C C
27. Rancho Del Oro Rd & Vista Del Oro Dr [c]	AWSC[d]	AM PM	13.1 11.7	B B
28. Rancho Del Oro Rd & Cameo Dr [c]	AWSC[d]	AM PM	**36.4** **38.3**	**E** **E**
29. Rancho Del Oro Rd & Trieste Way & Sicily Way [c]	AWSC[d]	AM PM	10.7 11.4	B B
30. Rancho Del Oro Rd & Vista Way	Signal	AM PM	31.4 46.7	C D
31. Vandegrift Blvd & Douglas Dr	Signal	AM PM	18.9 17.0	B B
32. Vandegrift Blvd & North River Rd	Signal	AM PM	16.8 32.1	B C
33. College Blvd & North River Rd	Signal	AM PM	21.5 **61.0**	C **E**
34. College Blvd & SR76	Signal	AM PM	44.2 **88.2**	D **F**
35. College Blvd & Mesa Dr	Signal	AM PM	28.2 40.9	C D
36. Old Grove Rd & Mesa Dr	Signal	AM PM	18.6 23.9	B C
37. College Blvd & Old Grove Rd	Signal	AM PM	30.7 33.4	C C
38. College Blvd & Oceanside Blvd	Signal	AM PM	48.3 48.0	D D
39. College Blvd & Olive Dr	Signal	AM PM	24.2 30.7	C C

Table 5-2
Existing Peak Hour Intersection LOS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
40. College Blvd & Vista Way	Signal	AM PM	52.3 53.6	D D
41. College Blvd & SR78 EB Off Ramp	Signal	AM PM	17.2 16.7	B B
42. College Blvd & Plaza Dr	Signal	AM PM	21.6 31.6	C C
43. College Blvd & Lake Blvd	Signal	AM PM	18.6 27.8	B C
44. Vista Way & SR78 WB Ramp	Signal	AM PM	27.8 30.4	C C
45. Plaza Dr & SR78 EB Ramp	Signal	AM PM	23.4 28.0	C C
46. North Santa Fe Ave & Mesa Dr	Signal	AM PM	18.1 20.4	B C
47. Melrose Dr & SR76	Signal	AM PM	23.9 21.6	C C
48. Melrose Dr & North Santa Fe Ave	Signal	AM PM	15.3 21.1	B C
49. Melrose Dr & Oceanside Blvd	Signal	AM PM	21.2 25.5	C C
50. Melrose Dr & Cannon Rd	Signal	AM PM	12.2 13.3	B B

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS – Level of Service
c. These intersection calculations were done in Traffix using 2000 HCM methodologies. Synchro only allows geometry of 2-lanes per leg for AWSC intersections.
d. AWSC – All way stop controlled intersection

Notes:
1. **Bold** indicates an unacceptable level of service.
2. Acceptable level of service at intersections in Oceanside is LOS D.



LEGEND: NS Street/EW Street #/# AM/PM Peak Hour Volume

EW

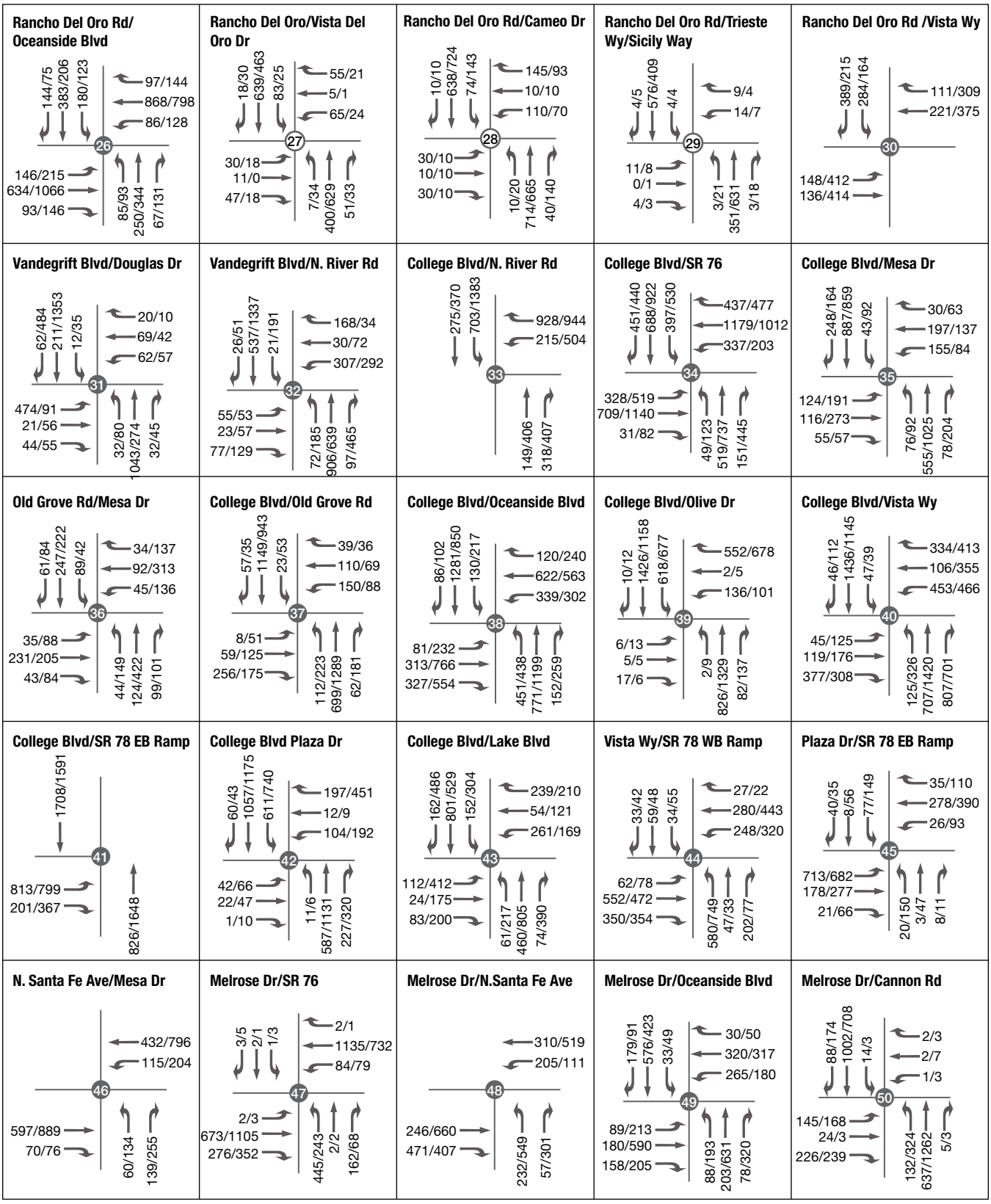
NS

IBI GROUP

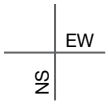
City of Oceanside Circulation Element

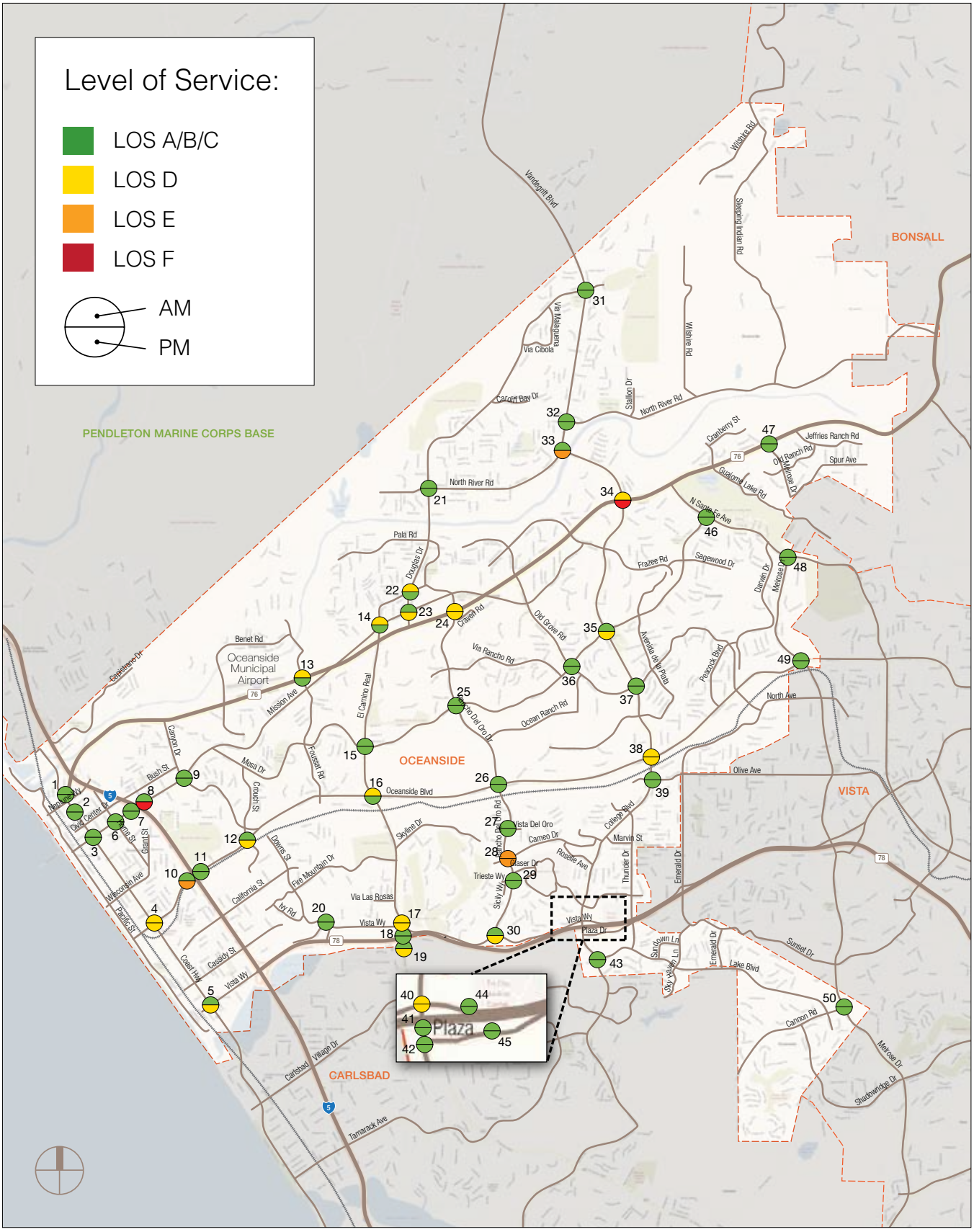
Existing Peak Hour Traffic Volumes

Figure 5.5



LEGEND: NS Street/EW Street #/# AM/PM Peak Hour Volume





Note: Intersections 8, 27, 28, and 29 are unsignalized

IBI GROUP

City of Oceanside Circulation Element

Existing Intersection LOS Operations

Figure 5.6

6.0 YEAR 2030 FORECAST MODELING

6.1 SERIES 11 NORTH COUNTY SUB-AREA MODEL

The combined North County Sub-Area Model is a subset of the SANDAG Series 11 regional model. The Series 11 regional traffic forecasts utilize the "Reasonably Expected" network as defined in the Regional Transportation Plan (RTP), and the Final Series 11 2030 Regional Growth Forecast. The Sub-Area Model includes the cities of Carlsbad, Oceanside, Escondido, Vista, San Marcos, and Poway. This subarea model produces current and future traffic volumes tailored to the traffic patterns of the six North County cities. It serves as the basis for travel demand forecasting needs in these cities.

Over a period of several months, the City of Oceanside thoroughly reviewed the Combined North County Sub-Area Model for the City of Oceanside to ensure that the proper traffic controls, network connections, lane geometrics, and speed limits were represented. In addition, the model was also reviewed for overall consistency and accuracy for traffic volume forecasts based on the land use assumptions input into the model. This process was also conducted by the other North County cities to complete the Combined North County Sub-Area Model, making it the best choice for use for this analysis. After the model refinements were complete, the Combined North County Sub-Area Model was used for the Modified 1995 CE and Network Alternatives for the Circulation Element update. The Oceanside model network and forecast volume plots are contained in Appendix D.

6.2 PEAK HOUR FORECASTS

The Combined North County Sub-Area Model Year 2030 Series 11 model plots were obtained for all of the modeling alternatives and the Modified 1995 CE scenario. The intersection peak hour turning movement volumes were developed using an Excel spreadsheet template that calculates the peak hour traffic at an intersection from future ADT volumes using the relationship between existing peak hour turn movements and the existing ADT volumes. This same relationship can be assumed to generally continue in the future where the lane geometrics and surrounding land uses generally remain the same. In areas where pieces of the network are significantly changed due to additional connections, improved intersection geometry, or additional volume capacity, the future turning movement volumes are calculated based on future traffic patterns, land use assumptions, and proximity of majority corridors and freeway ramps.

In addition, there were several other studies conducted within the City of Oceanside that were utilized for this project. Peak hour traffic volumes were taken from the College Boulevard Project Study Report (PSR) (between Waring Road and Old Grove Road), Mission Avenue Corridor Improvements Study (One-Way Couplet Study), Coast Highway Vision & Strategic Plan Study, and Melrose Drive Extension Environmental Impact Report (EIR) to ensure consistency between the Circulation Element and these studies that have already been completed.

7.0 MODIFIED 1995 CIRCULATION ELEMENT (YEAR 2030) ANALYSIS

The Modified 1995 Circulation Element (Year 2030) Scenario is based on the currently adopted 1995 Circulation Element and General Plan Amendments such as Rancho Del Oro Road. There were several key pieces to the network that were reviewed when developing the model alternatives. The key network elements shown in the Modified 1995 Circulation Element scenario, which is representative of the 1995 adopted Circulation Element, consists of the following:

- State Route 76 is 6 Lanes to Melrose Drive
- Rancho Del Oro Road / State Route 78 Interchange is Included
- College Boulevard is 6 Lanes
- Melrose Drive between North River Road and State Route 76 is Included
- Melrose Drive between North Santa Fe Avenue and Spur Avenue is Included
- Pala Road Connection to Foussat Road is Included
- Mission Avenue is 4 Lanes (Major Arterial)
- Coast Highway is 4 Lanes (Secondary Collector)

In addition, there were two minor adjustments made to the 1995 Circulation Element network. It included the removal of the Jeffries Ranch Road connection to SR76 and the Old Ranch Road connection between Guajome Lake Road and Melrose Drive. These adjustments do not affect the overall Circulation Element modeling efforts; therefore, the minor adjustments were included the Modified 1995 CE Scenario. In addition, the Caltrans I-5 NCC DEIR (North County Corridor Draft Environmental Impact Report) for the Mission Avenue/I-5 Northbound and Southbound ramp improvements is included in the Modified 1995 CE Scenario. It should be noted that the Jeffries Ranch Road access to SR76 has been reviewed separately, and a right-in/out access to SR76 could potentially be provided in the future should a funding source be identified.. A copy of the currently adopted 1995 Circulation Element network map is found in Appendix A; the Series 11 North County Sub-Area model network is included in Appendix D. Figure 7.1 shows the Modified 1995 CE (Year 2030) Scenario roadway conditions.

7.1 MODIFIED 1995 CIRCULATION ELEMENT SEGMENT ANALYSIS

The Modified 1995 CE (Year 2030) Scenario traffic forecasting was conducted using the Series 11 North County Subarea Model. The model output traffic volumes were reviewed and post-processed. The Modified 1995 CE (Year 2030) Scenario segment volumes are shown in Table 7-1. Figure 7.2 depicts the segment volumes. As shown in Table 7-1, there are several segments that were projected to operate at a deficient level of service (LOS E or LOS F). Figure 7.3 shows the Modified 1995 CE (Year 2030) roadway segment level of service.

- Coast Highway: Mission Avenue to Oceanside Boulevard (LOS E)
- College Boulevard: SR76 to Mesa Drive (LOS E)
- College Boulevard: Oceanside Boulevard to Olive Drive (LOS F)

- College Boulevard: Waring Road to Plaza Drive (LOS E)
- College Boulevard: Lake Boulevard to Southern City Limits (LOS F)
- Douglas Dr: N. River Road to El Camino Real (LOS E)
- El Camino Real: Mesa Drive to Oceanside Boulevard (LOS E)
- El Camino Real: Vista Way to SR78 (LOS E)
- Mesa Drive: Mission Avenue to Foussat Road (LOS F)
- Oceanside Boulevard: Crouch Street to Foussat Road (LOS E)
- Vista Way: College Boulevard to SR78 WB Ramps (LOS F)
- SR76: Melrose Drive to Eastern City Limits (LOS F)

Table 7-1 Modified 1995 CE Year 2030
Segment ADT Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Cannon Road					
Melrose Drive to Shadowridge Drive~~Western City Limits~~	4D	Major Arterial	40,000	29,100	C
Canyon Drive					
SR76 to Mission Avenue	4U	Secondary Collector	25,000	10,700	B
Mission Avenue to Oceanside Boulevard	4U	Secondary Collector	25,000	9,300	B
Coast Highway					
Harbor Drive to SR76	4U	Secondary Collector	25,000	17,100	C
SR76 to Mission Avenue	4U	Secondary Collector	25,000	20,100	D
Mission Avenue to Wisconsin Avenue	4U	Secondary Collector	25,000	**23,700**	**E**
Wisconsin Avenue to Oceanside Boulevard	4U	Secondary Collector	25,000	**23,600**	**E**
Oceanside Boulevard to Cassidy Street	4U	Secondary Collector	25,000	21,800	D
Cassidy Street to Vista Way	4U	Secondary Collector	25,000	20,900	D
Vista Way to Southern City Limits	4U	Secondary Collector	25,000	19,700	D
College Boulevard					
N. River Road to SR76	6D	Major Arterial	50,000	42,200	D
SR76 to Frazee Road	4D	Major Arterial	40,000	**36,300**	**E**
Frazee Road to Mesa Drive	4D	Major Arterial	40,000	**36,900**	**E**
Mesa Drive to Old Grove Road	4D	Major Arterial	40,000	32,600	D
Old Grove Road to Avenida de la Plata	6D	Major Arterial	50,000	39,000	C

Table 7-1 Modified 1995 CE Year 2030
Segment ADT Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Avenida de la Plata to Oceanside Boulevard	6D	Major Arterial	50,000	42,500	D
Oceanside Boulevard to Olive Drive	6D	Major Arterial	50,000	**52,000**	**F**
Olive Drive to Thunder Drive	6D	Major Arterial	50,000	40,000	C
Thunder Drive to Waring Road	6D	Major Arterial	50,000	35,400	C
Waring Road to Vista Way	6D	Major Arterial	50,000	**45,800**	**E**
Vista Way to SR78	6D	Major Arterial	50,000	**47,100**	**E**
SR78 to Plaza Drive	6D	Major Arterial	50,000	**49,300**	**E**
Plaza Drive to Lake Boulevard	6D	Major Arterial	50,000	39,300	C
Lake Boulevard to Southern City Limits	4D	Major Arterial	40,000	**41,400**	**F**
Douglas Drive					
Vandegrift Boulevard to Cardiff Bay Drive	4TWLT	Secondary Collector	30,000	13,300	B
Cardiff Bay Drive to N. River Road	4TWLT	Secondary Collector	30,000	17,500	C
N. River Road to Pala Road	4D	Major Arterial	40,000	**37,500**	**E**
Pala Road to El Camino Real	4D	Major Arterial	40,000	**38,400**	**E**
El Camino Real to Mission Avenue	4U	Major Arterial	40,000	23,900	C
Mission Avenue to SR76	4U	Major Arterial	40,000	25,400	C
El Camino Real					
Douglas Drive to Mission Avenue	4D	Major Arterial	40,000	25,400	C
Mission Avenue to Mesa Drive	4D	Major Arterial	40,000	25,500	C
Mesa Drive to Oceanside Boulevard	4D	Major Arterial	40,000	**39,600**	**E**
Oceanside Boulevard to Fire Mountain Road	6D	Prime Arterial	60,000	43,100	C
Fire Mountain Road to Via Las Rosas	6D	Prime Arterial	60,000	48,200	C
Via Las Rosas to Vista Way	6D	Prime Arterial	60,000	53,600	D
Vista Way to SR78	6D	Prime Arterial	60,000	**58,900**	**E**
Emerald Drive					
Lake Boulevard to Sunset Drive	4TWLT	Secondary Collector	30,000	4,200	A
Frazee Road					
Old Grove Road to SR76	4D	Major Arterial	40,000	5,700	A
SR76 to College Boulevard	4D	Major Arterial	40,000	12,000	A

Table 7-1 Modified 1995 CE Year 2030
Segment ADT Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
College Boulevard to Sagewood Drive	2D	Collector	10,000	5,200	B
Lake Boulevard					
College Boulevard to Thunder Drive	4TWLT	Secondary Collector	30,000	19,500	C
Thunder Drive to Sundown Lane	4TWLT	Secondary Collector	30,000	16,200	C
Sundown Lane to Sky Haven Lane	4TWLT	Secondary Collector	30,000	16,200	C
Sky Haven Lane to Cannon Road	4TWLT	Secondary Collector	30,000	14,700	C
Melrose Drive					
N. River Road to SR76	4D	Major Arterial	40,000	13,100	A
SR76 to N. Santa Fe Avenue	6D	Major Arterial	50,000	26,500	B
N. Santa Fe Avenue to Oceanside Boulevard	6D	Prime Arterial	60,000	36,600	C
Oceanside Boulevard to City Limits	6D	Prime Arterial	60,000	43,800	C
City Limits to Cannon Road	6D	Prime Arterial	60,000	32,100	B
Cannon Road to Southern City Limits	6D	Prime Arterial	60,000	34,100	B
Mesa Drive					
Mission Avenue to Foussat Road	2U	Collector	10,000	**11,100**	**F**
Foussat Road to El Camino Real	2TWLT	Collector	15,000	8,800	C
El Camino Real to Rancho Del Oro Drive	4TWLT/D	Secondary Collector	30,000	17,300	C
Rancho Del Oro Drive to Old Grove Road	4TWLT/D	Secondary Collector	30,000	18,100	C
Old Grove Road to College Boulevard	4 TWLT	Secondary Collector	30,000	18,700	C
College Boulevard to N. Santa Fe Avenue	4 TWLT	Secondary Collector	30,000	15,100	C
Mission Avenue					
Pacific Street to Coast Highway	4U	Secondary Collector	25,000	14,400	C
Coast Highway to Horne Street	4D	Major Arterial	40,000	16,800	B
Horne Street to I-5	4D	Major Arterial	40,000	27,000	C
I-5 to Canyon Drive	4D	Major Arterial	40,000	34,600	D
Canyon Drive to Mesa Drive	4D	Major Arterial	40,000	27,000	C

Table 7-1 Modified 1995 CE Year 2030
Segment ADT Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
Mesa Drive to Foussat Road	4D	Major Arterial	40,000	27,200	C
Foussat Road to El Camino Real	4D	Major Arterial	40,000	29,400	C
El Camino Real to Douglas Drive	4D	Major Arterial	40,000	25,300	C
Douglas Drive to Rancho Del Oro Drive	4D	Major Arterial	40,000	31,000	D
Rancho Del Oro Road to Old Grove Drive	4U	Secondary Collector	25,000	12,900	B
Old Grove Road to Frazee Road	4TWLT/U/D	Secondary Collector	30,000	9,100	A
North Avenue					
Olive Drive to Temple Heights Drive	4TWLT	Secondary Collector	30,000	7,800	A
Temple Heights Dr to Melrose Drive	4TWLT	Secondary Collector	30,000	3,900	A
North River Road					
Douglas Drive to College Boulevard	4D	Major Arterial	40,000	23,400	C
College Boulevard to Vandegrift Boulevard	5D	Major Arterial	45,000	38,300	D
Vandegrift Boulevard to Stallion Road	4D	Major Arterial	40,000	9,700	A
Stallion Road to Melrose Drive	4D	Major Arterial	40,000	10,600	A
Melrose Drive to Eastern City Limits	4TWLT	Secondary Collector	30,000	12,900	B
North Santa Fe Avenue					
SR76 to Mesa Drive	4D	Major Arterial	40,000	25,700	C
Mesa Drive to Melrose Drive	4D	Major Arterial	40,000	27,500	C
Oceanside Boulevard					
Pacific Street to Coast Highway	2U	Collector	10,000	8,700	D
Coast Highway to I-5	4U	Secondary Collector	25,000	21,100	D
I-5 to Crouch Street	4TWLT	Major Arterial	40,000	32,600	D
Crouch Street to Foussat Road	4TWLT	Major Arterial	40,000	**37,900**	**E**
Foussat Road to El Camino Real	4TWLT	Major Arterial	40,000	33,800	D
El Camino Real to Rancho Del Oro Road	6D	Prime Arterial	60,000	37,100	C
Rancho Del Oro Road to College Boulevard	6D	Prime Arterial	60,000	41,400	C

Table 7-1 Modified 1995 CE Year 2030
Segment ADT Volumes

Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
College Boulevard to Melrose Drive	4D	Major Arterial	40,000	29,500	C
Melrose Drive to Eastern City Limits	4D	Major Arterial	40,000	28,000	C
Old Grove Road					
Frazee Road to SR76	4D	Major Arterial	40,000	8,000	A
SR76 to Mission Avenue	4D	Major Arterial	40,000	17,800	B
Mission Avenue to Mesa Drive	4D	Major Arterial	40,000	17,700	B
Mesa Drive to College Boulevard	4D	Major Arterial	40,000	24,900	C
Olive Drive					
College Boulevard to Emerald Drive	4TWLT	Secondary Collector	30,000	17,700	C
Pala Road					
Foussat Road Los Arbolitos Boulevard	4TWLT	Secondary Collector	30,000	7,000	A
Los Arbolitos Boulevard to Douglas Drive	4TWLT	Secondary Collector	30,000	8,300	A
Plaza Drive					
College Boulevard to SR78 EB on/off-ramps	4D	Secondary Collector	30,000	22,100	D
SR78 EB on/off-ramps to Eastern City Limits	4D	Secondary Collector	30,000	16,000	C
Rancho Del Oro Drive					
Mission Avenue to SR76	4D	Major Arterial	40,000	9,000	A
SR76 to Mesa Drive	4D	Major Arterial	40,000	24,200	C
Mesa Drive to Oceanside Boulevard	4D	Major Arterial	40,000	26,500	C
Oceanside Boulevard to Cameo Drive	4D	Major Arterial	40,000	32,400	D
Cameo Drive to SR78	4D	Major Arterial	40,000	30,800	D
Vandegrift Boulevard					
Northern City Limits to Douglas Drive	5D	Major Arterial	45,000	26,000	C
Douglas Drive to N. River Rd	5D	Major Arterial	45,000	27,600	C
Vista Way					
Coast Highway to I-5	4TWLT	Secondary Collector	30,000	18,100	C
Jefferson Street to El Camino Real	4TWLT	Secondary Collector	30,000	15,400	C

Table 7-1 Modified 1995 CE Year 2030
Segment ADT Volumes

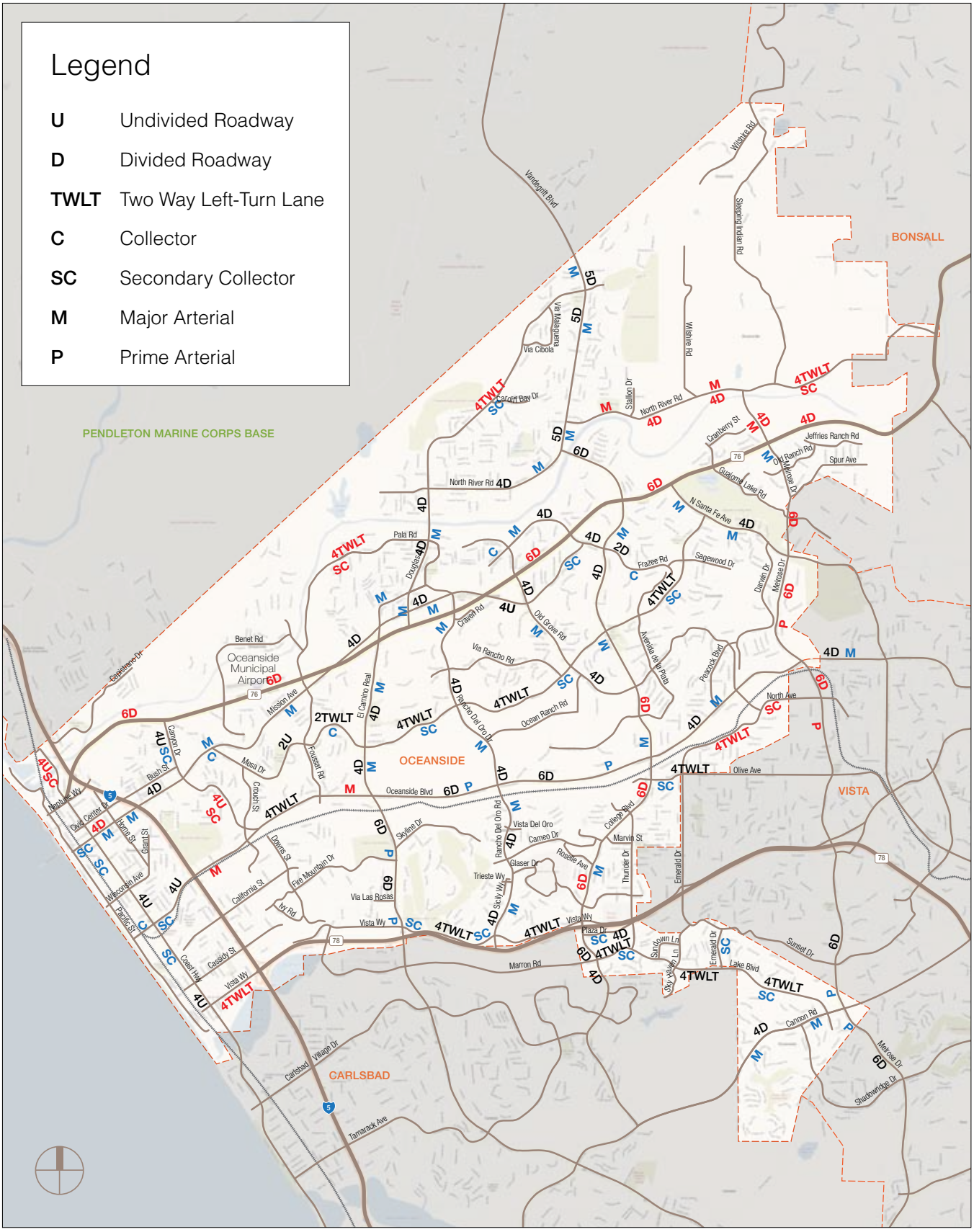
Street	Lanes[a]	Classification	LOS E Capacity[b]	ADT[c]	LOS[d]
El Camino Real to Rancho Del Oro Road	4TWLT	Secondary Collector	30,000	18,100	C
Rancho Del Oro Road to College Boulevard	4TWLT	Secondary Collector	30,000	24,600	D
College Boulevard to SR78 WB Ramps	4TWLT	Secondary Collector	30,000	**31,500**	**F**
SR78 WB Ramps to Thunder Drive	4TWLT	Secondary Collector	30,000	19,200	C
State Route 76					
I-5 to Canyon Drive	6D	Expressway	80,000	60,700	D
Canyon Drive to Foussat Road	6D	Expressway	80,000	65,900	D
Foussat Road to Douglas Drive	6D	Expressway	80,000	59,800	C
Douglas Drive to Rancho Del Oro Drive	6D	Expressway	80,000	54,100	C
Rancho Del Oro Drive to Frazee Road	6D	Expressway	80,000	58,200	C
Frazee Road to College Boulevard	6D	Expressway	80,000	51,500	C
College Boulevard to N. Santa Fe Avenue	6D	Expressway	80,000	56,200	C
N. Santa Fe Avenue to Melrose Drive	6D	Expressway	80,000	58,000	C
Melrose Drive to Eastern City Limits	4D	Expressway	60,000	**61,800**	**F**

Footnotes:

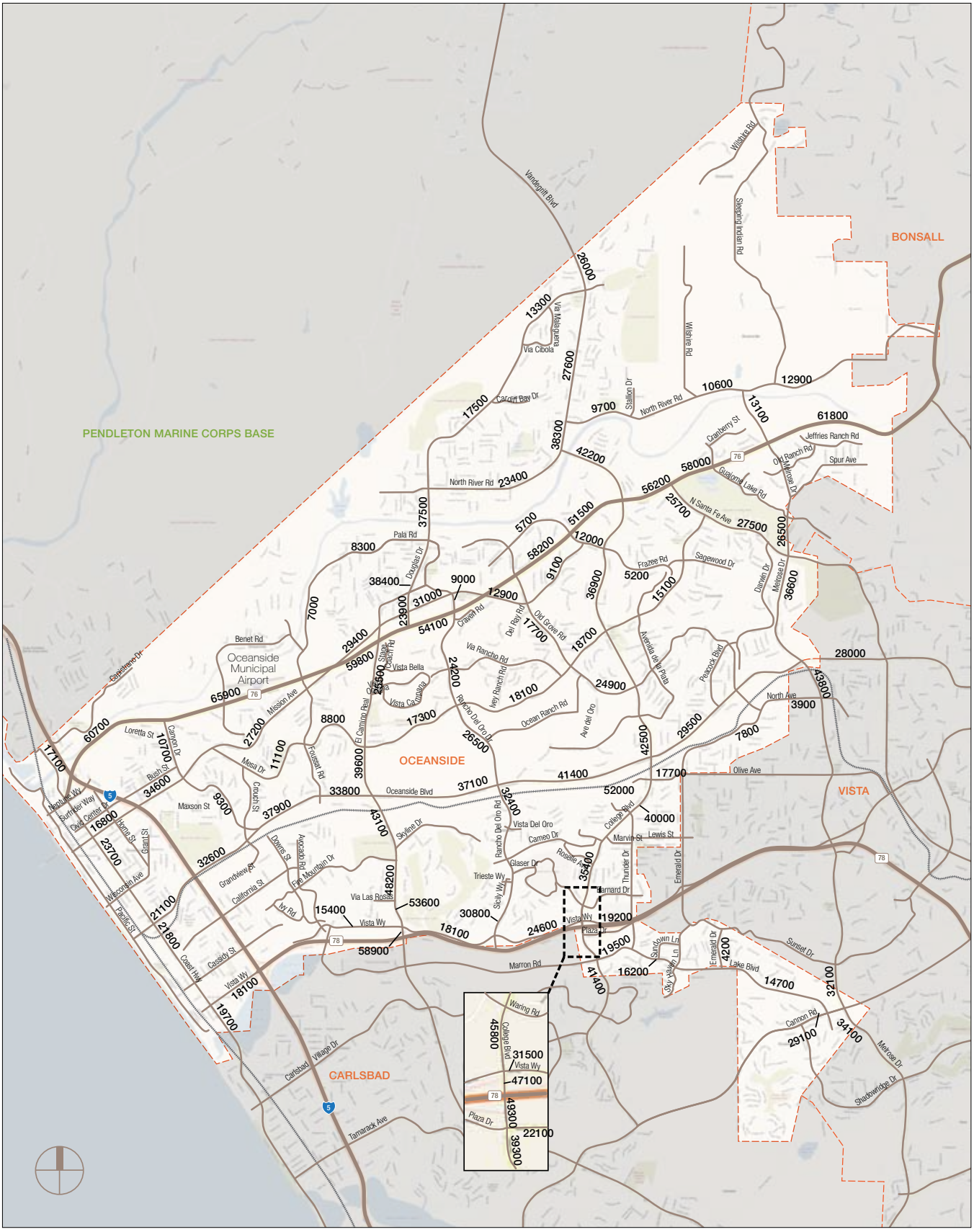
a. #D – total number of lanes in both directions divided by a raised median; #U – total number of undivided lanes in both lanes; #TWLT – total number of lanes in both directions with a center continuous two-way left turn lane
b. LOS E is based on criteria established in the City of Oceanside Circulation Element Roadway Capacity Table (2009)
c. ADT = Average Daily Traffic Volumes
d. LOS = Level of Service

Notes:

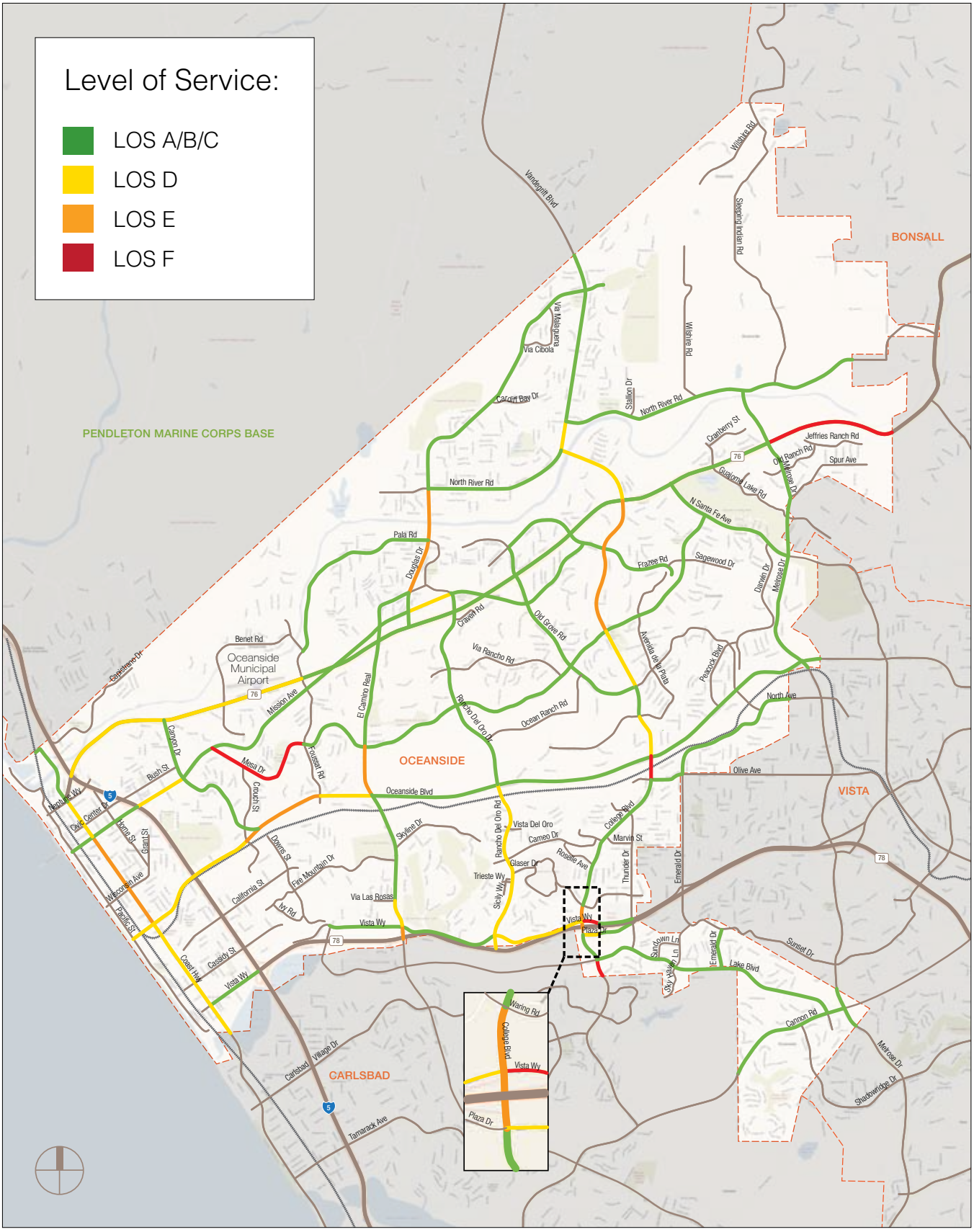
1. **Bold** indicates an unacceptable level of service.
2. Red text indicates a change from the Existing Network.



Note: **Red** text indicates a change from Existing Network



Note: Please refer to Table 7-1 for a complete listing of ADT volumes.



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City of Oceanside Circulation Element

Modified 1995 CE Year 2030 Roadway Level of Service

Figure 7.3

7.2 MODIFIED 1995 CIRCULATION ELEMENT (YEAR 2030) INTERSECTION OPERATIONS

The Modified 1995 CE Year 2030 intersection turning movement volumes were calculated from the Series 11 North County Subarea model forecast volumes. A more detailed explanation on how the peak hour turning movement volumes were generated was previously explained in Section 6.2. The Modified 1995 CE Year 2030 intersection geometry is shown in Figure 7.4 and the intersection turning movement volumes are shown in Figure 7.5. The intersection peak hour operations and level of service is shown in Table 7-2. Appendix E contains the Modified 1995 CE Scenario intersection calculation sheets. As shown in Table 7-2, there are intersections that operate at a deficient level of service (LOS E or LOS F) during one or both peak hour time periods under the Modified 1995 CE Year 2030 Scenario. Figure 7.6 shows the intersection level of service for both the AM and PM peak hour. The following is a list of deficient intersections:

- Mission Avenue & I-5 SB Ramps (PM - LOS E)
- Oceanside Boulevard & I-5 SB Ramps (PM - LOS F)
- Oceanside Boulevard & I-5 NB Ramps (PM - LOS E)
- Oceanside Boulevard & Crouch Street (PM - LOS E)
- SR76 & Foussat Road (AM - LOS E)
- El Camino Real & Oceanside Boulevard (AM - LOS E)
- El Camino Real & Vista Way (PM - LOS E)
- Vista Way & Jefferson Street (PM - LOS E)
- Douglas Drive & El Camino Real (AM - LOS F; PM - LOS E)
- Douglas Drive & Mission Avenue (AM & PM - LOS E)
- Rancho Del Oro Road & Vista Del Oro Drive (AM & PM - LOS F)
- Rancho Del Oro Road & Cameo Drive (AM & PM - LOS F)
- Rancho Del Oro Road & Trieste Way & Sicily Way (AM & PM - LOS F)
- College Boulevard & North River Road (PM - LOS F)
- College Boulevard & SR76 (AM - LOS E; PM - LOS F)
- College Boulevard & Oceanside Boulevard (PM - LOS E)
- College Boulevard & Lake Boulevard (PM - LOS E)
- Melrose Drive & SR76 (PM – LOS E)

Table 7-2 Modified 1995 CE Year 2030
Intersection Operations

Intersection	Control Type	Peak Hour	Modified 1995 CE	
			Delay[a]	LOS[b]
1. Coast Hwy & SR76	Signal	AM PM	15.5 21.1	B C
2. Coast Hwy & Surfrider Way	Signal	AM PM	11.6 14.3	B B
3. Coast Hwy & Mission Ave	Signal	AM PM	11.7 14.5	B B
4. Coast Hwy & Oceanside Blvd	Signal	AM PM	39.1 49.1	D D
5. Coast Hwy & Vista Way	Signal	AM PM	26.4 41.4	C D
6. Mission Ave & Horne St	Signal	AM PM	27.8 38.6	C D
7. Mission Ave & I-5SB Ramps	Signal	AM PM	46.4 **55.2**	D **E**
8. Mission Ave & I-5NB Ramps	Signal	AM PM	40.4 48.9	D D
9. Mission Ave & Canyon Dr	Signal	AM PM	28.2 41.5	C D
10. Oceanside Blvd & I-5 SB Ramps	Signal	AM PM	51.4 **82.4**	D **F**
11. Oceanside Blvd & I-5 NB Ramps	Signal	AM PM	28.3 **63.6**	C **E**
12. Oceanside Blvd & Crouch St	Signal	AM PM	33.8 **58.2**	C **E**
13. SR76 & Foussat Rd	Signal	AM PM	**67.3** 51.4	**E** D
14. El Camino Real & Mission Ave	Signal	AM PM	47.0 45.6	D D
15. El Camino Real & Mesa Dr	Signal	AM PM	38.5 31.5	D C

Table 7-2 Modified 1995 CE Year 2030
Intersection Operations

Intersection	Control Type	Peak Hour	Modified 1995 CE	
			Delay[a]	LOS[b]
16. El Camino Real & Oceanside Blvd	Signal	AM PM	**56.9** 41.3	**E** D
17. El Camino Real & Vista Way	Signal	AM PM	37.1 **58.6**	D **E**
18. El Camino Real & SR78 WB Ramps	Signal	AM PM	28.5 40.9	C D
19. El Camino Real & SR78 EB Ramps	Signal	AM PM	23.5 43.5	C D
20. Vista Way & Jefferson St	Signal	AM PM	26.6 **56.5**	C **E**
21. Douglas Dr & North River Rd	Signal	AM PM	50.7 42.3	D D
22. Douglas Dr & El Camino Real	Signal	AM PM	**90.7** **57.7**	**F** **E**
23. Douglas Dr & Mission Ave	Signal	AM PM	**64.4** **66.6**	**E** **E**
24. Rancho Del Oro Dr & SR76	Signal	AM PM	36.1 38.3	D D
25. Rancho Del Oro Dr & Mesa Dr	Signal	AM PM	49.2 33.1	D C
26. Rancho Del Oro Rd & Oceanside Blvd	Signal	AM PM	29.7 37.6	C D
27. Rancho Del Oro Rd & Vista Del Oro Dr [c]	AWSC [d]	AM PM	**148.1** **130.5**	**F** **F**
28. Rancho Del Oro Rd & Cameo Dr [c]	AWSC [d]	AM PM	**183.9** **185.0**	**F** **F**
29. Rancho Del Oro Rd & Trieste Way & Sicily Way [c]	AWSC [d]	AM PM	**100.8** **152.3**	**F** **F**
30. Rancho Del Oro Rd & Vista Way	Signal	AM PM	31.1 46.4	C D

Table 7-2 Modified 1995 CE Year 2030
Intersection Operations

Intersection	Control Type	Peak Hour	Modified 1995 CE	
			Delay[a]	LOS[b]
31. Vandegrift Blvd & Douglas Dr	Signal	AM PM	24.5 30.3	C C
32. Vandegrift Blvd & North River Rd	Signal	AM PM	18.7 37.7	B D
33. College Blvd & North River Rd	Signal	AM PM	24.1 **89.8**	C **F**
34. College Blvd & SR76	Signal	AM PM	**73.2** **147.2**	**E** **F**
35. College Blvd & Mesa Dr	Signal	AM PM	39.7 48.7	D D
36. Old Grove Rd & Mesa Dr	Signal	AM PM	23.7 41.6	C D
37. College Blvd & Old Grove Rd	Signal	AM PM	38.2 43.7	D D
38. College Blvd & Oceanside Blvd	Signal	AM PM	44.8 **55.3**	D **E**
39. College Blvd & Olive Dr	Signal	AM PM	25.0 32.6	C C
40. College Blvd & Vista Way	Signal	AM PM	28.3 33.4	C C
41. College Blvd & SR78 EB Off Ramp	Signal	AM PM	11.8 16.3	B B
42. College Blvd & Plaza Dr	Signal	AM PM	26.6 26.6	C C
43. College Blvd & Lake Blvd	Signal	AM PM	29.9 **58.7**	C **E**
44. Vista Way & SR78 WB Ramp	Signal	AM PM	29.5 34.1	C C
45. Plaza Dr & SR78 EB Ramp	Signal	AM PM	29.1 34.8	C C

Table 7-2 Modified 1995 CE Year 2030
Intersection Operations

Intersection	Control Type	Peak Hour	Modified 1995 CE	
			Delay[a]	LOS[b]
46. North Santa Fe Ave & Mesa Dr	Signal	AM PM	16.2 18.3	B B
47. Melrose Dr & SR76	Signal	AM PM	51.9 **58.4**	D **E**
48. Melrose Dr & North Santa Fe Ave	Signal	AM PM	33.3 30.7	C C
49. Melrose Dr & Oceanside Blvd	Signal	AM PM	33.0 49.5	C D
50. Melrose Dr & Cannon Rd	Signal	AM PM	43.4 32.4	D C

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS = Level of Service
c. These intersection calculations were done in Traffix using 2000 HCM methodologies. Synchro only allows geometry of 2-lanes per leg for AWSC intersections.
d. AWSC = All-Way Stop Controlled unsignalized intersection.

Notes:
1. Acceptable level of service at intersections in Oceanside is LOS D.
2. **Bold** indicates an unacceptable level of service.

7.3 RANCHO DEL ORO ROAD SIGNAL WARRANT ANALYSIS

There are three intersections along Rancho Del Oro Road that are shown as all-way stop controlled intersections.

- Rancho Del Oro Road & Vista Del Oro Drive
- Rancho Del Oro Road & Cameo Drive
- Rancho Del Oro Road & Trieste Way & Sicily Way

As seen previously in Table 7-2, the three unsignalized intersections are shown to operate at LOS F in both the AM and PM peak hours under the Modified 1995 CE scenario. Mitigation to bring these three intersections to an acceptable level of service would be in the form of a traffic signal. The Manual on Uniform Traffic Control Devices (MUTCD) signal warrant analysis for Warrant 3, Peak Hour has been performed at the three intersections for the Modified 1995 CE scenario traffic volumes. Two of the three unsignalized intersections meet the peak hour warrant requirements for traffic signals during both the AM and PM peak hours. The intersection of Rancho Del Oro Road and Trieste Way/Sicily Way does not have adequate minor street traffic (minimum of 100 peak hour trips for one approach) to meet the signal warrant. The MUTCD notes that satisfying one or more warrants alone does not in itself provide justification to install a

traffic signal. A thorough analysis that considers accidents, field conditions such as sight distance and speed limits, and sound engineering judgment must all be considered before the installation of a traffic signal is officially proposed. However, for a Circulation Element and most other traffic studies where only peak hour volume data is available, showing that an intersection satisfies Warrant 3, Peak Hour is generally sufficient. Appendix E contains the Warrant 3, Peak Hour worksheets. As seen in Table 7-3, the two intersections, if signalized, would meet the signal warrant are expected to operate at LOS B or better during both the AM and PM peak hours under 2030 Modified 1995 CE if traffic signals were installed.

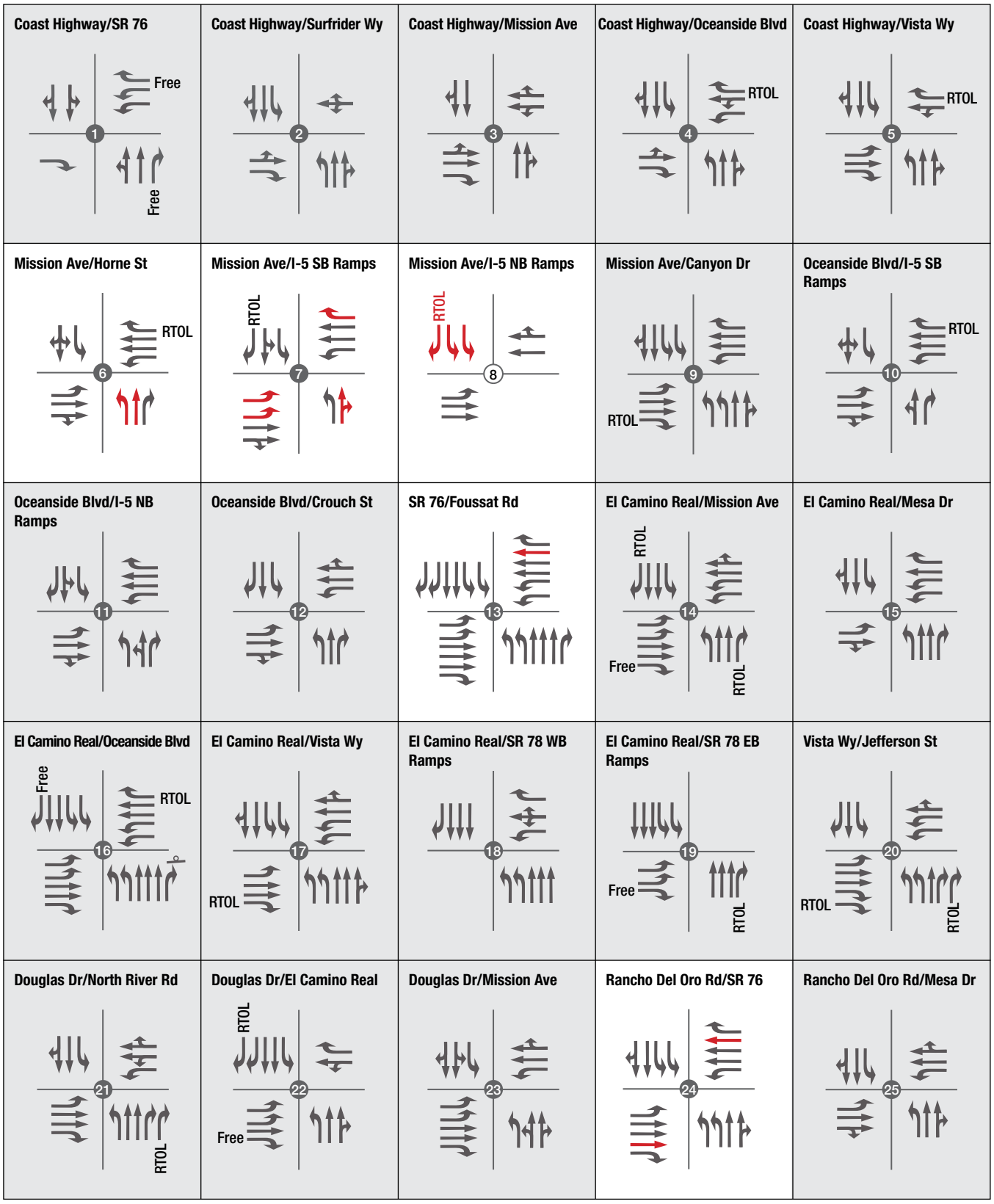
Table 7-3 Modified 1995 CE Year 2030
Additional Peak Hour Rancho Del Oro Road
Intersection Operations

Intersection	Control Type	Peak Hour	Modified 1995 CE	
			Delay[a]	LOS[b]
27. Rancho Del Oro Rd & Vista Del Oro Drive	Signal	AM PM	10.4 8.1	B A
28. Rancho Del Oro Rd & Cameo Drive	Signal	AM PM	12.9 15.4	B B

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS = Level of Service

Note:
The intersection calculations were done in Synchro for signalized intersection operations.

Even though, the Rancho Del Oro Road/Trieste Way/Sicily Way intersection did not meet Warrant 3, Peak Hour signal warrants and operates at an unacceptable level of service for the AM and PM peak hours, there are other warrants that should be reviewed to determine if a signal should be installed at this intersection. An all-way stop controlled intersection on a major arterial can interrupt the traffic progression on the corridor. If a traffic signal were installed at the unsignalized intersections on this corridor, it is anticipated that it would improve the traffic progression along the arterial corridor. MUTCD Signal Warrant 6 supports the installation of a traffic signal at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles on a corridor. If a signal were installed at the adjacent intersections of Rancho Del Oro Road/Trieste Way/Sicily Way, other signal warrants (such as Warrant 6) should be reviewed.



LEGEND

NS Street/EW Street

EW

NS

● Study Intersection - Signalized

○ Study Intersection - Unsignalized

\# Study Intersection Number

RTOL Right-turn overlap

Lane Geometry

Stop Sign Control

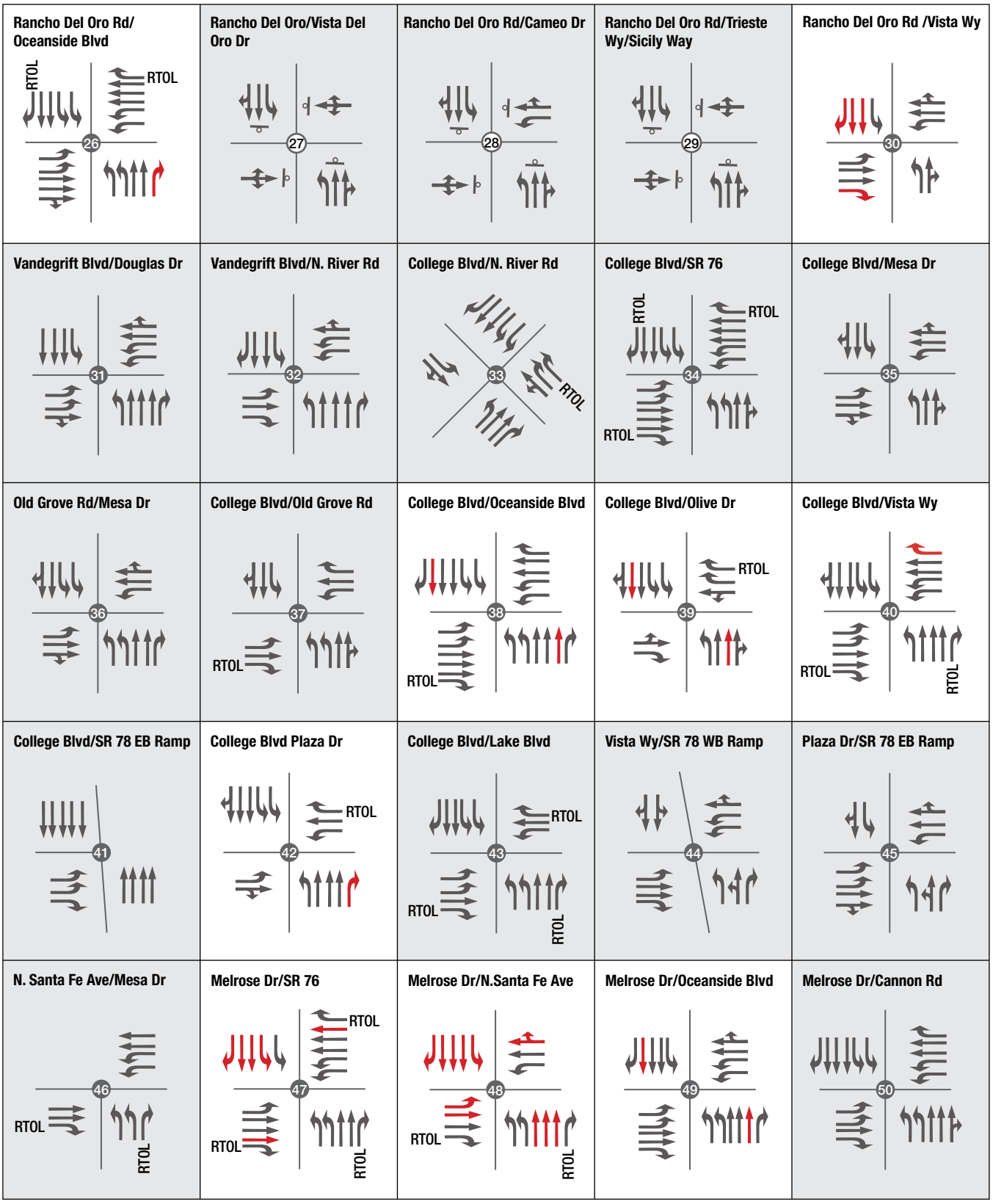
Unshaded intersection and red coloring indicates a geometric change from the Existing intersection geometry

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City of Oceanside Circulation Element

Modified 1995 CE Year 2030 Intersection Geometry

Figure 7.4



LEGEND

NS Street/EW Street

EW

NS

● Study Intersection - Signalized

○ Study Intersection - Unsignalized

\# Study Intersection Number

RTOL Right-turn overlap

Lane Geometry

Stop Sign Control

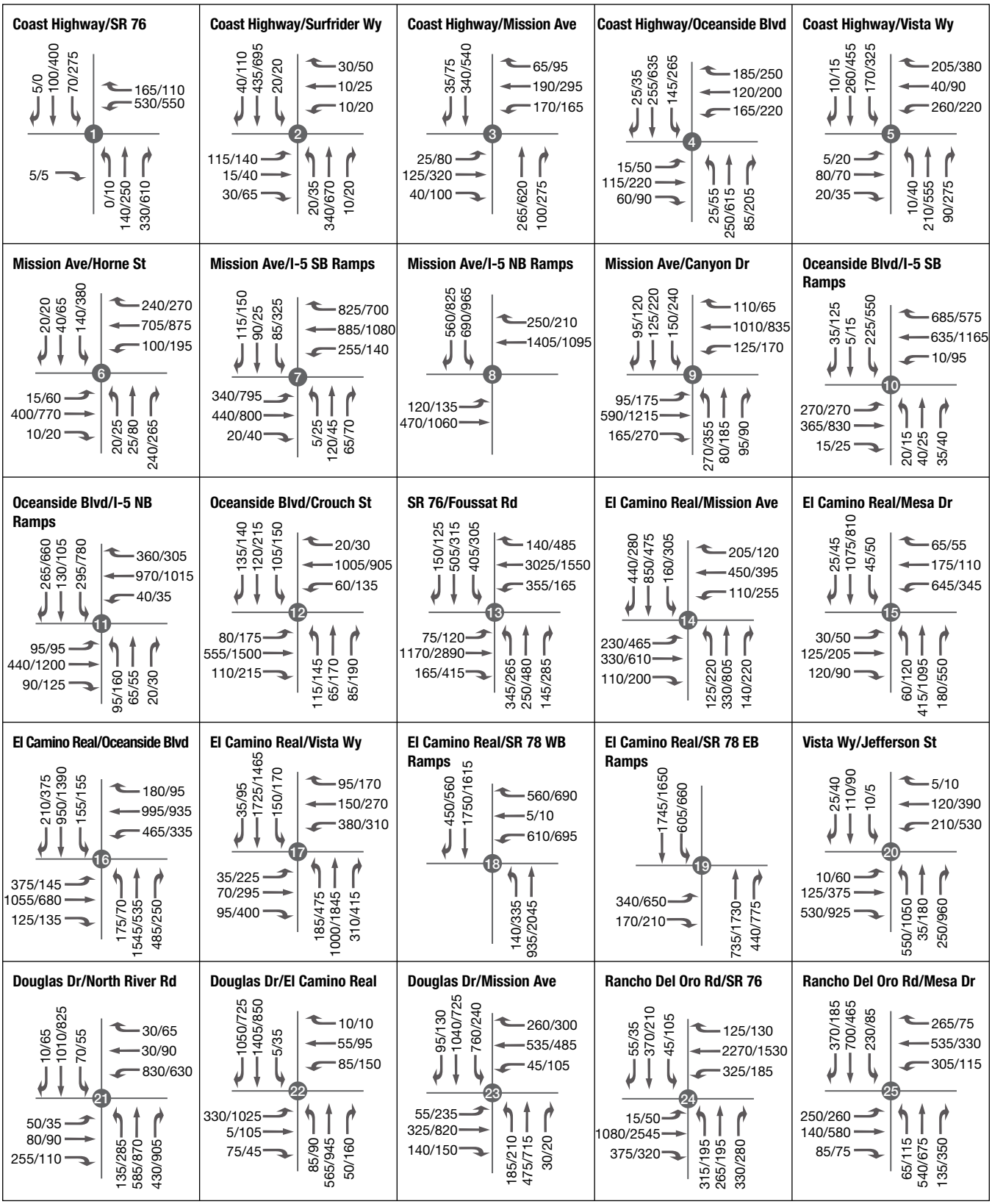
Unshaded intersection and red coloring indicates a geometric change from the Existing intersection geometry

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City of Oceanside Circulation Element

Modified 1995 CE Year 2030 Intersection Geometry

Figure 7.4



LEGEND: NS Street/EW Street #/# AM/PM Peak Hour Volume
#s Rounded to the Nearest 5th

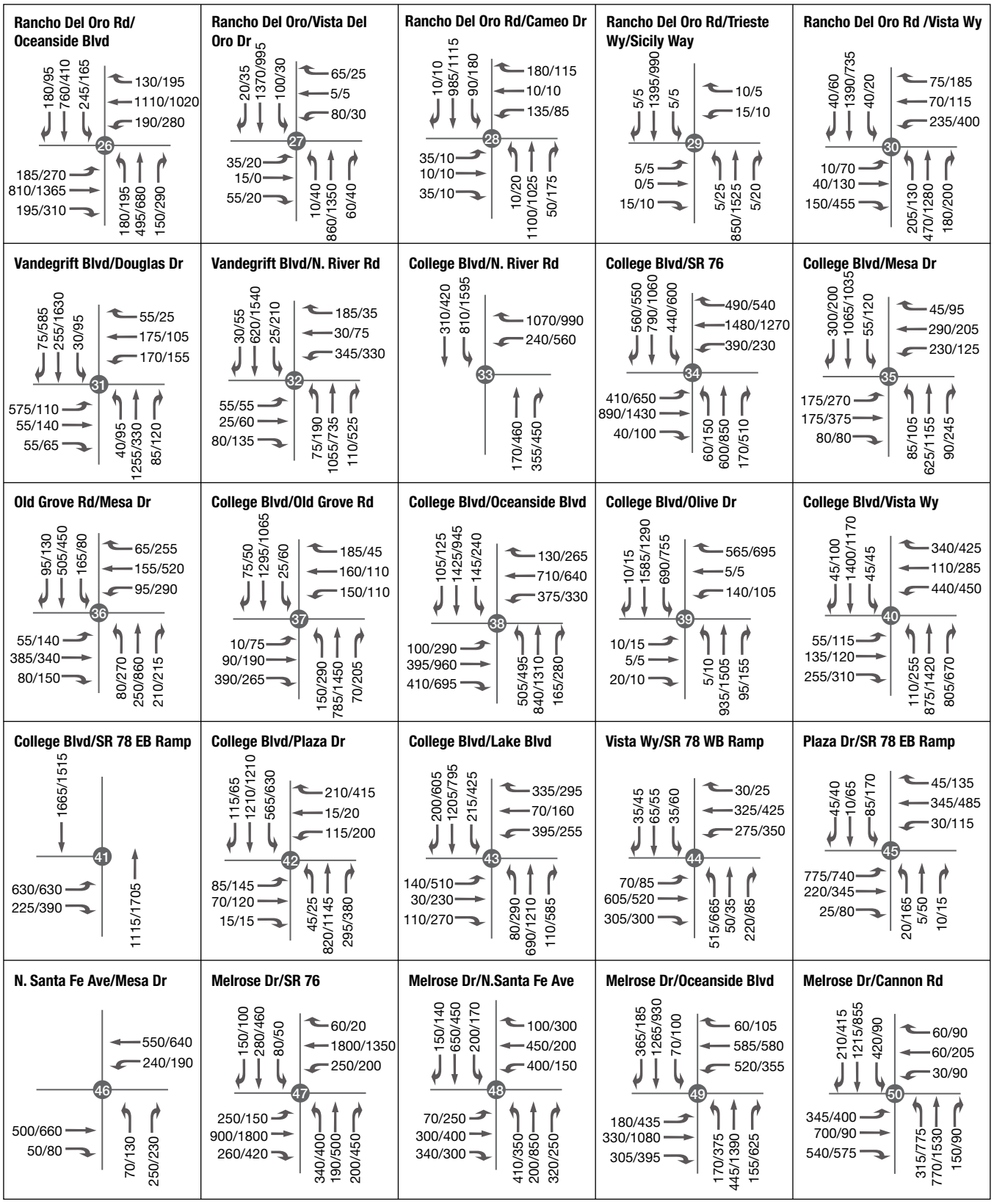
EW
NS

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City of Oceanside Circulation Element

Modified 1995 CE Volumes Year 2030 AM/PM Peak Hour Volumes

Figure 7.5



LEGEND: NS Street/EW Street #/# AM/PM Peak Hour Volume
#s Rounded to the Nearest 5th

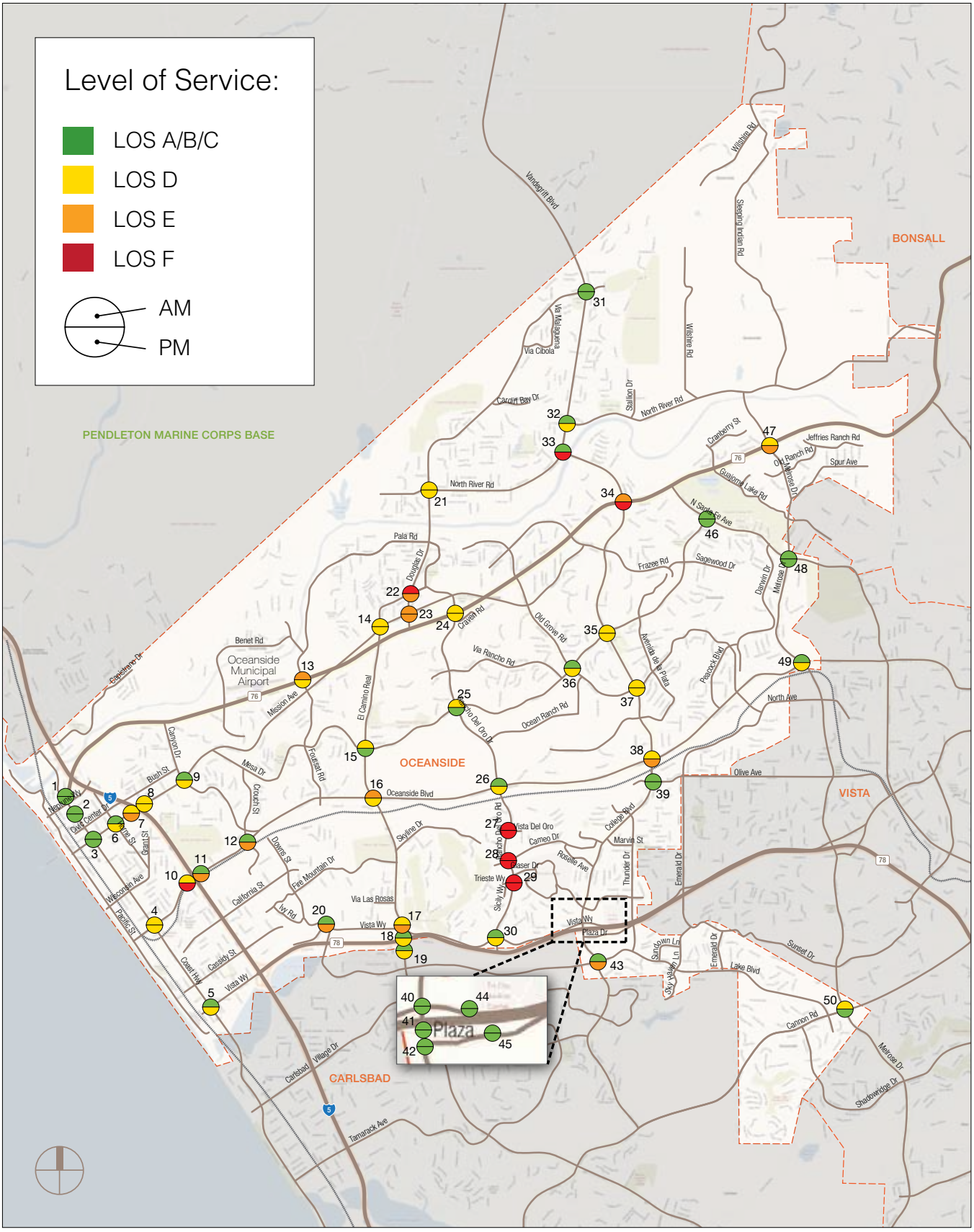
EW
NS

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City of Oceanside Circulation Element

Modified 1995 CE Volumes Year 2030 AM/PM Peak Hour Volumes

Figure 7.5


Level of Service:
LOS A/B/C
LOS D
LOS E
LOS F
AM
PM
PENDLETON MARINE CORPS BASE
BONSALL
OCEANSIDE
VISTA
CARLSBAD
Oceanside Municipal Airport
Plaza
1 Harbor Dr
2 Civic Center Dr
3
4 Pacific St
5 Coast Hwy
6 Tyler St
7
8 Bush St
9 Cannon Dr
10
11 California St
12 Downs St
13 Mission Ave
14
15
16 Oceanside Blvd
17 Vista Wy
18
19
20 Ivy Rd
21 North River Rd
22
23
24 Craven Rd
25 Rancho Del Oro Dr
26
27 Vista Del Oro
28
29 Trieste Wy
30
31 Via Vadequenta
32
33
34
35 Old Grove Rd
36
37
38
39 Olive Ave
40
41
42
43 Vista Wy
44
45
46 N Santa Fe Ave
47 Cranberry St
48 Melrose Dr
49 North Ave
50 Cannon Rd
Benet Rd
Vandegrift Blvd
Wilshire Rd
Stallion Dr
Cardiff Bay Dr
Via Cibola
Pala Rd
Douglas Dr
Frazee Rd
Sagewood Dr
Jeffries Ranch Rd
Spur Ave
Guajome Lake Rd
Via Rancho Rd
Ocean Ranch Rd
El Camino Real
Avenida de la Plata
Peacock Blvd
Mesa Dr
Foussat Rd
Skyline Dr
College Blvd
Marvie St
Rancho Del Oro Rd
Cameo Dr
Roselle Ave
Thunder Dr
Emerald Dr
Fire Mountain Dr
Via Las Rosas
Sicily Wy
Plaza Dr
Sunset Dr
Lake Blvd
Melrose Dr
Shadowridge Dr
Carlsbad Village Dr
Tamarack Ave
Cassidy St
Grant St
Wisconsin Ave
Harbor Dr
Civic Center Dr
Tyler St
Bush St
Cannon Dr
Mission Ave
Oceanside Municipal Airport
Mesa Dr
Oceanside Blvd
Vista Wy
Ivy Rd
Via Las Rosas
Fire Mountain Dr
California St
Downs St
Cassidy St
Coast Hwy
Pacific St
Wisconsin Ave
Grant St
Tyler St
Civic Center Dr
Harbor Dr
Skyline Dr
Foussat Rd
El Camino Real
Rancho Del Oro Dr
Ocean Ranch Rd
Via Rancho Rd
Old Grove Rd
Craven Rd
Douglas Dr
Pala Rd
Frazee Rd
Sagewood Dr
Avenida de la Plata
Peacock Blvd
Vista Del Oro
Cameo Dr
Roselle Ave
Thunder Dr
College Blvd
Marvie St
Trieste Wy
Glaser Dr
Sicily Wy
Emerald Dr
Plaza Dr
Sunset Dr
Lake Blvd
Melrose Dr
Shadowridge Dr
Cannon Rd
Olive Ave
North Ave
Peacock Blvd
Avenida de la Plata
Old Grove Rd
Via Rancho Rd
Ocean Ranch Rd
El Camino Real
Mission Ave
Benet Rd
Vandegrift Blvd
Via Vadequenta
Via Cibola
Cardiff Bay Dr
Stallion Dr
North River Rd
Wilshire Rd
Sleepy Indian Rd
Cranberry St
Jeffries Ranch Rd
Old Ranch Rd
Spur Ave
Guajome Lake Rd
N Santa Fe Ave
Melrose Dr
Sagewood Dr
Frazee Rd
Douglas Dr
Pala Rd
Craven Rd
Rancho Del Oro Dr
Ocean Ranch Rd
Via Rancho Rd
Old Grove Rd
Avenida de la Plata
Peacock Blvd
Mesa Dr
Foussat Rd
Skyline Dr
College Blvd
Marvie St
Vista Del Oro
Cameo Dr
Roselle Ave
Thunder Dr
Emerald Dr
Rancho Del Oro Rd
Trieste Wy
Glaser Dr
Sicily Wy
Fire Mountain Dr
Via Las Rosas

8.0 ALTERNATIVE 1 (YEAR 2030) ANALYSIS

Alternative 1 (Year 2030) is an alternative of the Modified 1995 CE scenario. Three of the key network pieces from the Modified 1995 CE scenario change for Alternative 1. This alternative was developed based on input from City staff, initial review of the model output, and input received at public meetings. The key network elements for Alternative 1 consist of the following (*previously highlighted in Figure 2.1*):

- State Route 76 is 6 Lanes
- Rancho Del Oro Road / State Route 78 Interchange is Included
- College Boulevard is a 4- and 6-Lane Hybrid
    - College Blvd is 6 lanes between Avenida de la Plata & Olive Drive and 4 lanes between Olive Drive & Waring Road
- Melrose Drive between North River Road and State Route 76 is Not Included
- Melrose Drive between North Santa Fe Avenue and Spur Avenue is Included
- Pala Road Connection to Foussat Road is Included
- Mission Avenue is a One-Way Couplet
- Coast Highway is 4 Lanes (Secondary Collector)

The differences between network Year 2030 Alternative 1 and the Modified 1995 CE are on College Boulevard, Melrose Drive between North River Road and SR76, and Mission Avenue. Figure 8.1 shows the Alternative 1 network geometry.

8.1 ALTERNATIVE 1 SEGMENT ANALYSIS

The Alternative 1 (Year 2030) scenario traffic forecasting was conducted using the Series 11 North County Subarea Model. The model output average daily traffic (ADT) volumes were reviewed and post-processed based on the new network and compared against the Modified 1995 CE scenario for overall consistency. The Alternative 1 (Year 2030) scenario segment volumes are compared to the Modified 1995 CE segment volumes in Table 8-1. Figure 8.2 shows the Alternative 1 (Year 2030) segment volumes. As shown in Table 8-1, there are segments that operate at a deficient level of service (LOS E or LOS F) under the Alternative 1 network. Figure 8.3 shows the roadway levels of service.

- Coast Highway: Wisconsin Avenue to Oceanside Boulevard (LOS E)
- College Boulevard: SR76 to Mesa Drive (LOS E)
- College Boulevard: Old Grove Road to Avenida de la Plata (LOS E)
- College Boulevard: Oceanside Boulevard to Thunder Drive (LOS E)
- College Boulevard: Vista Way to Plaza Drive (LOS E)
- College Boulevard: Lake Boulevard to Southern City Limits (LOS F)
- Douglas Drive: Via Malaguena to Cardiff Bay Drive (LOS E)
- Douglas Drive: North River Road to Pala Road (LOS E)

- Douglas Drive: Pala Road to El Camino Real (LOS E)
- El Camino Real: Mesa Drive to Oceanside Boulevard (LOS E)
- El Camino Real: Vista Way to SR78 (LOS E)
- Lake Boulevard: Thunder Drive to Sundown Lane (LOS F)
- Mesa Drive: Mission Avenue to Foussat Road (LOS F)
- Oceanside Boulevard: Crouch Street to Foussat Road (LOS E)
- North River Road: College Boulevard to Vandegrift Boulevard (LOS E)
- Vista Way: Coast Highway to I-5 (LOS F)
- Vista Way: College Boulevard to SR78 WB Ramps (LOS F)
- State Route 76: Melrose Drive to Eastern City Limits (LOS F)

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
Cannon Road									
Melrose Drive to Shadowridge Dr	29,100	C	0.78	4D	Major Arterial	40,000	28,300	C	0.71
Canyon Drive									
SR76 to Mission Avenue	10,700	B	0.43	4U	Secondary Collector	25,000	10,700	B	0.43
Mission Avenue to Oceanside Boulevard	9,300	B	0.37	4U	Secondary Collector	25,000	9,300	B	0.37
Coast Highway									
Harbor Drive to SR76	17,100	C	0.68	4U	Secondary Collector	25,000	16,600	C	0.66
SR76 to Mission Avenue	20,100	D	0.80	4U	Secondary Collector	25,000	18,100	D	0.72
Mission Avenue to Wisconsin Avenue	**23,700**	**E**	**0.95**	4U	Secondary Collector	25,000	21,600	D	0.86
Wisconsin Avenue to Oceanside Boulevard	**23,600**	**E**	**0.94**	4U	Secondary Collector	25,000	**23,300**	**E**	**0.93**
Oceanside Boulevard to Cassidy Street	21,800	D	0.87	4U	Secondary Collector	25,000	21,900	D	0.88

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
Cassidy Street to Vista Way	20,900	D	0.84	4U	Secondary Collector	25,000	19,700	D	0.79
Vista Way to Southern City Limits	19,700	D	0.79	4U	Secondary Collector	25,000	17,700	C	0.71
College Boulevard									
N. River Road to SR76	42,200	D	0.84	6D	Major Arterial	50,000	44,900	D	0.90
SR76 to Frazee Road	**36,300**	**E**	**0.91**	4D	Major Arterial	40,000	**36,100**	**E**	**0.90**
Frazee Road to Mesa Drive	**36,900**	**E**	**0.92**	4D	Major Arterial	40,000	**36,700**	**E**	**0.92**
Mesa Drive to Old Grove Road	32,600	D	0.82	4D	Major Arterial	40,000	31,100	D	0.78
Old Grove Road to Avenida de la Plata	39,000	D	0.78	4D	Major Arterial	40,000	**37,500**	**E**	**0.94**
Avenida de la Plata to Oceanside Boulevard	42,500	D	0.85	6D	Major Arterial	50,000	40,100	D	0.80
Oceanside Boulevard to Olive Drive	**52,000**	**F**	**1.04**	6D	Major Arterial	50,000	**47,700**	**E**	**0.95**
Olive Drive to Thunder Drive	40,000	C	0.80	4D	Major Arterial	40,000	**35,900**	**E**	**0.90**
Thunder Drive to Waring Road	35,400	C	0.71	4D	Major Arterial	40,000	32,600	D	0.82
Waring Road to Vista Way	**45,800**	**E**	**0.92**	6D	Major Arterial	50,000	43,900	D	0.88
Vista Way to SR78	**47,100**	**E**	**0.94**	6D	Major Arterial	50,000	**45,800**	**E**	**0.92**
SR78 to Plaza Drive	**49,300**	**E**	**0.99**	6D	Major Arterial	50,000	**49,000**	**E**	**0.98**
Plaza Drive to Lake Boulevard	39,300	C	0.79	6D	Major Arterial	50,000	39,100	C	0.78
Lake Boulevard to Southern City Limits	**41,400**	**F**	**1.04**	4D	Major Arterial	40,000	**41,500**	**F**	**1.04**
Douglas Drive									
Vandegrift Boulevard to Via Malaguena	13,300	B	0.44	4D/U	Secondary Collector	30,000	13,600	B	0.45

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
Via Malaguena to Cardiff Bay Drive	13,300	B	0.44	2TWLT	Collector	15,000	**13,600**	**E**	**0.91**
Cardiff Bay Drive to N. River Road	17,500	C	0.58	4TWLT	Secondary Collector	30,000	18,000	C	0.60
N. River Road to Pala Road	**37,500**	**E**	**0.94**	4D	Major Arterial	40,000	**39,100**	**E**	**0.98**
Pala Road to El Camino Real	**38,400**	**E**	**0.96**	4D	Major Arterial	40,000	**39,500**	**E**	**0.99**
El Camino Real to Mission Ave	23,900	C	0.60	4U	Major Arterial	40,000	24,000	C	0.60
Mission Avenue to SR76	25,400	C	0.64	4U	Major Arterial	40,000	25,600	C	0.64
El Camino Real									
Douglas Drive to Mission Avenue	25,400	C	0.64	4D	Major Arterial	40,000	25,900	C	0.65
Mission Avenue to Mesa Drive	25,500	C	0.64	4D	Major Arterial	40,000	25,800	C	0.65
Mesa Drive to Oceanside Boulevard	**39,600**	**E**	**0.99**	4D	Major Arterial	40,000	**39,700**	**E**	**0.99**
Oceanside Boulevard to Fire Mountain Road	43,100	C	0.72	6D	Prime Arterial	60,000	43,400	C	0.72
Fire Mountain Road to Via Las Rosas	48,200	C	0.80	6D	Prime Arterial	60,000	48,400	C	0.53
Via Las Rosas to Vista Way	53,600	D	0.89	6D	Prime Arterial	60,000	53,700	D	0.90
Vista Way to SR78	**58,900**	**E**	**0.98**	6D	Prime Arterial	60,000	**59,000**	**E**	**0.98**
Emerald Drive									
Lake Boulevard to Sunset Drive	4,200	A	0.14	4TWLT	Secondary Collector	30,000	4,300	A	0.14
Frazee Road									
Old Grove Road to SR76	5,700	A	0.14	4D	Major Arterial	40,000	5,800	A	0.15
SR76 to College Boulevard	12,000	A	0.30	4D	Major Arterial	40,000	12,100	A	0.30

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
College Boulevard to Sagewood Drive	5,200	B	0.52	2D	Collector	10,000	5,400	B	0.54
Lake Boulevard									
College Boulevard to Thunder Drive	19,500	C	0.65	4TWLT	Secondary Collector	30,000	19,300	C	0.64
Thunder Drive to Sundown Lane	16,200	C	0.54	2TWLT	Collector	15,000	**16,100**	**F**	**1.07**
Sundown Lane to Sky Haven Lane	16,200	C	0.54	4TWLT	Secondary Collector	30,000	16,100	C	0.54
Sky Haven Lane to Cannon Road	14,700	C	0.49	4TWLT	Secondary Collector	30,000	14,600	C	0.49
Melrose Drive									
SR76 to N. Santa Fe Avenue	26,500	~~C~~B	0.53	6D	Major Arterial	50,000	23,200	B	0.46
N. Santa Fe Avenue to Oceanside Boulevard	36,600	C	0.61	6D	Prime Arterial	60,000	36,600	C	0.59
Oceanside Boulevard to City Limits	43,800	C	0.73	6D	Prime Arterial	60,000	43,800	C	0.72
City Limits to Cannon Road	32,100	B	0.54	6D	Prime Arterial	60,000	32,100	B	0.53
Cannon Road to Southern City Limits	34,100	B	0.57	6D	Prime Arterial	60,000	34,100	B	0.57
Mesa Drive									
Mission Avenue to Foussat Road	**11,100**	**F**	**1.11**	2U	Collector	10,000	**11,100**	**F**	**1.11**
Foussat Road to El Camino Real	8,800	C	0.59	2TWLT	Collector	15,000	8,700	C	0.58
El Camino Real to Rancho Del Oro Drive	17,300	C	0.58	4TWLT/D	Secondary Collector	30,000	17,300	C	0.58
Rancho Del Oro Drive to Old Grove Road	18,100	C	0.60	4TWLT/D	Secondary Collector	30,000	18,100	C	0.60

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
Old Grove Road to College Boulevard	18,700	C	0.62	4TWLT	Secondary Collector	30,000	18,600	C	0.62
College Boulevard to N. Santa Fe Avenue	15,100	C	0.50	4TWLT	Secondary Collector	30,000	14,900	C	0.50
Mission Avenue									
Pacific Street to Cleveland Street	14,400	C	0.48	4D	Secondary Collector	30,000	14,400	C	0.48
Cleveland Street to Coast Highway	14,400	C	0.36	One-way (2-Lane)	Collector	15,000	7,200	C	0.48
Coast Highway to Clementine Street	15,900	C	0.40	One-way (2-Lane)	Collector	15,000	11,500	D	0.76
Clementine Street to Horne Street	16,800	C	0.42	4U	Secondary Collector	25,000	21,400	D	0.86
Horne Street to I-5	27,000	C	0.68	4D	Major Arterial	40,000	27,000	C	0.69
I-5 to Canyon Drive	34,600	D	0.87	4D	Major Arterial	40,000	35,000	D	0.88
Canyon Drive to Mesa Drive	27,000	C	0.68	4D	Major Arterial	40,000	27,400	C	0.69
Mesa Drive to Foussat Road	27,200	C	0.68	4D	Major Arterial	40,000	27,400	C	0.69
Foussat Road to El Camino Real	29,400	C	0.74	4D	Major Arterial	40,000	29,500	C	0.74
El Camino Real to Douglas Drive	25,300	C	0.63	4D	Major Arterial	40,000	25,400	C	0.64
Douglas Drive to Rancho Del Oro Drive	31,000	D	0.78	4D	Major Arterial	40,000	31,600	D	0.79
Rancho Del Oro Drive to Old Grove Road	12,900	B	0.52	4U	Secondary Collector	25,000	12,900	B	0.52
Old Grove Road to Frazee Road	9,100	A	0.30	4TWLT/U/D	Secondary Collector	30,000	9,100	A	0.30

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
North Avenue									
Olive Drive to Temple Heights Drive	7,800	A	0.26	4TWLT	Secondary Collector	30,000	7,900	A	0.26
Temple Heights Drive to Melrose Drive	3,900	A	0.13	4TWLT	Secondary Collector	30,000	4,100	A	0.14
North River Road									
Douglas Drive to College Boulevard	23,400	C	0.59	4D	Major Arterial	40,000	24,500	C	0.61
College Boulevard to Vandegrift Boulevard	38,300	D	0.85	5D	Major Arterial	45,000	**42,300**	**E**	**0.94**
Vandegrift Boulevard to Stallion Road	9,700	A	0.24	4D	Major Arterial	40,000	10,800	A	0.27
Stallion Road to Melrose Dr	10,600	B	0.27	4D	Major Arterial	40,000	7,000	A	0.18
Melrose Drive to Eastern City Limits	12,900	B	0.86	4TWLT	Secondary Collector	30,000	9,400	A	0.31
North Santa Fe Avenue									
SR76 to Mesa Drive	25,700	C	0.64	4D	Major Arterial	40,000	26,800	C	0.67
Mesa Drive to Melrose Drive	27,500	C	0.69	4D	Major Arterial	40,000	28,600	C	0.72
Oceanside Boulevard									
Pacific Street to Coast Highway	8,700	D	0.87	2U	Collector	10,000	8,500	D	0.85
Coast Highway to I-5	21,100	D	0.84	4U	Secondary Collector	25,000	21,100	D	0.84
I-5 to Crouch Street	32,600	D	0.82	4TWLT	Major Arterial	40,000	32,700	D	0.82
Crouch Street to Foussat Road	**37,900**	**E**	**0.95**	4TWLT	Major Arterial	40,000	**38,000**	**E**	**0.95**
Foussat Road to El Camino Real	33,800	D	0.85	4TWLT	Major Arterial	40,000	33,900	D	0.85
El Camino Real to Rancho Del Oro Road	37,100	C	0.62	6D	Prime Arterial	60,000	37,100	C	0.62

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
Rancho Del Oro Road to College Boulevard	41,400	C	0.69	6D	Prime Arterial	60,000	41,400	C	0.69
College Boulevard to Melrose Drive	29,500	C	0.74	4D	Major Arterial	40,000	29,400	C	0.74
Melrose Drive to Eastern City Limits	28,000	C	0.70	4D	Major Arterial	40,000	28,200	C	0.71
Old Grove Road									
Frazee Road to SR76	8,000	A	0.20	4D	Major Arterial	40,000	8,000	A	0.20
SR76 to Mission Avenue	17,800	B	0.45	4D	Major Arterial	40,000	17,900	B	0.45
Mission Avenue to Mesa Drive	17,700	B	0.44	4D	Major Arterial	40,000	17,800	B	0.45
Mesa Drive to College Boulevard	24,900	C	0.62	4D	Major Arterial	40,000	24,900	C	0.62
Olive Drive									
College Boulevard to Emerald Drive	17,700	C	0.59	4TWLT	Secondary Collector	30,000	18,600	C	0.62
Pala Road									
Foussat Road Los Arbolitos Boulevard	7,000	A	0.23	4TWLT	Secondary Collector	30,000	7,500	A	0.25
Los Arbolitos Boulevard to Douglas Drive	8,300	A	0.28	4TWLT	Secondary Collector	30,000	8,800	A	0.29
Plaza Drive									
College Boulevard to SR78 EB on/off-ramps	22,100	D	0.74	4D	Secondary Collector	30,000	22,200	D	0.74
SR78 EB on/off-ramps to Eastern City Limits	16,000	C	0.53	4D	Secondary Collector	30,000	16,000	C	0.53
Rancho Del Oro Drive									
Mission Avenue to SR76	9,000	A	0.23	4D	Major Arterial	40,000	9,300	A	0.23

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
SR76 to Mesa Drive	24,200	C	0.61	4D	Major Arterial	40,000	24,400	C	0.61
Mesa Drive to Oceanside Boulevard	26,500	C	0.66	4D	Major Arterial	40,000	26,700	C	0.67
Oceanside Boulevard to Cameo Drive	32,400	D	0.81	4D	Major Arterial	40,000	32,700	D	0.82
Cameo Drive to SR78	30,800	D	0.77	4D	Major Arterial	40,000	31,100	D	0.78
Vandegrift Boulevard									
Northern City Limits to Douglas Drive	26,000	C	0.58	5D	Major Arterial	45,000	26,000	C	0.58
Douglas Drive to N. River Road	27,600	C	0.61	5D	Major Arterial	45,000	29,100	C	0.65
Vista Way									
Coast Highway to I-5	18,100	C	0.60	2TWLT	Collector	15,000	**18,200**	**F**	**1.21**
Jefferson Street to El Camino Real	15,400	C	0.51	4TWLT	Secondary Collector	30,000	15,400	C	0.51
El Camino Real to Rancho Del Oro Road	18,100	C	0.60	4TWLT	Secondary Collector	30,000	18,200	C	0.61
Rancho Del Oro Road to College Boulevard	24,600	D	0.82	4TWLT	Secondary Collector	30,000	24,600	D	0.82
College Boulevard to SR78 WB Ramps	**31,500**	**F**	**1.05**	4TWLT	Secondary Collector	30,000	**31,100**	**F**	**1.04**
SR78 WB Ramps to Thunder Drive	19,200	C	0.64	4TWLT	Secondary Collector	30,000	18,800	C	0.63
State Route 76									
I-5 to Canyon Drive	60,700	D	0.76	6D	Expressway	80,000	60,800	D	0.76
Canyon Drive to Foussat Road	65,900	D	0.82	6D	Expressway	80,000	66,100	D	0.83
Foussat Road to Douglas Drive	59,800	C	0.75	6D	Expressway	80,000	59,800	C	0.75

Table 8-1 Alternative 1 Year 2030
Segment ADT Volumes

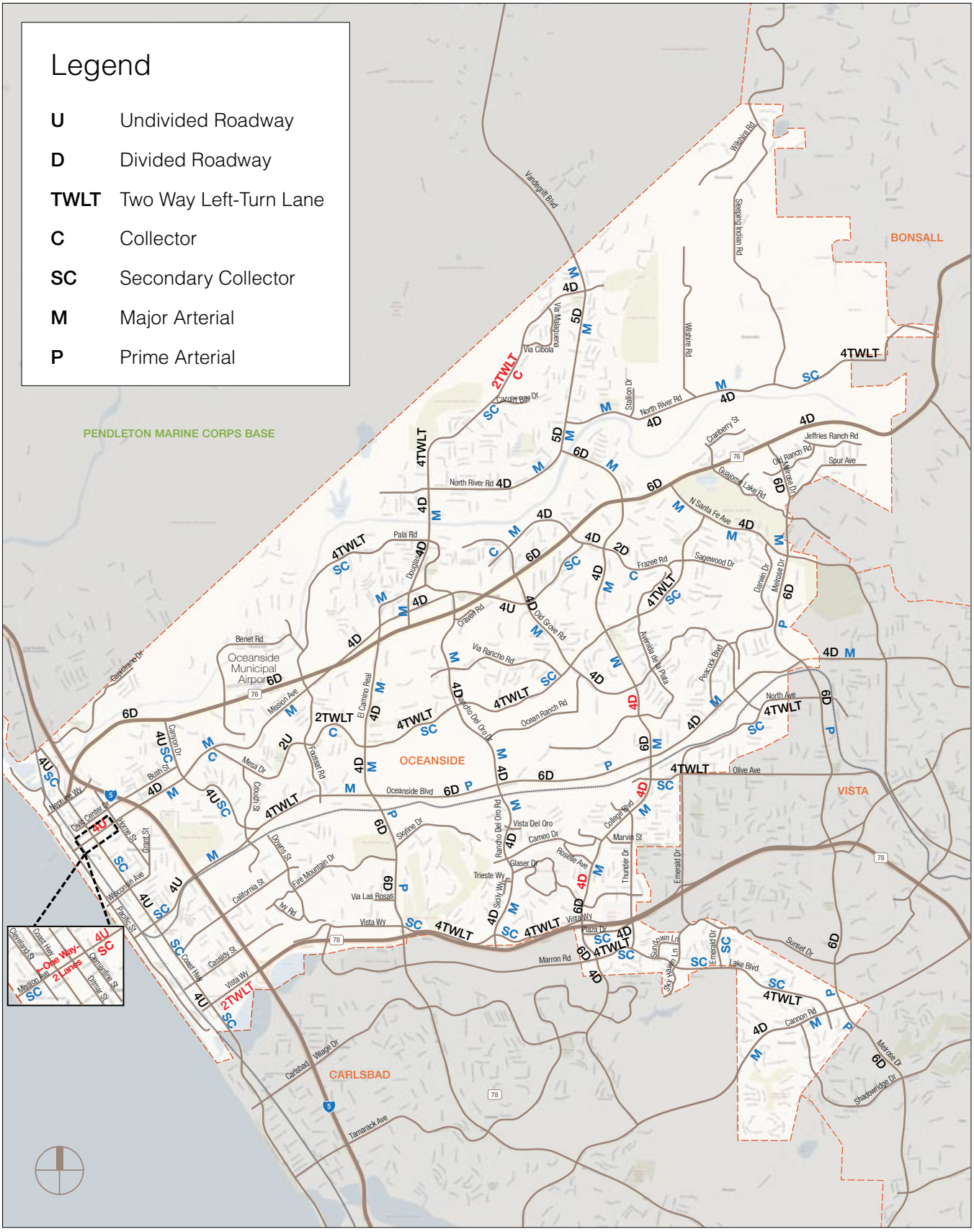
	Modified 1995 CE			Alternative 1					
Street	**ADT[a]**	**LOS[b]**	**V/C[c]**	**Alternative 1 Lanes[d]**	**Classification**	**LOS E Capacity[e]**	**ADT**	**LOS**	**V/C**
Douglas Drive to Rancho Del Oro Drive	54,100	C	0.68	6D	Expressway	80,000	53,800	C	0.67
Rancho Del Oro Drive to Frazee Road	58,200	C	0.73	6D	Expressway	80,000	57,900	C	0.72
Frazee Road to College Boulevard	51,500	C	0.64	6D	Expressway	80,000	51,100	C	0.64
College Boulevard to N. Santa Fe Avenue	56,200	C	0.70	6D	Expressway	80,000	57,500	C	0.72
N. Santa Fe Avenue to Melrose Drive	58,000	C	0.73	6D	Expressway	80,000	57,700	C	0.72
Melrose Drive to Eastern City Limits	**61,800**	**F**	**1.03**	4D	Expressway	60,000	**65,000**	**F**	**1.08**

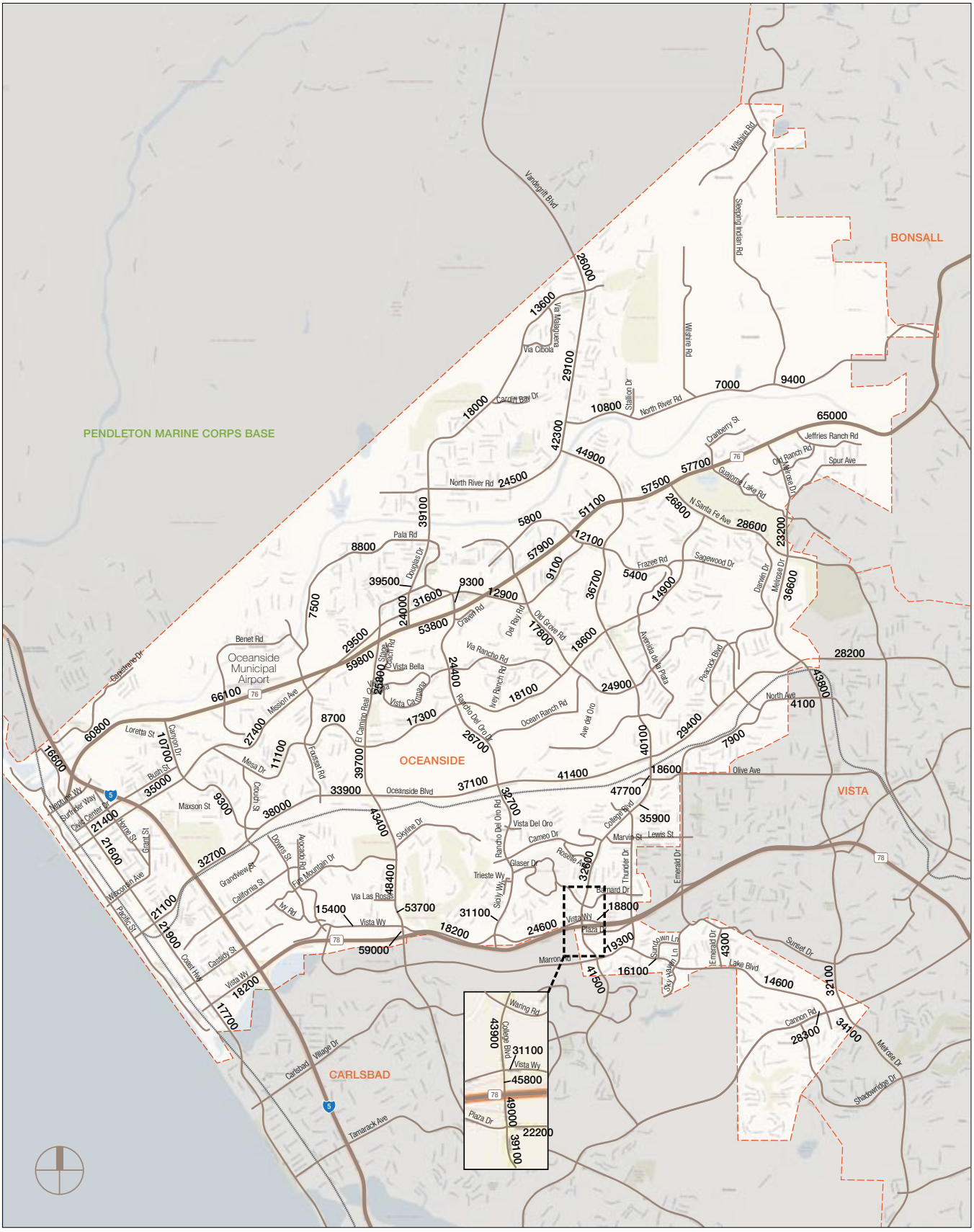
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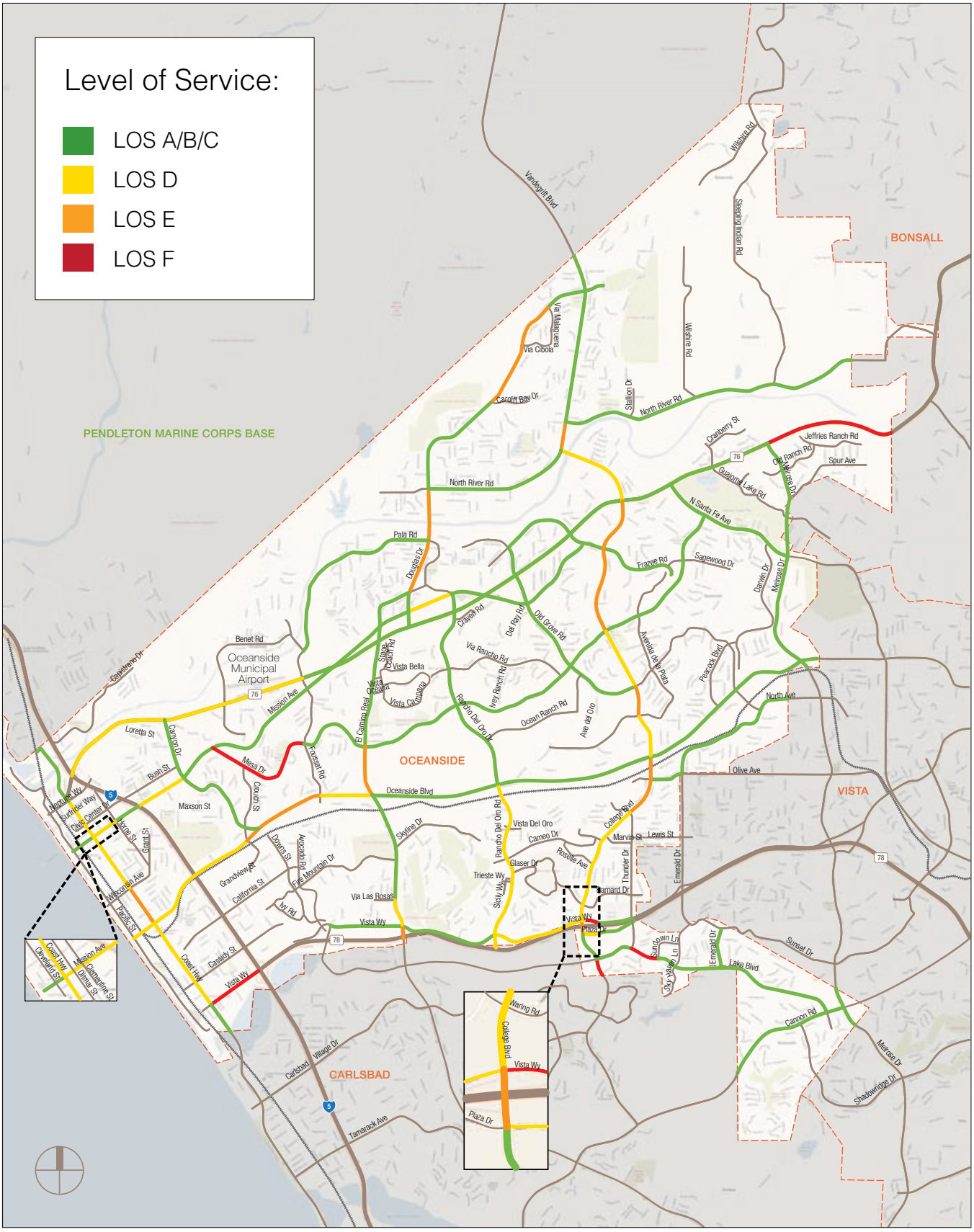
a. ADT = Average Daily Traffic Volumes
b. LOS = Level of Service
c. V/C = Volume-to-Capacity Ratio
d. #D – total number of lanes in both directions divided by a raised median ; #U – total number of undivided lanes in both lanes ; #TWLT – total number of lanes in both directions with a center continuous two-way left turn lane.
e. LOS E is based on criteria established in the City of Oceanside Circulation Element Roadway Capacity Table (2009)

Notes:

1. **Bold** indicates an unacceptable level of service.
2. Red text indicates a change from Modified 1995 CE to Alternative 1 in the network.


Legend
U Undivided Roadway
D Divided Roadway
TWLT Two Way Left-Turn Lane
C Collector
SC Secondary Collector
M Major Arterial
P Prime Arterial
PENDLETON MARINE CORPS BASE
BONSALL
OCEANSIDE
VISTA
CARLSBAD
Oceanside Municipal Airport
Vandegrift Blvd
Wilshire Rd
Via Cibola
Cardiff Bay Dr
Stallion Dr
North River Rd
Sleepy Indian Rd
Cranberry St
Jeffries Ranch Rd
Old Ranch Rd
Spur Ave
Guajome Lake Rd
Old Grove Rd
N Santa Fe Ave
Pala Rd
Douglas Dr
Frazee Rd
Sagewood Dr
Melrose Dr
Benet Rd
Cassiano Rd
Via Rancho Rd
Avenida de la Plata
Peacock Blvd
North Ave
Olive Ave
Mission Ave
El Camino Real
Ocean Ranch Rd
Rancho Del Oro Dr
Oceanside Blvd
Vista Del Oro
Cameo Dr
College Blvd
Marvin St
Roselle Ave
Glaser Dr
Trieste Wy
Sicily Wy
Thunder Dr
Emerald Dr
Skyline Dr
Foussat Rd
Canyon Dr
Bush St
Mesa Dr
Douglas St
Grant St
Haynes St
Civic Center Dr
Nevada Wy
Wisconsin Ave
Downs St
Fire Mountain Dr
California St
Ivy Rd
Via Las Rosas
Vista Wy
Plaza Dr
Marron Rd
Sunset Dr
Lake Blvd
Sunglow Ln
Sky Valley Ln
Cannon Rd
Shadowridge Dr
Carlsbad Village Dr
Tamarack Ave
Cleveland St
Oceanside Blvd
Mission Ave
Hill St
Cleveland Ave
Coast Hwy
Cassidy St
Vista Wy
Parkside St
One Way - 2 Lanes
Carlsbad Blvd
Oceanside Harbor
Pier View Way
Harbor Dr
Oceanside Pier
Wisconsin Ave
Myrtle Ave
Seagaze Dr
Buena Vista Lagoon
Loma Alta Creek
Agua Hedionda Lagoon
Batiquitos Lagoon
Encinitas Blvd
Leucadia Blvd
Manchester Ave
Lake Dr
Lake Calavera
Calavera Hills Blvd
Poinsettia Ln
Alga Rd
Cannon Rd
Palomar Airport Rd
Melrose Dr
Shadowridge Dr
Rancho Carrillo
Rancho Del Oro
Rancho Del Oro Dr
Rancho Del Oro Rd
Rancho Del Oro Dr
Rancho Del Oro Rd
Rancho Del Oro Dr
Rancho Del Oro Rd


PENDLETON MARINE CORPS BASE
BONSALL
OCEANSIDE
VISTA
CARLSBAD
Oceanside Municipal Airport
Vandegrift Blvd
Wilshire Rd
Via Cibola
Cardiff Bay Dr
Stallion Dr
North River Rd
Cranberry St
Jeffries Ranch Rd
Old Ranch Rd
Spur Ave
Guajome Lake Rd
N Santa Fe Ave
Pala Rd
Douglas Dr
Frazee Rd
Sagewood Dr
Melrose Dr
Benet Rd
Mission Ave
Loretta St
Cannon Dr
Bush St
Mesa Dr
Foussat Rd
El Camino Real
Vista Bella
Vista Campana
Via Rancho Rd
Ivey Ranch Rd
Ocean Ranch Rd
Ave del Oro
Avenida de la Plata
Peacock Blvd
North Ave
Olive Ave
Oceanside Blvd
Skyline Dr
Rancho Del Oro Rd
Vista Del Oro
Cameo Dr
College Blvd
Marvin St
Lewis St
Emerald Dr
Thunder Dr
Glaser Dr
Trieste Wy
Sicily Wy
Via Las Rosas
Vista Wy
Plaza
Marron Rd
Sunglow Ln
Sky Valley Ln
Lake Blvd
Sunset Dr
Cannon Rd
Shadowridge Dr
Waring Rd
College Blvd
Plaza Dr
Carlsbad Village Dr
Tamarack Ave
Carlsbad Blvd
Maxson St
Downs St
Grant St
Nevada St
Grandview St
California St
Ivy Rd
Cassidy St
Coast Hwy
Wisconsin Ave
Pacific St
Avocado Rd
Fire Mountain Dr
Gateway Wy
Courthaven Way
Civic Center Dr
Carpenter Dr
Wire Mountain Rd
Via Rancho Vista
Shepard Indian Rd
Old Grove Rd
Del Rey Rd
Craven Rd
Stage Coach Rd
Douglas Dr
Rosella Pl
Emerald Dr
Sky Valley Ln
Melrose Dr
Darwin Dr
Frazee Rd
Sagewood Dr
Jeffries Ranch Rd
Spur Ave
Cranberry St
Guajome Lake Rd
Old Ranch Rd
Wire Mountain Rd
Via Cibola
Cardiff Bay Dr
Stallion Dr
North River Rd
Pala Rd
Douglas



IBI GROUP

City of Oceanside Circulation Element

Alternative 1 Year 2030 Roadway Level of Service

Figure 8.3

8.2 ALTERNATIVE 1 (YEAR 2030) INTERSECTION OPERATIONS

The Alternative 1 (Year 2030) intersection turning movement volumes were calculated from the Series 11 North County Subarea model forecast volumes. The Alternative 1 (Year 2030) intersection geometry is shown in Figure 8.4 and the intersection turning movement volumes are shown in Figure 8.5. A comparison of the Alternative 1 and Modified 1995 CE scenario intersection peak hour operations and LOS is shown in Table 8-2. Appendix F contains the Alternative 1 intersection calculation sheets. As shown in Table 8-2, there are several intersections that operate at a deficient level of service (LOS E or LOS F) during one or both peak hour time periods under the Alternative 1 scenario. Figure 8.6 shows the Alternative 1 intersection levels of service.

- Mission Avenue & I-5 SB Ramps (PM - LOS E)
- Mission Avenue & I-5 NB Ramps (PM - LOS E)
- Oceanside Boulevard & I-5 SB Ramps (PM - LOS F)
- Oceanside Boulevard & I-5 NB Ramps (PM - LOS E)
- Oceanside Boulevard & Crouch Street (PM - LOS E)
- SR76 & Foussat Road (AM - LOS E)
- El Camino Real & Oceanside Boulevard (AM - LOS E)
- El Camino Real & Vista Way (PM - LOS E)
- Vista Way & Jefferson Street (PM - LOS E)
- Douglas Drive & El Camino Real (AM - LOS F; PM - LOS E)
- Douglas Drive & Mission Avenue (AM & PM - LOS E)
- Rancho Del Oro Road & Vista Del Oro Drive (AM & PM - LOS F)
- Rancho Del Oro Road & Cameo Drive (AM & PM - LOS F)
- Rancho Del Oro Road & Trieste Way & Sicily Way (AM & PM - LOS F)
- College Boulevard & North River Road (PM - LOS F)
- College Boulevard & SR76 (AM & PM - LOS F)
- College Boulevard & Lake Boulevard (PM - LOS E)

Table 8-2 Alternative 1 Year 2030
Intersection Operations & Level of Service

Intersection	Control Type	Peak Hour	Modified 1995 CE		Alternative 1		
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]
1. Coast Hwy & SR76	Signal	AM	15.5	B	15.5	B	0.0
		PM	21.1	C	21.9	C	0.8
2. Coast Hwy & Surfrider Way	Signal	AM	11.6	B	11.6	B	0.0
		PM	14.3	B	14.5	B	0.2
3. Coast Hwy & Mission Ave	Signal	AM	11.7	B	11.0	B	-0.7
		PM	14.5	B	12.9	B	-1.6
4. Coast Hwy & Oceanside Blvd	Signal	AM	39.1	D	39.1	D	0.0
		PM	49.1	D	49.0	D	-0.1
5. Coast Hwy & Vista Way	Signal	AM	26.4	C	26.4	C	0.0
		PM	41.4	D	46.9	D	5.5
6. Mission Ave & Horne St	Signal	AM	27.8	C	26.8	C	-1.0
		PM	38.6	D	42.1	D	3.5
7. Mission Ave & I-5SB Ramps	Signal	AM	46.4	D	45.0	D	-1.4
		PM	**55.2**	**E**	**56.2**	**E**	**1.0**
8. Mission Ave & I-5NB Ramps	Signal	AM	40.4	D	46.9	D	6.5
		PM	48.9	D	**57.6**	**E**	**8.7**
9. Mission Ave & Canyon Dr	Signal	AM	28.2	C	28.5	C	0.3
		PM	41.5	D	42.9	D	1.4
10. Oceanside Blvd & I-5 SB Ramps	Signal	AM	51.4	D	54.5	D	3.1
		PM	**82.4**	**F**	**89.5**	**F**	**1.9**
11. Oceanside Blvd & I-5 NB Ramps	Signal	AM	28.3	C	28.3	C	0.0
		PM	**63.6**	**E**	**65.9**	**E**	**2.3**
12. Oceanside Blvd & Crouch St	Signal	AM	33.8	C	35.2	D	1.4
		PM	**58.2**	**E**	**59.2**	**E**	**1.0**
13. SR76 & Foussat Rd	Signal	AM	**67.3**	**E**	**68.9**	**E**	**1.6**
		PM	51.4	D	53.3	D	1.9
14. El Camino Real & Mission Ave	Signal	AM	47.0	D	47.4	D	-0.6
		PM	45.6	D	46.9	D	1.3
15. El Camino Real & Mesa Dr	Signal	AM	38.5	D	41.0	D	2.5
		PM	31.5	C	33.5	D	2.0

Table 8-2 Alternative 1 Year 2030
Intersection Operations & Level of Service

	Intersection	Control Type	Peak Hour	Modified 1995 CE		Alternative 1		
				Delay[a]	LOS[b]	Delay	LOS	Δ[c]
16.	El Camino Real & Oceanside Blvd	Signal	AM	**56.9**	**E**	**57.1**	**E**	**0.2**
			PM	41.3	D	41.4	D	0.1
17.	El Camino Real & Vista Way	Signal	AM	37.1	D	38.1	D	1.0
			PM	**58.6**	**E**	**56.6**	**E**	**-2.0**
18.	El Camino Real & SR78 WB Ramps	Signal	AM	28.5	C	27.1	C	-1.4
			PM	40.9	D	40.4	D	-0.5
19.	El Camino Real & SR78 EB Ramps	Signal	AM	23.5	C	24.4	C	0.9
			PM	43.5	D	44.9	D	1.4
20.	Vista Way & Jefferson St	Signal	AM	26.6	C	26.6	C	0.0
			PM	**56.5**	**E**	**56.5**	**E**	**0.0**
21.	Douglas Dr & North River Rd	Signal	AM	50.7	D	53.2	D	2.5
			PM	42.3	D	42.9	D	0.6
22.	Douglas Dr & El Camino Real	Signal	AM	**90.7**	**F**	**95.4**	**F**	**4.7**
			PM	**57.7**	**E**	**60.0**	**E**	**2.3**
23.	Douglas Dr & Mission Ave	Signal	AM	**64.4**	**E**	**66.5**	**E**	**2.1**
			PM	**66.6**	**E**	**69.6**	**E**	**3.0**
24.	Rancho Del Oro Dr & SR76	Signal	AM	36.1	D	38.2	D	2.1
			PM	38.3	D	41.4	D	3.1
25.	Rancho Del Oro Dr & Mesa Dr	Signal	AM	49.2	D	49.3	D	0.1
			PM	33.1	C	33.2	C	0.1
26.	Rancho Del Oro Rd & Oceanside Blvd	Signal	AM	29.7	C	30.0	C	0.3
			PM	37.6	D	38.6	D	1.0
27.	Rancho Del Oro Rd & Vista Del Oro Dr[d]	AWSC[e]	AM	**148.1**	**F**	**148.1**	**F**	**0.0**
			PM	**130.5**	**F**	**130.5**	**F**	**0.0**
28.	Rancho Del Oro Rd & Cameo Dr[d]	AWSC[e]	AM	**183.9**	**F**	**183.9**	**F**	**0.0**
			PM	**185.0**	**F**	**185.0**	**F**	**0.0**
29.	Rancho Del Oro Rd & Trieste Way & Sicily Way[d]	AWSC[e]	AM	**100.8**	**F**	**100.8**	**F**	**0.0**
			PM	**152.3**	**F**	**152.3**	**F**	**0.0**
30.	Rancho Del Oro Rd & Vista Way	Signal	AM	31.1	C	31.6	D	0.5
			PM	46.4	D	46.7	D	0.3

Table 8-2 Alternative 1 Year 2030
Intersection Operations & Level of Service

	Intersection	Control Type	Peak Hour	Modified 1995 CE		Alternative 1		
				Delay[a]	LOS[b]	Delay	LOS	Δ[c]
31.	Vandegrift Blvd & Douglas Dr	Signal	AM	24.5	C	25.8	C	1.3
			PM	30.3	C	33..9	C	3.6
32.	Vandegrift Blvd & North River Rd	Signal	AM	18.7	B	18.8	B	0.1
			PM	37.7	D	40.0	D	2.3
33.	College Blvd & North River Rd	Signal	AM	24.1	C	24.8	C	0.7
			PM	**89.8**	**F**	**120.9**	**F**	**31.1**
34.	College Blvd & SR76	Signal	AM	**73.2**	**E**	**80.7**	**F**	**7.5**
			PM	**147.2**	**F**	**162.4**	**F**	**15.2**
35.	College Blvd & Mesa Dr	Signal	AM	39.7	D	39.2	D	-0.5
			PM	48.7	D	48.7	D	0.0
36.	Old Grove Rd & Mesa Dr	Signal	AM	23.7	C	23.6	C	-0.1
			PM	41.6	D	41.5	D	-0.1
37.	College Blvd & Old Grove Rd	Signal	AM	38.2	D	36.7	D	-1.5
			PM	43.7	D	41.7	D	-2.0
38.	College Blvd & Oceanside Blvd	Signal	AM	44.8	D	43.9	D	-0.9
			PM	**55.3**	**E**	53.9	D	-1.4
39.	College Blvd & Olive Dr	Signal	AM	25.0	C	27.5	C	2.5
			PM	32.6	C	40.2	D	7.6
40.	College Blvd & Vista Way	Signal	AM	28.3	C	27.1	C	-1.2
			PM	33.4	C	34.6	C	1.2
41.	College Blvd & SR78 EB Off Ramp	Signal	AM	11.8	B	13.6	B	1.8
			PM	16.3	B	22.0	C	5.7
42.	College Blvd & Plaza Dr	Signal	AM	26.6	C	25.1	C	-1.5
			PM	26.6	C	26.5	C	-0.1
43.	College Blvd & Lake Blvd	Signal	AM	29.9	C	29.9	C	0.0
			PM	**58.7**	**E**	**58.9**	**E**	**0.2**
44.	Vista Way & SR78 WB Ramp	Signal	AM	29.5	C	31.2	C	1.7
			PM	34.1	C	34.0	C	-0.1
45.	Plaza Dr & SR78 EB Ramp	Signal	AM	29.1	C	29.8	C	0.7
			PM	34.8	C	35.0	C	0.2

Table 8-2 Alternative 1 Year 2030
Intersection Operations & Level of Service

Intersection	Control Type	Peak Hour	Modified 1995 CE		Alternative 1		
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]
46. North Santa Fe Ave & Mesa Dr	Signal	AM	16.2	B	16.1	B	-0.1
		PM	18.3	B	16.1	B	-2.2
47. Melrose Dr & SR76	Signal	AM	51.9	D	46.1	D	-5.8
		PM	**58.4**	**E**	45.1	D	-13.3
48. Melrose Dr & North Santa Fe Ave	Signal	AM	33.3	C	32.2	C	-1.1
		PM	30.7	C	29.5	C	-1.2
49. Melrose Dr & Oceanside Blvd	Signal	AM	33.0	C	32.9	C	-0.1
		PM	49.5	D	48.5	D	-1.0
50. Melrose Dr & Cannon Rd	Signal	AM	43.4	D	54.3	D	10.9
		PM	32.4	C	35.4	D	3.0

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS - Level of Service
c. Δ denotes the difference between the Modified 1995 CE delay and Alternative 1 delay.
d. These intersection calculations were done in Traffix using 2000 HCM methodologies. Synchro only allows geometry of 2-lanes per leg for AWSC intersections.
e. AWSC = All-Way Stop Controlled unsignalized intersection.

Notes:
1. Acceptable level of service at intersections in Oceanside is LOS D.
2. **Bold** indicates an unacceptable level of service.

8.3 RANCHO DEL ORO ROAD SIGNAL WARRANT ANALYSIS

There are three intersections along Rancho Del Oro Road that are shown as all-way stop controlled intersections.

- Rancho Del Oro Road & Vista Del Oro Drive
- Rancho Del Oro Road & Cameo Drive
- Rancho Del Oro Road & Trieste Way & Sicily Way

As seen previously in Table 8-2, three unsignalized intersections are shown to operate at LOS F in both the AM and PM peak hours under the Alternative 1 scenario. Mitigation to bring these three intersections to an acceptable level of service would be in the form of a traffic signal. The MUTCD signal warrant analysis for Warrant 3, Peak Hour has been performed at the three intersections for Alternative 1 traffic volumes. Two of the three unsignalized intersections meet the peak hour warrant requirements for a traffic signal during both the AM and PM peak hours. The intersection of Rancho Del Oro Road and Trieste Way/Sicily Way does not have adequate minor street traffic (minimum of 100 peak hour trips for one approach) to meet the signal warrant. Appendix F contains the Warrant 3, Peak Hour worksheets. As seen in Table 8-3, the

two intersections that meet the signal warrant are expected to operate at LOS B or better during both the AM and PM peak hours under the Alternative 1 if traffic signals were installed.

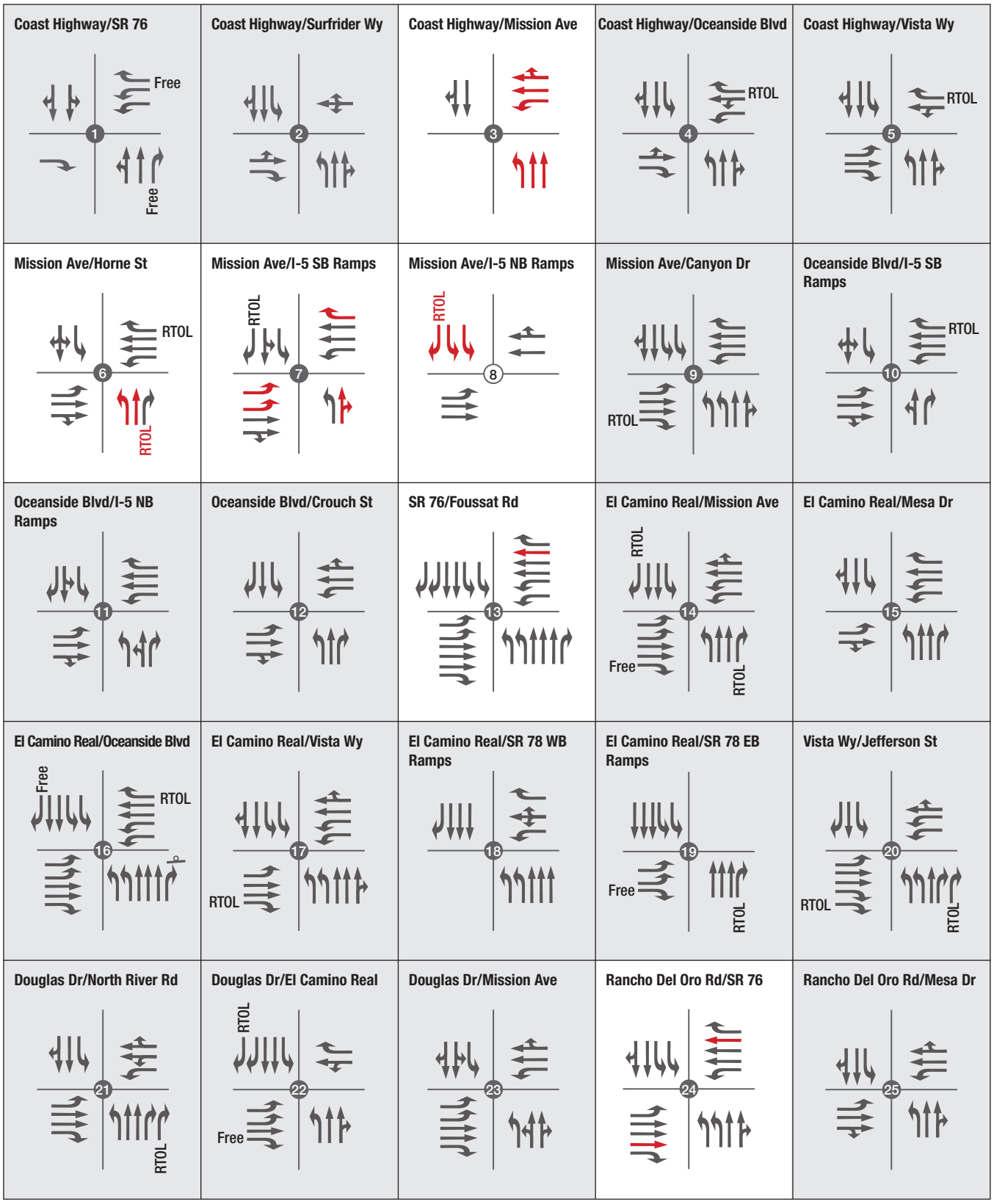
Table 8-3 Alternative 1 Year 2030
Additional Peak Hour Rancho Del Oro Road
Intersection Operations

Intersection	Control Type	Peak Hour	Alternative 1	
			Delay[a]	LOS[b]
27. Rancho Del Oro Rd & Vista Del Oro Dr	Signal	AM PM	10.4 8.1	B A
28. Rancho Del Oro Rd & Cameo Dr	Signal	AM PM	12.9 15.4	B B

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS = Level of Service

Note:
The intersection calculations were done in Synchro for signalized intersection operations.

Even though, the Rancho Del Oro Road/Trieste Way/Sicily Way intersection did not meet Warrant 3, Peak Hour signal warrants and operates at an unacceptable level of service for the AM and PM peak hours, there are other warrants that should be reviewed to determine if a signal should be installed at this intersection. An all-way stop controlled intersection on a major arterial can interrupt the traffic progression on the corridor. If a traffic signal were installed at the unsignalized intersections on this corridor, it is anticipated that it would improve the traffic progression along the arterial corridor. MUTCD Signal Warrant 6 supports the installation of a traffic signal at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles on a corridor. If a signal were installed at the adjacent intersections of Rancho Del Oro Road/Trieste Way/Sicily Way, other signal warrants (such as Warrant 6) should be reviewed.



LEGEND

NS Street/EW Street

EW

NS

● Study Intersection - Signalized

○ Study Intersection - Unsignalized

\# Study Intersection Number

RTOL Right-turn overlap

Lane Geometry

Stop Sign Control

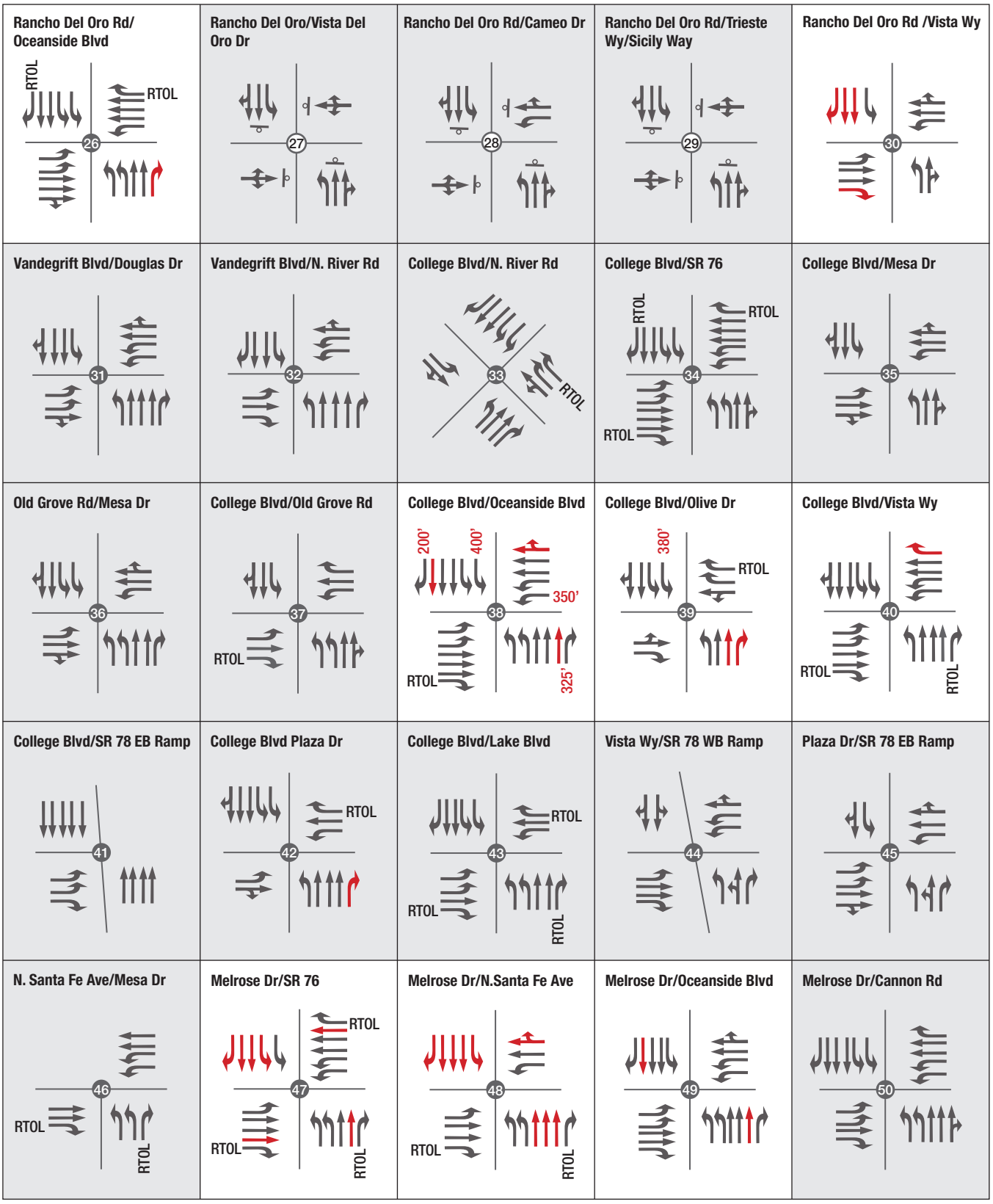
Unshaded intersection and red coloring indicates a geometric change from the Existing intersection geometry

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City of Oceanside Circulation Element

Alternative 1 Year 2030 Intersection Geometry

Figure 8.4



LEGEND

NS Street/EW Street

EW

NS

● Study Intersection - Signalized

○ Study Intersection - Unsignalized

\# Study Intersection Number

RTOL Right-turn overlap

Lane Geometry

Stop Sign Control

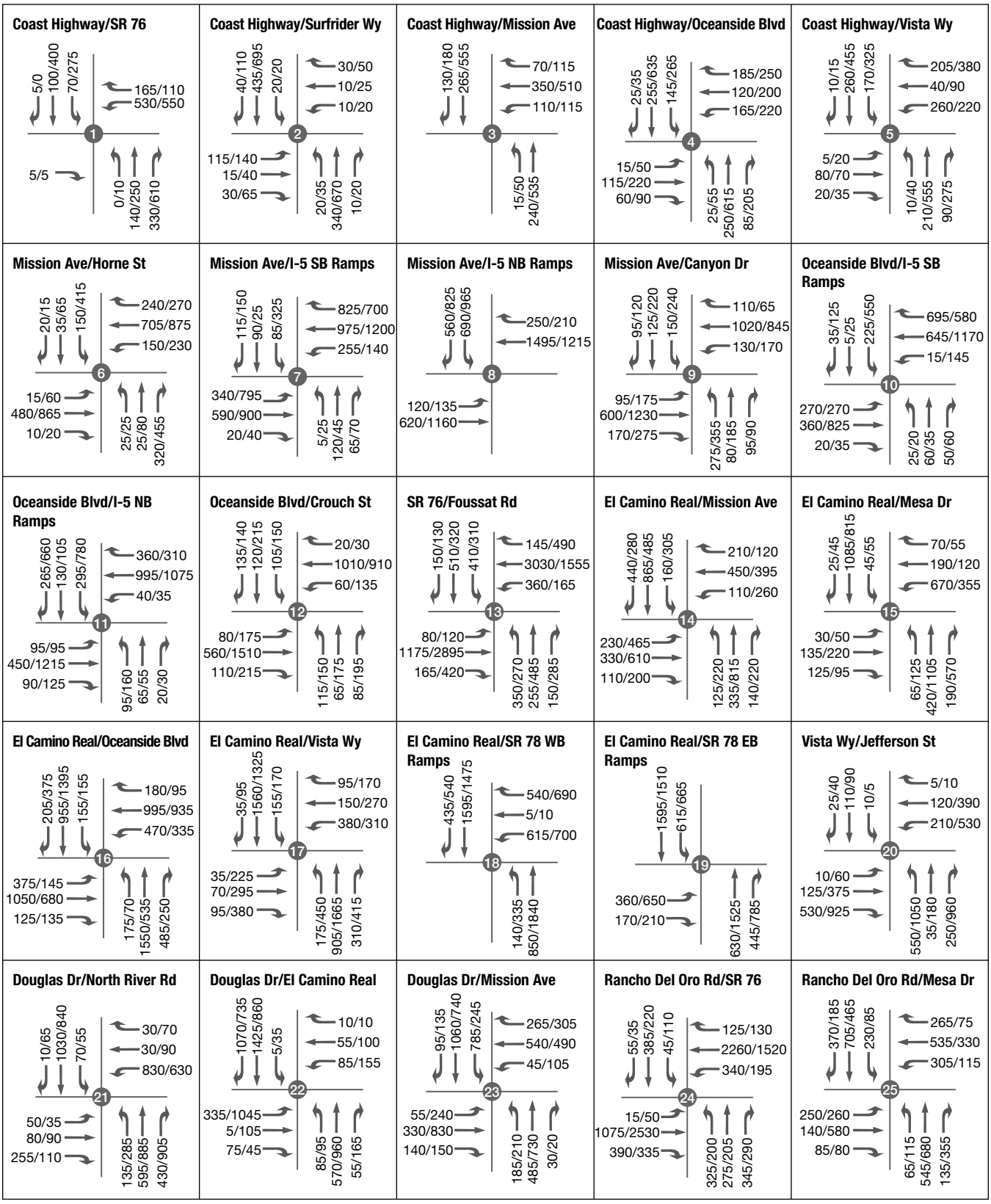
Unshaded intersection and red coloring indicates a geometric change from the Existing intersection geometry

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City of Oceanside Circulation Element

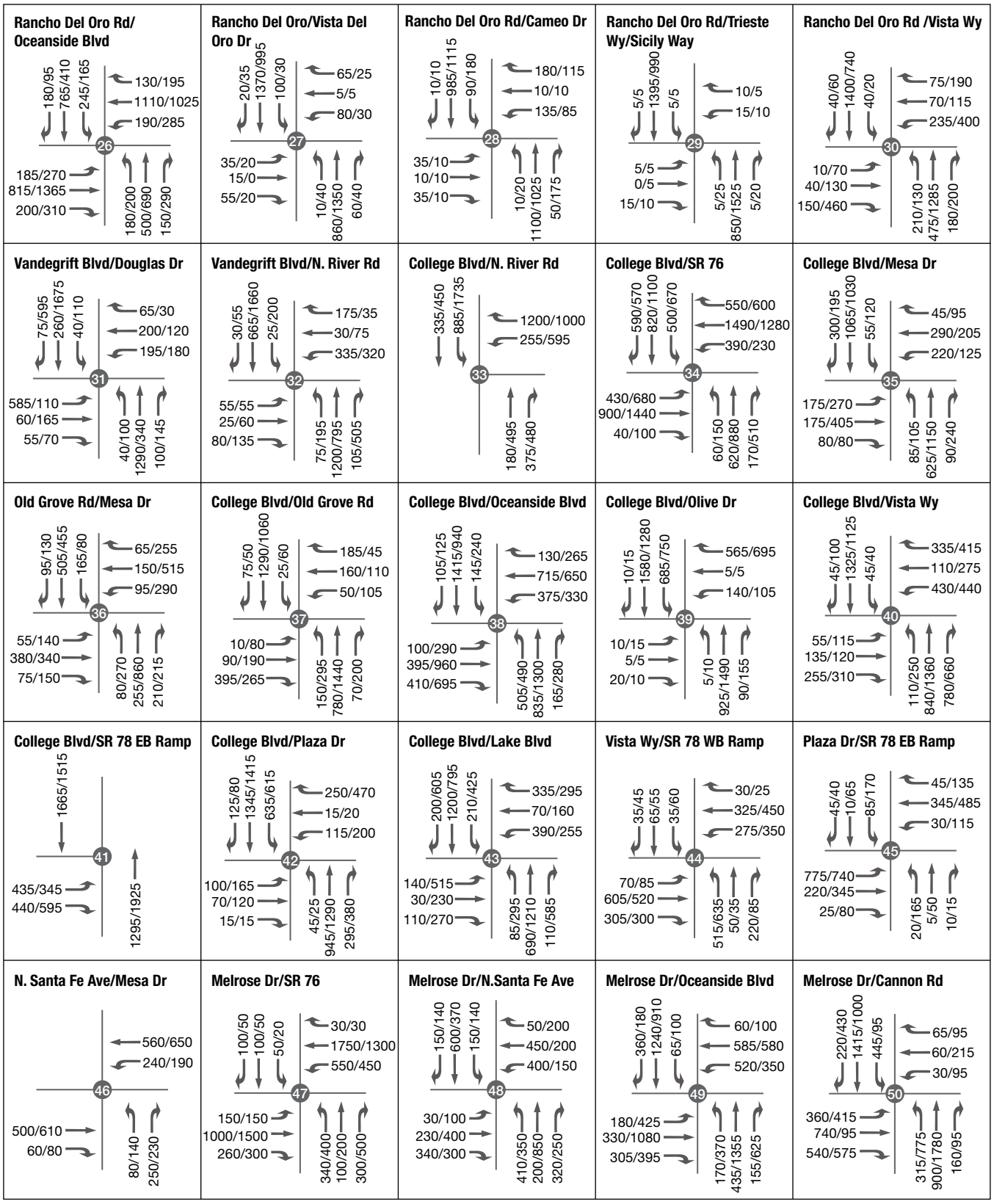
Alternative 1 Year 2030 Intersection Geometry

Figure 8.4



LEGEND: NS Street/EW Street #/# AM/PM Peak Hour Volume
#s Rounded to the Nearest 5th

EW
NS



LEGEND: NS Street/EW Street #/# AM/PM Peak Hour Volume
#s Rounded to the Nearest 5th

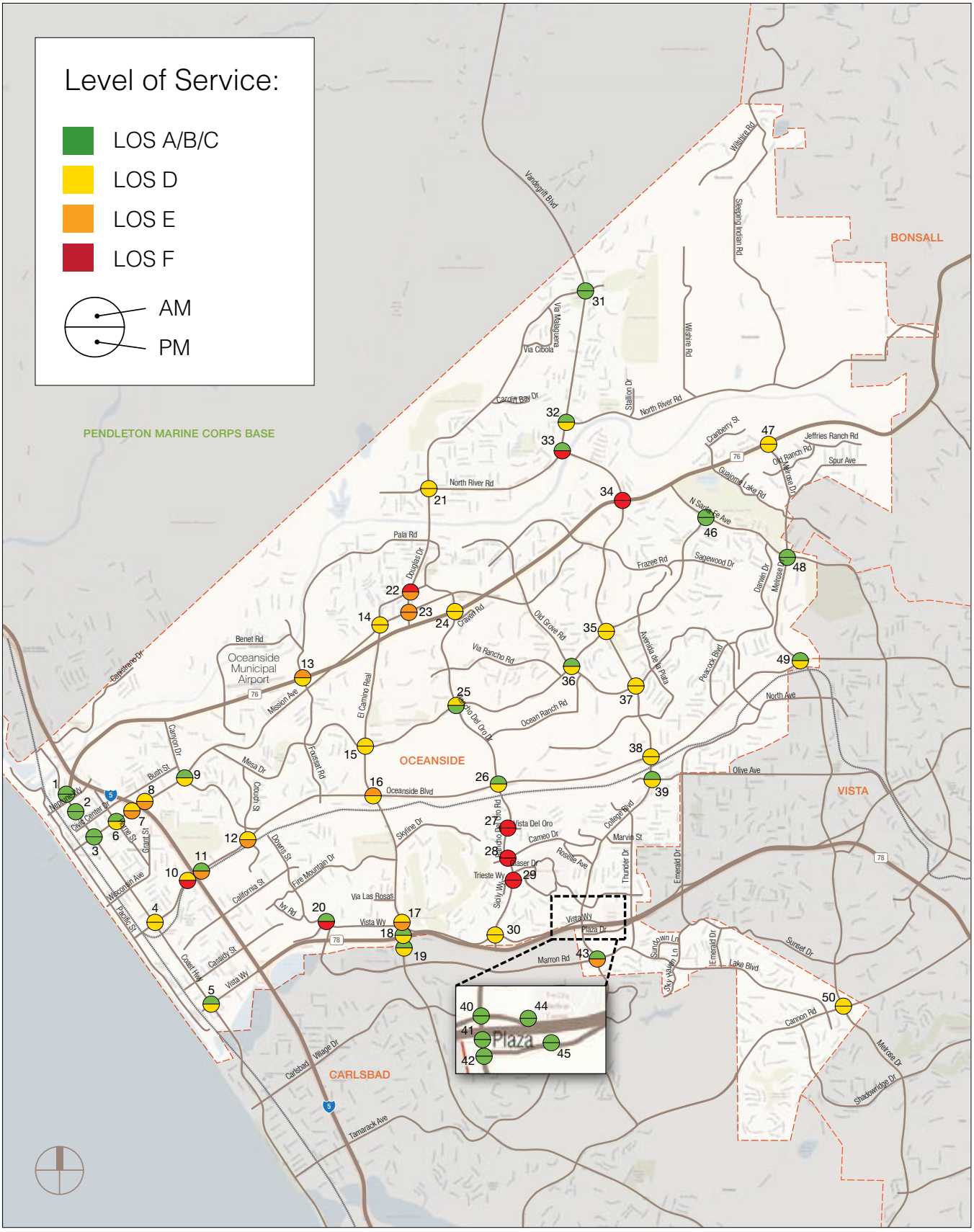
EW
NS

IBI GROUP

City of Oceanside Circulation Element

Alternative 1 Volumes Year 2030 AM/PM Peak Hour Volumes

Figure 8.5



Note: Intersections 27, 28, and 29 are unsignalized

9.0 ALTERNATIVE 2 (YEAR 2030) ANALYSIS

Alternative 2 (Year 2030) is an alternative of the Modified 1995 CE scenario. There are three of the key network pieces from the Modified 1995 CE scenario that changes for Alternative 2. This alternative was developed based on input from City staff, initial review of the model output alternatives ran, and input received at public meetings. The key network elements for Alternative 2 consist of the following (*previously highlighted in Figure 2.2*):

- State Route 76 is 6 Lanes
- Rancho Del Oro Road / State Route 78 Interchange is Not Included
- College Boulevard is a 4- and 6-Lane Hybrid
    - College Blvd is 6 lanes between Avenida de la Plata & Olive Drive and 4 lanes between Olive Drive & Waring Road
- Melrose Drive between North River Road and State Route 76 is Not Included
- Melrose Drive between North Santa Fe Avenue and Spur Avenue is Not Included
- Pala Road Connection to Foussat Road is Not Included
- Mission Avenue is downgraded from a 4-lane Major Arterial to a 4-lane Secondary Collector
- Coast Highway is 2 Lanes

Figure 9.1 shows the Alternative 2 (Year 2030) roadway segment geometry.

9.1 ALTERNATIVE 2 SEGMENT ANALYSIS

The Alternative 2 scenario traffic forecasting was conducted using the Series 11 North County Subarea Model. The model output traffic volumes were reviewed and post-processed based on the new network. The Alternative 2 (Year 2030) scenario segment volumes are compared to the Modified 1995 CE segment volumes in Table 9-1. The roadway traffic volumes for Alternative 2 are shown in Figure 9.2. As shown in the list below, there are several segments that operate at a deficient level of service (LOS E or LOS F) under the Alternative 2 network. Figure 9.3 shows the roadway segment level of service operations.

- Coast Highway: Harbor Drive to Southern City Limits (LOS F)
- College Boulevard: North River Road to Mesa Drive (LOS E)
- College Boulevard: Old Grove Road to Avenida de la Plata (LOS E)
- College Boulevard: Oceanside Boulevard to Olive Drive (LOS F)
- College Boulevard: Olive Drive to Thunder Drive (LOS E)
- College Boulevard: Waring Road to Vista Way (LOS F)
- College Boulevard: Vista Way to Plaza Drive (LOS F)
- College Boulevard: Lake Boulevard to Southern City Limits (LOS F)
- Douglas Drive: Via Malaguena to Cardiff Bay Drive (LOS E)

- Douglas Drive: North River Road to Pala Road (LOS E)
- Douglas Drive: Pala Road to El Camino Real (LOS F)
- El Camino Real: Mesa Drive to Oceanside Boulevard (LOS E)
- El Camino Real: Via Las Rosas to SR78 (LOS F)
- Lake Boulevard: Thunder Drive to Sundown Lane (LOS F)
- Mesa Drive: Mission Avenue to Foussat Road (LOS F)
- North River Road: College Boulevard to Vandegrift Boulevard (LOS E)
- Oceanside Boulevard: I-5 to Crouch Street (LOS E)
- Oceanside Boulevard: Crouch Street to Foussat Road (LOS F)
- Oceanside Boulevard: Foussat Road to El Camino Real (LOS E)
- Vista Way: Coast Highway to I-5 (LOS F)
- Vista Way: Rancho Del Oro Road to College Boulevard (LOS F)
- Vista Way: College Boulevard to SR78 WB Ramps (LOS F)
- State Route 76: Melrose Drive to Eastern City Limits (LOS E)

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
Cannon Road									
Melrose Drive to Shadowridge Dr	29,100	C	0.78	4D	Major Arterial	40,000	28,300	C	0.71
Canyon Drive									
SR76 to Mission Avenue	10,700	B	0.43	4U	Secondary Collector	25,000	11,100	B	0.44
Mission Avenue to Oceanside Boulevard	9,300	B	0.37	4U	Secondary Collector	25,000	9,300	B	0.37
Coast Highway									
Harbor Drive to SR76	17,100	C	0.68	2U	Collector	10,000	**17,300**	**F**	**1.14**
SR76 to Mission Avenue	20,100	D	0.80	2U	Collector	10,000	**18,800**	**F**	**1.25**
Mission Avenue to Wisconsin Avenue	**23,700**	**E**	**0.95**	2U	Collector	10,000	**22,500**	**F**	**1.50**
Wisconsin Avenue to Oceanside Boulevard	**23,600**	**E**	**0.94**	2U	Collector	10,000	**23,300**	**F**	**1.55**

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
Oceanside Boulevard to Cassidy Street	21,800	D	0.87	2U	Collector	10,000	**23,500**	**F**	**1.57**
Cassidy Street to Vista Way	20,900	D	0.84	2U	Collector	10,000	**21,200**	**F**	**1.41**
Vista Way to Southern City Limits	19,700	D	0.79	2U	Collector	10,000	**19,700**	**F**	**1.31**
College Boulevard									
N. River Road to SR76	42,200	D	0.84	6D	Major Arterial	50,000	**45,400**	**E**	**0.91**
SR76 to Frazee Road	**36,300**	**E**	**0.91**	4D	Major Arterial	40,000	**38,300**	**E**	**0.96**
Frazee Road to Mesa Drive	**36,900**	**E**	**0.92**	4D	Major Arterial	40,000	**38,300**	**E**	**0.96**
Mesa Drive to Old Grove Road	32,600	D	0.82	4D	Major Arterial	40,000	33,300	D	0.83
Old Grove Road to Avenida de la Plata	39,000	D	0.78	4D	Major Arterial	40,000	**37,500**	**E**	**0.94**
Avenida de la Plata to Oceanside Boulevard	42,500	D	0.85	6D	Major Arterial	50,000	40,100	D	0.80
Oceanside Boulevard to Olive Drive	**52,000**	**F**	**1.04**	6D	Major Arterial	50,000	**51,700**	**F**	**1.03**
Olive Drive to Thunder Drive	40,000	D	0.80	4D	Major Arterial	40,000	**37,700**	**E**	**0.94**
Thunder Drive to Waring Road	35,400	C	0.71	4D	Major Arterial	40,000	31,800	D	0.80
Waring Road to Vista Way	**45,800**	**E**	**0.92**	6D	Major Arterial	50,000	**51,400**	**F**	**1.03**
Vista Way to SR78	**47,100**	**E**	**0.84**	6D	Major Arterial	50,000	**57,500**	**F**	**1.15**
SR78 to Plaza Drive	**49,300**	**E**	**0.99**	6D	Major Arterial	50,000	**56,600**	**F**	**1.13**
Plaza Drive to Lake Boulevard	39,300	C	0.79	6D	Major Arterial	50,000	44,400	D	0.89
Lake Boulevard to Southern City Limits	**41,400**	**F**	**1.04**	4D	Major Arterial	40,000	**41,500**	**F**	**1.04**

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
Douglas Drive									
Vandegrift Boulevard to Via Malaguena	13,300	B	0.44	4D/U	Secondary Collector	30,000	13,600	B	0.45
Via Malaguena to Cardiff Bay Drive	13,300	B	0.44	2TWLT	Collector	15,000	**13,600**	**E**	**0.91**
Cardiff Bay Drive to N. River Road	17,500	C	0.58	4TWLT	Secondary Collector	30,000	17,900	C	0.60
N. River Road to Pala Road	~~**38,500**~~ **37,500**	**E**	**0.~~96~~94**	4D	Major Arterial	40,000	**40,000**	**E**	**1.00**
Pala Road to El Camino Real	**38,400**	**E**	**0.96**	4D	Major Arterial	40,000	**42,200**	**F**	**1.06**
El Camino Real to Mission Avenue	23,900	C	0.60	4U	Major Arterial	40,000	24,700	C	0.62
Mission Avenue to SR76	25,400	C	0.64	4U	Major Arterial	40,000	25,100	C	0.63
El Camino Real									
Douglas Drive to Mission Avenue	25,400	C	0.64	4D	Major Arterial	40,000	27,800	C	0.70
Mission Avenue to Mesa Drive	25,500	C	0.64	4D	Major Arterial	40,000	25,300	C	0.63
Mesa Drive to Oceanside Boulevard	**39,600**	**E**	**0.99**	4D	Major Arterial	40,000	**39,800**	**E**	**1.00**
Oceanside Boulevard to Fire Mountain Road	43,100	C	0.72	6D	Prime Arterial	60,000	45,000	C	0.75
Fire Mountain Road to Via Las Rosas	48,200	C	0.80	6D	Prime Arterial	60,000	49,000	C	0.83
Via Las Rosas to Vista Way	53,600	D	0.89	6D	Prime Arterial	60,000	**60,900**	**F**	**1.02**
Vista Way to SR78	**58,900**	**E**	**0.98**	6D	Prime Arterial	60,000	**72,700**	**F**	**1.21**
Emerald Drive									
Lake Boulevard to Sunset Drive	4,200	A	0.14	4TWLT	Secondary Collector	30,000	4,800	A	0.16

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
Frazee Road									
Old Grove Road to SR76	5,700	A	0.14	4D	Major Arterial	40,000	5,300	A	0.13
SR76 to College Boulevard	12,000	A	0.30	4D	Major Arterial	40,000	12,700	A	0.32
College Boulevard to Sagewood Drive	5,200	B	0.52	2D	Collector	10,000	6,600	C	0.66
Lake Boulevard									
College Boulevard to Thunder Drive	19,500	C	0.65	4TWLT	Secondary Collector	30,000	19,200	C	0.64
Thunder Drive to Sundown Lane	16,200	C	0.54	2TWLT	Collector	15,000	**16,200**	**F**	**1.08**
Sundown Lane to Sky Haven Lane	16,200	C	0.54	4TWLT	Secondary Collector	30,000	16,200	C	0.54
Sky Haven Lane to Cannon Road	14,700	C	0.49	4TWLT	Secondary Collector	30,000	14,700	C	0.49
Melrose Drive									
SR76 to Spur Avenue	26,500	C	0.53	6D	Major Arterial	50,000	7,600	A	0.15
N. Santa Fe Avenue to Oceanside Boulevard	36,600	C	0.61	6D	Prime Arterial	60,000	25,200	B	0.42
Oceanside Boulevard to City Limits	43,800	C	0.73	6D	Prime Arterial	60,000	37,900	C	0.63
City Limits to Cannon Road	32,100	B	0.54	6D	Prime Arterial	60,000	41,200	C	0.69
Cannon Road to Southern City Limits	34,100	B	0.57	6D	Prime Arterial	60,000	33,900	B	0.57
Mesa Drive									
Mission Avenue to Foussat Road	**11,100**	**F**	**1.11**	2U	Collector	10,000	**11,300**	**F**	**1.13**
Foussat Road to El Camino Real	8,800	C	0.59	2TWLT	Collector	15,000	8,900	C	0.59

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
El Camino Real to Rancho Del Oro Drive	17,300	C	0.58	4TWLT/D	Secondary Collector	30,000	18,700	C	0.62
Rancho Del Oro Drive to Old Grove Road	18,100	C	0.60	4TWLT/D	Secondary Collector	30,000	18,500	C	0.62
Old Grove Road to College Boulevard	18,700	C	0.62	4TWLT	Secondary Collector	30,000	20,000	C	0.67
College Boulevard to N. Santa Fe Avenue	15,100	C	0.50	4TWLT	Secondary Collector	30,000	16,100	C	0.54
Mission Avenue									
Pacific Street to Coast Hwy	14,400	C	0.48	4U	Secondary Collector	25,000	14,400	C	0.58
Coast Highway to Horne St	16,800	B	0.42	4U	Secondary Collector	25,000	16,900	C	0.68
Horne St to I-5	27,000	C	0.68	4D	Major Arterial	40,000	27,100	C	0.68
I-5 to Canyon Dr	34,600	D	0.87	4D	Major Arterial	40,000	34,900	D	0.87
Canyon Drive to Mesa Drive	27,000	C	0.68	4D	Major Arterial	40,000	27,300	C	0.68
Mesa Drive to Foussat Road	27,200	C	0.68	4D	Major Arterial	40,000	27,500	C	0.69
Foussat Road to El Camino Real	29,400	C	0.74	4D	Major Arterial	40,000	32,200	D	0.81
El Camino Real to Douglas Drive	25,300	C	0.63	4D	Major Arterial	40,000	25,600	C	0.64
Douglas Drive to Rancho Del Oro Drive	31,000	D	0.78	4D	Major Arterial	40,000	32,300	D	0.81
Rancho Del Oro Drive to Old Grove Road	12,900	B	0.52	4U	Secondary Collector	25,000	13,400	C	0.54
Old Grove Road to Frazee Road	9,100	A	0.30	4TWLT/U/D	Secondary Collector	30,000	9,600	A	0.32
North Avenue									
Olive Drive to Temple Heights Drive	7,800	A	0.26	4TWLT	Secondary Collector	30,000	7,700	A	0.26

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
Temple Heights Drive to Melrose Drive	3,900	A	0.13	4TWLT	Secondary Collector	30,000	4,200	A	0.14
North River Road									
Douglas Drive to College Boulevard	23,400	C	0.59	4D	Major Arterial	40,000	24,600	C	0.62
College Boulevard to Vandegrift Boulevard	38,300	D	0.85	5D	Major Arterial	45,000	**41,600**	**E**	**0.92**
Vandegrift Boulevard to Stallion Road	9,700	A	0.24	4D	Major Arterial	40,000	12,500	A	0.31
Stallion Road to Melrose Drive	10,600	A	0.27	4D	Major Arterial	40,000	7,100	A	0.18
Melrose Drive to Eastern City Limits	12,900	B	0.43	4TWLT	Secondary Collector	30,000	9,500	A	0.32
North Santa Fe Avenue									
SR76 to Mesa Drive	25,700	C	0.64	4D	Major Arterial	40,000	33,200	D	0.83
Mesa Drive to Melrose Drive	27,500	C	0.69	4D	Major Arterial	40,000	23,300	C	0.58
Oceanside Boulevard									
Pacific Street to Coast Highway	8,700	D	0.87	2U	Collector	10,000	8,600	D	0.86
Coast Highway to I-5	21,100	D	0.84	4U	Secondary Collector	25,000	21,000	D	0.84
I-5 to Crouch Street	32,600	D	0.82	4TWLT	Major Arterial	40,000	**35,400**	**E**	**0.89**
Crouch Street to Foussat Road	**37,900**	**E**	**0.95**	4TWLT	Major Arterial	40,000	**40,400**	**F**	**1.01**
Foussat Road to El Camino Real	33,800	D	0.85	4TWLT	Major Arterial	40,000	**36,300**	**E**	**0.91**
El Camino Real to Rancho Del Oro Road	37,100	C	0.62	6D	Prime Arterial	60,000	41,100	C	0.69
Rancho Del Oro Road to College Boulevard	41,400	C	0.69	6D	Prime Arterial	60,000	43,900	C	0.73
College Boulevard to Melrose Drive	29,500	C	0.74	4D	Major Arterial	40,000	29,200	C	0.73

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
Melrose Drive to Eastern City Limits	28,000	C	0.70	4D	Major Arterial	40,000	31,200	D	0.78
Old Grove Road									
Frazee Road to SR76	8,000	A	0.20	4D	Major Arterial	0,000	8,400	A	0.21
SR76 to Mission Avenue	17,800	B	0.45	4D	Major Arterial	0,000	17,800	B	0.45
Mission Avenue to Mesa Drive	17,700	B	0.44	4D	Major Arterial	0,000	17,800	B	0.45
Mesa Drive to College Boulevard	24,900	C	0.62	4D	Major Arterial	0,000	25,600	C	0.64
Olive Drive									
College Boulevard to Emerald Drive	17,700	C	0.59	4TWLT	Secondary Collector	30,000	19,900	C	0.66
Pala Road									
Los Arbolitos Boulevard to Douglas Drive	8,300	A	0.28	4TWLT	Secondary Collector	30,000	3,500	A	0.12
Plaza Drive									
College Boulevard to Thunder Drive	22,100	D	0.74	4D	Secondary Collector	30,000	24,800	D	0.76
SR78 EB on/off-ramps	16,000	C	0.53	4D	Secondary Collector	30,000	17,200	C	0.57
Rancho Del Oro Drive									
Mission Avenue to SR76	9,000	A	0.23	4D	Major Arterial	40,000	10,000	A	0.25
SR76 to Mesa Drive	24,200	C	0.61	4D	Major Arterial	40,000	25,100	C	0.63
Mesa Drive to Oceanside Boulevard	26,500	C	0.66	4D	Major Arterial	40,000	27,000	C	0.68
Oceanside Boulevard to Cameo Drive	32,400	D	0.81	4D	Major Arterial	40,000	27,800	C	0.70
Cameo Drive to Vista Way	30,800	D	0.77	4D – ends at Vista Way	Major Arterial	40,000	24,700	C	0.62

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
Vandegrift Boulevard									
Northern City Limits to Douglas Drive	26,000	C	0.58	5D	Major Arterial	45,000	26,000	C	0.58
Douglas Drive to N. River Road	27,600	C	0.61	5D	Major Arterial	45,000	29,200	C	0.65
Vista Way									
Coast Highway to I-5	18,100	C	0.60	2TWLT	Collector	15,000	**17,800**	**F**	**1.19**
Jefferson Street to El Camino Real	15,400	C	0.51	4TWLT	Secondary Collector	30,000	15,800	C	0.53
El Camino Real to Rancho Del Oro Road	18,100	C	0.60	4TWLT	Secondary Collector	30,000	23,200	D	0.77
Rancho Del Oro Road to College Boulevard	24,600	D	0.82	4TWLT	Secondary Collector	30,000	**30,100**	**F**	**1.00**
College Boulevard to SR78 WB Ramps	**31,500**	**F**	**1.05**	4TWLT	Secondary Collector	30,000	**33,000**	**F**	**1.10**
SR78 WB Ramps to Thunder Drive	19,200	C	0.64	4TWLT	Secondary Collector	30,000	20,700	D	0.69
State Route 76									
I-5 to Canyon Drive	60,700	D	0.76	6 D	Expressway	80,000	62,600	D	0.78
Canyon Drive to Foussat Road	65,900	D	0.82	6D	Expressway	80,000	67,900	D	0.85
Foussat Road to Douglas Drive	59,800	C	0.75	6D	Expressway	80,000	62,100	D	0.78
Douglas Drive to Rancho Del Oro Drive	54,100	C	0.68	6D	Expressway	80,000	55,700	C	0.70
Rancho Del Oro Drive to Frazee Road	58,200	C	0.73	6D	Expressway	80,000	60,500	D	0.76
Frazee Road to College Boulevard	51,500	C	0.64	6D	Expressway	80,000	53,500	C	0.67

Table 9-1 Alternative 2 Year 2030
Segment ADT Volumes

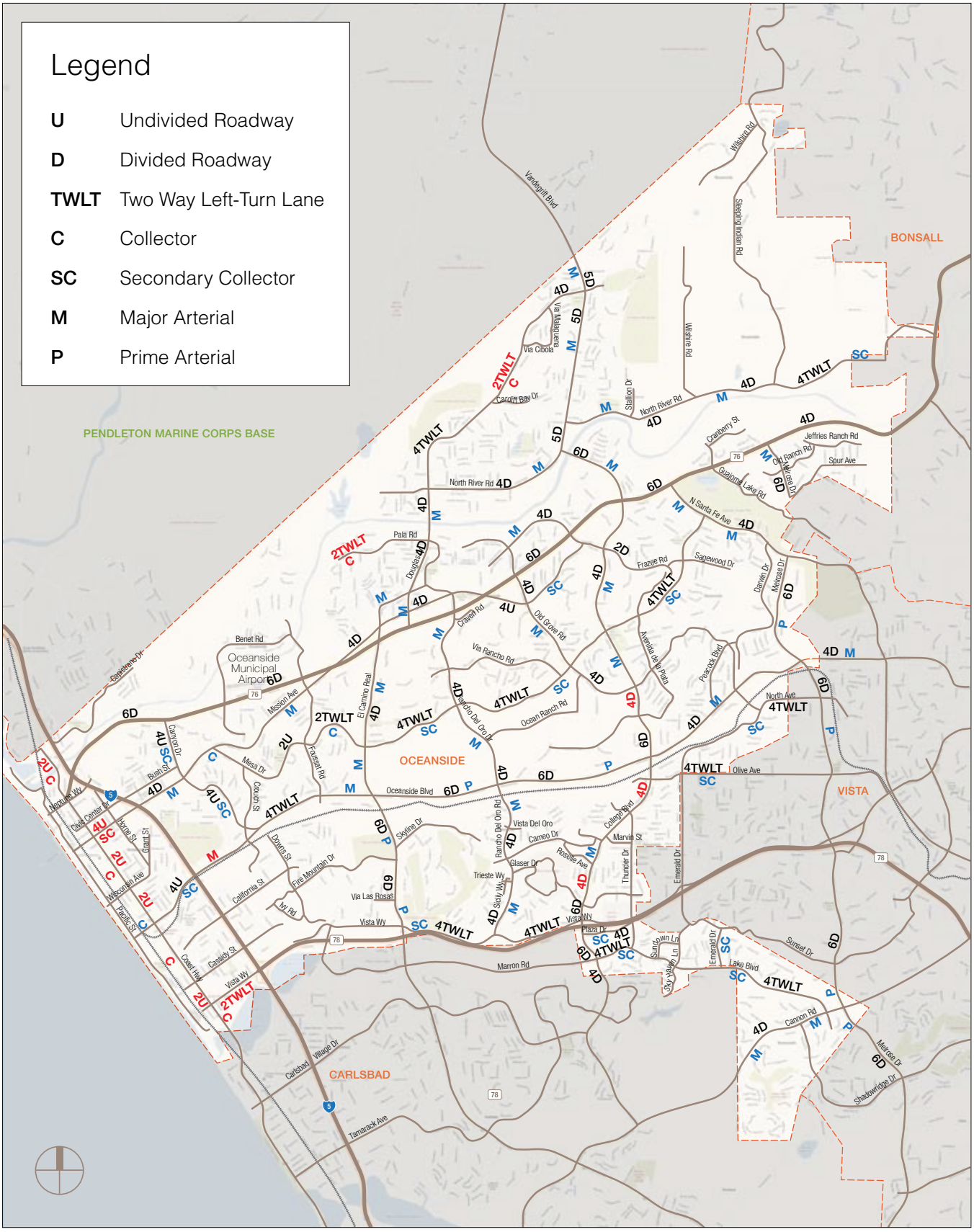
Street	Modified 1995 CE			Alternative 2					
	ADT[a]	LOS[b]	V/C[c]	Alternative 2 Lanes[d]	Classification	LOS E Capacity[e]	ADT	LOS	V/C
College Boulevard to N. Santa Fe Avenue	56,200	C	0.70	6D	Expressway	80,000	62,500	D	0.78
N. Santa Fe Avenue to Melrose Drive	58,000	C	0.73	6D	Expressway	80,000	68,900	D	0.86
Melrose Drive to Eastern City Limits	**61,800**	**F**	**1.03**	4D	Expressway	60,000	**57,800**	**E**	**0.96**

Footnotes:

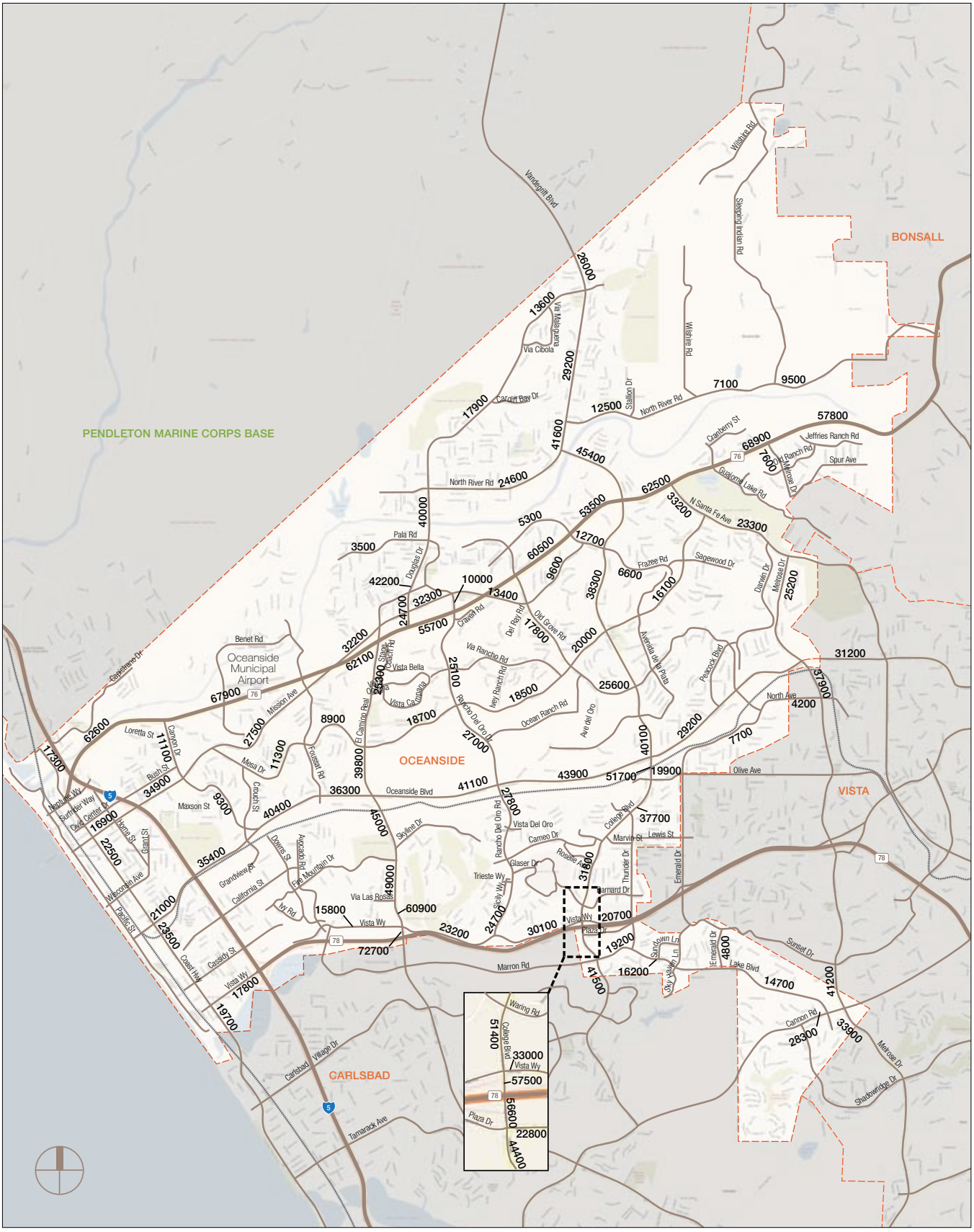
a. ADT = Average Daily Traffic Volumes
b. LOS = Level of Service
c. V/C = Volume-to-Capacity Ratio
d. #D – total number of lanes in both directions divided by a raised median; #U – total number of undivided lanes in both lanes; #TWLT – total number of lanes in both directions with a center continuous two-way left turn lane.
e. LOS E is based on criteria established in the City of Oceanside Circulation Element Roadway Capacity Table (2009)

Notes:

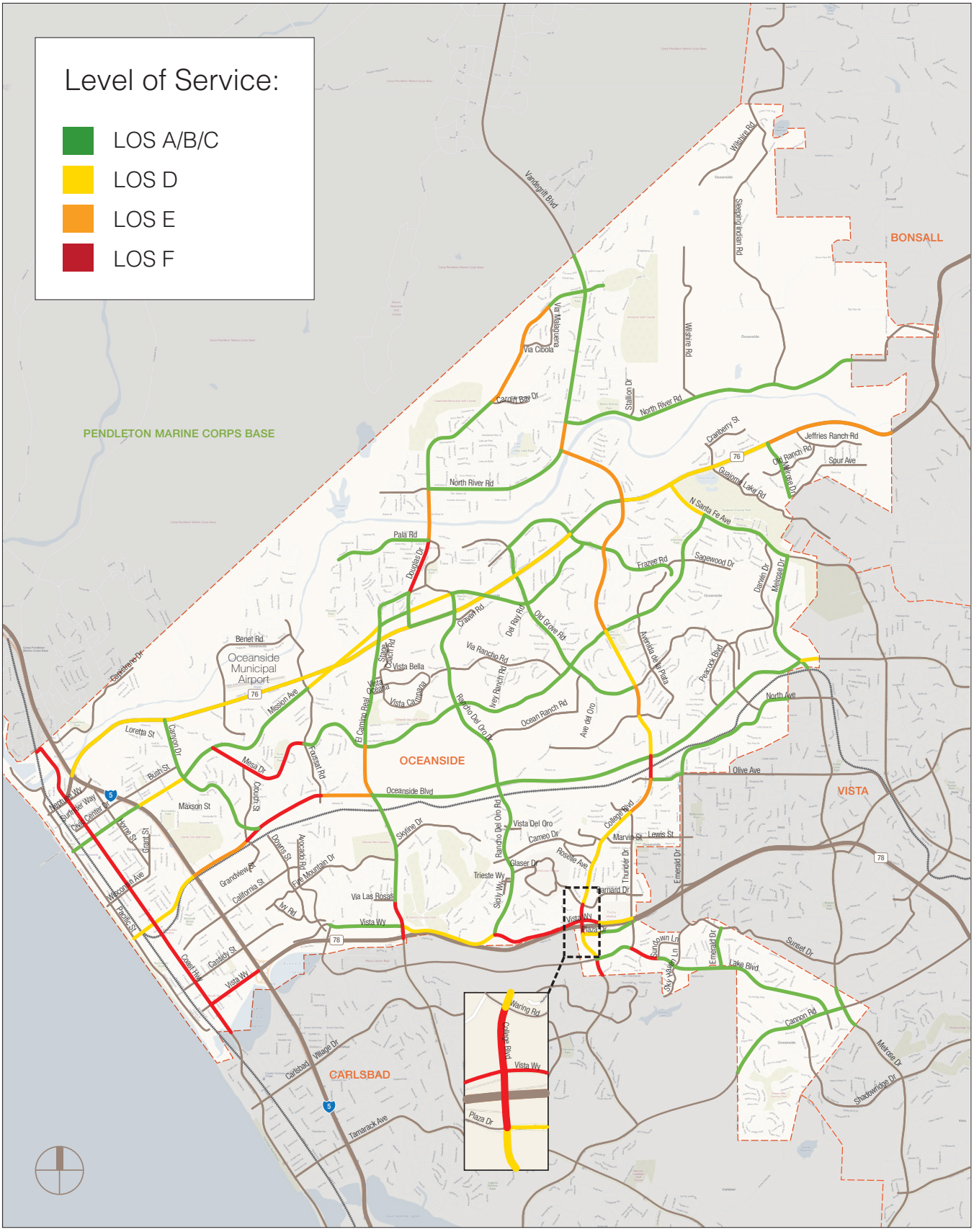
1. **Bold** indicates an unacceptable level of service.
2. Red text indicates a change from Modified 1995 CE to Alternative 2 in the network.



Note: **Red** text indicates a change from Baseline Network



Note: Please refer to Table 9-1 for a complete listing of ADT volumes.


Level of Service:
LOS A/B/C
LOS D
LOS E
LOS F
PENDLETON MARINE CORPS BASE
BONSALL
OCEANSIDE
VISTA
CARLSBAD
Oceanside Municipal Airport
Vandegrift Blvd
Wilshire Rd
Via Cibola
Cardiff Bay Dr
North River Rd
Stallion Dr
Cranberry St
Jeffries Ranch Rd
Old Ranch Rd
Spur Ave
Guajome Lake Rd
N Santa Fe Ave
Pala Rd
Douglas Dr
Frazee Rd
Sagewood Dr
Melrose Dr
Benet Rd
Coach Rd
Del Rey Rd
Old Grove Rd
Via Rancho Rd
Vista Bella
Vista Cayuga
El Camino Real
Rancho Del Oro Dr
Ocean Ranch Rd
Ave del Oro
Avenida de la Plata
Peacock Blvd
North Ave
Olive Ave
Oceanside Blvd
Mesa Dr
Crouch St
Mission Ave
Loretta St
Cannon Dr
Bush St
Maxson St
Myers St
Grant St
Wisconsin Ave
Pacific St
Coast Hwy
Cassidy St
Vista Wy
Ivy Rd
California St
Grandview Dr
Avocado Rd
Fire Mountain Dr
Downs St
Skyline Dr
Vista Del Oro
Cameo Dr
College Blvd
Marvin St
Lewis St
Rancho Del Oro Rd
Glaser Dr
Trieste Wy
Sicily Wy
Via Las Rosas
Vista Wy
Rosalie Ave
Thurlow Dr
Barnard Dr
Emerald Dr
Sunglow Ln
Sky View Ln
Lake Blvd
Sunset Dr
Cannon Rd
Melrose Dr
Shadowridge Dr
Waring Rd
College Blvd
Vista Wy
Plaza Dr
Carlsbad Village Dr
Tamarack Ave
Carlsbad Blvd
Palomar Airport Rd
Camino Hills
Camino Vista
Camino Vista Sur
Camino Vista Norte
Camino Vista Este
Camino Vista Oeste
Camino Vista Central
Camino Vista Plaza
Camino Vista Park
Camino Vista Garden
Camino Vista Fountain
Camino Vista Gate
Camino Vista Entrance
Camino Vista Exit
Camino Vista Loop
Camino Vista Circle
Camino Vista Court
Camino Vista Terrace
Camino Vista Overlook
Camino Vista Vista
Camino Vista Hill
Camino Vista Valley
Camino Vista Ridge
Camino Vista Canyon
Camino Vista Creek
Camino Vista River
Camino Vista Lake
Camino Vista Pond
Camino Vista Bay
Camino Vista Beach
Camino Vista Shore
Camino Vista Coast
Camino Vista Island
Camino Vista Peninsula
Camino Vista Cape
Camino Vista Point
Camino Vista Harbor
Camino Vista Marina
Camino Vista Dock
Camino Vista Pier
Camino Vista Wharf
Camino Vista Boardwalk
Camino Vista Promenade
Camino Vista Esplanade
Camino Vista Plaza
Camino Vista Square

9.2 ALTERNATIVE 2 (YEAR 2030) INTERSECTION OPERATIONS

The Alternative 2 (Year 2030) intersection turning movement volumes were calculated from the Series 11 North County Subarea model forecast volumes. The Alternative 2 (Year 2030) intersection geometry is shown in Figure 9.4 and the intersection turning movement volumes are shown in Figure 9.5. The intersection peak hour operations and level of service is shown in Table 9-2. Appendix G contains the Alternative 2 intersection calculation sheets. As shown in Table 9-2, there are several intersections that operate at a deficient level of service (LOS E or LOS F) during one or both peak hour time periods under the Alternative 2 scenario. Figure 9.6 shows the intersection level of service operations.

- Coast Highway & Oceanside Boulevard (PM - LOS F)
- Coast Highway & Vista Way (PM - LOS F)
- Mission Avenue & I-5 SB Ramps (PM - LOS E)
- Mission Avenue & I-5 NB Ramps (PM - LOS E)
- Oceanside Boulevard & I-5 SB Ramps (AM - LOS E; PM - LOS F)
- Oceanside Boulevard & I-5 NB Ramps (PM - LOS F)
- Oceanside Boulevard & Crouch Street (PM - LOS E)
- SR76 & Foussat Road (AM & PM - LOS E)
- El Camino Real & Oceanside Boulevard (AM - LOS E)
- El Camino Real & Vista Way (AM - LOS E; PM - LOS F)
- El Camino Real & SR78 EB Off-Ramps (PM - LOS E)
- Vista Way & Jefferson Street (PM - LOS E)
- Douglas Drive & El Camino Real (AM & PM - LOS F)
- Douglas Drive & Mission Avenue (AM & PM - LOS F)
- Rancho Del Oro Road & Vista Del Oro Drive (AM & PM - LOS F)
- Rancho Del Oro Road & Cameo Drive (AM & PM - LOS F)
- College Boulevard & North River Road (PM - LOS F)
- College Boulevard & SR76 (AM & PM - LOS F)
- College Boulevard & Mesa Drive (PM - LOS E)
- College Boulevard & Old Grove Road (AM - LOS E)
- College Boulevard & Oceanside Boulevard (PM - LOS E)
- College Boulevard & Lake Boulevard (PM - LOS E)

Table 9-2 Alternative 2 Year 2030
Intersection Operations

Intersection	Control Type	Peak Hour	Modified 1995 CE		Alternative 2		
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]
1. Coast Hwy & SR76	Signal	AM	15.5	B	18.3	B	2.8
		PM	21.1	C	24.5	C	3.4
2. Coast Hwy & Surfrider Way	Signal	AM	11.6	B	6.1	A	-5.5
		PM	14.3	B	11.7	B	-2.6
3. Coast Hwy & Mission Ave	Signal	AM	11.7	B	12.5	B	0.8
		PM	14.5	B	29.3	C	14.8
4. Coast Hwy & Oceanside Blvd	Signal	AM	39.1	D	[d]	[d]	[d]
		PM	49.1	D	[d]	[d]	[d]
5. Coast Hwy & Vista Way	Signal	AM	26.4	C	[d]	[d]	[d]
		PM	41.4	D	[d]	[d]	[d]
6. Mission Ave & Horne St	Signal	AM	27.8	C	25.1	C	-2.7
		PM	38.6	D	37.0	D	-1.6
7. Mission Ave & I-5SB Ramps	Signal	AM	46.4	D	48.0	D	1.6
		PM	**55.2**	**E**	**67.0**	**E**	**11.8**
8. Mission Ave & I-5NB Ramps	Signal	AM	40.4	D	46.6	D	6.2
		PM	48.9	D	**70.7**	**E**	**21.8**
9. Mission Ave & Canyon Dr	Signal	AM	28.2	C	29.8	C	1.6
		PM	41.5	D	45.3	D	3.8
10. Oceanside Blvd & I-5 SB Ramps	Signal	AM	51.4	D	**64.7**	**E**	**13.3**
		PM	**82.4**	**F**	**107.2**	**F**	**24.8**
11. Oceanside Blvd & I-5 NB Ramps	Signal	AM	28.3	C	30.2	C	1.9
		PM	**63.6**	**E**	**97.0**	**F**	**33.4**
12. Oceanside Blvd & Crouch St	Signal	AM	33.8	C	42.2	D	8.4
		PM	**58.2**	**E**	**71.4**	**E**	**13.2**
13. SR76 & Foussat Rd	Signal	AM	**67.3**	**E**	**71.4**	**E**	**4.1**
		PM	51.4	D	**57.7**	**E**	**6.3**
14. El Camino Real & Mission Ave	Signal	AM	47.0	D	49.6	D	2.0
		PM	45.6	D	49.6	D	4.0
15. El Camino Real & Mesa Dr	Signal	AM	38.5	D	47.9	D	9.4
		PM	31.5	C	36.3	D	5.1

Table 9-2 Alternative 2 Year 2030
Intersection Operations

	Intersection	Control Type	Peak Hour	Modified 1995 CE		Alternative 2		
				Delay[a]	LOS[b]	Delay	LOS	Δ[c]
16.	El Camino Real & Oceanside Blvd	Signal	AM	**56.9**	**E**	**73.4**	**E**	**16.5**
			PM	41.3	D	52.9	D	11.6
17.	El Camino Real & Vista Way	Signal	AM	37.1	D	**68.6**	**E**	**31.5**
			PM	**58.6**	**E**	**106.5**	**F**	**47.9**
18.	El Camino Real & SR78 WB Ramps	Signal	AM	28.5	C	38.3	D	9.8
			PM	40.9	D	50.8	D	9.9
19.	El Camino Real & SR78 EB Ramps	Signal	AM	23.5	C	26.8	C	3.3
			PM	43.5	D	**73.6**	**E**	**30.1**
20.	Vista Way & Jefferson St	Signal	AM	26.6	C	29.8	C	3.2
			PM	**56.5**	**E**	**63.1**	**E**	**6.6**
21.	Douglas Dr & North River Rd	Signal	AM	50.7	D	52.5	D	1.8
			PM	42.3	D	42.7	D	0.4
22.	Douglas Dr & El Camino Real	Signal	AM	**90.7**	**F**	**122.7**	**F**	**32.0**
			PM	**57.7**	**E**	**80.1**	**F**	**22.4**
23.	Douglas Dr & Mission Ave	Signal	AM	**64.4**	**E**	**83.0**	**F**	**18.6**
			PM	**66.6**	**E**	**90.8**	**F**	**24.2**
24.	Rancho Del Oro Dr & SR76	Signal	AM	36.1	D	38.0	D	1.9
			PM	38.3	D	43.6	D	5.3
25.	Rancho Del Oro Dr & Mesa Dr	Signal	AM	49.2	D	54.6	D	5.4
			PM	33.1	C	50.5	D	17.4
26.	Rancho Del Oro Rd & Oceanside Blvd	Signal	AM	29.7	C	28.9	C	0.8
			PM	37.6	D	35.7	D	1.9
27.	Rancho Del Oro Rd & Vista Del Oro Dr [e]	AWSC [f]	AM	**148.1**	**F**	**78.2**	**F**	**-69.9**
			PM	**130.5**	**F**	**63.4**	**F**	**-67.1**
28.	Rancho Del Oro Rd & Cameo Dr [e]	AWSC [f]	AM	**183.9**	**F**	**107.4**	**F**	**-76.5**
			PM	**185.0**	**F**	**111.1**	**F**	**-73.9**
29.	Rancho Del Oro Rd & Trieste Way & Sicily Way [e]	AWSC [f]	AM	**100.8**	**F**	20.4	C	-80.4
			PM	**152.3**	**F**	28.1	D	-124.2

Table 9-2 Alternative 2 Year 2030
Intersection Operations

	Intersection	Control Type	Peak Hour	Modified 1995 CE		Alternative 2		
				Delay[a]	LOS[b]	Delay	LOS	Δ[c]
30.	Rancho Del Oro Rd & Vista Way	Signal	AM	31.1	C	18.7	B	-12.4
			PM	46.4	D	22.1	C	-24.3
31.	Vandegrift Blvd & Douglas Dr	Signal	AM	24.5	C	24.5	C	0.0
			PM	30.3	C	30.0	C	-0.3
32.	Vandegrift Blvd & North River Rd	Signal	AM	18.7	B	19.5	B	0.8
			PM	37.7	D	41.8	D	4.1
33.	College Blvd & North River Rd	Signal	AM	24.1	C	25.0	C	0.9
			PM	**89.8**	**F**	**117.6**	**F**	**27.8**
34.	College Blvd & SR76	Signal	AM	**73.2**	**E**	**92.8**	**F**	**19.6**
			PM	**147.2**	**F**	**181.6**	**F**	**34.4**
35.	College Blvd & Mesa Dr	Signal	AM	39.7	D	53.2	D	13.5
			PM	48.7	D	**75.6**	**E**	**26.9**
36.	Old Grove Rd & Mesa Dr	Signal	AM	23.7	C	26.2	C	2.5
			PM	41.6	D	44.9	D	3.3
37.	College Blvd & Old Grove Rd	Signal	AM	38.2	D	**60.3**	**E**	**22.1**
			PM	43.7	D	47.6	D	3.9
38.	College Blvd & Oceanside Blvd	Signal	AM	44.8	D	53.9	D	9.1
			PM	**55.3**	**E**	**66.0**	**E**	**10.7**
39.	College Blvd & Olive Dr	Signal	AM	25.0	C	29.3	C	4.3
			PM	32.6	C	49.2	D	16.6
40.	College Blvd & Vista Way	Signal	AM	28.3	C	54.6	D	26.3
			PM	33.4	C	49.8	D	16.4
41.	College Blvd & SR78 EB Off Ramp	Signal	AM	11.8	B	13.6	B	1.8
			PM	16.3	B	19.4	B	3.1
42.	College Blvd & Plaza Dr	Signal	AM	26.6	C	30.8	C	4.2
			PM	26.6	C	51.8	D	25.2
43.	College Blvd & Lake Blvd	Signal	AM	29.9	D	30.9	C	1.0
			PM	**58.7**	**E**	**66.8**	**E**	**8.1**
44.	Vista Way & SR78 WB Ramp	Signal	AM	29.5	C	30.8	C	1.3
			PM	34.1	C	37.9	D	3.8

Table 9-2 Alternative 2 Year 2030
Intersection Operations

Intersection	Control Type	Peak Hour	Modified 1995 CE		Alternative 2		
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]
45. Plaza Dr & SR78 EB Ramp	Signal	AM	29.1	C	33.0	C	3.9
		PM	34.8	C	47.9	D	13.1
46. North Santa Fe Ave & Mesa Dr	Signal	AM	16.2	B	16.1	B	-0.1
		PM	18.3	B	16.1	B	-2.2
47. Melrose Dr & SR76	Signal	AM	51.9	D	45.7	D	-6.2
		PM	**58.4**	**E**	31.2	C	-27.2
48. Melrose Dr & North Santa Fe Ave	Signal	AM	33.3	C	21.4	C	-11.9
		PM	30.7	C	18.1	B	-12.6
49. Melrose Dr & Oceanside Blvd	Signal	AM	33.0	C	27.2	C	-5.8
		PM	49.5	D	47.5	D	-2.0
50. Melrose Dr & Cannon Rd	Signal	AM	43.4	D	51.1	D	7.7
		PM	32.4	C	35.0	D	2.6

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS = Level of Service
c. Δ denotes the difference between the Modified 1995 CE delay and Alternative 2 delay.
d. The delay and level of service for these intersections are shown in Section 9.3, Tables 9-3 and 9-4 for roundabout analysis.
e. These intersection calculations were done in Traffix using 2000 HCM methodologies. Synchro only allows geometry of 2-lanes per leg for AWSC intersections.
f. AWSC – all way stop controlled intersection

Notes:
1. Acceptable level of service at intersections in Oceanside is LOS D.
2. **Bold** indicates an unacceptable level of service.

9.3 ROUNDABOUT ANALYSIS

Coast Highway for Alternative 2 is a two-lane roadway with roundabouts at key intersections based on the Coast Highway Vision Plan. The intersection of Coast Highway and Oceanside Boulevard and Coast Highway and Vista Way are analyzed as single-lane roundabouts for Alternative 2 using the National Cooperative Highway Research Program (NCHRP) Report 572 method. The NCHRP Report 572 method is based on actual operational statistics of constructed roundabouts in the United States. As seen in Table 9-3, both intersections are calculated to operate at acceptable levels of service during the AM peak hour. Table 9-4 shows that the proposed roundabouts perform worse in the PM peak hour with an unacceptable LOS F with the exception of the west leg of Coast Highway and Vista Way. The PM peak hour traffic volumes are significantly higher than the AM peak hour traffic volumes; therefore, the two roundabouts generally operate at LOS F in the PM peak hour for all approaches.

The roundabout intersection calculation sheets are included in Appendix G.

Table 9-3
Roundabout Performance – AM Peak Hour
Critical Approaches

Intersection	Approaches	Delay[a]	LOS[b]	V/C[c]	95th % Queue (ft)	Deficient
4. Coast Hwy & Oceanside Blvd	North Leg	11.7	B	0.61	105	No
	South Leg	8.8	A	0.52	76	No
	East Leg	13.4	B	0.68	139	No
	West Leg	9.8	A	0.38	45	No
5. Coast Hwy & Vista Way	North Leg	9.2	A	0.54	82	No
	South Leg	6.3	A	0.36	41	No
	East Leg	9.0	A	0.6	89	No
	West Leg	7.9	A	0.20	19	No

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS = Level of Service
c. V/C – volume to capacity ratio

Note:
NCHRP – 572 Model

Table 9-4
Roundabout Performance – PM Peak Hour
Critical Approaches

Intersection	Approaches	Delay[a]	LOS[b]	V/C[c]	95th % Queue (ft)	Deficient
4. Coast Hwy & Oceanside Blvd	North Leg	297.9	F	1.62	1383	Yes
	South Leg	304.8	F	1.63	1442	Yes
	East Leg	271.5	F	1.55	1047	Yes
	West Leg	193.0	F	1.32	519	Yes
5. Coast Hwy & Vista Way	North Leg	56.9	F	1.03	476	Yes
	South Leg	124.5	F	1.22	789	Yes
	East Leg	103.0	F	1.14	550	Yes
	West Leg	13.3	B	0.35	38	No

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS = Level of Service
c. V/C – volume to capacity ratio

Note:
NCHRP – 572 Model

9.4 RANCHO DEL ORO ROAD SIGNAL WARRANT ANALYSIS

There are three intersections along Rancho Del Oro Road that are shown as all-way stop controlled intersections.

- Rancho Del Oro Road & Vista Del Oro Drive
- Rancho Del Oro Road & Cameo Drive
- Rancho Del Oro Road & Trieste Way & Sicily Way

As seen previously in Table 9-2, two of the three unsignalized intersections are shown to operate at LOS F in both the AM and PM peak hours under the Alternative 2 scenario. The Rancho Del Oro Road/Trieste Way/Sicily Way intersection operates at an acceptable LOS C in the AM peak hour and LOS D in the PM peak hour. Mitigation to bring the two intersections that operate at LOS F to an acceptable level of service would be in the form of a traffic signal. The MUTCD signal warrant analysis for Warrant 3, Peak Hour was performed at the two unsignalized intersections that operate at LOS F for Alternative 2 traffic volumes. The Rancho Del Oro Road/Vista Del Oro Drive and Rancho Del Oro Road/Cameo Drive intersections meet the peak hour warrant requirements for traffic signals during both the AM and PM peak hours. Appendix G contains the Warrant 3, Peak Hour worksheets. As seen in Table 9-5, the two intersections that met the signal warrant are expected to operate at LOS B or better during both the AM and PM peak hours under the Alternative 2 if a signal were installed.

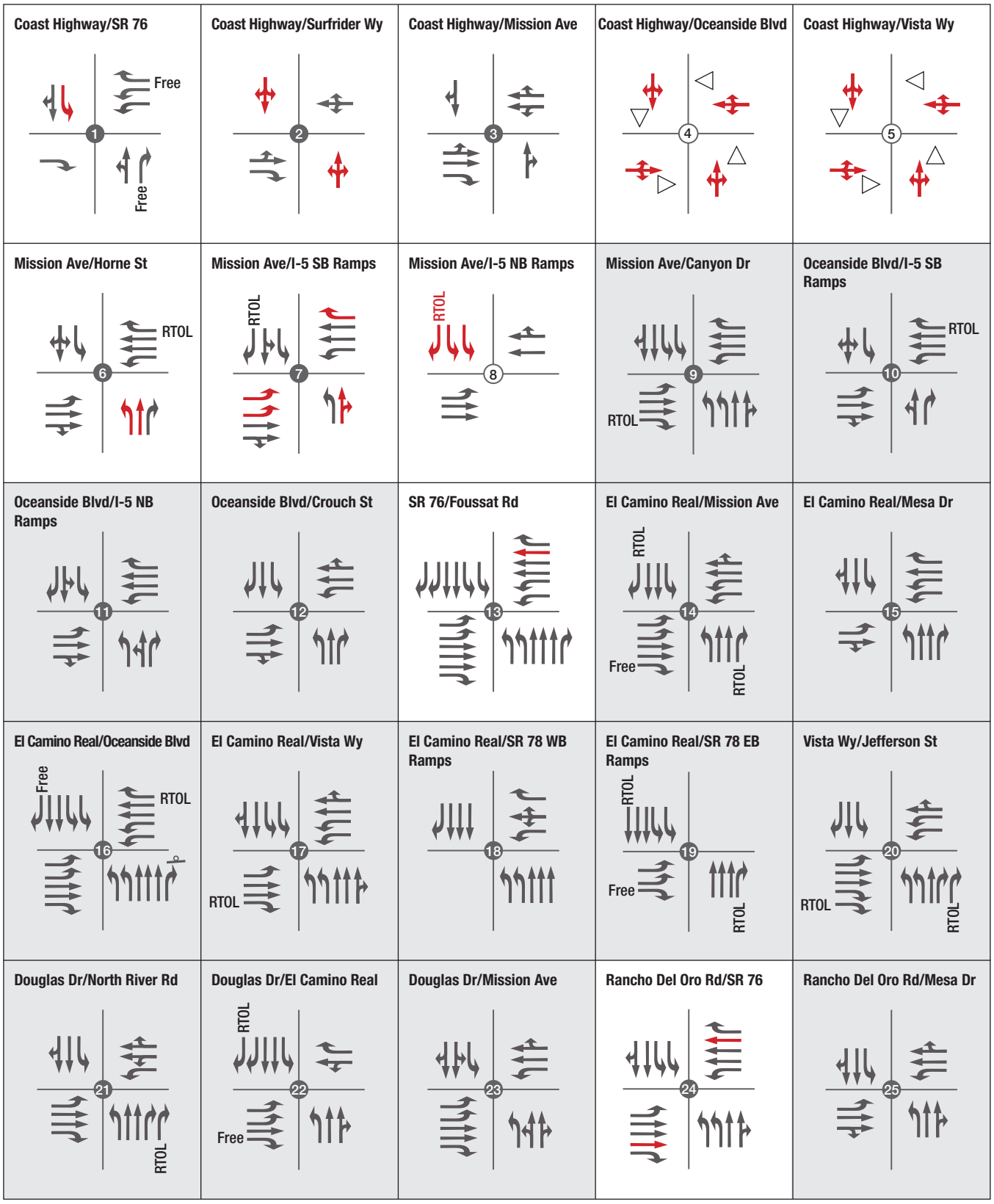
Table 9-5 Alternative 2 Year 2030
Additional Peak Hour Rancho Del Oro Road
Intersection Operations

Intersection	Control Type	Peak Hour	Alternative 2	
			Delay[a]	LOS[b]
27. Rancho Del Oro Rd & Vista Del Oro Dr	Signal	AM PM	9.6 7.9	A A
28. Rancho Del Oro Rd & Cameo Dr	Signal	AM PM	12.9 18.9	B B

Footnotes:
a. Delay is expressed as average seconds of delay per vehicle.
b. LOS = Level of Service

Note:
The intersection calculations were done in Synchro for signalized intersection operations.

Even though, the Rancho Del Oro Road/Trieste Way/Sicily Way intersection did not meet Warrant 3, Peak Hour signal warrants and operates at an acceptable level of service for the AM and PM peak hours, there are other warrants that should be reviewed to determine if a signal should be installed at this intersection. An all-way stop controlled intersection on a major arterial can interrupt the traffic progression on the corridor. If a traffic signal were installed at the unsignalized intersections on this corridor, it is anticipated that it would improve the traffic progression along the arterial corridor. MUTCD Signal Warrant 6 supports the installation of a traffic signal at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles on a corridor. If a signal were installed at the adjacent intersections of Rancho Del Oro Road/Trieste Way/Sicily Way, other signal warrants (such as Warrant 6) should be reviewed.

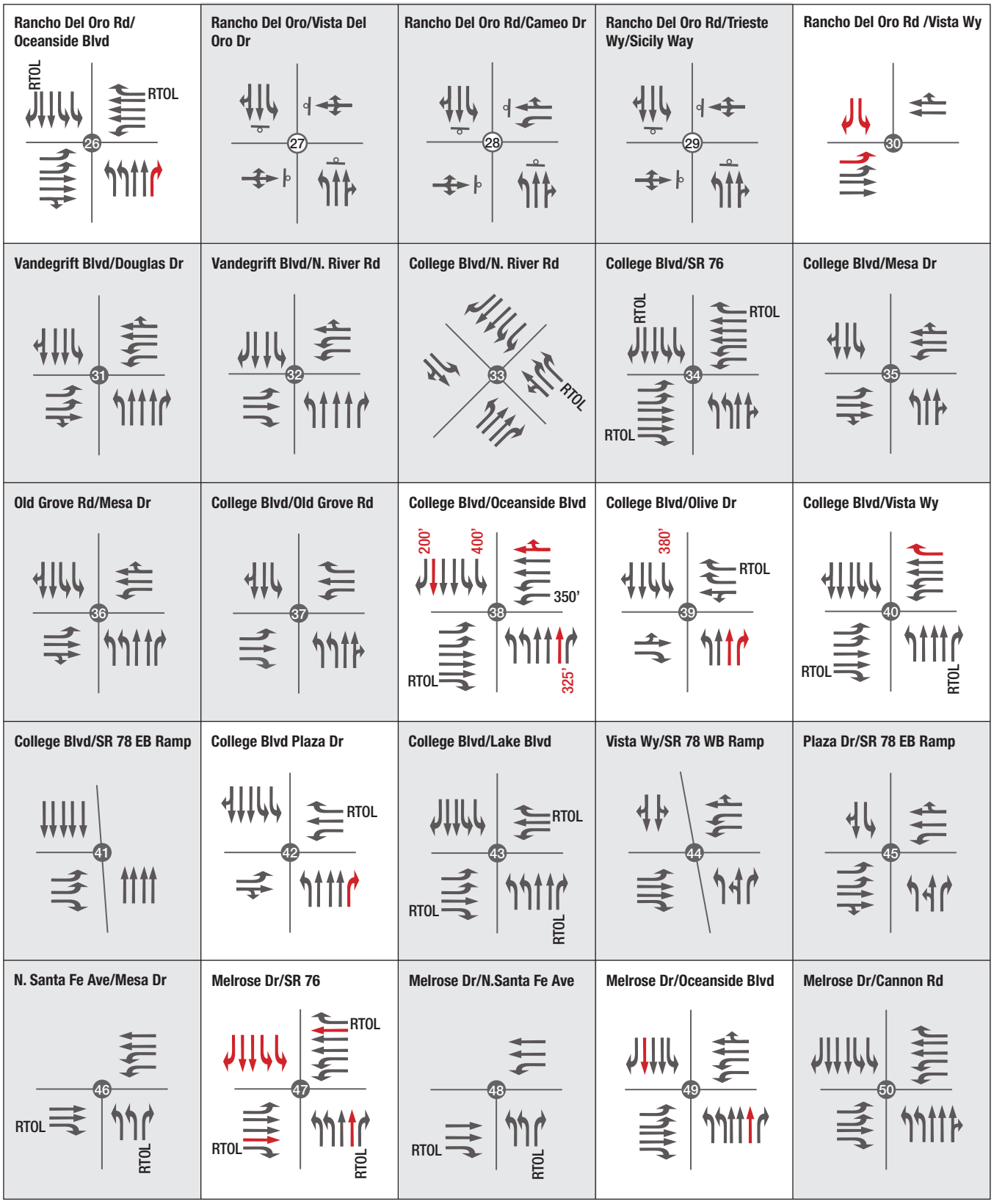


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City of Oceanside Circulation Element

Alternative 2 Year 2030 Intersection Geometry

Figure 9.4



LEGEND

NS Street/EW Street

EW

NS

● Study Intersection - Signalized

○ Study Intersection - Unsignalized

\# Study Intersection Number

RTOL Right-turn overlap

Lane Geometry

Stop Sign Control

Unshaded intersection and red coloring indicates a geometric change from the Existing intersection geometry

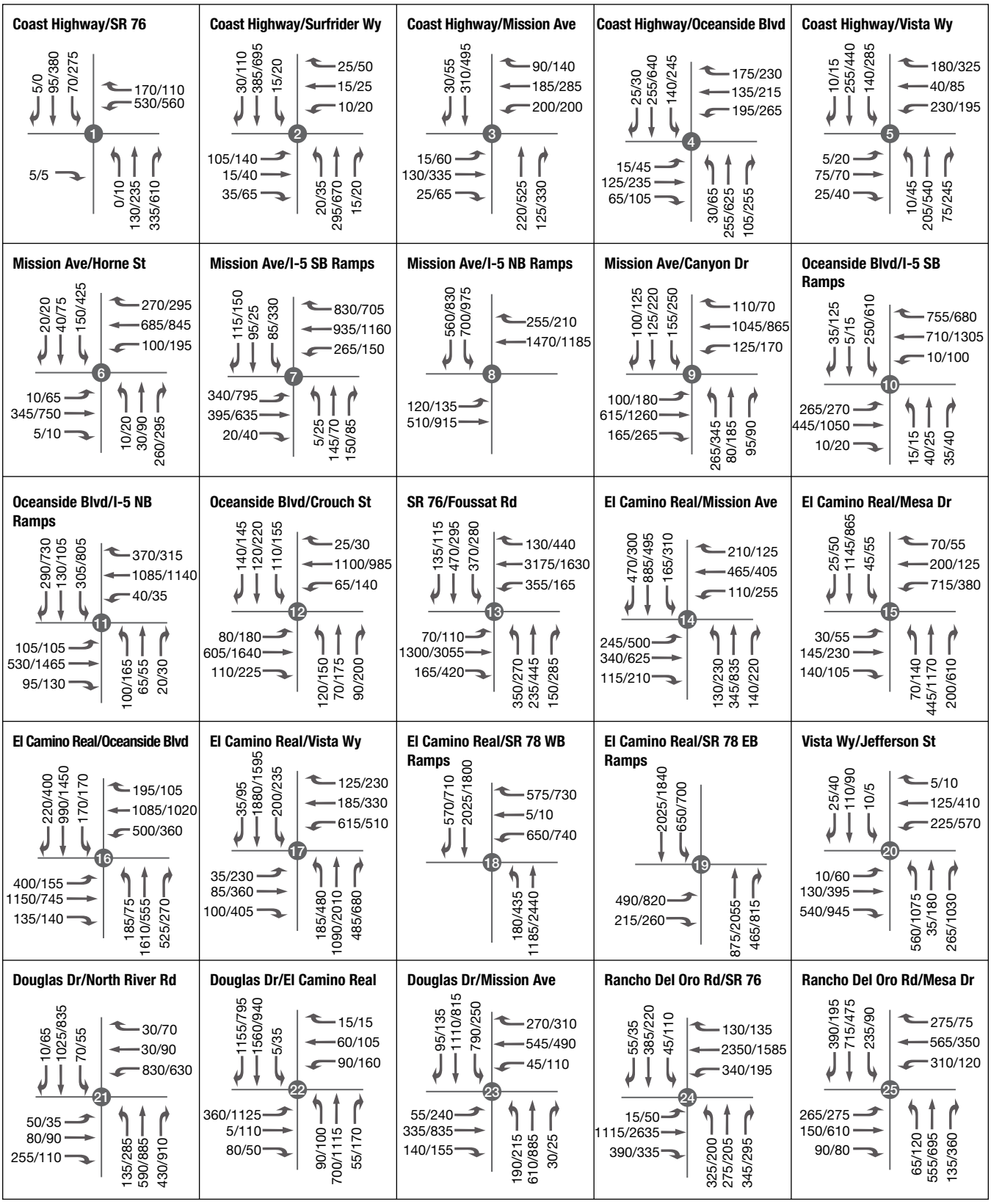
xxx' Additional feet added to the turn pocket length

IBI GROUP

City of Oceanside Circulation Element

Alternative 2 Year 2030 Intersection Geometry

Figure 9.4



LEGEND: NS Street/EW Street #/# AM/PM Peak Hour Volume
#s Rounded to the Nearest 5th

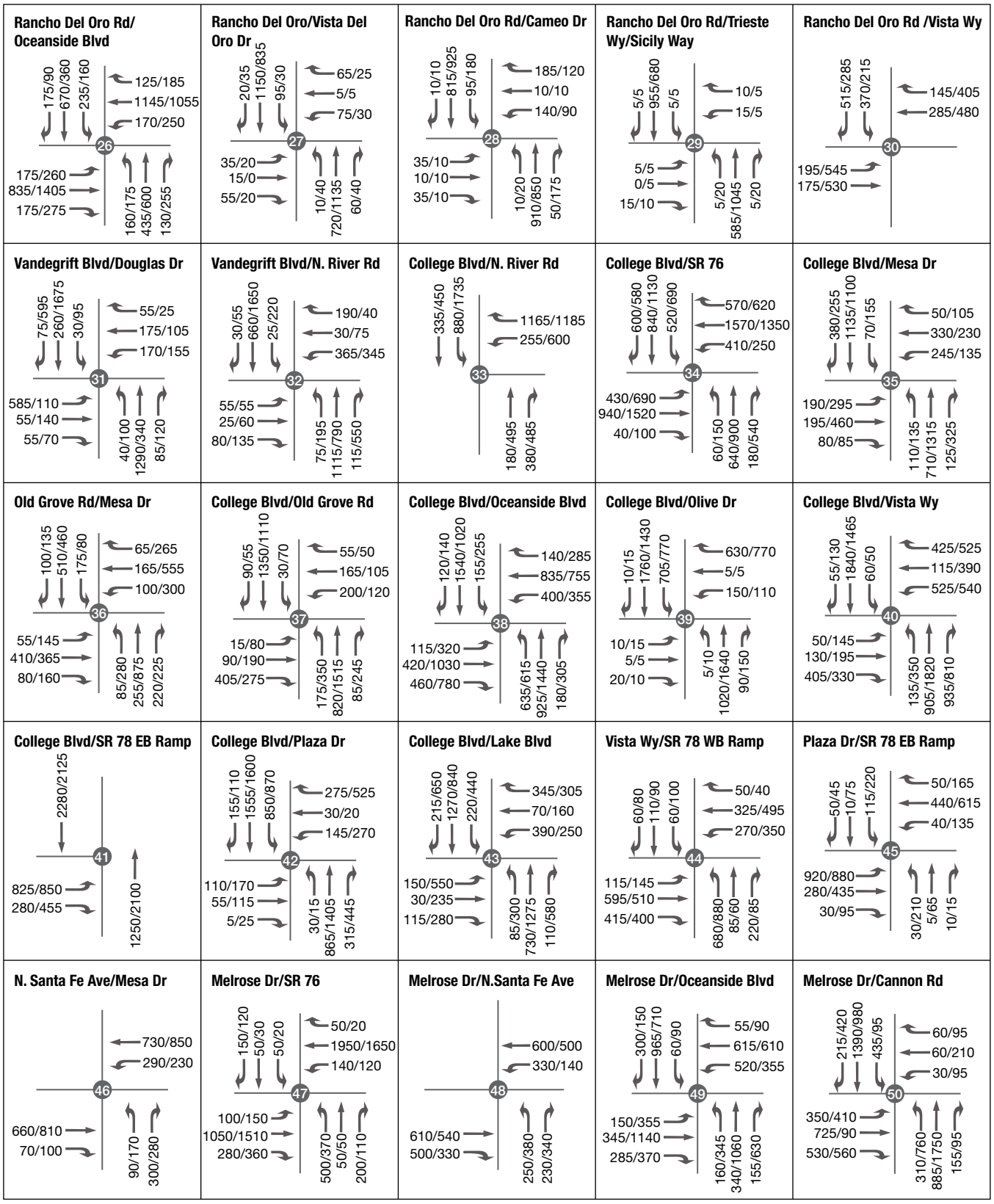
EW
NS

IBI GROUP

City of Oceanside Circulation Element

Alternative 2 Volumes Year 2030 AM/PM Peak Hour Volumes

Figure 9.5



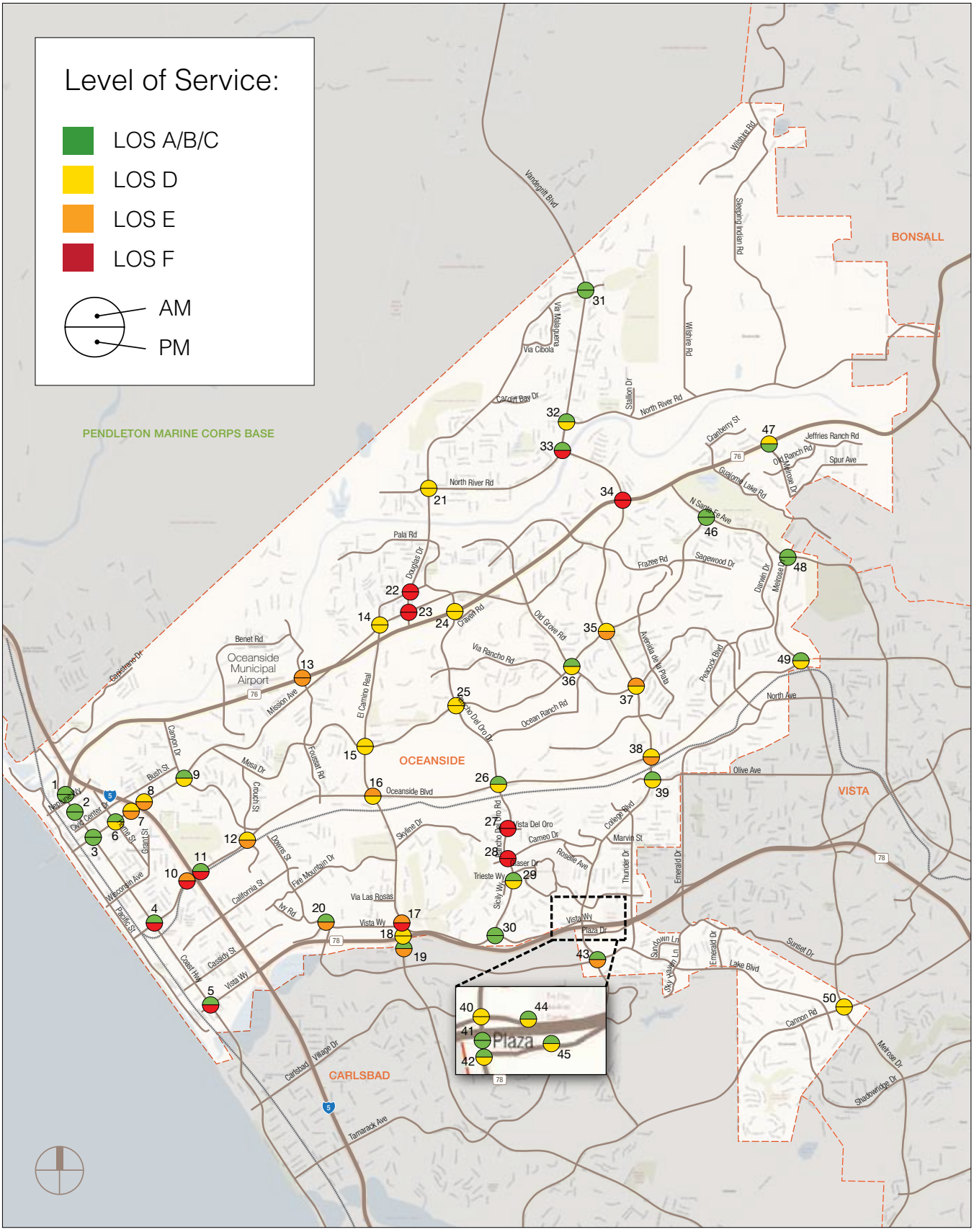
LEGEND: NS Street/EW Street #/# AM/PM Peak Hour Volume
#s Rounded to the Nearest 5th

EW
NS

IBI GROUP

City of Oceanside Circulation Element
Alternative 2 Volumes Year 2030 AM/PM Peak Hour Volumes

Figure 9.5



Note: Intersections 27, 28, and 29 are unsignalized

10.0 SELECTED NETWORK ALTERNATIVES SUMMARY

10.1 ALTERNATIVE 1 (YEAR 2030)

The Alternative 1, Year 2030 scenario assumes that College Boulevard would be a hybrid of four- and six-lanes, the northern extension of Melrose Drive between SR76 and North River Road would not occur, and Mission Avenue would be a one-way couplet between Cleveland and Clementine Streets.

As seen previously in Section 8.0, the differences between Alternative 1 and the Modified 1995 CE scenario are mostly seen at or near the areas where the network varies. The following is a brief description of the notable differences for roadways or intersections that were directly impacted by the network changes in Alternative 1.

Roadways:

- College Boulevard: There is a decrease in traffic volumes between Old Grove Road and Vista Way. The volumes throughout this portion of College Boulevard are lower than the Modified 1995 CE scenario; however, the number of lanes between Old Grove Road to Avenida de la Plata and Olive Drive to Waring Road remain at four-lanes instead of six-lanes. This resulted in improved levels of service between Avenida de la Plata and Olive Drive where the roadway remains at six-lanes. However, there is degradation in the levels of service between Old Grove Road and Avenida de la Plata and Olive Drive and Thunder Drive due to the lanes changing from six- to four-lanes. Therefore, operations worsened in those two segments from Alternative 1 than in the Modified 1995 CE scenario.

- Melrose Drive: There was a decrease in traffic volumes between the Modified 1995 CE and Alternative 1 scenario. This is because the northern extension was removed; therefore, the volumes on the segment between SR76 and North Santa Fe Avenue decreased and the level of service improved for this segment.

- North River Road: The segment between College Boulevard and Vandegrift Boulevard increased in traffic volumes with the removal of the northern extension of Melrose Drive, therefore degrading the level of service for this segment. The segment between College Boulevard and Vandegrift Boulevard provides one of the closest access routes to the eastern portion of North River Road without the Melrose connection to SR76.

- SR76: There was an increase in traffic volumes on the SR76 segment between Melrose Drive to Eastern City Limits. This increase is due to the removal of the Melrose Drive extension from SR76 to North River Road. The removal of the northern Melrose Drive extension causes trips to divert to alternative access points to North River Road resulting in additional trips staying on SR76.

Intersections:

- College Boulevard/North River Road and College Boulevard/SR76: There was a peak hour operational degradation at this intersection, especially in the PM peak hour. This

can be attributed to an increase in traffic volumes due to the removal of the northern Melrose Drive extension.

- College Boulevard at Mesa Drive, Old Grove Road, Oceanside Boulevard, and Vista Way: There was a slight improvement to peak hour traffic operations at these intersections. This is mainly attributed to the shift in traffic volumes due to the four- and six-lane hybrid on College Boulevard. In addition, there were some specific intersection improvements along the corridor.

- Melrose Drive/SR76: There was a peak hour operational improvement at this intersection and a level of service improvement in the PM peak hour. This is attributed to a decrease in traffic volumes on Melrose Drive without the northern extension of Melrose Drive to N. River Road.

The locations listed above do not exclusively list all of the differences shown between the Modified 1995 CE and Alternative 1; however, it lists the roadways and intersections that were directly impacted (positive or negative) by network changes in the Alternative 1 scenario. Since the Alternative 1 network is different than the Modified 1995 CE network, there were other changes seen between the two scenarios. Some of the changes seen between the Modified 1995 CE Scenario and Alternative 1 resulted in delay or level of service improvements on roadways due to traffic being diverted throughout the network based on the cumulative impact of the network changes.

10.2 ALTERNATIVE 2 (YEAR 2030)

The Alternative 2, Year 2030 scenario included the most changes from the Modified 1995 CE scenario. It assumes that College Boulevard would be a hybrid of four- and six-lanes, the northern extension of Melrose Drive between SR76 and North River Road would not occur, the southern extension between Spur Avenue and N. Santa Fe Avenue would not occur, the Rancho del Oro Road/SR78 interchange would not occur, the Pala Road extension to Foussat Road would not occur, Coast Highway would be two-lanes, and Mission Avenue would not be built to a four-lane major arterial but would remain a four-lane secondary collector between Cleveland and Clementine Streets.

Section 9.0 shows the operational differences between the Modified 1995 CE and Alternative 2 scenario. Similar to Alternative 1, the major differences between the Modified 1995 CE and Alternative 2 are at or near the areas where the network was changed. The following is a brief description of the notable differences for roadways or intersections that were directly impacted by the network changes from Alternative 2.

Roadways:

- Coast Highway: There were no significant increases in traffic volumes on Coast Highway; however, this roadway degrades to LOS F in Alternative 2 because it has been reduced from being a four-lane secondary collector to a two-lane collector.

- College Boulevard: In general, there is an increase in traffic volumes along the segments of College Boulevard. This is attributed to the removal of the northern and southern Melrose Drive extensions and the removal of the Rancho Del Oro Road interchange. This resulted in degradation in the level of service on the majority of College Boulevard.

- Douglas Drive: There was an increase in traffic volumes between North River Road and Mission Avenue. This is attributed to the removal of the Pala Road extension to Foussat Road. Therefore, traffic volumes were diverted to an alternative access to Pala Road via Douglas Drive. This resulted in degradation of level of service between Pala Road to El Camino Real on Douglas Drive.

- El Camino Real: There was an increase in traffic volumes between Oceanside Boulevard and the SR78 interchange. This is a result of the removal of the Rancho Del Oro Road interchange. Trips were diverted to the El Camino Real interchange causing the segments between Via Las Rosas and SR78 to degrade to LOS F.

- Melrose Drive: There was a decrease in traffic volumes between SR76 and Oceanside Boulevard. The decrease in traffic volumes in attributed to the removal of both northern and southern extensions of Melrose Drive. This resulted in improvement to the level of service on these segments.

- North River Road: There was an increase in traffic volumes between College Boulevard and Vandegrift Boulevard on North River Road. This is attributed to the removal of the northern extension of Melrose Drive, therefore degrading the level of service for this segment. The segment between College Boulevard and Vandegrift Boulevard provides the closest access route to the eastern portion of North River Road without the Melrose connection to SR76.

- Oceanside Boulevard: There was an increase in traffic volumes between I-5 and El Camino Real. This can be attributed to the shifting in traffic volumes from the El Camino Real/SR78 interchange and removal of the Rancho Del Oro Road/SR78 interchange. This resulted in degradation in the level of service and operations on Oceanside Boulevard.

- Pala Road: There was a decrease in traffic volumes on Pala Road due to the removal of the Pala Road extension to Foussat Road. This resulted in an improved volume to capacity ratio on Pala Road.

- Rancho Del Oro Road: There was a decrease in traffic volumes between Oceanside Boulevard and Vista Way. The segments between Oceanside Boulevard and Vista Way show a decrease in traffic volumes and improvement in the level of service operations. This is due to the removal of the Rancho Del Oro Road/SR78 interchange.

- Vista Way: There was an increase in traffic volumes between El Camino Real and College Boulevard. This is attributed to the removal of the Rancho Del Oro Road interchange. Traffic that would normally connect directly onto Rancho Del Oro Road from SR-78 now utilize the El Camino Real and College Boulevard interchanges to travel via Vista Way to Rancho Del Oro Road. This resulted in degradation to the level of service on between Rancho Del Oro Road and College Boulevard.

Intersections:

- El Camino Real at Oceanside Boulevard, Vista Way, and SR78 EB and WB Ramps and Vista Way/Jefferson Street: These intersections decline in the level of service operations with the removal of the Rancho Del Oro Road interchange. There was an increase in

peak hour traffic volumes on El Camino Real. Traffic volumes that would've used the Rancho Del Oro Road interchange (and Rancho Del Oro Road) have been shifted to using El Camino Real interchange (and El Camino Real).

- Rancho Del Oro Road at Vista Del Oro Drive, Cameo Drive, Trieste Way/Sicily Way, and Vista Way: These intersections improve in the average delay reported and the level of service. This is attributed to the decrease in traffic volumes on Rancho Del Oro Road. Traffic has been shifted to using the College Boulevard or El Camino Real interchanges since there is no interchange at Rancho Del Oro Road in Alternative 2.

- College Boulevard at Oceanside Boulevard, Olive Drive, Vista Way, and SR78 EB Off Ramp: These intersections degrade in delay and/or level of service operations in Alternative 2 due to an increase in traffic volumes on College Boulevard. This is attributed to the removal of the Rancho Del Oro Road interchange causing traffic to use the College Boulevard and El Camino Real interchanges.

- Vandegrift Boulevard/North River Road, College Boulevard/North River Road, and College Boulevard/SR76: These intersections show additional operational deficiencies in Alternative 2. This can be attributed to an increase in traffic volumes on College Boulevard and North River Road due to the removal of the northern Melrose Drive extension.

- Melrose Drive at SR76, N. Santa Fe Avenue, and Oceanside Boulevard: These intersections show improved peak hour operational conditions in Alternative 2. This is attributed to the removal of both the northern and southern extensions of Melrose Drive. The traffic volumes on Melrose Drive have declined thus improving traffic operations at these intersections.

- Douglas Drive/El Camino Real and Douglas Drive/Mission Avenue: These intersections degrade in the level of service operations due to increased traffic volumes on Douglas Drive from the removal of the Pala Road extension.

Again, the locations listed above do not exclusively list all of the differences shown between the Modified 1995 CE and Alternative 2. The Alternative 2 network is significantly different than the Modified 1995 CE scenario network. Based on the different networks and several segments and intersections reaching operational capacity, there were several other shifts in the traffic volumes throughout the network. Some of the shifts in traffic volumes resulted in a degradation of levels of service while others did not. Tables 9-1 and 9-2 in Section 9.0 shows all of the segment and intersection operations for Alternative 2 compared to the Modified 1995 CE scenario.

11.0 POTENTIAL MITIGATION MEASURES

There are several roadway segments and intersections that operate at unacceptable levels of service in the Modified 1995 CE, Alternative 1, and Alternative 2 Scenarios. The City of Oceanside accepts LOS D as the acceptable level of service for both intersections and segments. The following mitigation measures are recommended to bring the roadway segments and intersections that operate at LOS E or F to an acceptable level of service for each scenario.

It should be noted that some mitigation measures required to bring a facility to an acceptable LOS D is not always feasible. However, the required mitigation to improve a facility to LOS D or better is noted in the tables below for each scenario.

11.1 MODIFIED 1995 CIRCULATION ELEMENT

The table below shows the Modified 1995 CE scenario mitigation measures proposed for each segment and/or intersection. The mitigation listed is what would be required for the facility to operate at an acceptable level of service.

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Roadways:			
Coast Hwy: Mission Ave to Wisconsin Ave	Remove on-street parking and widen to a Secondary Collector 64/84 cross section	The new Transportation Management Center (TMC) can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Coast Hwy: Wisconsin Ave to Oceanside Blvd	Remove on-street parking and widen to a Secondary Collector 64/84 cross section	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: SR76 to Frazee Rd	Widen to a 6-lane Major Arterial	This segment has overriding considerations per the Pacific Coast Business Park study and El Corazon study. The model has since been updated since this study; therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. In addition, a hybrid of a 4- and 6-lane combination of College Blvd has been approved by Council. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
College Blvd: Frazee Rd to Mesa Dr	Widen to a 6-lane Major Arterial	This segment has overriding considerations per the Pacific Coast Business Park study and El Corazon study. The model has since been updated since this study; therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. In addition, a hybrid of a 4- and 6-lane combination of College Blvd has been approved by Council. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Oceanside Blvd to Olive Dr	Widen to a 6-lane Prime Arterial	This segment has overriding considerations per the Pacific Coast Business Park study and El Corazon study. The model has since been updated since this study; therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. In addition, a hybrid of a 4- and 6-lane combination of College Blvd has been approved by Council. The College Blvd Study recommends College be widened to a 6-ln major from Aztec St to Olive Dr. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Waring Rd to Vista Way	Widen to a 6-lane Prime Arterial	This segment has overriding considerations per the Pacific Coast Business Park study and El Corazon study. The model has since been updated since this study; therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. In addition, a hybrid of a 4- and 6-lane combination of College Blvd has been approved by Council. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
College Blvd: Vista Way to SR78	Widen to a 6-lane Prime Arterial	This segment has overriding considerations per the Pacific Coast Business Park study and El Corazon study. The model has since been updated since this study; therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. In addition, a hybrid of a 4- and 6-lane combination of College Blvd has been approved by Council. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: SR78 to Plaza Dr	Widen to a 6-lane Prime Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Lake Blvd to Southern City Limits	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Douglas Dr: N. River Rd to Pala Rd	Widen to a 6-lane Major Arterial	This segment has overriding considerations per The Pavilion study. However, this project assumed the Pala Rd extension between Foussat Rd and Los Arbolitos Dr is not constructed. Since this project possibly might not be built due to financing and the model has since been updated since this study, it is recommended that the overrides for this segment be reconsidered with the updated Circulation Element.	Implement the recommended mitigation measures.
Douglas Dr: Pala Rd to El Camino Real	Widen to a 6-lane Major Arterial	This would require a roadway reclassification.	Implement the recommended mitigation measures.

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
El Camino Real: Mesa Dr to Oceanside Blvd	Widen to a ~~6~~5-lane Major Arterial (3NB, 2SB)	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
El Camino Real: Vista Way to SR78	Widen to 8-lanes	This segment has overriding considerations from the El Corazon study. This segment also has overriding considerations per the 1995 Circulation Element. The extent of the impact to this segment has changed since the previous Circulation Element and the model has been updated since the El Corazon study. Therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Mesa Dr: Mission Ave to Foussat Rd	Widen to a 50/70 Collector	Widening Mesa Drive in this segment would impact existing homes that front it.	Adopt Overriding Consideration
Oceanside Blvd: Crouch St to Foussat Rd	Widen to a 6-lane Major Arterial	This segment has overriding considerations from the El Corazon study. The model has since been updated since this study; therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Vista Way: College Blvd to SR78 WB Ramps	Provide WB dedicated Right-Turn lane and lengthen the WB Left-Turn lanes at the College Blvd/Vista Way intersection. This will not fully mitigate this segment but will improve peak hour conditions.	This segment is relatively short in length and therefore the WB intersection improvements to College/Vista Way would improve the peak hour operations on this segment. However, the improvements do not fully mitigate this segment.	Implement the recommended mitigation measures to the College Blvd/Vista Way intersection. This will improve peak hour operations on this segment but will not fully mitigate the segment, so an overriding consideration should be adopted.
State Route 76: Melrose Dr to Eastern City Limits	Widen to a 6-lane Expressway	This is a Caltrans regional facility & would require coordination with them to mitigate.	Implement the recommended mitigation measures with coordination with Caltrans.
Intersections:			
Mission Ave/I-5SB Ramps	EB – Provide 3 Thru Lanes WB – Provide 2 Left-Turn Lanes, 3 Thru Lanes	This would require widening the Mission Avenue bridge over I-5 and is not deemed as feasible mitigation. In addition, the Caltrans I-5 widening plans show the Mission Avenue bridge remaining as 4-lanes.	Adopt Overriding Consideration
Oceanside Blvd/ I-5SB Ramps	EB – Provide 2 Left Turn Lanes; 3 Thru Lanes WB – Provide 3 Thru Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Oceanside Blvd/ I-5NB Ramps	Provide 3 WB and EB Thru Lanes	This intersection has overriding considerations from the El Corazon study. The model has since been updated since this study; therefore, it is recommended that the overrides for this intersection be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Blvd/ Crouch St	Provide 3 WB and EB Thru Lanes	This intersection has overriding considerations from the El Corazon study. The model has since been updated since this study; therefore, it is recommended that the overrides for this intersection be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
SR76/Foussat Rd	The AM cannot be fully mitigated, but peak hour conditions can be improved to LOS E by: NB – Provide 2 Right Turn Lanes SB – Provide 3 Thru Lanes		Implement the recommended mitigation measures. This will not fully mitigate the intersection, so an overriding consideration should be adopted.

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
El Camino Real/Oceanside Blvd	Provide 3 EB or WB Thru Lanes	This intersection has overriding considerations from the El Corazon study and the Quarry Creek study. The model has since been updated since these studies; therefore, it is recommended that the overrides for this intersection be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
El Camino Real/Vista Way	NB – Provide 3 Dedicated Thru Lanes and 1 Dedicated Right Turn Lane	This intersection has overriding considerations from the Quarry Creek study and per the 1995 Circulation Element. The model has since been updated since these studies; therefore, it is recommended that the overrides for this intersection be reconsidered with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
Vista Way/Jefferson St	WB - Provide 1 Thru and 1 Shared Thru-Right Turn Lane		Implement the recommended mitigation measures.
Douglas Dr/El Camino Real	WB – Provide Dedicated Left and Thru Lane SB – Provide 3 Thru Lanes NB – Provide 2 Thru Lanes, 1 Dedicated Right Turn Lane	There is currently not enough right-of-way to widen this intersection. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Douglas Dr/ Mission Ave	WB – Provide Dedicated Right-Turn Lane and 2 Left-Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Rancho Del Oro Rd/Vista Del Oro Dr	Provide a signal, if signal warrants are met.	It should be noted that the residents on Rancho Del Oro Road oppose the installation of a signal here.	Implement the recommended mitigation measures.
Rancho Del Oro Rd/Cameo Dr	Provide a signal, if signal warrants are met.	It should be noted that the residents on Rancho Del Oro Road oppose the installation of a signal here.	Implement the recommended mitigation measures.
Rancho Del Oro Rd/Trieste Way/Sicily Way	Provide a signal, if signal warrants are met.	It should be noted that the residents on Rancho Del Oro Road oppose the installation of a signal here.	Implement the recommended mitigation measures.
College Blvd/N. River Rd	NB – Provide 1 Left Turn Lane in addition to Shared Left-Thru Lane	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
College Blvd/SR76	NB – Provide 3 Thru Lanes; 2 Right-Turn Lanes with Overlap SB – Provide 3 Thru Lanes		Implement the recommended mitigation measures.
College Blvd/Oceanside Blvd	EB – Provide 2 Right Turn Lanes	This intersection has overriding considerations from the El Corazon study and the Quarry Creek study. The model has since been updated since these studies; therefore, it is recommended that the overrides for this intersection be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd/Lake Blvd	NB – Provide 2 Right Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
Melrose Dr/SR76	Increase the cycle length/green times for SR-76 through movements.	The signal timing for SR-76 would need to be adjusted through Caltrans.	Implement the recommended mitigation measures with

MODIFIED 1995 CIRCULATION ELEMENT POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
			coordination with Caltrans.

11.2 ALTERNATIVE 1

The table below shows the Alternative 1 scenario mitigation measures proposed for each segment and/or intersection. The mitigation listed is what would be required for the facility to operate at an acceptable level of service.

ALTERNATIVE 1 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Roadways:			
Coast Hwy: Wisconsin Ave to Oceanside Blvd	Remove on-street parking and widen to a Secondary Collector 64/84 cross section	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: SR76 to Frazee Rd	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Frazee Rd to Mesa Dr	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Old Grove Rd to Avenida de la Plata	Widen to a 6-lane Major Arterial or Do Intersection/Segment Improvements on College Blvd as shown in the College Blvd PSR	The approved College Blvd Study shows this segment as 4-lanes. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Oceanside Blvd to Olive Dr	Widen to a 6-lane Prime Arterial	This would require a roadway reclassification. The College Blvd Study recommends College be widened to a 6-ln major from Aztec St to Olive Dr. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

ALTERNATIVE 1 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
College Blvd: Olive Dr to Thunder Drive	Widen to a 6-lane Major Arterial or Do Intersection/Segment Improvements on College Blvd as shown in the College Blvd PSR	The approved College Blvd Study shows this segment as 4-lanes and widening to 6-lanes would impact residents on this segment The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Vista Way to SR78	Reclassify to a 6-lane Prime Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: SR78 to Plaza Dr	Reclassify to a 6-lane Prime Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Lake Blvd to Southern City Limits	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Douglas Dr: Via Malaguena and Cardiff Bay Drive	Widen to a 4-Lane Secondary Collector	There are environmental issues that may prohibit widening this segment of Douglas Drive.	Adopt Overriding Consideration
Douglas Dr: N. River Rd to Pala Rd	Widen to a 6-lane Major Arterial	This would require a roadway reclassification.	Implement the recommended mitigation measures.
Douglas Dr: Pala Rd to El Camino Real	Widen to a 6-lane Major Arterial	This would require a roadway reclassification.	Implement the recommended mitigation measures.

ALTERNATIVE 1 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
El Camino Real: Mesa Dr to Oceanside Blvd	Widen to a ~~6~~5-lane Major Arterial (3NB, 2 SB)	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
El Camino Real: Vista Way to SR78	Widen to 8-lanes	This segment has overriding considerations per the 1995 Circulation Element. The extent of the impact to this segment has changed since the previous Circulation Element. Therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Lake Blvd: Thunder Dr to Sundown Lane	Widen to a 4-lane Secondary Collector with a two-way left turn lane	There has been an agreement to keep this segment of Lake Boulevard as a 2TWLT lane between the City and the residents on this segment. Therefore, it is recommended that this be adopted as an overriding consideration with the updated Circulation Element.	Adopt Overriding Consideration
Mesa Dr: Mission Ave to Foussat Rd	Widen to a 50/70 Collector		Adopt Overriding Consideration
North River Road: College Blvd to Vandegrift Boulevard	Widen to a 6-Lane Major Arterial	This would require a roadway reclassification.	Adopt Overriding Consideration

ALTERNATIVE 1 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Oceanside Blvd: Crouch St to Foussat Rd	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Vista Way: Coast Hwy to I-5	Widen to a 4-lane Secondary Collector	There has been an agreement to keep this segment of Vista Way as a 2TWLT lane. However, it is recommended that this be adopted as an overriding consideration with the updated Circulation Element.	Adopt Overriding Consideration
Vista Way: College Blvd to SR78 WB Ramps	Provide WB dedicated Right-Turn lane and lengthen the WB Left-Turn lanes at the College Blvd/Vista Way intersection. This will not fully mitigate this segment but will improve peak hour conditions.	This segment is relatively short in length and therefore the WB intersection improvements to College/Vista Way would improve the peak hour operations on this segment. However, the improvements do not fully mitigate this segment.	Implement the recommended mitigation measures to the College Blvd/Vista Way intersection. This will improve peak hour operations on this segment but will not fully mitigate the segment, so an overriding consideration should be adopted.
State Route 76: Melrose Dr to Eastern City Limits	Widen to a 6-lane Expressway	This is a Caltrans regional facility & would require coordination with them to mitigate.	Implement the recommended mitigation measures in coordination with Caltrans.

ALTERNATIVE 1 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Intersections:			
Mission Ave/I-5SB Ramps	EB – Provide 3 Thru Lanes WB – Provide 2 Left-Turn Lanes, 3 Thru Lanes	This would require widening the Mission Avenue bridge over I-5 and is not deemed as feasible mitigation. In addition, the Caltrans I-5 widening plans show the Mission Avenue bridge remaining as 4-lanes.The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Mission Ave/I-5NB Ramps	Provide 3 WB and EB Thru Lanes	This would require widening the Mission Avenue bridge over I-5 and is not deemed as feasible mitigation. In addition, the Caltrans I-5 widening plans show the Mission Avenue bridge remaining as 4-lanes.The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Blvd/I-5SB Ramps	EB – Provide 2 Left Turn Lanes; 3 Thru Lanes WB – Provide 3 Thru Lanes, 2 Right Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Blvd/I-5NB Ramps	Provide 3 WB and EB Thru Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Blvd/Crouch St	Provide 3 WB and EB Thru Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

ALTERNATIVE 1 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
SR76/Foussat Rd	The AM cannot be fully mitigated, but peak hour conditions can be improved by doing the following: NB – Provide 2 Right Turn Lanes SB – Provide 3 Thru Lanes		Implement the recommended mitigation measures. This will not fully mitigate the intersection, so an overriding consideration should be adopted.
El Camino Real/Oceanside Blvd	Provide 3 EB or WB Thru Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
El Camino Real/Vista Way	NB – Provide 3 Dedicated Thru Lanes and 1 Dedicated Right Turn Lane	This intersection has overriding considerations from the Quarry Creek study and per the 1995 Circulation Element. The model has since been updated since these studies; therefore, it is recommended that the overrides for this intersection be reconsidered. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
Vista Way/Jefferson St	WB - Provide 1 Thru and 1 Shared Thru-Right Turn Lane		Implement the recommended mitigation measures.
Douglas Dr/El Camino Real	WB – Provide Dedicated Left and Thru Lane SB – Provide 3 Thru Lanes NB – Provide 2 Thru Lanes, 1 Dedicated Right Turn Lane	There is currently not enough right-of-way to widen this intersection. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

ALTERNATIVE 1 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Douglas Dr/Mission Ave	EB – Provide 3 Thru Lanes WB – Provide Dedicated Right-Turn Lane and 2 Left-Turn Lanes	There is no right-of-way to available at this intersection. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the WB dedicated right-turn lane and 2 left-turn lanes. This will not fully mitigate the intersection in the PM peak hour, so an overriding consideration should be adopted.
Rancho Del Oro Rd/Vista Del Oro Dr	Provide a signal, if signal warrants are met.	It should be noted that the residents on Rancho Del Oro Road oppose the installation of a signal here.	Implement the recommended mitigation measures.
Rancho Del Oro Rd/Cameo Dr	Provide a signal, if signal warrants are met.	It should be noted that the residents on Rancho Del Oro Road oppose the installation of a signal here.	Implement the recommended mitigation measures.
Rancho Del Oro Rd/Trieste Way/Sicily Way	Provide a signal, if signal warrants are met.	It should be noted that the residents on Rancho Del Oro Road oppose the installation of a signal here.	Implement the recommended mitigation measures.
College Blvd/N. River Rd	WB (College Blvd) – Provide 1 Left Turn Lane in addition to Shared Left-Thru Lane NB – Provide 3 Thru Lanes, 2 Right Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
College Blvd/SR76	This intersection cannot be fully mitigated in Alternative 1 in the PM peak hour but the following will improve peak hour operations: NB – Provide 3 Thru Lanes; 2 Right-Turn Lanes with Overlap SB – Provide 3 Thru Lanes	The right-of-way at this intersection is very tight, but should be closely reviewed by the City Engineer before moving forward with proposed mitigation.	Implement the recommended mitigation measures. This will not fully mitigate the intersection in the PM peak hour, so an overriding consideration should be adopted.

ALTERNATIVE 1 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
College Blvd/Lake Blvd	NB – Provide 2 Right Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.

11.3 ALTERNATIVE 2

The table below shows the Alternative 2 scenario mitigation measures proposed for each segment and/or intersection. The mitigation listed is what would be required for the facility to operate at an acceptable level of service.

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Roadways:			
Coast Hwy: Harbor Dr to SR76	Leave as a 4-lane Secondary Collector	The Coast Highway Vision & Strategic Plan reduces Coast Highway to 2-lanes with roundabouts at key intersections. There are also right-of-way constraints with widening this segment of Coast Hwy.	Adopt Overriding Consideration
Coast Hwy: SR76 to Mission Ave	Leave as a 4-lane Secondary Collector	The Coast Highway Vision & Strategic Plan reduces Coast Highway to 2-lanes with roundabouts at key intersections. There are also right-of-way constraints with widening this segment of Coast Hwy. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Coast Hwy: Mission Ave to Wisconsin Ave	Remove on-street parking and widen to a Secondary Collector 64/84 cross section	The Coast Highway Vision & Strategic Plan reduces Coast Highway to 2-lanes with roundabouts at key intersections. There are also right-of-way constraints with widening this segment of Coast Hwy. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Coast Hwy: Wisconsin Avenue to Oceanside Boulevard	Remove on-street parking and widen to a Secondary Collector 64/84 cross section	The Coast Highway Vision & Strategic Plan reduces Coast Highway to 2-lanes with roundabouts at key intersections. There are also right-of-way constraints with widening this segment of Coast Hwy. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Coast Hwy: Oceanside Blvd to Cassidy St	Remove on-street parking and widen to a Secondary Collector 64/84 cross section	The Coast Highway Vision & Strategic Plan reduces Coast Highway to 2-lanes with roundabouts at key intersections. There are also right-of-way constraints with widening this segment of Coast Hwy. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Coast Hwy: Cassidy St to Vista Way	Leave as a 4-lane Secondary Collector	The Coast Highway Vision & Strategic Plan reduces Coast Highway to 2-lanes with roundabouts at key intersections. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Coast Hwy: Vista Way to Southern City Limits	Leave as a 4-lane Secondary Collector	The Coast Highway Vision & Strategic Plan reduces Coast Highway to 2-lanes with roundabouts at key intersections. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
College Blvd: N. River Rd to SR76	Reclassify to a 6-lane Prime Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: SR76 to Frazee Rd	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Frazee Rd to Mesa Dr	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Old Grove Rd to Avenida de la Plata	Implement the Intersection/Segment Improvements on College Blvd as shown in the College Blvd PSR	The approved College Blvd Study shows this segment as 4-lanes. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
College Blvd: Oceanside Blvd to Olive Dr	Widen to a 6-lane Prime Arterial	This would require a roadway reclassification. The College Blvd Study recommends College be widened to a 6-ln major from Aztec St to Olive Dr. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Olive Dr to Thunder Drive	Widen to a 6-lane Prime Arterial or Do Intersection/Segment Improvements on College Blvd as shown in the College Blvd PSR	The approved College Blvd Study shows this segment as 4-lanes. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Waring Rd to Vista Way	Reclassify to a 6-lane Prime Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: Vista Way to SR78	Widen to a 6-lane Prime Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd: SR78 to Plaza Dr	Widen to a 6-lane Prime Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
College Blvd: Lake Blvd to Southern City Limits	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Douglas Dr: Via Malaguena and Cardiff Bay Drive	Widen to a 4-Lane Secondary Collector	There are environmental issues that may prohibit widening this segment of Douglas Drive.	Adopt Overriding Consideration
Douglas Dr: N. River Rd to Pala Rd	Widen to a 6-lane Major Arterial	This segment has overriding considerations per The Pavilion study. This project assumed the Pala Rd extension between Foussat Rd and Los Arbolitos Dr is not constructed. Since this project possibly might not be built due to financing and the model has since been updated since this study, it is recommended that the overrides for this segment be reconsidered with the updated Circulation Element.	Implement the recommended mitigation measures.
Douglas Dr: Pala Rd to El Camino Real	Widen to a 6-lane Major Arterial	This would require a roadway reclassification.	Implement the recommended mitigation measures.
El Camino Real: Mesa Dr to Oceanside Blvd	Widen to a ~~6~~5-lane Major Arterial (3NB, 2SB)	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
El Camino Real: Via Las Rosas to Vista Way	Widen to a 8-lane facility	This segment is built to the maximum classification of a 6-lane Prime Arterial. If this Alternative is selected, it would be recommended to adopt as an overriding consideration with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
El Camino Real: Vista Way to SR78	This impact cannot be fully mitigated but widening to a 8-lane facility will improve operations	This segment has overriding considerations per the 1995 Circulation Element. The extent of the impact to this segment has changed since the previous Circulation Element. Therefore, it is recommended that the overrides for this segment be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Lake Blvd: Thunder Dr to Sundown Lane	Widen to a 4-lane Secondary Collector with a two-way left turn lane	There has been an agreement to keep this segment of Lake Boulevard as a 2TWLT lane between the City and the residents on this segment. Therefore, it is recommended that this be adopted as an overriding consideration with the updated Circulation Element.	Adopt Overriding Consideration
Mesa Dr: Mission Ave to Foussat Rd	Widen to a 50/70 Collector		Adopt Overriding Consideration

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
North River Rd: College Blvd to Vandegrift Blvd	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Blvd: I-5 to Crouch St	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Blvd: Crouch St to Foussat Rd	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Boulevard: Foussat Rd to El Camino Real	Widen to a 6-lane Major Arterial	This would require a roadway reclassification. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Vista Way: Coast Hwy to I-5	Widen to a 4-lane Secondary Collector	There has been an agreement to keep this segment of Vista Way as a 2TWLT lane between the City and the residents on this segment. Therefore, it is recommended that this be adopted as an overriding consideration with the updated Circulation Element.	Adopt Overriding Consideration

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Vista Way: Rancho Del Oro Rd to College Blvd	Widen to a 4-lane Major Arterial	This would require a roadway reclassification. There are also right-of-way constraints with widening this segment of Vista Way.	Adopt Overriding Consideration
Vista Way: College Blvd to SR78 WB Ramps	Provide WB dedicated Right-Turn lane and lengthen the WB Left-Turn lanes at the College Blvd/Vista Way intersection. This will not fully mitigate this segment but will improve peak hour conditions.	This segment is relatively short in length and therefore the WB intersection improvements to College/Vista Way would improve the peak hour operations on this segment. However, the improvements do not fully mitigate this segment.	Implement the recommended mitigation measures to the College Blvd/Vista Way intersection. This will improve peak hour operations on this segment but will not fully mitigate the segment, so an overriding consideration should be adopted.
State Route 76: Melrose Dr to Eastern City Limits	Widen to a 6-lane Expressway	This is a Caltrans regional facility & would require coordination with them to mitigate.	Implement the recommended mitigation measures with coordination with Caltrans.
Intersections:			
Coast Hwy/Oceanside Blvd	This intersection would need to remain as a signalized intersection.	The Coast Highway Vision & Strategic Plan calls for a roundabout at this intersection. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
Coast Hwy/Vista Way	This intersection would need to remain as a signalized intersection.	The Coast Highway Vision & Strategic Plan calls for a roundabout at this intersection. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Mission Ave/I-5SB Ramps	EB – Provide 3 Thru Lanes WB – Provide 2 Left-Turn Lanes, 3 Thru Lanes	This would require widening the Mission Avenue bridge over I-5 and is not deemed as feasible mitigation. In addition, the Caltrans I-5 widening plans show the Mission Avenue bridge remaining as 4-lanes. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Mission Ave/I-5NB Ramps	Provide 3 WB and EB Thru Lanes	This would require widening the Mission Avenue bridge over I-5 and is not deemed as feasible mitigation. In addition, the Caltrans I-5 widening plans show the Mission Avenue bridge remaining as 4-lanes. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Blvd/I-5SB Ramps	EB – Provide 2 Left Turn Lanes; 3 Thru Lanes WB – Provide 3 Thru Lanes, 2 Right Turn Lanes	There are right-of-way constraints with widening this intersection with the railroad just south of Oceanside Blvd. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Oceanside Blvd/I-5NB Ramps	EB – Provide 3 Thru Lanes, 1 Dedicated Right Turn Lane, 2 Left-Turn Lanes WB - Provide 3 Thru Lanes, 2 Right-Turn Lanes NB – Provide 2 Left Turn Lanes, 1 Dedicated Thru Lane	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Oceanside Blvd/Crouch St	Provide 3 WB and EB Thru Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
SR76/Foussat Rd	The AM cannot be fully mitigated, but peak hour conditions can be improved by doing the following: NB – Provide 2 Right Turn Lanes SB – Provide 3 Thru Lanes		Implement the recommended mitigation measures. This will not fully mitigate the intersection, so an overriding consideration should be adopted.
El Camino Real/Oceanside Blvd	Provide 3 EB or WB Thru Lane	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
El Camino Real/Vista Way	NB – Provide 3 Dedicated Thru Lanes and 1 Dedicated Right Turn Lane WB – Provide 2 Dedicated Thru Lanes and 1 Dedicated Right Turn Lane	This intersection has overriding considerations per the 1995 Circulation Element. The extent of the impact to this intersection has changed since the previous Circulation Element. Therefore, it is recommended that the overrides for this intersection be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the NB 3 dedicated thru lanes and 1 dedicated right-turn lane. This will not fully mitigate the intersection, so an overriding consideration should be adopted.
El Camino Real/SR78 EB Off Ramps	The PM cannot be fully mitigated, but peak hour conditions can be improved by doing the following: NB – Provide 4 Thru Lanes and 2 Dedicated Right Turn Lanes SB – Provide 4 Thru Lanes EB – Provide 2 Right Turn Lanes	This intersection has overriding considerations from the El Corazon study. The model has since been updated since these studies; therefore, it is recommended that the overrides for this intersection be reconsidered and adopted again with the updated Circulation Element. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Vista Way/Jefferson St	The PM cannot be fully mitigated, but peak hour conditions can be improved by doing the following: WB - Provide 1 Thru and 1 Shared Thru-Right Turn Lane	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the WB 1 thru lane and 1 shared thru-right-turn lane. This will not fully mitigate the intersection, so an overriding consideration should be adopted.

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
Douglas Dr/El Camino Real	WB – Provide Dedicated Left and Thru Lane SB – Provide 3 Thru Lanes NB – Provide 2 Thru Lanes, 1 Dedicated Right Turn Lane	There is currently not enough right-of-way to widen this intersection. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Douglas Dr/Mission Ave	EB – Provide 3 Thru Lanes WB – Provide 3 Thru Lanes, 1 Dedicated Right-Turn Lane SB - Provide 1 Left Turn Lane, 2 Thru Lanes, 1 Dedicated Right Turn Lane	There is currently not enough right-of-way to widen this intersection. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
Rancho Del Oro Rd/Vista Del Oro Dr	Provide a signal, if signal warrants are met.	It should be noted that the residents on Rancho Del Oro Road oppose the installation of a signal here.	Implement the recommended mitigation measures.
Rancho Del Oro Rd/Cameo Dr	Provide a signal, if signal warrants are met.	It should be noted that the residents on Rancho Del Oro Road oppose the installation of a signal here.	Implement the recommended mitigation measures.
College Blvd/N. River Rd	WB (College Blvd)– Provide 1 Left Turn Lane in addition to Shared Left-Thru Lane NB – Provide 3 Thru Lanes, 2 Right Turn Lanes	There is currently not enough right-of-way to widen this intersection. The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the one WB left-turn lane in addition to the shared left-thru lane. This will not fully mitigate the intersection, so an overriding consideration should be adopted.

ALTERNATIVE 2 POTENTIAL MITIGATION MEASURES			
Location	**Mitigation Measure**	**Additional Comments**	**Action by City**
College Blvd/SR76	This intersection cannot be fully mitigated in Alternative 2 but the following will improve AM and PM peak hour operations: NB – Provide 3 Thru Lanes; 2 Right-Turn Lanes with Overlap SB – Provide 3 Thru Lanes WB – Provide 2 Right Turn Lanes	There are right-of-way constraints with widening this intersection.	Adopt Overriding Consideration
College Blvd/Mesa Dr	NB- Provide 1 Dedicated Right Turn Lane SB- Provide 1 Dedicated Right Turn Lane	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd/Old Grove Rd	WB – Provide 2 Left Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.
College Blvd/ Oceanside Blvd	EB – Provide 2 Right Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Adopt Overriding Consideration
College Blvd/Vista Way	NB – Provide 2 Left Turn Lanes EB – Provide 2 Right-Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures. (This mitigation is currently underway during the time of this study.)
College Blvd/Lake Blvd	NB – Provide 2 Right Turn Lanes WB – Provide 2 Left Turn Lanes	The new TMC can also be used to manage the transportation system through adaptive signals on congested corridors.	Implement the recommended mitigation measures.

12.0 CONCLUSIONS

The SANDAG traffic models for the Modified 1995 CE, Alternative 1 and Alternative 2 are similar in locations where the network did not change. The major differences found among the Modified 1995 CE and two Alternatives is found where significant pieces of the network were removed or the lane geometrics were changed.

The implementation of either network Alternative 1 or Alternative 2 results in substantial changes to the current Circulation Element network. However, it is clear that one alternative will result in more segments and intersections degrading further in level of service than the Modified 1995 CE scenario.

Alternative 1 shows that several segments and intersections will degrade further than already expected in the Modified 1995 CE scenario. This is expected with the removal of several key pieces of the network and changing the geometric configuration of some of the major corridors. However, the overall affect of Alternative 1 appears to occur at or near the pieces of the network that were changed.

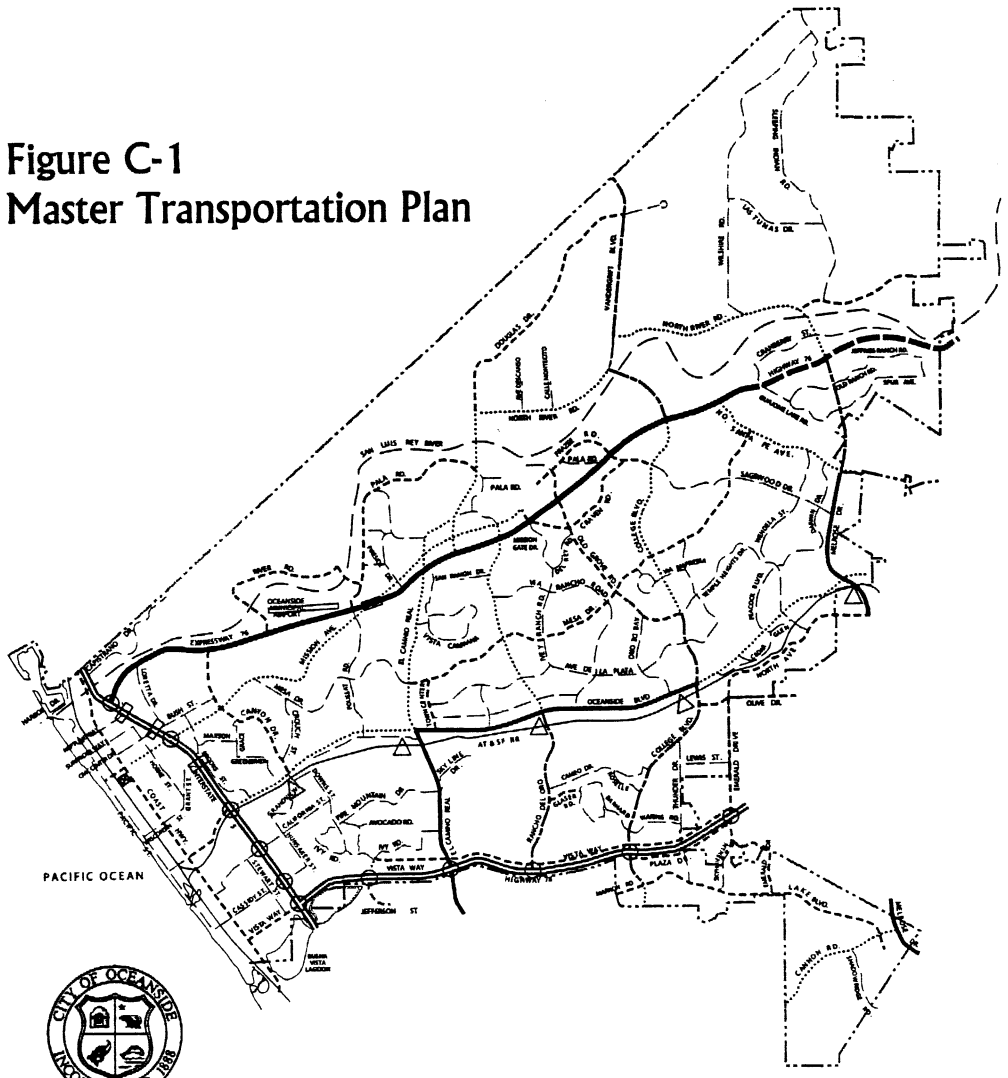
Alternative 2 shows a significant number of key segments and intersections that will degrade further than already expected in the Modified 1995 CE scenario. The key network pieces removed in the Alternative 2 scenario has a more widespread affect on the overall network. Alternative 2 limits the number of major corridors available in the City of Oceanside, and therefore many trips are diverted to other routes causing multiple segments and intersections to degrade.

The findings presented in this study represent the traffic analysis perspective of the two Alternatives and Modified 1995 CE scenario for the Circulation Element. The City must consider how these findings and potential mitigation measures for each alternative may or may not align with the goals and objectives of the updated Circulation Element.

Appendix A

City of Oceanside 1995 Adopted Circulation Element Network Map

Figure C-1
Master Transportation Plan



SYMBOL	CLASSIFICATION	RIGHT OF WAY	LANES	MAX GRADE	MIN. CURVE RADIUS	MIN. STREET SPACING
	FREEWAY	STATE DESIGN STANDARDS				
	EXPRESSWAY 76	STATE DESIGN STANDARDS				
	HIGHWAY 76	STATE DESIGN STANDARDS				
	PRIME ARTERIAL	124'	6	6%	1000'	2600'
	MAJOR ARTERIAL (6 LANES)	124'	6	8%	1000'	1200'
	MAJOR ARTERIAL (4 LANES)	100'	4	8%	1000'	1000'
	SECONDARY ARTERIAL	84'	4	8%	750'	600'
	COLLECTOR ROAD	60'-72'	2-4	8%	500'	300'
	RAILROAD	NOTE: RIGHT OF WAY WIDTH MAY BE REQUIRED AT INTERSECTIONS ON ARTERIAL STREETS				
△	OCEANSIDE -ESCONDIDO COMMUTER RAIL STATION	(1) VANDEGRIFT BLVD./NORTH RIVER RD. FROM COLLEGE BLVD. TO NORTH CITY LIMITS IS 5 LANES - 3 LANES NORTHBOUND AND 2 LANES SOUTHBOUND. RIGHT OF WAY: 112'				
○	INTERCHANGE					
▭	OVERPASS	(2) DOUGLAS DR. FROM CARDIFF BAY DR. TO VANDEGRIFT BLVD. IS TO BE 2 LANES				
▩	MULTI-MODAL TRANSIT CTR					
	AIRPORT					
	BOUNDARY					

THESE ARE GENERAL MINIMUM STANDARDS.
SPECIFIC REQUIREMENTS MUST BE DETERMINED FOR EACH STREET AT THE TIME OF CONSTRUCTION.

NORTH

SCALE

PROPOSED ROADWAYS ARE DEPICTED ON THIS MASTER TRANSPORTATION PLAN ALONG GENERALLY DETERMINED ROUTES, AND SHOULD NOT BE INTERPRETED AS BEING PRECISELY ALIGNED, SUCH PRECISE ALIGNMENT SHALL BE DETERMINDED AS DEVELOPMENT AND/OR NEED WARRANTS.

AMENDMENTS		
FILE NO.	ORDINANCE	DATE

Appendix B

Model Alternatives Matrix

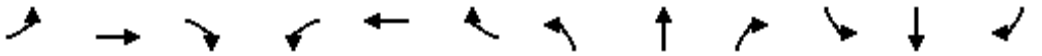
SERIES 11 MODEL BASELINE OPTIONS AND NETWORK ALTERNATIVE SCENARIOS

Facility/Location	Baseline_A	Baseline_B1	Baseline_B2	Baseline_B3	Baseline_B4	Alternative 1a	Alternative 1b	Alternative 2a	Alternative 2b	Alternative 3a	Alternative 3b	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8a	Alternative 8b	Alternative 9	Alternative 10
	Circulation Element Year 2030	Circulation Element Year 2030	Circulation Element Year 2030	Circulation Element (No Pala Rd) Year 2030	Circulation Element (No Pala Rd) Year 2030	Circulation Element Year 2030	Circulation Element Year 2030	Circulation Element Year 2030	Circulation Element Year 2030	Circulation Element Year 2030	Circulation Element Year 2030	Melrose Extension Project Year 2030	Melrose Extension Project Year 2030	Melrose Extension Project Year 2030	College Blvd Widening Project Year 2030	College Blvd Widening Project Year 2030	College Blvd Widening Project Year 2030	College Blvd Widening Project Year 2030	College Blvd Widening Project Year 2030
Old Ranch Rd connection	Yes	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Jeffries Ranch Rd connection to SR76	Yes	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
SR 78 & I-5 Interchange (Caltrans Improvements)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SR 76: Six lanes	Yes	Yes	**NO**	Yes	**NO**	Yes	**NO**	Yes	**NO**	Yes	**NO**	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RDO Interchange with full access to Marron Rd	Yes	Yes	Yes	Yes	Yes	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	Yes	Yes	Yes	Yes	Yes	**NO**	Yes	**NO**
College Boulevard: Six lanes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	**NO**	**NO**	**NO**	**NO**	Yes	Yes	Yes	**No - 4 lanes**	**6 & 4 lane Hybrid**	**6 & 4 lane Hybrid**	**6 & 4 lane Hybrid**	**6 & 4 lane Hybrid**
Melrose Drive Extension (SR 76 to N. River Rd)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	**NO**	**NO**	**NO**	Yes	**NO**	Yes	Yes	Yes	**NO**	**NO**
Melrose Drive Extension (N. Santa Fe Ave to Spur Ave)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	**NO**	**NO**	**NO**	**NO**	Yes	Yes	Yes	Yes	Yes	**NO**
Pala Road Connection Included	Yes	Yes	Yes	**NO**	**NO**	Yes	Yes	Yes	Yes	**NO**	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Appendix C

Existing Conditions Intersection Calculation Sheets

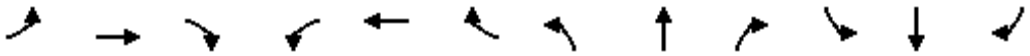
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	3	481	0	131	0	128	301	62	90	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.6	4.6	4.0		4.6	4.0		4.6	
Lane Util. Factor			1.00	0.95	0.95	1.00		0.95	1.00		0.95	
Frt			0.86	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (prot)			1611	1681	1681	1583		3539	1583		3466	
Flt Permitted			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (perm)			1611	1681	1681	1583		3539	1583		3466	
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)	0	0	3	523	0	142	0	139	327	67	98	1
RTOR Reduction (vph)	0	0	3	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	261	262	142	0	139	327	0	165	0
Turn Type			custom	Prot		Free	Split		Free	Split		
Protected Phases				3	8		2	2		6	6	
Permitted Phases			4			Free			Free			
Actuated Green, G (s)			1.0	19.5	24.5	75.1		18.8	75.1		18.0	
Effective Green, g (s)			1.0	19.5	24.5	75.1		18.8	75.1		18.0	
Actuated g/C Ratio			0.01	0.26	0.33	1.00		0.25	1.00		0.24	
Clearance Time (s)			4.0	4.6	4.6			4.6			4.6	
Vehicle Extension (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			21	436	548	1583		886	1583		831	
v/s Ratio Prot				c0.16	c0.12			0.04			0.05	
v/s Ratio Perm			0.00		0.03	0.09			c0.21			
v/c Ratio			0.00	0.60	0.48	0.09		0.16	0.21		0.20	
Uniform Delay, d1			36.6	24.4	20.2	0.0		22.0	0.0		22.8	
Progression Factor			1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2			0.0	2.2	0.7	0.1		0.4	0.3		0.5	
Delay (s)			36.6	26.6	20.9	0.1		22.3	0.3		23.3	
Level of Service			D	C	C	A		C	A		C	
Approach Delay (s)		36.6			18.7			6.9			23.3	
Approach LOS		D			B			A			C	

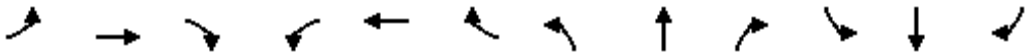
Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	4.6
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		
Description: SR-76 & Coast Hwy			

c Critical Lane Group



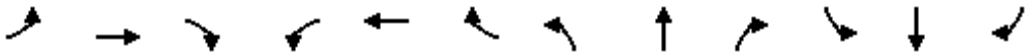
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	11	25	8	10	29	16	307	10	17	395	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1782	1583		1693		1770	3522		1770	3496	
Flt Permitted		0.71	1.00		0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1320	1583		1595		1770	3522		1770	3496	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	12	27	9	11	32	17	334	11	18	429	38
RTOR Reduction (vph)	0	0	22	0	26	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	126	5	0	26	0	17	342	0	18	460	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		7.7	7.7		7.7		1.6	10.0		10.6	19.0	
Effective Green, g (s)		7.7	7.7		7.7		1.6	10.0		10.6	19.0	
Actuated g/C Ratio		0.19	0.19		0.19		0.04	0.24		0.26	0.46	
Clearance Time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		246	295		297		69	853		454	1608	
v/s Ratio Prot							c0.01	c0.10		0.01	c0.13	
v/s Ratio Perm		c0.10	0.00		0.02							
v/c Ratio		0.51	0.02		0.09		0.25	0.40		0.04	0.29	
Uniform Delay, d1		15.1	13.7		13.9		19.3	13.1		11.5	6.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.0		0.1		1.9	0.3		0.0	0.1	
Delay (s)		16.9	13.7		14.0		21.1	13.4		11.6	7.0	
Level of Service		B	B		B		C	B		B	A	
Approach Delay (s)		16.3			14.0			13.8			7.2	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	41.3	Sum of lost time (s)	17.2
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



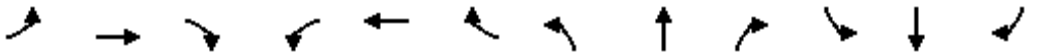
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	71	24	144	108	54	4	245	87	8	320	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0			5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95			0.95			0.95	
Frpb, ped/bikes		1.00	0.98		1.00			0.99			1.00	
Flpb, ped/bikes		1.00	1.00		1.00			1.00			1.00	
Frt		1.00	0.85		0.97			0.96			0.99	
Flt Protected		0.99	1.00		0.98			1.00			1.00	
Satd. Flow (prot)		3506	1550		3342			3380			3494	
Flt Permitted		0.90	1.00		0.78			0.95			0.94	
Satd. Flow (perm)		3172	1550		2680			3210			3294	
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)	16	77	26	157	117	59	4	266	95	9	348	25
RTOR Reduction (vph)	0	0	12	0	24	0	0	71	0	0	11	0
Lane Group Flow (vph)	0	93	14	0	309	0	0	294	0	0	371	0
Confl. Peds. (#/hr)	10		11	11		10			11			16
Confl. Bikes (#/hr)			1						2			2
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		25.1	25.1		25.1			12.1			12.1	
Effective Green, g (s)		25.1	25.1		25.1			12.1			12.1	
Actuated g/C Ratio		0.53	0.53		0.53			0.26			0.26	
Clearance Time (s)		5.0	5.0		5.0			5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0			4.0			4.0	
Lane Grp Cap (vph)		1687	824		1425			823			844	
v/s Ratio Prot												
v/s Ratio Perm		0.03	0.01		c0.12			0.09			c0.11	
v/c Ratio		0.06	0.02		0.22			0.36			0.44	
Uniform Delay, d1		5.3	5.2		5.8			14.4			14.7	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.1	0.0		0.3			0.4			0.5	
Delay (s)		5.4	5.3		6.2			14.7			15.2	
Level of Service		A	A		A			B			B	
Approach Delay (s)		5.4			6.2			14.7			15.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	47.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



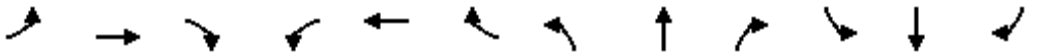
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	89	53	138	95	158	23	245	69	122	251	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.96	1.00	1.00	0.95	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1850	1518	1681	1752	1503	1770	3400		1770	3468	
Flt Permitted		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1850	1518	1681	1752	1503	1770	3400		1770	3468	
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)	15	97	58	150	103	172	25	266	75	133	273	26
RTOR Reduction (vph)	0	0	35	0	0	151	0	12	0	0	3	0
Lane Group Flow (vph)	0	112	23	124	129	21	25	329	0	133	296	0
Confl. Peds. (#/hr)	14		10	10		14			3			15
Confl. Bikes (#/hr)			4			5			3			3
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		11.9	11.9	15.1	15.1	15.1	4.4	64.6		13.6	73.8	
Effective Green, g (s)		11.9	11.9	15.1	15.1	15.1	4.4	64.6		13.6	73.8	
Actuated g/C Ratio		0.10	0.10	0.12	0.12	0.12	0.04	0.52		0.11	0.60	
Clearance Time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Vehicle Extension (s)		2.0	2.0	3.5	3.5	3.5	2.0	3.5		2.0	3.5	
Lane Grp Cap (vph)		178	146	205	213	183	63	1771		194	2064	
v/s Ratio Prot		c0.06		c0.07	0.07		0.01	c0.10		c0.08	0.09	
v/s Ratio Perm			0.01			0.01						
v/c Ratio		0.63	0.16	0.60	0.61	0.11	0.40	0.19		0.69	0.14	
Uniform Delay, d1		53.9	51.4	51.6	51.6	48.5	58.5	15.7		53.1	11.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.9	0.2	5.2	5.0	0.3	1.5	0.2		7.7	0.1	
Delay (s)		58.9	51.6	56.8	56.7	48.8	60.0	16.0		60.9	11.3	
Level of Service		E	D	E	E	D	E	B		E	B	
Approach Delay (s)		56.4			53.5			19.0			26.5	
Approach LOS		E			D			B			C	

Intersection Summary			
HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



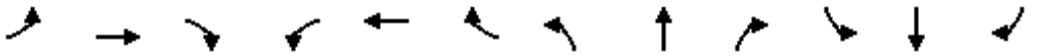
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	73	19	243	39	193	6	195	82	157	243	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		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		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1561		1786	1583	1770	3347		1770	3522	
Flt Permitted	0.95	1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1561		1786	1583	1770	3347		1770	3522	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	79	21	264	42	210	7	212	89	171	264	7
RTOR Reduction (vph)	0	0	19	0	0	177	0	46	0	0	2	0
Lane Group Flow (vph)	5	79	2	0	306	33	7	255	0	171	269	0
Confl. Peds. (#/hr)	7		2	2		7			5			8
Confl. Bikes (#/hr)						2			4			8
Turn Type	Split		Perm	Split		Over	Prot			Prot		
Protected Phases	4	4		8	8	1	5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.2	7.2	7.2		16.9	11.0	0.6	14.9		11.0	25.3	
Effective Green, g (s)	7.2	7.2	7.2		16.9	11.0	0.6	14.9		11.0	25.3	
Actuated g/C Ratio	0.10	0.10	0.10		0.24	0.16	0.01	0.22		0.16	0.37	
Clearance Time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Vehicle Extension (s)	3.5	3.5	3.5		3.0	2.0	2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	184	194	163		437	252	15	722		282	1290	
v/s Ratio Prot	0.00	c0.04			c0.17	0.02	0.00	c0.08		c0.10	0.08	
v/s Ratio Perm			0.00									
v/c Ratio	0.03	0.41	0.01		0.70	0.13	0.47	0.35		0.61	0.21	
Uniform Delay, d1	27.8	29.0	27.8		23.8	25.0	34.1	23.0		27.0	15.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.6	0.0		5.0	0.1	8.1	0.3		2.5	0.1	
Delay (s)	27.9	30.6	27.8		28.8	25.0	42.2	23.3		29.6	15.1	
Level of Service	C	C	C		C	C	D	C		C	B	
Approach Delay (s)		29.9			27.3			23.7			20.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	19.1
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



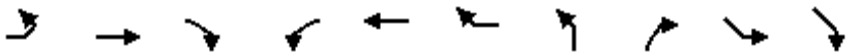
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	246	3	70	487	214	6	22	187	119	33	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.98	
Satd. Flow (prot)	1770	3533		1770	3539	1583		1842	1583	1681	1685	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.98	
Satd. Flow (perm)	1770	3533		1770	3539	1583		1842	1583	1681	1685	
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)	11	267	3	76	529	233	7	24	203	129	36	17
RTOR Reduction (vph)	0	1	0	0	0	178	0	0	146	0	11	0
Lane Group Flow (vph)	11	269	0	76	529	55	0	31	57	92	79	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	14.2		6.5	20.0	18.1		21.2	21.2	18.1	18.1	
Effective Green, g (s)	0.7	14.2		6.5	20.0	18.1		21.2	21.2	18.1	18.1	
Actuated g/C Ratio	0.01	0.19		0.09	0.26	0.24		0.28	0.28	0.24	0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	16	660		151	931	377		514	442	400	401	
v/s Ratio Prot	0.01	0.08		c0.04	c0.15	0.04		0.02		c0.05	0.05	
v/s Ratio Perm									c0.04			
v/c Ratio	0.69	0.41		0.50	0.57	0.15		0.06	0.13	0.23	0.20	
Uniform Delay, d1	37.5	27.2		33.2	24.3	22.9		20.1	20.5	23.3	23.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	80.1	0.4		2.6	0.8	0.8		0.2	0.6	1.3	1.1	
Delay (s)	117.6	27.6		35.8	25.1	23.7		20.3	21.1	24.7	24.2	
Level of Service	F	C		D	C	C		C	C	C	C	
Approach Delay (s)		31.1			25.7			21.0			24.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	76.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.1%	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)	0	621	18	215	809	690	3	0	191	72	74	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		1.00	0.95		1.00		1.00	0.95	0.95	1.00
Frt		1.00		1.00	0.93		1.00		0.85	1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00		0.95		1.00	0.95	1.00	1.00
Satd. Flow (prot)		3524		1770	3295		1770		1583	1681	1762	1583
Flt Permitted		1.00		0.95	1.00		0.55		1.00	0.95	1.00	1.00
Satd. Flow (perm)		3524		1770	3295		1021		1583	1681	1762	1583
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)	0	675	20	234	879	750	3	0	208	78	80	103
RTOR Reduction (vph)	0	2	0	0	174	0	0	0	187	0	0	80
Lane Group Flow (vph)	0	693	0	234	1455	0	3	0	21	70	88	23
Turn Type				Prot			custom		custom	Split		Perm
Protected Phases		4		3	8					6	6	
Permitted Phases							2		2			6
Actuated Green, G (s)		19.1		12.9	36.0		7.3		7.3	16.0	16.0	16.0
Effective Green, g (s)		19.1		12.9	36.0		7.3		7.3	16.0	16.0	16.0
Actuated g/C Ratio		0.27		0.18	0.50		0.10		0.10	0.22	0.22	0.22
Clearance Time (s)		4.0		4.0	4.0		4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		944		320	1664		105		162	377	395	355
v/s Ratio Prot		0.20		0.13	c0.44					0.04	c0.05	
v/s Ratio Perm							0.00		c0.01			0.01
v/c Ratio		0.73		0.73	0.87		0.03		0.13	0.19	0.22	0.07
Uniform Delay, d1		23.8		27.6	15.6		28.8		29.1	22.4	22.6	21.8
Progression Factor		1.00		1.00	1.00		1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		3.0		8.3	5.4		0.1		0.4	1.1	1.3	0.4
Delay (s)		26.8		35.9	21.1		28.9		29.5	23.5	23.9	22.1
Level of Service		C		D	C		C		C	C	C	C
Approach Delay (s)		26.8			23.0			29.5			23.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	71.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



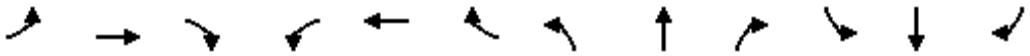
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Volume (veh/h)	100	400	0	0	1250	204	0	560	0	0
Sign Control		Free			Free		Yield		Yield	
Grade		0%			0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	435	0	0	1359	222	0	609	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)		930								
pX, platoon unblocked										
vC, conflicting volume	1580			435			2233	217	2513	2122
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	1580			435			2233	217	2513	2122
tC, single (s)	4.1			4.1			6.5	6.9	7.5	6.5
tC, 2 stage (s)										
tF (s)	2.2			2.2			4.0	3.3	3.5	4.0
p0 queue free %	74			100			100	23	100	100
cM capacity (veh/h)	412			1121			31	787	3	37

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	109	217	217	906	675	609
Volume Left	109	0	0	0	0	0
Volume Right	0	0	0	0	222	609
cSH	412	1700	1700	1700	1700	787
Volume to Capacity	0.26	0.13	0.13	0.53	0.40	0.77
Queue Length 95th (ft)	26	0	0	0	0	191
Control Delay (s)	16.8	0.0	0.0	0.0	0.0	23.3
Lane LOS	C					C
Approach Delay (s)	3.4			0.0		23.3
Approach LOS						C

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

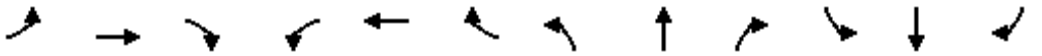
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	74	505	138	110	860	86	121	101	73	223	63	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3317		3433	3240	
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)	1770	3539	1583	1770	3539	1583	3433	3317		3433	3240	
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)	80	549	150	120	935	93	132	110	79	242	68	88
RTOR Reduction (vph)	0	0	61	0	0	37	0	71	0	0	59	0
Lane Group Flow (vph)	80	549	89	120	935	56	132	118	0	242	97	0
Turn Type	Prot		Over	Prot		Perm	Split			Split		
Protected Phases	7	4	2	3	8		6	6		2	2	
Permitted Phases						8						
Actuated Green, G (s)	8.4	29.6	32.2	12.0	33.2	33.2	9.5	9.5		32.2	32.2	
Effective Green, g (s)	8.4	29.6	32.2	12.0	33.2	33.2	9.5	9.5		32.2	32.2	
Actuated g/C Ratio	0.08	0.30	0.32	0.12	0.33	0.33	0.10	0.10		0.32	0.32	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	150	1055	513	214	1183	529	328	317		1113	1051	
v/s Ratio Prot	0.05	0.16	0.06	c0.07	c0.26		c0.04	0.04		c0.07	0.03	
v/s Ratio Perm						0.04						
v/c Ratio	0.53	0.52	0.17	0.56	0.79	0.11	0.40	0.37		0.22	0.09	
Uniform Delay, d1	43.6	29.0	24.0	41.2	29.9	22.8	42.2	42.1		24.4	23.4	
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	3.6	0.5	0.7	3.3	3.7	0.1	0.8	0.7		0.4	0.2	
Delay (s)	47.2	29.4	24.7	44.5	33.6	22.9	43.0	42.8		24.8	23.5	
Level of Service	D	C	C	D	C	C	D	D		C	C	
Approach Delay (s)		30.3			33.9			42.9			24.3	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	99.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



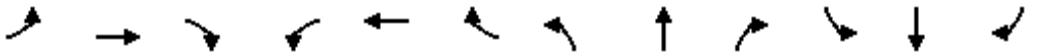
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	222	278	11	8	488	507	16	36	30	167	4	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3519		1770	3539	1583		1835	1583	1681	1635	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3519		1770	3539	1583		1835	1583	1681	1635	
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)	241	302	12	9	530	551	17	39	33	182	4	33
RTOR Reduction (vph)	0	3	0	0	0	363	0	0	26	0	21	0
Lane Group Flow (vph)	241	311	0	9	530	188	0	56	7	111	87	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	11.0	28.2		0.8	18.0	16.0		16.0	16.0	16.0	16.0	
Effective Green, g (s)	11.0	28.2		0.8	18.0	16.0		16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.14	0.37		0.01	0.23	0.21		0.21	0.21	0.21	0.21	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	253	1289		18	827	329		381	329	349	340	
v/s Ratio Prot	c0.14	0.09		0.01	c0.15	c0.12		c0.03		0.07	0.05	
v/s Ratio Perm									0.00			
v/c Ratio	0.95	0.24		0.50	0.64	0.57		0.15	0.02	0.32	0.25	
Uniform Delay, d1	32.7	17.0		37.9	26.6	27.4		24.9	24.3	25.9	25.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	43.4	0.1		20.2	1.7	7.1		0.8	0.1	2.4	1.8	
Delay (s)	76.1	17.1		58.1	28.3	34.5		25.7	24.4	28.3	27.3	
Level of Service	E	B		E	C	C		C	C	C	C	
Approach Delay (s)		42.7			31.7			25.2			27.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	77.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



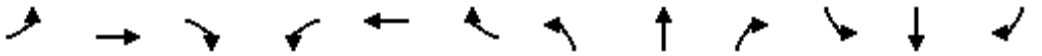
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	329	77	36	727	290	81	55	16	238	112	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1770	3438		1770	3539	1583	1681	1751	1583	1681	1737	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (perm)	1770	3438		1770	3539	1583	1681	1751	1583	1681	1737	1583
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)	75	358	84	39	790	315	88	60	17	259	122	212
RTOR Reduction (vph)	0	25	0	0	0	213	0	0	15	0	0	168
Lane Group Flow (vph)	75	417	0	39	790	102	72	76	2	186	195	44
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	3.0	20.1		1.7	18.8	18.8	8.0	8.0	8.0	12.0	12.0	12.0
Effective Green, g (s)	3.0	20.1		1.7	18.8	18.8	8.0	8.0	8.0	12.0	12.0	12.0
Actuated g/C Ratio	0.05	0.35		0.03	0.33	0.33	0.14	0.14	0.14	0.21	0.21	0.21
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	92	1196		52	1151	515	233	242	219	349	361	329
v/s Ratio Prot	c0.04	0.12		0.02	c0.22		0.04	c0.04		0.11	c0.11	
v/s Ratio Perm						0.06			0.00			0.03
v/c Ratio	0.82	0.35		0.75	0.69	0.20	0.31	0.31	0.01	0.53	0.54	0.13
Uniform Delay, d1	27.1	14.0		27.8	16.9	14.1	22.4	22.4	21.5	20.4	20.4	18.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	40.4	0.2		45.2	1.7	0.2	0.8	0.7	0.0	1.6	1.7	0.2
Delay (s)	67.6	14.2		73.0	18.7	14.3	23.2	23.2	21.5	22.0	22.1	18.8
Level of Service	E	B		E	B	B	C	C	C	C	C	B
Approach Delay (s)		21.9			19.3			23.0			20.9	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	57.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



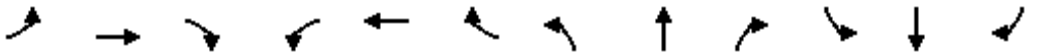
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	415	72	41	751	14	78	42	57	69	75	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3461		1770	3530		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3461		1770	3530		1770	1863	1583	1770	1863	1583
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)	54	451	78	45	816	15	85	46	62	75	82	95
RTOR Reduction (vph)	0	19	0	0	1	0	0	0	48	0	0	74
Lane Group Flow (vph)	54	510	0	45	830	0	85	46	14	75	82	21
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.3	19.3		6.0	22.0		17.2	17.2	17.2	16.2	16.2	16.2
Effective Green, g (s)	3.3	19.3		6.0	22.0		17.2	17.2	17.2	16.2	16.2	16.2
Actuated g/C Ratio	0.04	0.26		0.08	0.29		0.23	0.23	0.23	0.22	0.22	0.22
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	78	894		142	1040		408	429	364	384	404	343
v/s Ratio Prot	0.03	c0.15		0.03	c0.24		c0.05	0.02		0.04	c0.04	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.69	0.57		0.32	0.80		0.21	0.11	0.04	0.20	0.20	0.06
Uniform Delay, d1	35.2	24.1		32.4	24.3		23.2	22.7	22.3	23.9	24.0	23.2
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	23.3	0.9		1.3	4.3		1.2	0.5	0.2	1.1	1.1	0.3
Delay (s)	58.5	25.0		33.7	28.6		24.4	23.2	22.5	25.1	25.1	23.5
Level of Service	E	C		C	C		C	C	C	C	C	C
Approach Delay (s)		28.1			28.9			23.5			24.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	74.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



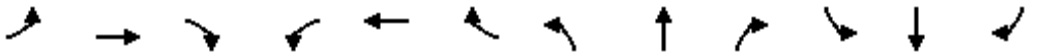
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	941	70	150	2429	33	147	66	62	95	133	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	3539	1583	3433	5085	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	3539	1583	3433	5085	1583	3433	3539	2787
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)	20	1023	76	163	2640	36	160	72	67	103	145	38
RTOR Reduction (vph)	0	0	26	0	0	10	0	0	59	0	0	34
Lane Group Flow (vph)	20	1023	50	163	2640	26	160	72	8	103	145	4
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	2.3	98.3	98.3	11.1	107.1	107.1	7.0	17.0	17.0	6.0	16.0	16.0
Effective Green, g (s)	2.3	98.3	98.3	11.1	107.1	107.1	7.0	17.0	17.0	6.0	16.0	16.0
Actuated g/C Ratio	0.02	0.66	0.66	0.07	0.72	0.72	0.05	0.11	0.11	0.04	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	53	3368	1049	257	2554	1142	162	583	181	139	382	300
v/s Ratio Prot	0.01	0.20		c0.05	c0.75		c0.05	0.01		0.03	c0.04	
v/s Ratio Perm			0.03			0.02			0.00			0.00
v/c Ratio	0.38	0.30	0.05	0.63	1.03	0.02	0.99	0.12	0.04	0.74	0.38	0.01
Uniform Delay, d1	72.3	10.6	8.7	66.7	20.7	5.8	70.7	59.0	58.5	70.4	61.6	59.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.5	0.1	0.0	5.0	27.2	0.0	66.4	0.4	0.4	19.0	2.9	0.1
Delay (s)	76.8	10.6	8.8	71.7	47.9	5.9	137.1	59.4	58.9	89.4	64.4	59.2
Level of Service	E	B	A	E	D	A	F	E	E	F	E	E
Approach Delay (s)		11.7			48.7			100.9			72.7	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM Average Control Delay	44.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	148.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



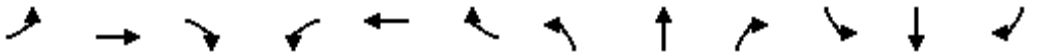
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	218	78	80	296	154	87	280	101	118	717	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3358		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3358		1770	3539	1583	1770	3539	1583
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)	183	237	85	87	322	167	95	304	110	128	779	350
RTOR Reduction (vph)	0	0	0	0	85	0	0	0	89	0	0	282
Lane Group Flow (vph)	183	237	85	87	404	0	95	304	21	128	779	68
Turn Type	Split		Free	Split			Split		Over	Split		Over
Protected Phases	4	4		8	8		2	2	8	6	6	4
Permitted Phases			Free									
Actuated Green, G (s)	12.0	12.0	74.0	13.8	13.8		16.1	16.1	13.8	16.1	16.1	12.0
Effective Green, g (s)	12.0	12.0	74.0	13.8	13.8		16.1	16.1	13.8	16.1	16.1	12.0
Actuated g/C Ratio	0.16	0.16	1.00	0.19	0.19		0.22	0.22	0.19	0.22	0.22	0.16
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	557	574	1583	640	626		385	770	295	385	770	257
v/s Ratio Prot	0.05	c0.07		0.03	c0.12		0.05	c0.09	0.01	0.07	c0.22	0.04
v/s Ratio Perm			0.05									
v/c Ratio	0.33	0.41	0.05	0.14	0.65		0.25	0.39	0.07	0.33	1.01	0.27
Uniform Delay, d1	27.4	27.8	0.0	25.1	27.8		23.9	24.8	24.8	24.4	28.9	27.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.5	0.1	0.1	2.3		1.5	1.5	0.1	2.3	35.4	0.6
Delay (s)	27.8	28.3	0.1	25.2	30.1		25.5	26.3	24.9	26.7	64.3	27.7
Level of Service	C	C	A	C	C		C	C	C	C	E	C
Approach Delay (s)		23.4			29.4			25.8			50.3	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	74.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



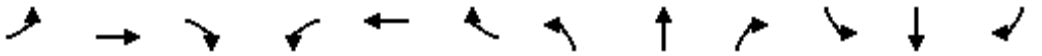
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	122	111	604	169	57	57	326	169	38	844	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1730		3433	1863	1583	1770	3539	1583	1770	3527	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1730		3433	1863	1583	1770	3539	1583	1770	3527	
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)	27	133	121	657	184	62	62	354	184	41	917	22
RTOR Reduction (vph)	0	48	0	0	0	37	0	0	127	0	2	0
Lane Group Flow (vph)	27	206	0	657	184	25	62	354	57	41	937	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	1.5	14.6		14.2	27.3	27.3	3.1	21.3	21.3	2.8	21.0	
Effective Green, g (s)	1.5	14.6		14.2	27.3	27.3	3.1	21.3	21.3	2.8	21.0	
Actuated g/C Ratio	0.02	0.21		0.21	0.40	0.40	0.04	0.31	0.31	0.04	0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	75	367		708	738	627	80	1094	489	72	1075	
v/s Ratio Prot	0.01	c0.12		c0.19	0.10		c0.04	0.10		0.02	c0.27	
v/s Ratio Perm						0.02			0.04			
v/c Ratio	0.36	0.56		0.93	0.25	0.04	0.78	0.32	0.12	0.57	0.87	
Uniform Delay, d1	33.2	24.3		26.8	13.9	12.8	32.6	18.3	17.1	32.5	22.7	
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	2.9	2.0		18.3	0.2	0.0	36.4	0.8	0.5	9.9	9.7	
Delay (s)	36.2	26.2		45.1	14.1	12.8	68.9	19.1	17.5	42.4	32.4	
Level of Service	D	C		D	B	B	E	B	B	D	C	
Approach Delay (s)		27.2			36.6			23.7			32.8	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	68.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



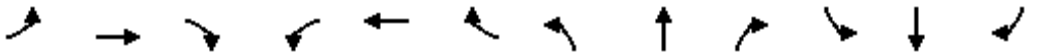
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	329	895	110	399	847	154	153	1359	416	134	837	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
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)	358	973	120	434	921	167	166	1477	452	146	910	197
RTOR Reduction (vph)	0	0	65	0	0	150	0	0	260	0	0	0
Lane Group Flow (vph)	358	973	55	434	921	17	166	1477	192	146	910	197
Turn Type	Prot		Perm	Prot		Over	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4						2			Free
Actuated Green, G (s)	12.4	25.1	25.1	12.9	25.6	9.0	9.5	23.5	23.5	9.0	23.0	86.5
Effective Green, g (s)	12.4	25.1	25.1	12.9	25.6	9.0	9.5	23.5	23.5	9.0	23.0	86.5
Actuated g/C Ratio	0.14	0.29	0.29	0.15	0.30	0.10	0.11	0.27	0.27	0.10	0.27	1.00
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	492	1027	459	512	1047	165	377	1381	430	357	941	1583
v/s Ratio Prot	0.10	c0.27		c0.13	0.26	0.01	c0.05	c0.29		0.04	0.26	
v/s Ratio Perm			0.03						0.12			c0.12
v/c Ratio	0.73	0.95	0.12	0.85	0.88	0.11	0.44	1.07	0.45	0.41	0.97	0.12
Uniform Delay, d1	35.4	30.1	22.6	35.8	29.0	35.1	36.0	31.5	26.1	36.3	31.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.3	16.7	0.1	12.3	8.6	0.3	0.8	45.2	3.3	0.8	22.4	0.2
Delay (s)	40.8	46.8	22.7	48.2	37.6	35.4	36.8	76.7	29.4	37.0	53.8	0.2
Level of Service	D	D	C	D	D	D	D	E	C	D	D	A
Approach Delay (s)		43.3			40.4			63.3			43.4	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	86.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



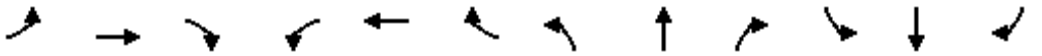
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	62	81	390	133	81	154	776	309	134	1339	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.96		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	3539	1583	3433	3339		3433	4868		3433	5068	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3339		3433	4868		3433	5068	
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)	33	67	88	424	145	88	167	843	336	146	1455	33
RTOR Reduction (vph)	0	0	81	0	73	0	0	41	0	0	1	0
Lane Group Flow (vph)	33	67	7	424	160	0	167	1138	0	146	1487	0
Turn Type	Prot		Over	Prot			Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.5	6.9	10.1	18.9	20.3		10.1	80.5		5.0	75.4	
Effective Green, g (s)	5.5	6.9	10.1	18.9	20.3		10.1	80.5		5.0	75.4	
Actuated g/C Ratio	0.04	0.05	0.08	0.14	0.15		0.08	0.60		0.04	0.56	
Clearance Time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Vehicle Extension (s)	3.0	2.0	1.2	2.0	2.0		1.2	5.0		0.8	5.8	
Lane Grp Cap (vph)	73	183	120	486	507		260	2933		128	2860	
v/s Ratio Prot	0.02	0.02	0.00	c0.12	c0.05		0.05	c0.23		c0.04	c0.29	
v/s Ratio Perm												
v/c Ratio	0.45	0.37	0.06	0.87	0.32		0.64	0.39		1.14	0.52	
Uniform Delay, d1	62.6	61.2	57.3	56.2	50.5		60.0	13.8		64.3	17.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	0.5	0.1	15.3	0.1		4.0	0.4		122.3	0.7	
Delay (s)	67.0	61.7	57.4	71.5	50.6		64.0	14.2		186.6	18.6	
Level of Service	E	E	E	E	D		E	B		F	B	
Approach Delay (s)		60.6			64.1			20.3			33.6	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	35.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	133.6	Sum of lost time (s)	23.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



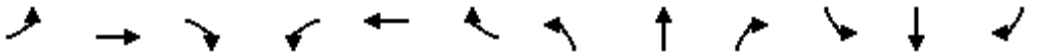
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	530	3	466	114	773	0	0	1455	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	1.00
Frt				1.00	0.93	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)				1681	1538	1504	3433	5085			5085	1583
Flt Permitted				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1538	1504	3433	5085			5085	1583
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)	0	0	0	576	3	507	124	840	0	0	1582	386
RTOR Reduction (vph)	0	0	0	0	30	114	0	0	0	0	0	213
Lane Group Flow (vph)	0	0	0	380	336	226	124	840	0	0	1582	173
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.0	31.0	29.9	9.0	58.0			44.8	44.8
Effective Green, g (s)				31.0	31.0	29.9	9.0	58.0			44.8	44.8
Actuated g/C Ratio				0.31	0.31	0.30	0.09	0.58			0.45	0.45
Clearance Time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				521	477	450	309	2949			2278	709
v/s Ratio Prot				c0.23	0.22		c0.04	0.17			c0.31	
v/s Ratio Perm						0.15						0.11
v/c Ratio				0.73	0.71	0.50	0.40	0.28			0.69	0.24
Uniform Delay, d1				30.8	30.5	28.9	43.0	10.6			22.1	17.1
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				5.1	4.7	0.9	0.9	0.2			1.8	0.8
Delay (s)				35.8	35.2	29.8	43.8	10.8			23.9	17.9
Level of Service				D	D	C	D	B			C	B
Approach Delay (s)		0.0			33.7			15.1			22.7	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



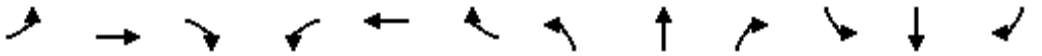
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	326	0	144	0	0	0	0	561	381	526	1459	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Lane Util. Factor	0.97		1.00					0.91	1.00	0.97	0.91	
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)	3433		1583					5085	1583	3433	5085	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					5085	1583	3433	5085	
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)	354	0	157	0	0	0	0	610	414	572	1586	0
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	191	0	0	0
Lane Group Flow (vph)	354	0	118	0	0	0	0	610	223	572	1586	0
Turn Type	Prot		custom						Perm	Prot		
Protected Phases	7							2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	15.6		14.5					67.4	67.4	26.3	98.4	
Effective Green, g (s)	15.6		14.5					67.4	67.4	26.3	98.4	
Actuated g/C Ratio	0.12		0.12					0.54	0.54	0.21	0.79	
Clearance Time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	428		184					2742	854	722	4003	
v/s Ratio Prot	c0.10							0.12		c0.17	c0.31	
v/s Ratio Perm			0.07						0.14			
v/c Ratio	0.83		0.64					0.22	0.26	0.79	0.40	
Uniform Delay, d1	53.4		52.8					15.1	15.4	46.8	4.1	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.4		7.4					0.2	0.7	6.0	0.3	
Delay (s)	65.7		60.2					15.3	16.2	52.7	4.4	
Level of Service	E		E					B	B	D	A	
Approach Delay (s)		64.0			0.0			15.6			17.2	
Approach LOS		E			A			B			B	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



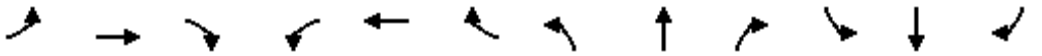
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	93	325	139	90	4	337	30	164	6	94	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.88	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	2787	3433	1852		3433	1863	2787	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	2787	3433	1852		3433	1863	2787	1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	101	353	151	98	4	366	33	178	7	102	24
RTOR Reduction (vph)	0	0	291	0	2	0	0	0	161	0	0	16
Lane Group Flow (vph)	10	101	62	151	100	0	366	33	17	7	102	8
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	0.7	8.1	11.2	6.1	13.5		11.2	33.1	6.1	0.7	22.6	22.6
Effective Green, g (s)	0.7	8.1	11.2	6.1	13.5		11.2	33.1	6.1	0.7	22.6	22.6
Actuated g/C Ratio	0.01	0.13	0.17	0.10	0.21		0.17	0.52	0.10	0.01	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	19	448	488	327	391		601	964	266	19	658	559
v/s Ratio Prot	0.01	0.03	0.02	c0.04	c0.05		c0.11	0.02	0.01	0.00	c0.05	
v/s Ratio Perm												0.01
v/c Ratio	0.53	0.23	0.13	0.46	0.25		0.61	0.03	0.06	0.37	0.16	0.02
Uniform Delay, d1	31.5	25.1	22.3	27.4	21.1		24.4	7.6	26.4	31.4	14.2	13.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.9	0.3	0.1	1.0	0.3		1.8	0.1	0.1	11.7	0.5	0.0
Delay (s)	55.3	25.4	22.4	28.4	21.4		26.1	7.7	26.5	43.1	14.7	13.5
Level of Service	E	C	C	C	C		C	A	C	D	B	B
Approach Delay (s)		23.8			25.6			25.2			16.0	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



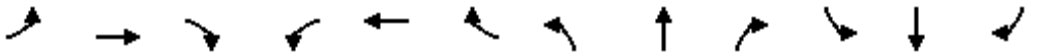
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	70	211	759	24	24	112	478	394	61	828	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.91	0.91		1.00	0.95	0.88	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1610	3219		1770	3539	2787	1770	3535	
Flt Permitted	0.95	1.00	1.00	0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1610	3219		1770	3539	2787	1770	3535	
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)	46	76	229	825	26	26	122	520	428	66	900	7
RTOR Reduction (vph)	0	0	202	0	4	0	0	0	304	0	1	0
Lane Group Flow (vph)	46	76	27	412	461	0	122	520	124	66	906	0
Turn Type	Split		Perm	Split			Prot		Over	Prot		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases			4									
Actuated Green, G (s)	8.3	8.3	8.3	24.1	24.1		10.2	27.9	24.1	7.2	24.9	
Effective Green, g (s)	8.3	8.3	8.3	24.1	24.1		10.2	27.9	24.1	7.2	24.9	
Actuated g/C Ratio	0.10	0.10	0.10	0.29	0.29		0.12	0.33	0.29	0.09	0.30	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	176	352	157	465	929		216	1182	804	153	1054	
v/s Ratio Prot	c0.03	0.02		c0.26	0.14		c0.07	c0.15	0.04	0.04	c0.26	
v/s Ratio Perm			0.02									
v/c Ratio	0.26	0.22	0.17	0.89	0.50		0.56	0.44	0.15	0.43	0.86	
Uniform Delay, d1	34.8	34.6	34.5	28.4	24.7		34.6	21.7	22.1	36.2	27.7	
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	0.8	0.3	0.5	18.0	0.4		3.4	1.2	0.1	1.9	9.2	
Delay (s)	35.6	34.9	35.0	46.4	25.1		37.9	22.9	22.2	38.2	36.8	
Level of Service	D	C	C	D	C		D	C	C	D	D	
Approach Delay (s)		35.0			35.1			24.3			36.9	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	83.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



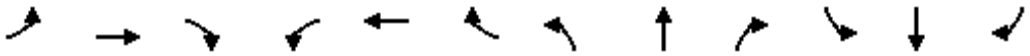
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	2	64	35	23	5	75	502	22	1	1252	925
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		1808	1583	1770	3517		1770	3539	2787
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		1808	1583	1770	3517		1770	3539	2787
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)	315	2	70	38	25	5	82	546	24	1	1361	1005
RTOR Reduction (vph)	0	0	0	0	0	5	0	2	0	0	0	0
Lane Group Flow (vph)	315	2	70	0	63	0	82	568	0	1	1361	1005
Turn Type	Split		Free	Split		Perm	Prot			Prot		Over
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			Free			8						
Actuated Green, G (s)	39.1	39.1	115.5		8.0	8.0	6.0	51.6		0.8	46.4	39.1
Effective Green, g (s)	39.1	39.1	115.5		8.0	8.0	6.0	51.6		0.8	46.4	39.1
Actuated g/C Ratio	0.34	0.34	1.00		0.07	0.07	0.05	0.45		0.01	0.40	0.34
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1162	631	1583		125	110	92	1571		12	1422	943
v/s Ratio Prot	0.09	0.00			c0.03		c0.05	0.16		0.00	c0.38	c0.36
v/s Ratio Perm			0.04			0.00						
v/c Ratio	0.27	0.00	0.04		0.50	0.00	0.89	0.36		0.08	0.96	1.07
Uniform Delay, d1	27.8	25.3	0.0		51.8	50.0	54.4	21.1		57.0	33.6	38.2
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	0.1	0.0	0.1		3.2	0.0	59.6	0.6		3.0	15.6	48.5
Delay (s)	27.9	25.3	0.1		55.0	50.0	114.0	21.7		60.0	49.2	86.7
Level of Service	C	C	A		E	D	F	C		E	D	F
Approach Delay (s)		22.9			54.6			33.3			65.1	
Approach LOS		C			D			C			E	

Intersection Summary			
HCM Average Control Delay	54.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	115.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



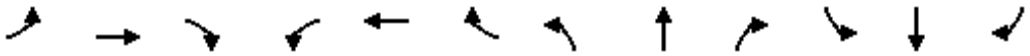
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	211	92	31	345	191	124	372	20	565	818	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.91	0.91		0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		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)	3433	3539	1583	1770	3350		1610	3359		1610	3339	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3350		1610	3359		1610	3339	
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)	43	229	100	34	375	208	135	404	22	614	889	74
RTOR Reduction (vph)	0	0	82	0	84	0	0	4	0	0	6	0
Lane Group Flow (vph)	43	229	18	34	499	0	121	436	0	516	1055	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	2.3	15.4	15.4	2.3	15.4		18.1	18.1		36.1	36.1	
Effective Green, g (s)	2.3	15.4	15.4	2.3	15.4		18.1	18.1		36.1	36.1	
Actuated g/C Ratio	0.03	0.18	0.18	0.03	0.18		0.21	0.21		0.41	0.41	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	620	277	46	587		332	692		661	1371	
v/s Ratio Prot	0.01	0.06		c0.02	c0.15		0.08	c0.13		c0.32	0.32	
v/s Ratio Perm			0.01									
v/c Ratio	0.48	0.37	0.06	0.74	0.85		0.36	0.63		0.78	0.77	
Uniform Delay, d1	42.2	32.0	30.2	42.5	35.1		30.0	31.8		22.5	22.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	0.4	0.1	46.3	11.1		3.1	4.3		8.9	4.2	
Delay (s)	46.2	32.3	30.3	88.8	46.2		33.0	36.2		31.4	26.5	
Level of Service	D	C	C	F	D		C	D		C	C	
Approach Delay (s)		33.4			48.6			35.5			28.1	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	87.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



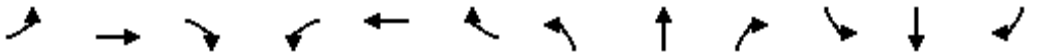
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	856	314	269	1803	117	263	248	273	42	349	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		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)	1770	3539	1583	1770	3539	1583	3433	3261		3433	3469	
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)	1770	3539	1583	1770	3539	1583	3433	3261		3433	3469	
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)	13	930	341	292	1960	127	286	270	297	46	379	58
RTOR Reduction (vph)	0	0	182	0	0	51	0	160	0	0	10	0
Lane Group Flow (vph)	13	930	159	292	1960	76	286	407	0	46	427	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)	1.5	47.5	47.5	23.6	69.6	69.6	11.9	26.7		3.1	17.9	
Effective Green, g (s)	1.5	47.5	47.5	23.6	69.6	69.6	11.9	26.7		3.1	17.9	
Actuated g/C Ratio	0.01	0.41	0.41	0.20	0.60	0.60	0.10	0.23		0.03	0.15	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	23	1438	643	357	2107	942	349	745		91	531	
v/s Ratio Prot	0.01	0.26		c0.17	c0.55		c0.08	0.12		0.01	c0.12	
v/s Ratio Perm			0.10			0.05						
v/c Ratio	0.57	0.65	0.25	0.82	0.93	0.08	0.82	0.55		0.51	0.80	
Uniform Delay, d1	57.4	27.9	22.9	44.6	21.4	10.0	51.4	39.8		56.1	47.8	
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	28.1	1.0	0.2	13.5	8.1	0.0	13.9	2.9		4.4	12.2	
Delay (s)	85.5	29.0	23.1	58.1	29.5	10.1	65.4	42.6		60.5	60.0	
Level of Service	F	C	C	E	C	B	E	D		E	E	
Approach Delay (s)		28.0			32.0			50.2			60.1	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	116.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.5%	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)	201	124	57	199	472	211	42	326	87	183	422	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.95		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3372		1770	3375		1770	3427		1770	3320	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3372		1770	3375		1770	3427		1770	3320	
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)	218	135	62	216	513	229	46	354	95	199	459	324
RTOR Reduction (vph)	0	47	0	0	80	0	0	37	0	0	182	0
Lane Group Flow (vph)	218	150	0	216	662	0	46	412	0	199	601	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.0	15.5		9.0	15.5		3.6	17.6		8.0	22.0	
Effective Green, g (s)	9.0	15.5		9.0	15.5		3.6	17.6		8.0	22.0	
Actuated g/C Ratio	0.14	0.23		0.14	0.23		0.05	0.27		0.12	0.33	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	241	791		241	791		96	912		214	1105	
v/s Ratio Prot	c0.12	0.04		0.12	c0.20		0.03	0.12		c0.11	c0.18	
v/s Ratio Perm												
v/c Ratio	0.90	0.19		0.90	0.84		0.48	0.45		0.93	0.54	
Uniform Delay, d1	28.1	20.3		28.1	24.1		30.3	20.2		28.8	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	33.4	0.1		31.7	7.7		3.7	1.6		41.8	1.9	
Delay (s)	61.6	20.4		59.8	31.8		34.1	21.8		70.6	19.9	
Level of Service	E	C		E	C		C	C		E	B	
Approach Delay (s)		42.0			38.1			23.0			30.2	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	66.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.8%	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)	146	634	93	86	868	97	85	250	67	180	383	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		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)	3433	4988		3433	5085	1583	3433	3427		3433	3539	1583
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)	3433	4988		3433	5085	1583	3433	3427		3433	3539	1583
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)	159	689	101	93	943	105	92	272	73	196	416	157
RTOR Reduction (vph)	0	25	0	0	0	93	0	29	0	0	0	139
Lane Group Flow (vph)	159	765	0	93	943	12	92	316	0	196	416	18
Turn Type	Prot			Prot		Over	Prot			Prot		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases												
Actuated Green, G (s)	8.7	26.4		3.9	21.6	8.5	3.9	22.1		8.5	26.7	8.7
Effective Green, g (s)	8.7	26.4		3.9	21.6	8.5	3.9	22.1		8.5	26.7	8.7
Actuated g/C Ratio	0.11	0.34		0.05	0.28	0.11	0.05	0.29		0.11	0.35	0.11
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	388	1712		174	1428	175	174	985		379	1229	179
v/s Ratio Prot	c0.05	0.15		0.03	c0.19	0.01	0.03	0.09		c0.06	c0.12	0.01
v/s Ratio Perm												
v/c Ratio	0.41	0.45		0.53	0.66	0.07	0.53	0.32		0.52	0.34	0.10
Uniform Delay, d1	31.7	19.6		35.6	24.4	30.6	35.6	21.5		32.3	18.6	30.6
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	0.7	0.2		3.1	1.2	0.2	2.9	0.9		1.2	0.7	0.2
Delay (s)	32.4	19.8		38.8	25.6	30.8	38.5	22.4		33.5	19.3	30.8
Level of Service	C	B		D	C	C	D	C		C	B	C
Approach Delay (s)		21.9			27.1			25.8			25.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #27 Rancho Del Oro Rd & Vista Del Oro Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.589
Loss Time (sec):	0	Average Delay (sec/veh):	13.1
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Rancho Del Oro Rd						Vista Del Oro Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	7	400	51	83	639	18	30	11	47	65	5	55
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:	7	400	51	83	639	18	30	11	47	65	5	55
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:	8	435	55	90	695	20	33	12	51	71	5	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	435	55	90	695	20	33	12	51	71	5	60
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	435	55	90	695	20	33	12	51	71	5	60
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.77	0.23	1.00	1.95	0.05	0.34	0.12	0.54	0.52	0.04	0.44
Final Sat.:	519	1011	131	555	1179	33	176	65	276	274	21	232
Capacity Analysis Module:												
Vol/Sat:	0.01	0.43	0.42	0.16	0.59	0.59	0.19	0.19	0.19	0.26	0.26	0.26
Crit Moves:		****			****			****				****
Delay/Veh:	9.5	13.2	13.0	10.3	16.4	16.3	10.8	10.8	10.8	11.5	11.5	11.5
Delay 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
AdjDel/Veh:	8.8	12.2	11.9	9.5	15.1	15.0	9.9	9.9	9.9	10.6	10.6	10.6
LOS by Move:	A	B	B	A	C	B	A	A	A	B	B	B
ApproachDel:		13.2			15.7			10.8			11.5	
Delay Adj:		0.92			0.92			0.92			0.92	
ApprAdjDel:		12.1			14.4			9.9			10.6	
LOS by Appr:		B			B			A			B	
AllWayAvgQ:	0.0	0.7	0.7	0.2	1.3	1.3	0.2	0.2	0.2	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #28 Rancho Del Oro Rd & Cameo Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.909
Loss Time (sec):	0	Average Delay (sec/veh):	36.4
Optimal Cycle:	0	Level Of Service:	E

Street Name:	Rancho Del Oro Rd						Cameo Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	1 0	0	1 0
Volume Module:												
Base Vol:	10	714	40	74	638	10	30	10	30	110	10	145
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:	10	714	40	74	638	10	30	10	30	110	10	145
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:	11	776	43	80	693	11	33	11	33	120	11	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	776	43	80	693	11	33	11	33	120	11	158
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:	11	776	43	80	693	11	33	11	33	120	11	158
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.89	0.11	1.00	1.97	0.03	0.43	0.14	0.43	1.00	0.06	0.94
Final Sat.:	410	854	48	410	875	14	177	59	177	384	28	410
Capacity Analysis Module:												
Vol/Sat:	0.03	0.91	0.90	0.20	0.79	0.79	0.18	0.18	0.18	0.31	0.38	0.38
Crit Moves:		****			****			****				****
Delay/Veh:	11.4	50.3	49.3	13.3	34.5	34.3	13.3	13.3	13.3	15.5	15.0	15.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.4	50.3	49.3	13.3	34.5	34.3	13.3	13.3	13.3	15.5	15.0	15.0
LOS by Move:	B	F	E	B	D	D	B	B	B	C	C	C
ApproachDel:		49.7			32.3			13.3			15.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		49.7			32.3			13.3			15.2	
LOS by Appr:		E			D			B			C	
AllWayAvgQ:	0.0	5.0	4.9	0.2	2.9	2.9	0.2	0.2	0.2	0.4	0.5	0.5

Note: Queue reported is the number of cars per lane.

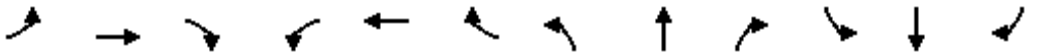
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #29 Rancho Del Oro Rd & Trieste Way & Sicily Way

Cycle (sec):	100	Critical Vol./Cap.(X):	0.438
Loss Time (sec):	0	Average Delay (sec/veh):	10.7
Optimal Cycle:	0	Level Of Service:	B

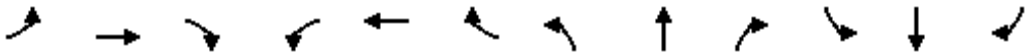
Street Name:	Rancho Del Oro Rd						Trieste Way & Sicily Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	3	351	3	4	576	4	4	0	11	14	0	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:	3	351	3	4	576	4	4	0	11	14	0	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:	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:	3	382	3	4	626	4	4	0	12	15	0	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	382	3	4	626	4	4	0	12	15	0	10
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:	3	382	3	4	626	4	4	0	12	15	0	10
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.98	0.02	1.00	1.99	0.01	0.27	0.00	0.73	0.61	0.00	0.39
Final Sat.:	619	1352	12	650	1430	10	161	0	442	353	0	227
Capacity Analysis Module:												
Vol/Sat:	0.01	0.28	0.28	0.01	0.44	0.44	0.03	xxxx	0.03	0.04	xxxx	0.04
Crit Moves:		****			****				****	****		
Delay/Veh:	8.4	9.9	9.9	8.2	11.4	11.4	8.6	0.0	8.6	9.0	0.0	9.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.4	9.9	9.9	8.2	11.4	11.4	8.6	0.0	8.6	9.0	0.0	9.0
LOS by Move:	A	A	A	A	B	B	A	*	A	A	*	A
ApproachDel:		9.9			11.4			8.6			9.0	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.9			11.4			8.6			9.0	
LOS by Appr:		A			B			A			A	
AllWayAvgQ:	0.0	0.4	0.4	0.0	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.



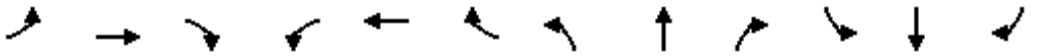
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	136	0	0	221	111	0	0	0	284	0	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0					4.0	4.0	4.0
Lane Util. Factor	1.00	0.95			0.95					1.00	0.95	0.95
Frt	1.00	1.00			0.95					1.00	0.85	0.85
Flt Protected	0.95	1.00			1.00					0.95	1.00	1.00
Satd. Flow (prot)	1770	3539			3361					1770	1504	1504
Flt Permitted	0.95	1.00			1.00					0.95	1.00	1.00
Satd. Flow (perm)	1770	3539			3361					1770	1504	1504
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)	161	148	0	0	240	121	0	0	0	309	0	423
RTOR Reduction (vph)	0	0	0	0	98	0	0	0	0	0	159	158
Lane Group Flow (vph)	161	148	0	0	263	0	0	0	0	309	53	53
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												6
Actuated Green, G (s)	6.0	20.2			10.2					16.0	16.0	16.0
Effective Green, g (s)	6.0	20.2			10.2					16.0	16.0	16.0
Actuated g/C Ratio	0.09	0.31			0.16					0.25	0.25	0.25
Clearance Time (s)	4.0	4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0					3.0	3.0	3.0
Lane Grp Cap (vph)	165	1114			534					441	375	375
v/s Ratio Prot	c0.09	0.04			c0.08					c0.17	0.04	
v/s Ratio Perm												0.03
v/c Ratio	0.98	0.13			0.49					0.70	0.14	0.14
Uniform Delay, d1	29.0	15.7			24.6					21.9	18.8	18.7
Progression Factor	1.00	1.00			1.00					1.00	1.00	1.00
Incremental Delay, d2	62.3	0.1			0.7					9.0	0.8	0.8
Delay (s)	91.3	15.8			25.4					30.9	19.5	19.5
Level of Service	F	B			C					C	B	B
Approach Delay (s)		55.1			25.4			0.0			24.3	
Approach LOS		E			C			A			C	

Intersection Summary			
HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	32.0
Intersection Capacity Utilization	43.6%	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)	474	21	44	62	69	20	32	1043	32	12	211	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	0.95		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.90		1.00	0.97		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1674		3433	3419		1770	5085	1583	1770	4913	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1674		3433	3419		1770	5085	1583	1770	4913	
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)	515	23	48	67	75	22	35	1134	35	13	229	67
RTOR Reduction (vph)	0	36	0	0	20	0	0	0	21	0	41	0
Lane Group Flow (vph)	515	35	0	67	77	0	35	1134	14	13	255	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	13.1	15.4		3.9	6.2		1.7	25.2	25.2	0.7	24.2	
Effective Green, g (s)	13.1	15.4		3.9	6.2		1.7	25.2	25.2	0.7	24.2	
Actuated g/C Ratio	0.21	0.25		0.06	0.10		0.03	0.41	0.41	0.01	0.40	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	735	421		219	346		49	2094	652	20	1943	
v/s Ratio Prot	c0.15	0.02		0.02	c0.02		c0.02	c0.22		0.01	0.05	
v/s Ratio Perm									0.01			
v/c Ratio	0.70	0.08		0.31	0.22		0.71	0.54	0.02	0.65	0.13	
Uniform Delay, d1	22.2	17.5		27.4	25.3		29.5	13.6	10.7	30.1	11.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.0	0.1		0.8	0.3		39.0	1.0	0.1	56.6	0.1	
Delay (s)	25.3	17.6		28.2	25.6		68.5	14.6	10.7	86.7	11.9	
Level of Service	C	B		C	C		E	B	B	F	B	
Approach Delay (s)		24.3			26.7			16.1			15.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

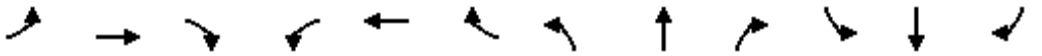


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	23	77	307	30	168	72	906	97	21	537	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		1.00	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1626		1770	5085	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1626		1770	5085	1583	1770	3539	1583
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)	60	25	84	334	33	183	78	985	105	23	584	28
RTOR Reduction (vph)	0	0	77	0	149	0	0	0	62	0	0	18
Lane Group Flow (vph)	60	25	7	334	67	0	78	985	43	23	584	10
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	3.1	3.8	3.8	8.2	8.9		3.3	19.9	19.9	0.6	17.2	17.2
Effective Green, g (s)	3.1	3.8	3.8	8.2	8.9		3.3	19.9	19.9	0.6	17.2	17.2
Actuated g/C Ratio	0.06	0.08	0.08	0.17	0.18		0.07	0.41	0.41	0.01	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	113	146	124	580	298		120	2086	650	22	1255	561
v/s Ratio Prot	0.03	0.01		c0.10	c0.04		c0.04	c0.19		0.01	0.17	
v/s Ratio Perm			0.00						0.03			0.01
v/c Ratio	0.53	0.17	0.05	0.58	0.22		0.65	0.47	0.07	1.05	0.47	0.02
Uniform Delay, d1	22.0	20.9	20.7	18.5	16.9		22.0	10.5	8.7	23.9	12.1	10.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	0.6	0.2	1.4	0.4		11.9	0.8	0.2	206.7	1.2	0.1
Delay (s)	26.7	21.4	20.9	19.9	17.2		34.0	11.2	8.9	230.6	13.3	10.2
Level of Service	C	C	C	B	B		C	B	A	F	B	B
Approach Delay (s)		23.0			18.9			12.5			21.1	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	48.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

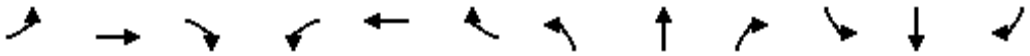
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	149	318	703	275	10	10	10	10	215	10	928
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1723			1778	2787
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)	1770	3539	1583	3433	3539	1583	1770	1723			1778	2787
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)	11	162	346	764	299	11	11	11	11	234	11	1009
RTOR Reduction (vph)	0	0	262	0	0	5	0	11	0	0	0	715
Lane Group Flow (vph)	11	162	84	764	299	6	11	11	0	0	245	294
Turn Type	Prot		Perm	Prot		Perm	Split			Split		Over
Protected Phases	5	2		1	6		4	4		8	8	1
Permitted Phases			2			6						
Actuated Green, G (s)	0.7	16.3	16.3	19.6	35.2	35.2	2.4	2.4			12.9	19.6
Effective Green, g (s)	0.7	16.3	16.3	19.6	35.2	35.2	2.4	2.4			12.9	19.6
Actuated g/C Ratio	0.01	0.24	0.24	0.29	0.52	0.52	0.04	0.04			0.19	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	18	858	384	1001	1854	829	63	62			341	813
v/s Ratio Prot	0.01	0.05		c0.22	0.08		0.01	c0.01			c0.14	0.11
v/s Ratio Perm			c0.05			0.00						
v/c Ratio	0.61	0.19	0.22	0.76	0.16	0.01	0.17	0.18			0.72	0.36
Uniform Delay, d1	33.1	20.2	20.4	21.7	8.3	7.6	31.4	31.4			25.4	18.8
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	48.7	0.5	1.3	3.5	0.2	0.0	1.3	1.4			7.1	0.3
Delay (s)	81.8	20.7	21.7	25.2	8.5	7.7	32.8	32.9			32.5	19.1
Level of Service	F	C	C	C	A	A	C	C			C	B
Approach Delay (s)		22.6			20.4			32.8			21.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	67.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.3%	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)	328	709	31	337	1179	437	49	519	151	397	688	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3420		3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3420		3433	3539	1583
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)	357	771	34	366	1282	475	53	564	164	432	748	490
RTOR Reduction (vph)	0	0	32	0	0	367	0	22	0	0	0	411
Lane Group Flow (vph)	357	771	2	366	1282	108	53	706	0	432	748	79
Turn Type	Prot		Over	Prot		Over	Prot			Prot		Over
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases											6	
Actuated Green, G (s)	15.6	29.1	5.9	15.6	29.1	20.0	5.9	30.1		20.0	44.2	15.6
Effective Green, g (s)	15.6	29.1	5.9	15.6	29.1	20.0	5.9	30.1		20.0	44.2	15.6
Actuated g/C Ratio	0.14	0.26	0.05	0.14	0.26	0.18	0.05	0.27		0.18	0.40	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	483	1336	84	483	1336	286	183	929		620	1412	223
v/s Ratio Prot	0.10	0.15	0.00	c0.11	c0.25	0.07	0.02	c0.21		c0.13	0.21	0.05
v/s Ratio Perm												
v/c Ratio	0.74	0.58	0.02	0.76	0.96	0.38	0.29	0.76		0.70	0.53	0.36
Uniform Delay, d1	45.6	35.5	49.7	45.8	40.3	39.9	50.4	37.0		42.6	25.4	43.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.9	0.6	0.1	6.7	15.8	0.8	0.9	5.8		3.4	1.4	1.0
Delay (s)	51.5	36.1	49.8	52.5	56.0	40.8	51.3	42.9		46.0	26.8	44.0
Level of Service	D	D	D	D	E	D	D	D		D	C	D
Approach Delay (s)		41.2			52.0			43.4			36.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	44.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

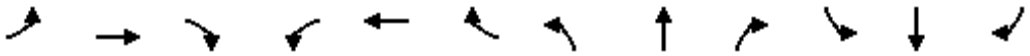


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	124	116	55	155	197	30	76	555	78	43	887	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3368		1770	3468		1770	3474		1770	3423	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3368		1770	3468		1770	3474		1770	3423	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	131	122	58	163	207	32	80	584	82	45	934	261
RTOR Reduction (vph)	0	52	0	0	15	0	0	10	0	0	24	0
Lane Group Flow (vph)	131	128	0	163	224	0	80	656	0	45	1171	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.9	8.7		14.3	11.1		5.1	40.8		5.0	40.7	
Effective Green, g (s)	11.9	8.7		14.3	11.1		5.1	40.8		5.0	40.7	
Actuated g/C Ratio	0.13	0.10		0.16	0.12		0.06	0.45		0.06	0.45	
Clearance Time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	234	326		281	428		100	1575		98	1548	
v/s Ratio Prot	c0.07	0.04		c0.09	0.06		c0.05	0.19		0.03	c0.34	
v/s Ratio Perm												
v/c Ratio	0.56	0.39		0.58	0.52		0.80	0.42		0.46	0.76	
Uniform Delay, d1	36.6	38.2		35.1	37.0		41.9	16.6		41.2	20.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.9	0.8		3.0	1.2		35.2	0.8		3.4	3.5	
Delay (s)	39.5	38.9		38.1	38.1		77.1	17.4		44.6	24.0	
Level of Service	D	D		D	D		E	B		D	C	
Approach Delay (s)		39.2			38.1			23.8			24.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

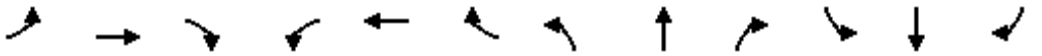
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	35	231	43	45	92	34	89	247	61	44	124	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.98		1.00	0.96		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3455		1770	3396		3433	3434		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3455		1770	3396		3433	3434		3433	3539	1583
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)	38	251	47	49	100	37	97	268	66	48	135	108
RTOR Reduction (vph)	0	20	0	0	30	0	0	18	0	0	0	64
Lane Group Flow (vph)	38	278	0	49	107	0	97	316	0	48	135	44
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases												2
Actuated Green, G (s)	2.8	11.0		4.3	12.5		5.7	27.4		3.6	25.3	25.3
Effective Green, g (s)	2.8	11.0		4.3	12.5		5.7	27.4		3.6	25.3	25.3
Actuated g/C Ratio	0.04	0.18		0.07	0.20		0.09	0.44		0.06	0.41	0.41
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	80	610		122	681		314	1510		198	1437	643
v/s Ratio Prot	0.02	c0.08		c0.03	0.03		c0.03	c0.09		0.01	0.04	
v/s Ratio Perm												0.03
v/c Ratio	0.47	0.46		0.40	0.16		0.31	0.21		0.24	0.09	0.07
Uniform Delay, d1	29.0	23.0		27.8	20.6		26.5	10.8		28.0	11.4	11.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.4	0.5		2.2	0.1		0.6	0.3		0.6	0.1	0.2
Delay (s)	33.4	23.5		29.9	20.7		27.0	11.1		28.7	11.6	11.5
Level of Service	C	C		C	C		C	B		C	B	B
Approach Delay (s)		24.6			23.1			14.7			14.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



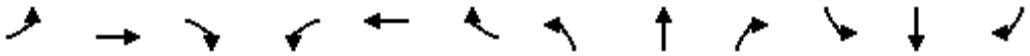
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	59	256	150	110	39	112	699	62	23	1149	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	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	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3496		1770	3514	
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)	1770	1863	1583	1770	1863	1583	3433	3496		1770	3514	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	62	269	158	116	41	118	736	65	24	1209	60
RTOR Reduction (vph)	0	0	251	0	0	32	0	5	0	0	2	0
Lane Group Flow (vph)	8	62	18	158	116	9	118	796	0	24	1267	0
Turn Type	Prot		Over	Prot		Perm	Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	0.8	10.8	8.1	14.4	25.4	25.4	8.1	64.9		4.9	61.7	
Effective Green, g (s)	0.8	10.8	8.1	14.4	25.4	25.4	8.1	64.9		4.9	61.7	
Actuated g/C Ratio	0.01	0.09	0.07	0.12	0.21	0.21	0.07	0.54		0.04	0.51	
Clearance Time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	12	168	107	212	394	335	232	1891		72	1807	
v/s Ratio Prot	0.00	c0.03	0.01	c0.09	0.06		c0.03	0.23		0.01	c0.36	
v/s Ratio Perm						0.01						
v/c Ratio	0.67	0.37	0.17	0.75	0.29	0.03	0.51	0.42		0.33	0.70	
Uniform Delay, d1	59.5	51.4	52.8	51.0	39.8	37.5	54.0	16.4		56.0	22.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	89.5	1.4	0.8	13.3	0.4	0.0	1.8	0.7		2.7	2.3	
Delay (s)	148.9	52.8	53.5	64.3	40.2	37.5	55.8	17.1		58.7	24.4	
Level of Service	F	D	D	E	D	D	E	B		E	C	
Approach Delay (s)		55.6			51.9			22.0			25.1	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



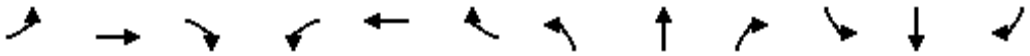
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	313	327	339	622	120	451	771	152	130	1281	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	85	329	344	357	655	126	475	812	160	137	1348	91
RTOR Reduction (vph)	0	0	8	0	0	100	0	0	84	0	0	35
Lane Group Flow (vph)	85	329	336	357	655	26	475	812	76	137	1348	56
Turn Type	Prot		pt+ov	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4	4 5	3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	4.0	16.0	41.0	13.0	25.0	25.0	18.0	57.3	57.3	8.7	49.0	49.0
Effective Green, g (s)	4.0	16.0	41.0	13.0	25.0	25.0	18.0	57.3	57.3	8.7	49.0	49.0
Actuated g/C Ratio	0.03	0.13	0.34	0.11	0.21	0.21	0.15	0.48	0.48	0.07	0.41	0.41
Clearance Time (s)	5.0	7.0		5.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	114	678	541	372	737	330	515	1690	756	249	1445	646
v/s Ratio Prot	0.02	0.06	0.21	c0.10	c0.19		c0.14	0.23		0.04	c0.38	
v/s Ratio Perm						0.02			0.05			0.04
v/c Ratio	0.75	0.49	0.62	0.96	0.89	0.08	0.92	0.48	0.10	0.55	0.93	0.09
Uniform Delay, d1	57.5	48.2	33.0	53.2	46.1	38.2	50.3	21.3	17.2	53.8	33.9	21.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.0	0.5	2.2	35.7	12.6	0.1	22.2	1.0	0.3	2.6	12.3	0.3
Delay (s)	80.5	48.7	35.2	88.9	58.7	38.3	72.5	22.2	17.5	56.4	46.2	22.0
Level of Service	F	D	D	F	E	D	E	C	B	E	D	C
Approach Delay (s)		46.2			66.0			38.2			45.7	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	48.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



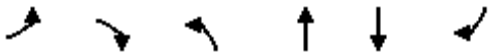
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	5	17	136	2	552	2	826	82	618	1426	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	5.5		4.0	5.5	
Lane Util. Factor		1.00	1.00		1.00	0.88	1.00	0.95		0.97	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.97	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1813	1583		1775	2787	1770	3491		3433	3535	
Flt Permitted		0.89	1.00		0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1651	1583		1344	2787	1770	3491		3433	3535	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	5	18	143	2	581	2	869	86	651	1501	11
RTOR Reduction (vph)	0	0	15	0	0	60	0	5	0	0	0	0
Lane Group Flow (vph)	0	11	3	0	145	521	2	950	0	651	1512	0
Turn Type	Perm		Perm	Perm		pt+ov	Prot			Prot		
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		21.1	21.1		21.1	54.1	0.8	56.4		29.0	84.6	
Effective Green, g (s)		21.1	21.1		21.1	54.1	0.8	56.4		29.0	84.6	
Actuated g/C Ratio		0.18	0.18		0.18	0.45	0.01	0.47		0.24	0.70	
Clearance Time (s)		4.0	4.0		4.0		4.0	5.5		4.0	5.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		290	278		236	1256	12	1641		830	2492	
v/s Ratio Prot						c0.19	0.00	0.27		c0.19	c0.43	
v/s Ratio Perm		0.01	0.00		c0.11							
v/c Ratio		0.04	0.01		0.61	0.41	0.17	0.58		0.78	0.61	
Uniform Delay, d1		41.0	40.8		45.7	22.3	59.3	23.2		42.6	9.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1	0.0		4.7	0.2	6.5	1.5		4.9	1.1	
Delay (s)		41.1	40.9		50.4	22.5	65.8	24.6		47.5	10.2	
Level of Service		D	D		D	C	E	C		D	B	
Approach Delay (s)		40.9			28.1			24.7			21.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



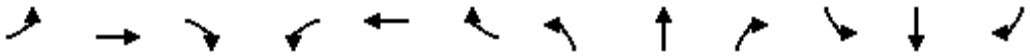
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	119	377	453	106	334	125	707	807	47	1436	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	6.3	6.3	5.6	6.3		5.6	6.3	6.3	5.6	6.3	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.89		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3136		3433	5085	1583	3433	3523	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3136		3433	5085	1583	3433	3523	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	125	397	477	112	352	132	744	849	49	1512	48
RTOR Reduction (vph)	0	0	9	0	147	0	0	0	129	0	2	0
Lane Group Flow (vph)	47	125	388	477	317	0	132	744	720	49	1558	0
Turn Type	Prot		pt+ov	Prot			Prot		pt+ov	Prot		
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	
Permitted Phases												
Actuated Green, G (s)	4.0	18.8	31.1	18.5	33.3		6.7	55.6	79.7	3.3	52.2	
Effective Green, g (s)	4.0	18.8	25.5	18.5	33.3		6.7	55.6	74.1	3.3	52.2	
Actuated g/C Ratio	0.03	0.16	0.21	0.15	0.28		0.06	0.46	0.62	0.03	0.44	
Clearance Time (s)	5.6	6.3		5.6	6.3		5.6	6.3		5.6	6.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	114	554	336	529	870		192	2356	978	94	1533	
v/s Ratio Prot	0.01	0.04	c0.25	c0.14	0.10		0.04	0.15	0.46	0.01	c0.44	
v/s Ratio Perm												
v/c Ratio	0.41	0.23	1.16	0.90	0.36		0.69	0.32	0.74	0.52	1.02	
Uniform Delay, d1	56.8	44.2	47.2	49.9	34.8		55.6	20.2	16.1	57.6	33.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.4	0.2	98.4	18.5	0.3		9.8	0.4	2.9	5.1	27.2	
Delay (s)	59.3	44.4	145.7	68.3	35.1		65.4	20.6	19.0	62.7	61.1	
Level of Service	E	D	F	E	D		E	C	B	E	E	
Approach Delay (s)		116.3			52.0			23.3			61.1	
Approach LOS		F			D			C			E	

Intersection Summary			
HCM Average Control Delay	52.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



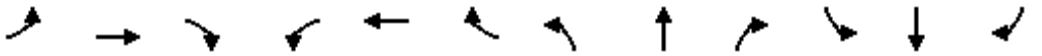
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	813	201	0	826	1708	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00		0.86	0.86	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		6408	6408	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		6408	6408	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	856	212	0	869	1798	0
RTOR Reduction (vph)	0	4	0	0	0	0
Lane Group Flow (vph)	856	208	0	869	1798	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	32.3	32.3		59.7	59.7	
Effective Green, g (s)	32.3	32.3		59.7	59.7	
Actuated g/C Ratio	0.32	0.32		0.60	0.60	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1109	511		3826	3826	
v/s Ratio Prot	c0.25			0.14	c0.28	
v/s Ratio Perm		0.13				
v/c Ratio	0.77	0.41		0.23	0.47	
Uniform Delay, d1	30.5	26.4		9.4	11.3	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	0.5		0.1	0.4	
Delay (s)	33.9	26.9		9.5	11.7	
Level of Service	C	C		A	B	
Approach Delay (s)	32.5			9.5	11.7	
Approach LOS	C			A	B	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



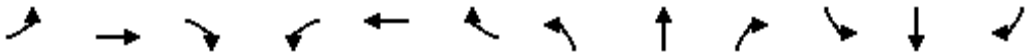
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	22	1	104	12	197	11	587	227	611	1057	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91		0.97	0.91	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1851		1770	1863	1583	1770	4873		3433	5044	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1851		1770	1863	1583	1770	4873		3433	5044	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	23	1	109	13	207	12	618	239	643	1113	63
RTOR Reduction (vph)	0	1	0	0	0	130	0	69	0	0	5	0
Lane Group Flow (vph)	44	23	0	109	13	77	12	788	0	643	1171	0
Turn Type	Split			Split		pt+ov	Prot			Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.1	5.1		10.4	10.4	29.6	0.8	29.3		19.2	47.7	
Effective Green, g (s)	5.1	5.1		10.4	10.4	29.6	0.8	29.3		19.2	47.7	
Actuated g/C Ratio	0.06	0.06		0.13	0.13	0.37	0.01	0.37		0.24	0.60	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	113	118		230	242	586	18	1785		824	3007	
v/s Ratio Prot	c0.02	0.01		c0.06	0.01	0.05	0.01	c0.16		c0.19	0.23	
v/s Ratio Perm												
v/c Ratio	0.39	0.20		0.47	0.05	0.13	0.67	0.44		0.78	0.39	
Uniform Delay, d1	36.0	35.5		32.3	30.5	16.7	39.5	19.2		28.4	8.5	
Progression Factor	1.00	1.00		0.63	0.37	3.29	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.8		1.4	0.1	0.1	66.1	0.8		4.8	0.4	
Delay (s)	38.2	36.3		21.8	11.3	55.0	105.6	20.0		33.3	8.9	
Level of Service	D	D		C	B	E	F	B		C	A	
Approach Delay (s)		37.5			42.3			21.1			17.5	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



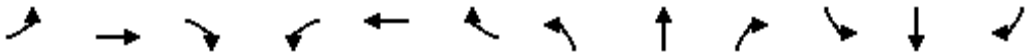
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	112	24	83	261	54	239	61	460	74	152	801	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
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)	122	26	90	284	59	260	66	500	80	165	871	176
RTOR Reduction (vph)	0	0	85	0	0	236	0	0	60	0	0	111
Lane Group Flow (vph)	122	26	5	284	59	24	66	500	20	165	871	65
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	5.3	1.3	3.2	13.2	9.2	5.0	3.2	18.1	13.2	5.0	19.9	19.9
Effective Green, g (s)	5.3	1.3	3.2	13.2	9.2	5.0	3.2	18.1	13.2	5.0	19.9	19.9
Actuated g/C Ratio	0.10	0.02	0.06	0.25	0.17	0.09	0.06	0.34	0.25	0.09	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	339	45	95	436	320	148	205	1195	390	320	1314	588
v/s Ratio Prot	0.04	c0.01	0.00	c0.16	0.03	0.02	0.02	0.14	0.01	c0.05	c0.25	
v/s Ratio Perm												0.04
v/c Ratio	0.36	0.58	0.06	0.65	0.18	0.16	0.32	0.42	0.05	0.52	0.66	0.11
Uniform Delay, d1	22.6	25.9	23.8	18.1	19.0	22.4	24.2	13.7	15.4	23.1	14.1	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	16.7	0.2	3.5	0.3	0.5	0.9	1.1	0.1	1.4	2.6	0.4
Delay (s)	23.2	42.6	24.0	21.6	19.3	22.9	25.1	14.8	15.5	24.6	16.7	11.4
Level of Service	C	D	C	C	B	C	C	B	B	C	B	B
Approach Delay (s)		25.6			21.9			15.9			17.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.6%	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	552	350	248	280	27	580	47	202	34	59	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	3433	3493		1681	1697	1583		3354	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1770	3539	1583	3433	3493		1681	1697	1583		3354	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	581	368	261	295	28	611	49	213	36	62	35
RTOR Reduction (vph)	0	0	276	0	8	0	0	0	144	0	32	0
Lane Group Flow (vph)	121	581	92	261	315	0	330	330	69	0	101	0
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	9.5	19.9	19.9	10.4	20.8		26.0	26.0	26.0		7.7	
Effective Green, g (s)	9.5	19.9	19.9	10.4	20.8		26.0	26.0	26.0		7.7	
Actuated g/C Ratio	0.12	0.25	0.25	0.13	0.26		0.32	0.32	0.32		0.10	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	210	880	394	446	908		546	552	514		323	
v/s Ratio Prot	0.07	c0.16		c0.08	0.09		c0.20	0.19			c0.03	
v/s Ratio Perm			0.06						0.04			
v/c Ratio	0.58	0.66	0.23	0.59	0.35		0.60	0.60	0.13		0.31	
Uniform Delay, d1	33.3	27.0	24.0	32.8	24.1		22.7	22.6	19.1		33.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.8	1.9	0.3	2.0	0.2		4.9	4.7	0.5		0.6	
Delay (s)	37.1	28.9	24.3	34.7	24.3		27.6	27.3	19.6		34.2	
Level of Service	D	C	C	C	C		C	C	B		C	
Approach Delay (s)		28.2			29.0			25.5			34.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

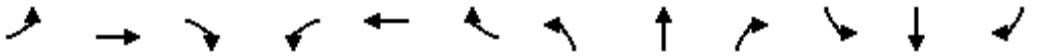


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	713	178	21	26	278	35	20	3	8	77	8	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3483		1770	3480		1681	1706	1583	1770	1628	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3483		1770	3480		1681	1706	1583	1770	1628	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	751	187	22	27	293	37	21	3	8	81	8	42
RTOR Reduction (vph)	0	6	0	0	12	0	0	0	8	0	38	0
Lane Group Flow (vph)	751	203	0	27	318	0	12	12	0	81	12	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	34.9	50.1		3.2	18.4		2.8	2.8	2.8	7.9	7.9	
Effective Green, g (s)	34.9	50.1		3.2	18.4		2.8	2.8	2.8	7.9	7.9	
Actuated g/C Ratio	0.44	0.63		0.04	0.23		0.03	0.03	0.03	0.10	0.10	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1498	2181		71	800		59	60	55	175	161	
v/s Ratio Prot	c0.22	0.06		0.02	c0.09		c0.01	0.01		c0.05	0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.50	0.09		0.38	0.40		0.20	0.20	0.01	0.46	0.08	
Uniform Delay, d1	16.3	5.9		37.4	26.1		37.5	37.5	37.3	34.0	32.7	
Progression Factor	1.26	2.29		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.1		3.4	0.3		1.7	1.6	0.0	1.9	0.2	
Delay (s)	21.3	13.6		40.8	26.4		39.2	39.2	37.3	36.0	32.9	
Level of Service	C	B		D	C		D	D	D	D	C	
Approach Delay (s)		19.6			27.5			38.7			34.8	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	597	70	115	432	60	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	649	76	125	470	65	151
RTOR Reduction (vph)	0	45	0	0	0	132
Lane Group Flow (vph)	649	31	125	470	65	19
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	18.0	26.2	7.9	29.9	26.2	7.9
Effective Green, g (s)	18.0	26.2	7.9	29.9	26.2	7.9
Actuated g/C Ratio	0.28	0.41	0.12	0.47	0.41	0.12
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	994	647	423	1651	1403	195
v/s Ratio Prot	c0.18	c0.02	0.04	c0.13	0.02	0.01
v/s Ratio Perm						
v/c Ratio	0.65	0.05	0.30	0.28	0.05	0.10
Uniform Delay, d1	20.3	11.4	25.6	10.5	11.4	24.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1	0.4	0.1	0.1	0.2
Delay (s)	21.9	11.6	26.0	10.6	11.5	25.1
Level of Service	C	B	C	B	B	C
Approach Delay (s)	20.8			13.8	21.0	
Approach LOS	C			B	C	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	64.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



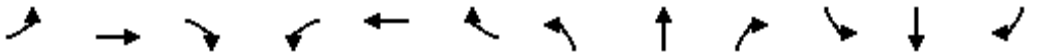
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	673	276	84	1135	2	445	2	162	1	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.5	5.0	5.2	7.5	5.2	5.0	5.9	5.2	5.2	5.9	5.9
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
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)	2	732	300	91	1234	2	484	2	176	1	2	3
RTOR Reduction (vph)	0	0	92	0	0	1	0	0	127	0	0	3
Lane Group Flow (vph)	2	732	208	91	1234	1	484	2	49	1	2	0
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	5.7	52.3	74.4	8.1	54.7	55.7	22.1	22.0	30.1	1.0	1.1	1.1
Effective Green, g (s)	5.7	52.3	74.4	8.1	54.7	55.7	22.1	22.0	30.1	1.0	1.1	1.1
Actuated g/C Ratio	0.05	0.49	0.69	0.08	0.51	0.52	0.21	0.21	0.28	0.01	0.01	0.01
Clearance Time (s)	5.2	7.5	5.0	5.2	7.5	5.2	5.0	5.9	5.2	5.2	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	94	1727	1099	259	1806	823	708	726	444	32	36	16
v/s Ratio Prot	0.00	0.21	0.04	c0.03	c0.35	0.00	c0.14	0.00	c0.01	0.00	0.00	
v/s Ratio Perm			0.09			0.00			0.02			0.00
v/c Ratio	0.02	0.42	0.19	0.35	0.68	0.00	0.68	0.00	0.11	0.03	0.06	0.00
Uniform Delay, d1	48.1	17.7	5.8	47.1	19.7	12.4	39.3	33.9	28.6	52.6	52.5	52.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.8	0.1	0.8	2.1	0.0	2.7	0.0	0.1	0.4	0.6	0.0
Delay (s)	48.2	18.5	5.9	47.9	21.9	12.4	42.1	33.9	28.7	53.0	53.2	52.6
Level of Service	D	B	A	D	C	B	D	C	C	D	D	D
Approach Delay (s)		14.9			23.6			38.5			52.8	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	107.2	Sum of lost time (s)	10.2
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



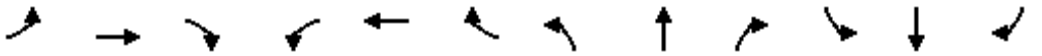
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	246	471	205	310	232	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	267	512	223	337	252	62
RTOR Reduction (vph)	0	332	0	0	0	50
Lane Group Flow (vph)	267	180	223	337	252	12
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	12.5	19.2	11.0	27.5	19.2	11.0
Effective Green, g (s)	12.5	19.2	11.0	27.5	19.2	11.0
Actuated g/C Ratio	0.23	0.35	0.20	0.50	0.35	0.20
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	426	556	356	1779	1205	318
v/s Ratio Prot	c0.14	c0.11	c0.13	0.10	0.07	0.01
v/s Ratio Perm						
v/c Ratio	0.63	0.32	0.63	0.19	0.21	0.04
Uniform Delay, d1	19.0	13.0	20.0	7.5	12.4	17.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	1.5	3.4	0.1	0.4	0.1
Delay (s)	21.9	14.5	23.4	7.5	12.8	17.6
Level of Service	C	B	C	A	B	B
Approach Delay (s)	17.0			13.8	13.8	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	54.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



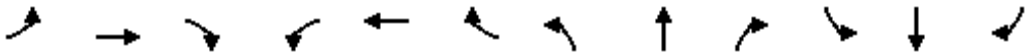
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	89	180	158	265	320	30	88	203	78	33	576	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3493		3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3493		3433	3539	1583	1770	3539	1583
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)	97	196	172	288	348	33	96	221	85	36	626	195
RTOR Reduction (vph)	0	0	143	0	9	0	0	0	51	0	0	94
Lane Group Flow (vph)	97	196	29	288	372	0	96	221	34	36	626	101
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	5.8	11.1	11.1	9.4	14.7		5.8	26.9	26.9	3.0	24.1	24.1
Effective Green, g (s)	5.8	11.1	11.1	9.4	14.7		5.8	26.9	26.9	3.0	24.1	24.1
Actuated g/C Ratio	0.09	0.17	0.17	0.14	0.22		0.09	0.41	0.41	0.05	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	592	265	486	773		300	1434	641	80	1284	575
v/s Ratio Prot	0.03	0.06		c0.08	c0.11		c0.03	c0.06		0.02	c0.18	
v/s Ratio Perm			0.02						0.02			0.06
v/c Ratio	0.32	0.33	0.11	0.59	0.48		0.32	0.15	0.05	0.45	0.49	0.18
Uniform Delay, d1	28.5	24.4	23.5	26.7	22.5		28.4	12.5	12.0	30.9	16.4	14.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.3	0.2	1.9	0.5		0.6	0.2	0.2	4.0	1.3	0.7
Delay (s)	29.1	24.7	23.6	28.6	23.0		29.1	12.8	12.2	34.9	17.7	15.1
Level of Service	C	C	C	C	C		C	B	B	C	B	B
Approach Delay (s)		25.2			25.4			16.5			17.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	45.7%	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)	145	24	226	1	2	2	132	637	5	14	1002	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	3433	3539	1583	3433	5080		3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	3433	3539	1583	3433	5080		3433	5085	1583
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)	158	26	246	1	2	2	143	692	5	15	1089	96
RTOR Reduction (vph)	0	0	211	0	0	2	0	1	0	0	0	52
Lane Group Flow (vph)	158	26	35	1	2	0	143	696	0	15	1089	44
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	4.8	7.2	7.2	0.6	3.0	3.0	3.2	25.9		0.6	23.3	23.3
Effective Green, g (s)	4.8	7.2	7.2	0.6	3.0	3.0	3.2	25.9		0.6	23.3	23.3
Actuated g/C Ratio	0.10	0.14	0.14	0.01	0.06	0.06	0.06	0.51		0.01	0.46	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	328	267	227	41	211	94	218	2616		41	2355	733
v/s Ratio Prot	c0.05	0.01		0.00	0.00		c0.04	c0.14		0.00	c0.21	
v/s Ratio Perm			c0.02			0.00						0.03
v/c Ratio	0.48	0.10	0.16	0.02	0.01	0.00	0.66	0.27		0.37	0.46	0.06
Uniform Delay, d1	21.6	18.7	18.9	24.6	22.3	22.2	23.0	6.9		24.7	9.2	7.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1	0.2	0.3	0.2	0.0	0.0	6.9	0.2		5.5	0.7	0.2
Delay (s)	22.7	18.9	19.2	24.8	22.3	22.2	29.9	7.1		30.1	9.9	7.6
Level of Service	C	B	B	C	C	C	C	A		C	A	A
Approach Delay (s)		20.5			22.8			11.0			9.9	
Approach LOS		C			C			B			A	

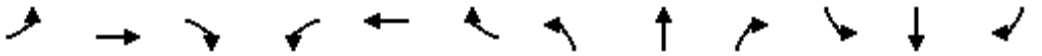
Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	5	505	0	98	7	226	555	250	362	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.6	4.6	4.0		4.6	4.0		4.6	
Lane Util. Factor			1.00	0.95	0.95	1.00		0.95	1.00		0.95	
Frt			0.86	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (prot)			1611	1681	1681	1583		3534	1583		3468	
Flt Permitted			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (perm)			1611	1681	1681	1583		3534	1583		3468	
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)	0	0	5	549	0	107	8	246	603	272	393	0
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	274	275	107	0	254	603	0	665	0
Turn Type			custom	Prot		Free	Split		Free	Split		
Protected Phases				3	8		2	2		6	6	
Permitted Phases			4			Free			Free			
Actuated Green, G (s)			1.0	17.4	22.4	75.1		18.1	75.1		20.8	
Effective Green, g (s)			1.0	17.4	22.4	75.1		18.1	75.1		20.8	
Actuated g/C Ratio			0.01	0.23	0.30	1.00		0.24	1.00		0.28	
Clearance Time (s)			4.0	4.6	4.6			4.6			4.6	
Vehicle Extension (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			21	389	501	1583		852	1583		961	
v/s Ratio Prot				c0.16	0.13			0.07			c0.19	
v/s Ratio Perm			0.00		0.04	0.07			c0.38			
v/c Ratio			0.00	0.70	0.55	0.07		0.30	0.38		0.69	
Uniform Delay, d1			36.6	26.5	22.1	0.0		23.3	0.0		24.3	
Progression Factor			1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2			0.1	5.7	1.2	0.1		0.9	0.7		4.1	
Delay (s)			36.6	32.2	23.3	0.1		24.2	0.7		28.4	
Level of Service			D	C	C	A		C	A		C	
Approach Delay (s)		36.6			23.2			7.7			28.4	
Approach LOS		D			C			A			C	

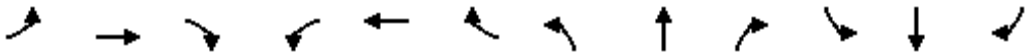
Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	9.2
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
Description: SR-76 & Coast Hwy			

c Critical Lane Group



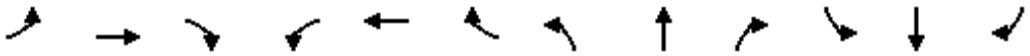
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	36	60	20	21	44	33	611	17	20	630	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.93		1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1793	1583		1713		1770	3525		1770	3466	
Flt Permitted		0.80	1.00		0.90		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1489	1583		1553		1770	3525		1770	3466	
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)	138	39	65	22	23	48	36	664	18	22	685	110
RTOR Reduction (vph)	0	0	53	0	39	0	0	3	0	0	13	0
Lane Group Flow (vph)	0	177	12	0	54	0	36	679	0	22	782	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		9.9	9.9		9.9		3.2	20.2		10.8	27.8	
Effective Green, g (s)		9.9	9.9		9.9		3.2	20.2		10.8	27.8	
Actuated g/C Ratio		0.18	0.18		0.18		0.06	0.37		0.20	0.52	
Clearance Time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		273	291		285		105	1321		355	1788	
v/s Ratio Prot							c0.02	c0.19		0.01	c0.23	
v/s Ratio Perm		c0.12	0.01		0.03							
v/c Ratio		0.65	0.04		0.19		0.34	0.51		0.06	0.44	
Uniform Delay, d1		20.4	18.1		18.6		24.3	13.1		17.4	8.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.2	0.1		0.3		2.0	0.3		0.1	0.2	
Delay (s)		25.6	18.2		18.9		26.3	13.4		17.5	8.3	
Level of Service		C	B		B		C	B		B	A	
Approach Delay (s)		23.6			18.9			14.0			8.6	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	53.9	Sum of lost time (s)	17.2
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



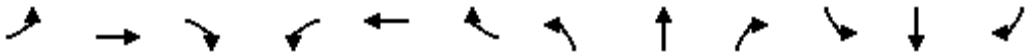
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	185	63	146	169	86	8	577	240	20	512	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0			5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95			0.95			0.95	
Frpb, ped/bikes		1.00	0.95		0.99			0.99			0.99	
Flpb, ped/bikes		1.00	1.00		0.99			1.00			1.00	
Frt		1.00	0.85		0.97			0.96			0.99	
Flt Protected		0.99	1.00		0.98			1.00			1.00	
Satd. Flow (prot)		3491	1500		3301			3338			3472	
Flt Permitted		0.82	1.00		0.75			0.95			0.91	
Satd. Flow (perm)		2884	1500		2516			3166			3160	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	201	68	159	184	93	9	627	261	22	557	51
RTOR Reduction (vph)	0	0	40	0	38	0	0	83	0	0	12	0
Lane Group Flow (vph)	0	254	28	0	398	0	0	814	0	0	618	0
Confl. Peds. (#/hr)	32		45	45		32	56		34	34		56
Confl. Bikes (#/hr)			2			1			5			2
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		22.2	22.2		22.2			21.9			21.9	
Effective Green, g (s)		22.2	22.2		22.2			21.9			21.9	
Actuated g/C Ratio		0.41	0.41		0.41			0.40			0.40	
Clearance Time (s)		5.0	5.0		5.0			5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0			4.0			4.0	
Lane Grp Cap (vph)		1183	616		1032			1282			1279	
v/s Ratio Prot												
v/s Ratio Perm		0.09	0.02		c0.16			c0.26			0.20	
v/c Ratio		0.21	0.05		0.39			0.64			0.48	
Uniform Delay, d1		10.3	9.6		11.2			12.9			11.9	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.4	0.1		1.1			1.2			0.4	
Delay (s)		10.7	9.7		12.3			14.1			12.3	
Level of Service		B	A		B			B			B	
Approach Delay (s)		10.5			12.3			14.1			12.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



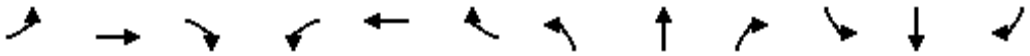
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	171	82	183	158	211	49	596	173	223	615	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.92	1.00	1.00	0.91	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1844	1465	1681	1760	1443	1770	3375		1770	3478	
Flt Permitted		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1844	1465	1681	1760	1443	1770	3375		1770	3478	
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)	48	186	89	199	172	229	53	648	188	242	668	36
RTOR Reduction (vph)	0	0	25	0	0	193	0	19	0	0	3	0
Lane Group Flow (vph)	0	234	64	179	192	36	53	817	0	242	701	0
Confl. Peds. (#/hr)	35		25	25		35			11			42
Confl. Bikes (#/hr)			9			2			8			3
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		17.6	17.6	19.3	19.3	19.3	7.2	41.6		25.7	60.1	
Effective Green, g (s)		17.6	17.6	19.3	19.3	19.3	7.2	41.6		25.7	60.1	
Actuated g/C Ratio		0.14	0.14	0.16	0.16	0.16	0.06	0.34		0.21	0.49	
Clearance Time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Vehicle Extension (s)		2.0	2.0	3.5	3.5	3.5	2.0	3.5		2.0	3.5	
Lane Grp Cap (vph)		264	210	264	276	226	104	1141		370	1699	
v/s Ratio Prot		c0.13		0.11	c0.11		0.03	c0.24		c0.14	0.20	
v/s Ratio Perm			0.04			0.02						
v/c Ratio		0.89	0.31	0.68	0.70	0.16	0.51	0.72		0.65	0.41	
Uniform Delay, d1		51.7	47.2	48.9	49.1	44.8	56.2	35.5		44.6	20.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		27.2	0.3	7.0	7.7	0.4	1.4	3.9		3.2	0.7	
Delay (s)		78.9	47.5	55.9	56.7	45.2	57.6	39.4		47.7	20.9	
Level of Service		E	D	E	E	D	E	D		D	C	
Approach Delay (s)		70.3			52.1			40.5			27.8	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM Average Control Delay	42.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



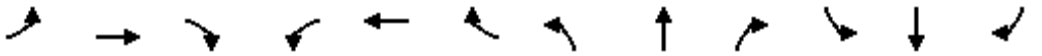
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	67	34	204	83	353	37	519	255	305	423	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.95		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1550		1799	1583	1770	3304		1770	3518	
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1550		1799	1583	1770	3304		1770	3518	
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)	21	73	37	222	90	384	40	564	277	332	460	16
RTOR Reduction (vph)	0	0	34	0	0	302	0	57	0	0	2	0
Lane Group Flow (vph)	21	73	3	0	312	82	40	784	0	332	474	0
Confl. Peds. (#/hr)	17		4	4		17			12			3
Confl. Bikes (#/hr)			1			3			6			7
Turn Type	Split		Perm	Split		Over	Prot			Prot		
Protected Phases	4	4		8	8	1	5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.7	7.7	7.7		18.8	19.2	3.2	25.3		19.2	41.3	
Effective Green, g (s)	7.7	7.7	7.7		18.8	19.2	3.2	25.3		19.2	41.3	
Actuated g/C Ratio	0.09	0.09	0.09		0.21	0.21	0.04	0.28		0.21	0.46	
Clearance Time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Vehicle Extension (s)	3.5	3.5	3.5		3.0	2.0	2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	151	159	132		375	337	63	928		377	1613	
v/s Ratio Prot	0.01	c0.04			c0.17	0.05	0.02	c0.24		c0.19	0.13	
v/s Ratio Perm			0.00									
v/c Ratio	0.14	0.46	0.02		0.83	0.24	0.63	0.85		0.88	0.29	
Uniform Delay, d1	38.1	39.2	37.8		34.1	29.4	42.9	30.6		34.3	15.3	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.5	0.1		14.5	0.1	14.3	7.1		20.1	0.1	
Delay (s)	38.6	41.7	37.8		48.7	29.6	57.2	37.7		54.4	15.4	
Level of Service	D	D	D		D	C	E	D		D	B	
Approach Delay (s)		40.1			38.1			38.6			31.4	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	36.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.1	Sum of lost time (s)	19.1
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



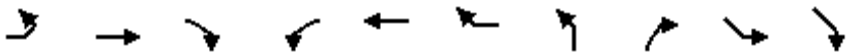
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	535	8	139	601	235	15	69	210	339	57	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3531		1770	3539	1583		1847	1583	1681	1695	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3531		1770	3539	1583		1847	1583	1681	1695	
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)	57	582	9	151	653	255	16	75	228	368	62	16
RTOR Reduction (vph)	0	2	0	0	0	197	0	0	151	0	4	0
Lane Group Flow (vph)	57	589	0	151	653	58	0	91	77	221	221	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	2.4	16.8		6.0	20.4	16.0		16.0	16.0	16.0	16.0	
Effective Green, g (s)	2.4	16.8		6.0	20.4	16.0		16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.03	0.24		0.08	0.29	0.23		0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	60	838		150	1020	358		417	358	380	383	
v/s Ratio Prot	0.03	0.17		c0.09	c0.18	0.04		c0.05		c0.13	0.13	
v/s Ratio Perm									0.05			
v/c Ratio	0.95	0.70		1.01	0.64	0.16		0.22	0.22	0.58	0.58	
Uniform Delay, d1	34.1	24.7		32.4	22.0	22.0		22.3	22.3	24.4	24.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	97.0	2.7		75.2	1.4	1.0		1.2	1.4	6.4	6.2	
Delay (s)	131.2	27.4		107.6	23.4	23.0		23.5	23.7	30.8	30.6	
Level of Service	F	C		F	C	C		C	C	C	C	
Approach Delay (s)		36.5			35.3			23.6			30.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	70.8	Sum of lost time (s)	16.0
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	1295	33	120	987	586	21	0	110	273	20	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0		4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		1.00	0.95		1.00		1.00	0.95	0.95	1.00
Frt		1.00		1.00	0.94		1.00		0.85	1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00		0.95		1.00	0.95	0.96	1.00
Satd. Flow (prot)		3526		1770	3341		1770		1583	1681	1697	1583
Flt Permitted		1.00		0.95	1.00		0.47		1.00	0.95	0.96	1.00
Satd. Flow (perm)		3526		1770	3341		877		1583	1681	1697	1583
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)	0	1408	36	130	1073	637	23	0	120	297	22	137
RTOR Reduction (vph)	0	2	0	0	87	0	0	0	108	0	0	110
Lane Group Flow (vph)	0	1442	0	130	1623	0	23	0	12	160	159	27
Turn Type				Prot			custom		custom	Split		Perm
Protected Phases		4		3	8					6	6	
Permitted Phases							2		2			6
Actuated Green, G (s)		35.3		7.1	46.4		8.5		8.5	16.1	16.1	16.1
Effective Green, g (s)		35.3		7.1	46.4		8.5		8.5	16.1	16.1	16.1
Actuated g/C Ratio		0.43		0.09	0.56		0.10		0.10	0.19	0.19	0.19
Clearance Time (s)		4.0		4.0	4.0		4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1500		151	1868		90		162	326	329	307
v/s Ratio Prot		c0.41		0.07	c0.49					c0.10	0.09	
v/s Ratio Perm							c0.03		0.01			0.02
v/c Ratio		0.96		0.86	0.87		0.26		0.08	0.49	0.48	0.09
Uniform Delay, d1		23.2		37.5	15.7		34.3		33.7	29.8	29.8	27.4
Progression Factor		1.00		1.00	1.00		1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		15.0		36.3	4.6		1.5		0.2	5.2	5.0	0.6
Delay (s)		38.2		73.7	20.3		35.8		33.9	35.0	34.8	28.0
Level of Service		D		E	C		D		C	D	C	C
Approach Delay (s)		38.2			24.1			34.2			32.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	83.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



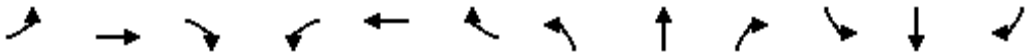
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations										
Volume (veh/h)	112	905	0	0	1012	170	0	781	0	0
Sign Control		Free			Free		Yield		Yield	
Grade		0%			0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	122	984	0	0	1100	185	0	849	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)		930								
pX, platoon unblocked										
vC, conflicting volume	1285			984			2512	492	2777	2420
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	1285			984			2512	492	2777	2420
tC, single (s)	4.1			4.1			6.5	6.9	7.5	6.5
tC, 2 stage (s)										
tF (s)	2.2			2.2			4.0	3.3	3.5	4.0
p0 queue free %	77			100			100	0	0	100
cM capacity (veh/h)	536			698			22	523	0	25

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	122	492	492	733	551	849
Volume Left	122	0	0	0	0	0
Volume Right	0	0	0	0	185	849
cSH	536	1700	1700	1700	1700	523
Volume to Capacity	0.23	0.29	0.29	0.43	0.32	1.62
Queue Length 95th (ft)	22	0	0	0	0	1187
Control Delay (s)	13.7	0.0	0.0	0.0	0.0	309.8
Lane LOS	B					F
Approach Delay (s)	1.5			0.0		309.8
Approach LOS						F

Intersection Summary			
Average Delay	81.7		
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

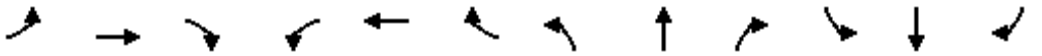
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	134	1038	223	147	712	52	191	176	94	291	148	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		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)	1770	3539	1583	1770	3539	1583	3433	3354		3433	3356	
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)	1770	3539	1583	1770	3539	1583	3433	3354		3433	3356	
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)	146	1128	242	160	774	57	208	191	102	316	161	85
RTOR Reduction (vph)	0	0	80	0	0	37	0	82	0	0	69	0
Lane Group Flow (vph)	146	1128	162	160	774	20	208	211	0	316	177	0
Turn Type	Prot		Over	Prot		Perm	Split			Split		
Protected Phases	7	4	2	3	8		6	6		2	2	
Permitted Phases						8						
Actuated Green, G (s)	11.5	30.9	16.1	9.8	29.2	29.2	11.3	11.3		16.1	16.1	
Effective Green, g (s)	11.5	30.9	16.1	9.8	29.2	29.2	11.3	11.3		16.1	16.1	
Actuated g/C Ratio	0.14	0.37	0.19	0.12	0.35	0.35	0.13	0.13		0.19	0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	242	1300	303	206	1229	550	461	451		657	642	
v/s Ratio Prot	0.08	c0.32	c0.10	c0.09	0.22		0.06	c0.06		0.09	0.05	
v/s Ratio Perm						0.01						
v/c Ratio	0.60	0.87	0.53	0.78	0.63	0.04	0.45	0.47		0.48	0.28	
Uniform Delay, d1	34.2	24.7	30.6	36.1	22.9	18.1	33.5	33.6		30.3	29.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	6.4	6.6	16.6	1.0	0.0	0.7	0.8		2.5	1.1	
Delay (s)	38.4	31.1	37.2	52.7	24.0	18.2	34.2	34.4		32.8	30.1	
Level of Service	D	C	D	D	C	B	C	C		C	C	
Approach Delay (s)		32.8			28.3			34.3			31.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



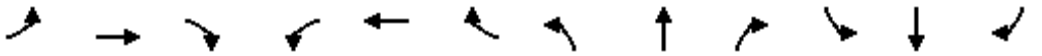
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	224	635	21	88	893	425	11	21	37	409	14	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3522		1770	3539	1583		1831	1583	1681	1618	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3522		1770	3539	1583		1831	1583	1681	1618	
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)	243	690	23	96	971	462	12	23	40	445	15	114
RTOR Reduction (vph)	0	3	0	0	0	138	0	0	32	0	27	0
Lane Group Flow (vph)	243	710	0	96	971	324	0	35	8	294	253	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	13.0	31.1		7.7	25.8	18.0		18.0	18.0	18.0	18.0	
Effective Green, g (s)	13.0	31.1		7.7	25.8	18.0		18.0	18.0	18.0	18.0	
Actuated g/C Ratio	0.14	0.34		0.08	0.28	0.20		0.20	0.20	0.20	0.20	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	253	1206		150	1006	314		363	314	333	321	
v/s Ratio Prot	c0.14	0.20		0.05	c0.27	c0.20		c0.02		0.17	0.16	
v/s Ratio Perm									0.01			
v/c Ratio	0.96	0.59		0.64	0.97	1.03		0.10	0.03	0.88	0.79	
Uniform Delay, d1	38.6	24.6		40.2	32.1	36.4		29.8	29.3	35.4	34.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	45.5	0.7		9.0	20.3	59.3		0.5	0.1	27.0	17.5	
Delay (s)	84.1	25.3		49.2	52.3	95.7		30.3	29.5	62.3	52.1	
Level of Service	F	C		D	D	F		C	C	E	D	
Approach Delay (s)		40.3			65.2			29.9			57.4	
Approach LOS		D			E			C			E	

Intersection Summary			
HCM Average Control Delay	55.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



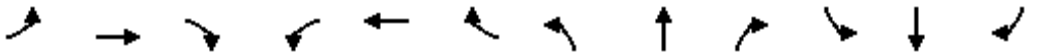
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	905	105	32	784	247	134	46	25	628	93	488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1770	3484		1770	3539	1583	1681	1726	1583	1681	1706	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1770	3484		1770	3539	1583	1681	1726	1583	1681	1706	1583
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)	77	984	114	35	852	268	146	50	27	683	101	530
RTOR Reduction (vph)	0	9	0	0	0	176	0	0	24	0	0	186
Lane Group Flow (vph)	77	1089	0	35	852	92	96	100	3	389	395	344
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	4.6	29.9		2.3	27.6	27.6	10.0	10.0	10.0	22.4	22.4	22.4
Effective Green, g (s)	4.6	29.9		2.3	27.6	27.6	10.0	10.0	10.0	22.4	22.4	22.4
Actuated g/C Ratio	0.06	0.37		0.03	0.34	0.34	0.12	0.12	0.12	0.28	0.28	0.28
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	101	1292		51	1212	542	209	214	196	467	474	440
v/s Ratio Prot	c0.04	c0.31		0.02	0.24		0.06	c0.06		0.23	c0.23	
v/s Ratio Perm						0.06			0.00			0.22
v/c Ratio	0.76	0.84		0.69	0.70	0.17	0.46	0.47	0.02	0.83	0.83	0.78
Uniform Delay, d1	37.5	23.2		38.8	23.0	18.5	32.8	32.8	31.0	27.3	27.3	26.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.2	5.2		32.0	1.9	0.1	1.6	1.6	0.0	12.1	11.9	8.7
Delay (s)	65.7	28.4		70.8	24.8	18.6	34.4	34.4	31.0	39.4	39.3	35.6
Level of Service	E	C		E	C	B	C	C	C	D	D	D
Approach Delay (s)		30.8			24.8			34.0			37.8	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	31.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	80.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



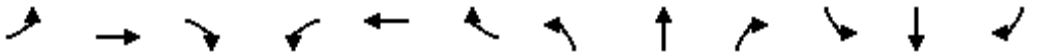
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	1121	144	91	674	20	98	109	129	97	136	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3479		1770	3524		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3479		1770	3524		1770	1863	1583	1770	1863	1583
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)	121	1218	157	99	733	22	107	118	140	105	148	99
RTOR Reduction (vph)	0	11	0	0	3	0	0	0	115	0	0	81
Lane Group Flow (vph)	121	1364	0	99	752	0	107	118	25	105	148	18
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	10.4	36.0		6.0	31.6		16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	10.4	36.0		6.0	31.6		16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.12	0.40		0.07	0.35		0.18	0.18	0.18	0.18	0.18	0.18
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	205	1392		118	1237		315	331	281	315	331	281
v/s Ratio Prot	0.07	c0.39		0.06	c0.21		0.06	c0.06		0.06	c0.08	
v/s Ratio Perm									0.02			0.01
v/c Ratio	0.59	0.98		0.84	0.61		0.34	0.36	0.09	0.33	0.45	0.06
Uniform Delay, d1	37.8	26.6		41.5	24.1		32.4	32.5	30.9	32.3	33.0	30.8
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	4.5	19.4		38.0	0.9		2.9	3.0	0.6	2.8	4.3	0.4
Delay (s)	42.3	46.1		79.5	24.9		35.3	35.5	31.5	35.2	37.4	31.2
Level of Service	D	D		E	C		D	D	C	D	D	C
Approach Delay (s)		45.8			31.3			33.9			35.0	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



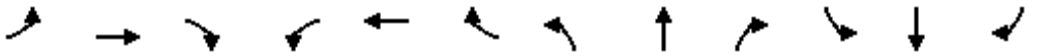
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	2321	176	70	1245	114	113	126	120	72	83	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	3539	1583	3433	5085	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	3539	1583	3433	5085	1583	3433	3539	2787
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)	30	2523	191	76	1353	124	123	137	130	78	90	33
RTOR Reduction (vph)	0	0	68	0	0	41	0	0	45	0	0	28
Lane Group Flow (vph)	30	2523	123	76	1353	83	123	137	85	78	90	5
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	2.4	96.9	96.9	6.9	101.4	101.4	9.4	24.0	24.0	6.9	21.5	21.5
Effective Green, g (s)	2.4	96.9	96.9	6.9	101.4	101.4	9.4	24.0	24.0	6.9	21.5	21.5
Actuated g/C Ratio	0.02	0.64	0.64	0.05	0.67	0.67	0.06	0.16	0.16	0.05	0.14	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	55	3270	1018	157	2381	1065	214	810	252	157	505	398
v/s Ratio Prot	0.01	c0.50		c0.02	0.38		c0.04	0.03		0.02	0.03	
v/s Ratio Perm			0.08			0.05			c0.05			0.00
v/c Ratio	0.55	0.77	0.12	0.48	0.57	0.08	0.57	0.17	0.34	0.50	0.18	0.01
Uniform Delay, d1	73.6	19.1	10.4	70.2	13.1	8.5	68.7	54.7	56.3	70.2	56.8	55.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.6	1.2	0.1	2.3	0.3	0.0	3.7	0.5	3.6	2.5	0.8	0.1
Delay (s)	84.2	20.2	10.5	72.5	13.4	8.5	72.4	55.2	59.9	72.7	57.6	55.5
Level of Service	F	C	B	E	B	A	E	E	E	E	E	E
Approach Delay (s)		20.3			15.9			62.2			63.1	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	150.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



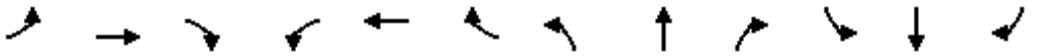
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	341	401	142	184	259	89	155	679	157	226	402	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3403		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3403		1770	3539	1583	1770	3539	1583
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)	371	436	154	200	282	97	168	738	171	246	437	224
RTOR Reduction (vph)	0	0	0	0	44	0	0	0	141	0	0	180
Lane Group Flow (vph)	371	436	154	200	335	0	168	738	30	246	437	44
Turn Type	Split		Free	Split			Split		Over	Split		Over
Protected Phases	4	4		8	8		2	2	8	6	6	4
Permitted Phases			Free									
Actuated Green, G (s)	14.9	14.9	76.4	13.3	13.3		16.1	16.1	13.3	16.1	16.1	14.9
Effective Green, g (s)	14.9	14.9	76.4	13.3	13.3		16.1	16.1	13.3	16.1	16.1	14.9
Actuated g/C Ratio	0.20	0.20	1.00	0.17	0.17		0.21	0.21	0.17	0.21	0.21	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	670	690	1583	598	592		373	746	276	373	746	309
v/s Ratio Prot	0.11	c0.12		0.06	c0.10		0.09	c0.21	0.02	c0.14	0.12	0.03
v/s Ratio Perm			0.10									
v/c Ratio	0.55	0.63	0.10	0.33	0.57		0.45	0.99	0.11	0.66	0.59	0.14
Uniform Delay, d1	27.7	28.2	0.0	27.7	28.9		26.3	30.1	26.6	27.6	27.1	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.9	0.1	0.3	1.2		3.9	30.5	0.2	8.8	3.4	0.2
Delay (s)	28.7	30.1	0.1	28.0	30.2		30.2	60.5	26.7	36.5	30.5	25.7
Level of Service	C	C	A	C	C		C	E	C	D	C	C
Approach Delay (s)		24.8			29.4			50.4			30.9	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	76.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



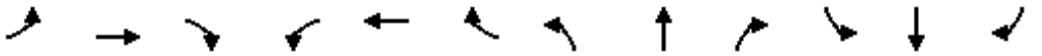
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	195	83	321	105	47	112	860	514	44	635	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1779		3433	1863	1583	1770	3539	1583	1770	3509	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1779		3433	1863	1583	1770	3539	1583	1770	3509	
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)	47	212	90	349	114	51	122	935	559	48	690	42
RTOR Reduction (vph)	0	27	0	0	0	35	0	0	340	0	7	0
Lane Group Flow (vph)	47	275	0	349	114	16	122	935	219	48	725	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	2.3	14.6		7.0	19.3	19.3	5.0	20.5	20.5	2.3	17.8	
Effective Green, g (s)	2.3	14.6		7.0	19.3	19.3	5.0	20.5	20.5	2.3	17.8	
Actuated g/C Ratio	0.04	0.24		0.12	0.32	0.32	0.08	0.34	0.34	0.04	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	131	430		398	595	506	147	1201	537	67	1034	
v/s Ratio Prot	0.01	c0.15		c0.10	0.06		c0.07	c0.26		0.03	0.21	
v/s Ratio Perm						0.01			0.14			
v/c Ratio	0.36	0.64		0.88	0.19	0.03	0.83	0.78	0.41	0.72	0.70	
Uniform Delay, d1	28.3	20.5		26.3	14.9	14.1	27.3	17.9	15.3	28.7	18.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.7	3.2		19.0	0.2	0.0	30.4	5.0	2.3	30.4	4.0	
Delay (s)	30.0	23.8		45.3	15.1	14.2	57.7	22.9	17.6	59.1	22.9	
Level of Service	C	C		D	B	B	E	C	B	E	C	
Approach Delay (s)		24.6			35.5			23.7			25.1	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	26.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



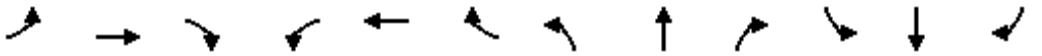
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	579	117	287	795	83	60	469	215	134	1224	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
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)	139	629	127	312	864	90	65	510	234	146	1330	358
RTOR Reduction (vph)	0	0	98	0	0	82	0	0	141	0	0	0
Lane Group Flow (vph)	139	629	29	312	864	8	65	510	93	146	1330	358
Turn Type	Prot		Perm	Prot		Over	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4						2			Free
Actuated Green, G (s)	4.0	16.6	16.6	9.0	21.6	6.9	3.2	31.8	31.8	6.9	35.5	80.3
Effective Green, g (s)	4.0	16.6	16.6	9.0	21.6	6.9	3.2	31.8	31.8	6.9	35.5	80.3
Actuated g/C Ratio	0.05	0.21	0.21	0.11	0.27	0.09	0.04	0.40	0.40	0.09	0.44	1.00
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	171	732	327	385	952	136	137	2014	627	295	1565	1583
v/s Ratio Prot	0.04	0.18		c0.09	c0.24	0.00	0.02	0.10		c0.04	c0.38	
v/s Ratio Perm			0.02						0.06			0.23
v/c Ratio	0.81	0.86	0.09	0.81	0.91	0.06	0.47	0.25	0.15	0.49	0.85	0.23
Uniform Delay, d1	37.8	30.7	25.7	34.8	28.4	33.7	37.7	16.3	15.6	35.0	20.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	24.6	9.9	0.1	12.2	12.1	0.2	2.6	0.3	0.5	1.3	6.0	0.3
Delay (s)	62.4	40.6	25.8	47.0	40.5	33.9	40.3	16.6	16.1	36.3	26.0	0.3
Level of Service	E	D	C	D	D	C	D	B	B	D	C	A
Approach Delay (s)		41.9			41.6			18.3			21.8	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



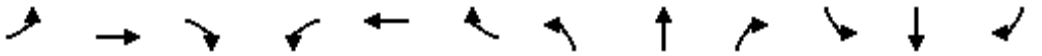
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	193	261	335	326	241	147	398	1432	434	150	1137	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.97		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	3539	1583	3433	3338		3433	4908		3433	5034	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3338		3433	4908		3433	5034	
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)	210	284	364	354	262	160	433	1557	472	163	1236	90
RTOR Reduction (vph)	0	0	286	0	76	0	0	35	0	0	5	0
Lane Group Flow (vph)	210	284	78	354	346	0	433	1994	0	163	1321	0
Turn Type	Prot		Over	Prot			Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.8	15.9	20.5	17.4	18.5		20.5	73.0		5.0	57.5	
Effective Green, g (s)	14.8	15.9	20.5	17.4	18.5		20.5	73.0		5.0	57.5	
Actuated g/C Ratio	0.11	0.12	0.15	0.13	0.14		0.15	0.55		0.04	0.43	
Clearance Time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Vehicle Extension (s)	3.0	2.0	1.2	2.0	2.0		1.2	5.0		0.8	5.8	
Lane Grp Cap (vph)	196	421	243	447	462		527	2682		128	2167	
v/s Ratio Prot	c0.12	0.08	0.05	0.10	c0.10		c0.13	c0.41		c0.05	0.26	
v/s Ratio Perm												
v/c Ratio	1.07	0.67	0.32	0.79	0.75		0.82	0.74		1.27	0.61	
Uniform Delay, d1	59.4	56.4	50.3	56.3	55.3		54.8	23.1		64.3	29.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	84.5	3.3	0.3	8.7	5.8		9.5	1.9		170.4	1.3	
Delay (s)	143.9	59.7	50.6	65.0	61.1		64.3	25.1		234.7	30.7	
Level of Service	F	E	D	E	E		E	C		F	C	
Approach Delay (s)		76.5			62.9			32.0			53.0	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM Average Control Delay	48.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	133.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



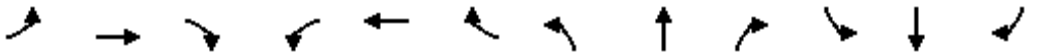
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	604	8	594	273	1670	0	0	1357	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	1.00
Frt				1.00	0.92	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1529	1504	3433	5085			5085	1583
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1529	1504	3433	5085			5085	1583
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)	0	0	0	657	9	646	297	1815	0	0	1475	479
RTOR Reduction (vph)	0	0	0	0	10	11	0	0	0	0	0	286
Lane Group Flow (vph)	0	0	0	453	429	409	297	1815	0	0	1475	193
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.0	31.0	29.9	13.5	58.0			40.3	40.3
Effective Green, g (s)				31.0	31.0	29.9	13.5	58.0			40.3	40.3
Actuated g/C Ratio				0.31	0.31	0.30	0.14	0.58			0.40	0.40
Clearance Time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				521	474	450	463	2949			2049	638
v/s Ratio Prot				0.27	c0.28		0.09	c0.36			c0.29	
v/s Ratio Perm						0.27						0.12
v/c Ratio				0.87	0.90	0.91	0.64	0.62			0.72	0.30
Uniform Delay, d1				32.6	33.1	33.8	41.0	13.7			25.1	20.3
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				14.4	20.4	22.0	3.0	1.0			2.2	1.2
Delay (s)				46.9	53.5	55.8	44.0	14.7			27.3	21.5
Level of Service				D	D	E	D	B			C	C
Approach Delay (s)		0.0			52.0			18.8			25.9	
Approach LOS		A			D			B			C	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



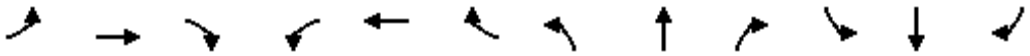
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	543	0	174	0	0	0	0	1400	669	568	1393	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Lane Util. Factor	0.97		1.00					0.91	1.00	0.97	0.91	
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)	3433		1583					5085	1583	3433	5085	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					5085	1583	3433	5085	
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)	590	0	189	0	0	0	0	1522	727	617	1514	0
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	185	0	0	0
Lane Group Flow (vph)	590	0	145	0	0	0	0	1522	542	617	1514	0
Turn Type	Prot		custom						Perm	Prot		
Protected Phases	7							2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	17.7		16.6					63.7	63.7	27.9	96.3	
Effective Green, g (s)	17.7		16.6					63.7	63.7	27.9	96.3	
Actuated g/C Ratio	0.14		0.13					0.51	0.51	0.22	0.77	
Clearance Time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	486		210					2591	807	766	3917	
v/s Ratio Prot	c0.17							0.30		c0.18	0.30	
v/s Ratio Perm			0.09						c0.34			
v/c Ratio	1.21		0.69					0.59	0.67	0.81	0.39	
Uniform Delay, d1	53.6		51.7					21.5	22.9	46.0	4.7	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	114.0		9.1					1.0	4.4	6.2	0.3	
Delay (s)	167.7		60.8					22.4	27.3	52.2	5.0	
Level of Service	F		E					C	C	D	A	
Approach Delay (s)		141.8			0.0			24.0			18.6	
Approach LOS		F			A			C			B	

Intersection Summary			
HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



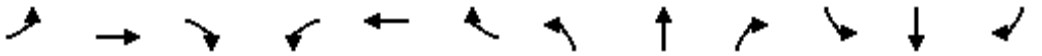
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	283	568	352	294	6	647	154	636	5	75	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.88	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	2787	3433	1857		3433	1863	2787	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	2787	3433	1857		3433	1863	2787	1770	1863	1583
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)	57	308	617	383	320	7	703	167	691	5	82	37
RTOR Reduction (vph)	0	0	457	0	1	0	0	0	570	0	0	28
Lane Group Flow (vph)	57	308	160	383	326	0	703	167	121	5	82	9
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	6.0	13.8	24.4	16.4	24.2		24.4	47.1	16.4	0.7	23.4	23.4
Effective Green, g (s)	6.0	13.8	24.4	16.4	24.2		24.4	47.1	16.4	0.7	23.4	23.4
Actuated g/C Ratio	0.06	0.15	0.26	0.17	0.26		0.26	0.50	0.17	0.01	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	113	520	723	599	478		891	933	486	13	464	394
v/s Ratio Prot	0.03	0.09	0.06	c0.11	c0.18		c0.20	c0.09	0.04	0.00	0.04	
v/s Ratio Perm												0.01
v/c Ratio	0.50	0.59	0.22	0.64	0.68		0.79	0.18	0.25	0.38	0.18	0.02
Uniform Delay, d1	42.6	37.5	27.3	36.1	31.4		32.4	12.9	33.5	46.4	27.7	26.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	1.8	0.2	2.2	4.0		4.7	0.4	0.3	17.9	0.8	0.1
Delay (s)	46.1	39.3	27.5	38.3	35.4		37.1	13.3	33.7	64.3	28.6	26.8
Level of Service	D	D	C	D	D		D	B	C	E	C	C
Approach Delay (s)		32.3			37.0			33.1			29.5	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



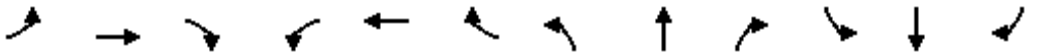
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	76	91	578	75	58	237	713	830	48	674	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.91	0.91		1.00	0.95	0.88	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1610	3211		1770	3539	2787	1770	3502	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1610	3211		1770	3539	2787	1770	3502	
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)	33	83	99	628	82	63	258	775	902	52	733	55
RTOR Reduction (vph)	0	0	90	0	12	0	0	0	654	0	5	0
Lane Group Flow (vph)	33	83	9	314	447	0	258	775	248	52	783	0
Turn Type	Split		Perm	Split			Prot		Over	Prot		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.4	7.4	7.4	23.2	23.2		12.0	32.4	23.2	5.3	25.7	
Effective Green, g (s)	7.4	7.4	7.4	23.2	23.2		12.0	32.4	23.2	5.3	25.7	
Actuated g/C Ratio	0.09	0.09	0.09	0.28	0.28		0.14	0.38	0.28	0.06	0.30	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	155	311	139	443	884		252	1360	767	111	1068	
v/s Ratio Prot	0.02	c0.02		c0.19	0.14		c0.15	0.22	0.09	0.03	c0.22	
v/s Ratio Perm			0.01									
v/c Ratio	0.21	0.27	0.06	0.71	0.51		1.02	0.57	0.32	0.47	0.73	
Uniform Delay, d1	35.7	35.9	35.3	27.5	25.7		36.1	20.5	24.3	38.1	26.2	
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	0.7	0.5	0.2	5.1	0.5		63.0	1.7	0.2	3.1	4.5	
Delay (s)	36.4	36.4	35.5	32.6	26.2		99.1	22.2	24.6	41.2	30.7	
Level of Service	D	D	D	C	C		F	C	C	D	C	
Approach Delay (s)		36.0			28.8			33.6			31.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	32.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	84.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



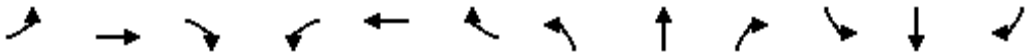
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	904	44	40	63	41	5	80	842	67	14	756	637
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		1808	1583	1770	3500		1770	3539	2787
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		1808	1583	1770	3500		1770	3539	2787
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)	983	48	43	68	45	5	87	915	73	15	822	692
RTOR Reduction (vph)	0	0	0	0	0	4	0	6	0	0	0	0
Lane Group Flow (vph)	983	48	43	0	113	1	87	982	0	15	822	692
Turn Type	Split		Free	Split		Perm	Prot			Prot		Over
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			Free			8						
Actuated Green, G (s)	27.3	27.3	84.9		8.8	8.8	4.5	32.1		0.7	28.3	27.3
Effective Green, g (s)	27.3	27.3	84.9		8.8	8.8	4.5	32.1		0.7	28.3	27.3
Actuated g/C Ratio	0.32	0.32	1.00		0.10	0.10	0.05	0.38		0.01	0.33	0.32
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1104	599	1583		187	164	94	1323		15	1180	896
v/s Ratio Prot	c0.29	0.03			c0.06		c0.05	c0.28		0.01	0.23	0.25
v/s Ratio Perm			0.03			0.00						
v/c Ratio	0.89	0.08	0.03		0.60	0.00	0.93	0.74		1.00	0.70	0.77
Uniform Delay, d1	27.4	20.1	0.0		36.4	34.1	40.0	22.8		42.1	24.6	26.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.2	0.1	0.0		5.4	0.0	68.3	3.8		232.4	3.4	4.2
Delay (s)	36.6	20.1	0.0		41.8	34.1	108.3	26.6		274.5	28.0	30.2
Level of Service	D	C	A		D	C	F	C		F	C	C
Approach Delay (s)		34.4			41.5			33.2			31.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	84.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



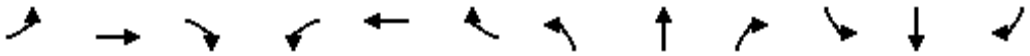
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	169	530	101	71	312	221	140	563	15	178	569	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.91	0.91		0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3319		1610	3374		1610	3316	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3319		1610	3374		1610	3316	
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)	184	576	110	77	339	240	152	612	16	193	618	102
RTOR Reduction (vph)	0	0	85	0	130	0	0	1	0	0	12	0
Lane Group Flow (vph)	184	576	25	77	449	0	137	642	0	174	727	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	7.9	21.4	21.4	6.3	19.8		28.0	28.0		27.0	27.0	
Effective Green, g (s)	7.9	21.4	21.4	6.3	19.8		28.0	28.0		27.0	27.0	
Actuated g/C Ratio	0.08	0.22	0.22	0.06	0.20		0.28	0.28		0.27	0.27	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	275	767	343	113	666		457	957		440	907	
v/s Ratio Prot	c0.05	c0.16		0.04	0.14		0.09	c0.19		0.11	c0.22	
v/s Ratio Perm			0.02									
v/c Ratio	0.67	0.75	0.07	0.68	0.67		0.30	0.67		0.40	0.80	
Uniform Delay, d1	44.1	36.2	30.7	45.2	36.5		27.7	31.3		29.2	33.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.1	4.2	0.1	15.6	2.7		1.7	3.7		2.7	7.4	
Delay (s)	50.2	40.3	30.8	60.8	39.2		29.4	35.0		31.9	40.7	
Level of Service	D	D	C	E	D		C	D		C	D	
Approach Delay (s)		41.2			41.7			34.0			39.0	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	39.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	98.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



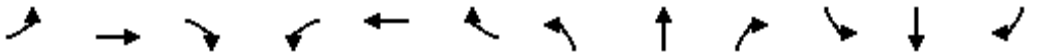
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	2020	270	154	1215	122	162	184	232	100	199	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		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)	1770	3539	1583	1770	3539	1583	3433	3243		3433	3465	
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)	1770	3539	1583	1770	3539	1583	3433	3243		3433	3465	
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)	52	2196	293	167	1321	133	176	200	252	109	216	35
RTOR Reduction (vph)	0	0	119	0	0	49	0	108	0	0	10	0
Lane Group Flow (vph)	52	2196	174	167	1321	84	176	344	0	109	241	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	71.8	71.8	11.0	75.9	75.9	6.0	16.0		6.0	16.0	
Effective Green, g (s)	6.9	71.8	71.8	11.0	75.9	75.9	6.0	16.0		6.0	16.0	
Actuated g/C Ratio	0.06	0.59	0.59	0.09	0.63	0.63	0.05	0.13		0.05	0.13	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	101	2103	941	161	2224	995	171	430		171	459	
v/s Ratio Prot	0.03	c0.62		c0.09	0.37		c0.05	c0.11		0.03	0.07	
v/s Ratio Perm			0.11			0.05						
v/c Ratio	0.51	1.04	0.19	1.04	0.59	0.08	1.03	0.80		0.64	0.52	
Uniform Delay, d1	55.3	24.5	11.2	54.9	13.3	8.8	57.4	50.9		56.3	48.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	32.3	0.1	81.1	0.4	0.0	76.7	14.5		7.6	4.2	
Delay (s)	59.7	56.8	11.3	136.0	13.7	8.8	134.1	65.4		63.9	53.1	
Level of Service	E	E	B	F	B	A	F	E		E	D	
Approach Delay (s)		51.6			25.9			84.6			56.4	
Approach LOS		D			C			F			E	

Intersection Summary			
HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.6%	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)	209	510	51	76	292	58	75	408	229	68	280	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.95		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3491		1770	3451		1770	3348		1770	3354	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3491		1770	3451		1770	3348		1770	3354	
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)	227	554	55	83	317	63	82	443	249	74	304	163
RTOR Reduction (vph)	0	11	0	0	26	0	0	111	0	0	105	0
Lane Group Flow (vph)	227	598	0	83	354	0	82	581	0	74	362	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.2	17.2		6.3	14.3		4.5	19.1		4.5	19.1	
Effective Green, g (s)	9.2	17.2		6.3	14.3		4.5	19.1		4.5	19.1	
Actuated g/C Ratio	0.15	0.27		0.10	0.23		0.07	0.30		0.07	0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	258	952		177	782		126	1013		126	1015	
v/s Ratio Prot	c0.13	c0.17		0.05	0.10		c0.05	c0.17		0.04	0.11	
v/s Ratio Perm												
v/c Ratio	0.88	0.63		0.47	0.45		0.65	0.57		0.59	0.36	
Uniform Delay, d1	26.4	20.1		26.8	21.0		28.5	18.6		28.4	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	27.0	1.3		2.0	0.4		11.4	2.4		6.8	1.0	
Delay (s)	53.4	21.5		28.8	21.4		40.0	20.9		35.2	18.2	
Level of Service	D	C		C	C		D	C		D	B	
Approach Delay (s)		30.1			22.8			22.9			20.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	63.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.2%	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)	215	1066	146	128	798	144	93	344	131	123	206	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		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)	3433	4993		3433	5085	1583	3433	3393		3433	3539	1583
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)	3433	4993		3433	5085	1583	3433	3393		3433	3539	1583
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)	234	1159	159	139	867	157	101	374	142	134	224	82
RTOR Reduction (vph)	0	22	0	0	0	140	0	47	0	0	0	72
Lane Group Flow (vph)	234	1296	0	139	867	17	101	469	0	134	224	10
Turn Type	Prot			Prot		Over	Prot			Prot		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases												
Actuated Green, G (s)	9.4	26.2		6.8	23.6	8.5	3.9	21.4		8.5	26.0	9.4
Effective Green, g (s)	9.4	26.2		6.8	23.6	8.5	3.9	21.4		8.5	26.0	9.4
Actuated g/C Ratio	0.12	0.33		0.09	0.30	0.11	0.05	0.27		0.11	0.33	0.12
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	409	1658		296	1521	171	170	920		370	1166	189
v/s Ratio Prot	c0.07	c0.26		0.04	0.17	0.01	c0.03	c0.14		c0.04	0.06	0.01
v/s Ratio Perm												
v/c Ratio	0.57	0.78		0.47	0.57	0.10	0.59	0.51		0.36	0.19	0.05
Uniform Delay, d1	32.8	23.8		34.3	23.4	31.7	36.7	24.3		32.7	18.9	30.8
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	1.9	2.5		1.2	0.5	0.3	5.5	2.0		0.6	0.4	0.1
Delay (s)	34.8	26.2		35.5	23.9	32.0	42.2	26.3		33.3	19.3	30.9
Level of Service	C	C		D	C	C	D	C		C	B	C
Approach Delay (s)		27.5			26.4			28.9			25.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #27 Rancho Del Oro Rd & Vista Del Oro Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.540
Loss Time (sec):	0	Average Delay (sec/veh):	11.7
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Rancho Del Oro Rd						Vista Del Oro Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	34	629	33	30	463	25	18	0	18	24	1	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	629	33	30	463	25	18	0	18	24	1	21
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:	37	684	36	33	503	27	20	0	20	26	1	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	684	36	33	503	27	20	0	20	26	1	23
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:	37	684	36	33	503	27	20	0	20	26	1	23
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.90	0.10	0.50	0.00	0.50	0.52	0.02	0.46
Final Sat.:	603	1266	67	579	1211	66	272	0	272	285	12	249
Capacity Analysis Module:												
Vol/Sat:	0.06	0.54	0.54	0.06	0.42	0.41	0.07	xxxx	0.07	0.09	0.09	0.09
Crit Moves:		****			****		****					****
Delay/Veh:	8.9	14.0	13.8	9.1	12.0	11.9	9.6	0.0	9.6	9.7	9.7	9.7
Delay 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
AdjDel/Veh:	8.2	12.9	12.7	8.4	11.0	10.9	8.8	0.0	8.8	8.9	8.9	8.9
LOS by Move:	A	B	B	A	B	B	A	*	A	A	A	A
ApproachDel:		13.7			11.8			9.6			9.7	
Delay Adj:		0.92			0.92			0.92			0.92	
ApprAdjDel:		12.6			10.9			8.8			8.9	
LOS by Appr:		B			B			A			A	
AllWayAvgQ:	0.1	1.1	1.1	0.1	0.7	0.7	0.1	0.1	0.1	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #28 Rancho Del Oro Rd & Cameo Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.919
Loss Time (sec):	0	Average Delay (sec/veh):	38.3
Optimal Cycle:	0	Level Of Service:	E

Street Name:	Rancho Del Oro Rd						Cameo Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	1 0	0	1 0
Volume Module:												
Base Vol:	20	665	140	143	724	10	10	10	10	70	10	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:	20	665	140	143	724	10	10	10	10	70	10	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:	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:	22	723	152	155	787	11	11	11	11	76	11	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	723	152	155	787	11	11	11	11	76	11	101
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:	22	723	152	155	787	11	11	11	11	76	11	101
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.97	0.03	0.34	0.33	0.33	1.00	0.10	0.90
Final Sat.:	431	786	169	440	938	13	144	144	144	382	42	392
Capacity Analysis Module:												
Vol/Sat:	0.05	0.92	0.90	0.35	0.84	0.84	0.08	0.08	0.08	0.20	0.26	0.26
Crit Moves:		****			****		****				****	
Delay/Veh:	11.3	50.6	46.7	15.0	37.9	37.7	11.8	11.8	11.8	13.9	13.2	13.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.3	50.6	46.7	15.0	37.9	37.7	11.8	11.8	11.8	13.9	13.2	13.2
LOS by Move:	B	F	E	B	E	E	B	B	B	B	B	B
ApproachDel:		49.0			34.1			11.8			13.4	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		49.0			34.1			11.8			13.4	
LOS by Appr:		E			D			B			B	
AllWayAvgQ:	0.1	5.6	4.9	0.5	3.7	3.6	0.1	0.1	0.1	0.2	0.3	0.3

Note: Queue reported is the number of cars per lane.

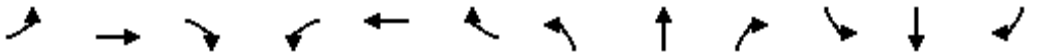
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #29 Rancho Del Oro Rd & Trieste Way & Sicily Way

Cycle (sec):	100	Critical Vol./Cap.(X):	0.491
Loss Time (sec):	0	Average Delay (sec/veh):	11.4
Optimal Cycle:	0	Level Of Service:	B

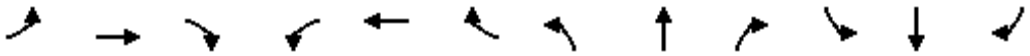
Street Name:	Rancho Del Oro Rd						Trieste Way & Sicily Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	21	631	18	4	409	5	3	1	8	7	0	4
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:	21	631	18	4	409	5	3	1	8	7	0	4
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:	23	686	20	4	445	5	3	1	9	8	0	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	686	20	4	445	5	3	1	9	8	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:	23	686	20	4	445	5	3	1	9	8	0	4
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.94	0.06	1.00	1.98	0.02	0.25	0.08	0.67	0.64	0.00	0.36
Final Sat.:	648	1396	40	611	1332	16	147	49	391	358	0	205
Capacity Analysis Module:												
Vol/Sat:	0.04	0.49	0.49	0.01	0.33	0.33	0.02	0.02	0.02	0.02	xxxx	0.02
Crit Moves:		****			****			****				****
Delay/Veh:	8.4	12.3	12.2	8.5	10.5	10.5	8.8	8.8	8.8	9.0	0.0	9.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.4	12.3	12.2	8.5	10.5	10.5	8.8	8.8	8.8	9.0	0.0	9.0
LOS by Move:	A	B	B	A	B	B	A	A	A	A	*	A
ApproachDel:		12.2			10.5			8.8			9.0	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		12.2			10.5			8.8			9.0	
LOS by Appr:		B			B			A			A	
AllWayAvgQ:	0.0	0.9	0.9	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.



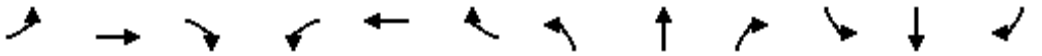
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	412	414	0	0	375	309	0	0	0	164	0	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0					4.0	4.0	4.0
Lane Util. Factor	1.00	0.95			0.95					1.00	0.95	0.95
Frt	1.00	1.00			0.93					1.00	0.85	0.85
Flt Protected	0.95	1.00			1.00					0.95	1.00	1.00
Satd. Flow (prot)	1770	3539			3299					1770	1504	1504
Flt Permitted	0.95	1.00			1.00					0.95	1.00	1.00
Satd. Flow (perm)	1770	3539			3299					1770	1504	1504
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)	448	450	0	0	408	336	0	0	0	178	0	234
RTOR Reduction (vph)	0	0	0	0	166	0	0	0	0	0	96	96
Lane Group Flow (vph)	448	450	0	0	578	0	0	0	0	178	21	21
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												6
Actuated Green, G (s)	24.2	44.2			16.0					16.0	16.0	16.0
Effective Green, g (s)	24.2	44.2			16.0					16.0	16.0	16.0
Actuated g/C Ratio	0.27	0.50			0.18					0.18	0.18	0.18
Clearance Time (s)	4.0	4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0					3.0	3.0	3.0
Lane Grp Cap (vph)	480	1754			592					317	270	270
v/s Ratio Prot	c0.25	0.13			c0.18					c0.10	0.01	
v/s Ratio Perm												0.01
v/c Ratio	0.93	0.26			0.98					0.56	0.08	0.08
Uniform Delay, d1	31.7	13.0			36.4					33.4	30.5	30.5
Progression Factor	1.00	1.00			1.00					1.00	1.00	1.00
Incremental Delay, d2	25.3	0.1			30.8					7.0	0.6	0.6
Delay (s)	57.0	13.1			67.2					40.4	31.0	31.0
Level of Service	E	B			E					D	C	C
Approach Delay (s)		35.0			67.2			0.0			35.1	
Approach LOS		C			E			A			D	

Intersection Summary			
HCM Average Control Delay	46.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	33.0
Intersection Capacity Utilization	62.2%	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)	91	56	55	57	42	10	80	274	45	35	1353	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	0.95		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.93		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1724		3433	3437		1770	5085	1583	1770	4884	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1724		3433	3437		1770	5085	1583	1770	4884	
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)	99	61	60	62	46	11	87	298	49	38	1471	526
RTOR Reduction (vph)	0	43	0	0	10	0	0	0	18	0	58	0
Lane Group Flow (vph)	99	78	0	62	47	0	87	298	31	38	1939	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	6.1	8.6		3.8	6.3		6.7	52.9	52.9	3.4	49.6	
Effective Green, g (s)	6.1	8.6		3.8	6.3		6.7	52.9	52.9	3.4	49.6	
Actuated g/C Ratio	0.07	0.10		0.04	0.07		0.08	0.62	0.62	0.04	0.59	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	247	175		154	256		140	3176	989	71	2860	
v/s Ratio Prot	c0.03	c0.05		0.02	0.01		c0.05	c0.06		0.02	c0.40	
v/s Ratio Perm									0.02			
v/c Ratio	0.40	0.44		0.40	0.18		0.62	0.09	0.03	0.54	0.68	
Uniform Delay, d1	37.6	35.8		39.3	36.8		37.8	6.3	6.1	39.9	12.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	1.8		1.7	0.3		8.3	0.1	0.1	7.6	1.3	
Delay (s)	38.6	37.6		41.1	37.1		46.1	6.4	6.1	47.4	13.4	
Level of Service	D	D		D	D		D	A	A	D	B	
Approach Delay (s)		38.1			39.2			14.3			14.0	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

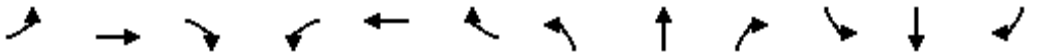


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	57	129	292	72	34	185	639	465	191	1337	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		1.00	0.91		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1773		1770	4764		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1773		1770	4764		1770	3539	1583
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)	58	62	140	317	78	37	201	695	505	208	1453	55
RTOR Reduction (vph)	0	0	123	0	20	0	0	140	0	0	0	14
Lane Group Flow (vph)	58	62	17	317	95	0	201	1060	0	208	1453	41
Turn Type	Prot		Perm	Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	4.1	9.9	9.9	9.0	14.8		11.0	31.0		18.0	38.0	38.0
Effective Green, g (s)	4.1	9.9	9.9	9.0	14.8		11.0	31.0		18.0	38.0	38.0
Actuated g/C Ratio	0.05	0.12	0.12	0.11	0.18		0.13	0.37		0.21	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	86	220	187	368	313		232	1760		380	1603	717
v/s Ratio Prot	0.03	0.03		c0.09	c0.05		c0.11	0.22		0.12	c0.41	
v/s Ratio Perm			0.01									0.03
v/c Ratio	0.67	0.28	0.09	0.86	0.30		0.87	0.60		0.55	0.91	0.06
Uniform Delay, d1	39.2	33.8	33.0	36.8	30.1		35.7	21.5		29.3	21.3	12.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.9	0.7	0.2	18.3	0.6		27.0	1.5		1.6	9.0	0.2
Delay (s)	58.1	34.5	33.2	55.1	30.6		62.7	23.0		30.9	30.3	13.0
Level of Service	E	C	C	E	C		E	C		C	C	B
Approach Delay (s)		39.1			48.6			28.7			29.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

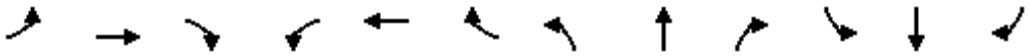
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	406	407	1383	370	10	10	10	10	504	10	944
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1723			1776	2787
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)	1770	3539	1583	3433	3539	1583	1770	1723			1776	2787
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)	11	441	442	1503	402	11	11	11	11	548	11	1026
RTOR Reduction (vph)	0	0	381	0	0	5	0	11	0	0	0	450
Lane Group Flow (vph)	11	441	61	1503	402	6	11	11	0	0	559	576
Turn Type	Prot		Perm	Prot		Perm	Split			Split		Over
Protected Phases	5	2		1	6		4	4		8	8	1
Permitted Phases			2			6						
Actuated Green, G (s)	1.5	17.0	17.0	61.6	77.1	77.1	4.3	4.3			42.1	61.6
Effective Green, g (s)	1.5	17.0	17.0	61.6	77.1	77.1	4.3	4.3			42.1	61.6
Actuated g/C Ratio	0.01	0.12	0.12	0.44	0.55	0.55	0.03	0.03			0.30	0.44
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	19	427	191	1500	1935	866	54	53			530	1218
v/s Ratio Prot	0.01	c0.12		c0.44	0.11		0.01	c0.01			c0.31	0.21
v/s Ratio Perm			0.04			0.00						
v/c Ratio	0.58	1.03	0.32	1.00	0.21	0.01	0.20	0.21			1.05	0.47
Uniform Delay, d1	69.4	62.0	56.7	39.7	16.3	14.5	66.7	66.7			49.5	28.2
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	36.3	52.2	4.4	23.7	0.2	0.0	1.9	2.0			54.3	0.3
Delay (s)	105.7	114.2	61.1	63.4	16.6	14.5	68.5	68.7			103.8	28.5
Level of Service	F	F	E	E	B	B	E	E			F	C
Approach Delay (s)		87.9			53.3			68.7			55.0	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM Average Control Delay	61.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	141.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.8%	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)	519	1140	82	203	1012	477	123	737	445	530	922	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3339		3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3339		3433	3539	1583
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)	564	1239	89	221	1100	518	134	801	484	576	1002	478
RTOR Reduction (vph)	0	0	81	0	0	334	0	75	0	0	0	298
Lane Group Flow (vph)	564	1239	8	221	1100	184	134	1210	0	576	1002	180
Turn Type	Prot		Over	Prot		Over	Prot			Prot		Over
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases											6	
Actuated Green, G (s)	17.0	32.8	9.9	12.7	28.5	25.1	9.9	29.1		25.1	44.3	17.0
Effective Green, g (s)	17.0	32.8	9.9	12.7	28.5	25.1	9.9	29.1		25.1	44.3	17.0
Actuated g/C Ratio	0.15	0.28	0.09	0.11	0.25	0.22	0.09	0.25		0.22	0.38	0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	504	1442	135	377	1253	343	294	840		745	1355	233
v/s Ratio Prot	c0.16	c0.24	0.00	0.06	0.22	0.12	0.04	c0.36		c0.17	0.28	0.11
v/s Ratio Perm												
v/c Ratio	1.12	0.86	0.06	0.59	0.88	0.54	0.46	1.44		0.77	0.74	0.77
Uniform Delay, d1	49.4	39.3	48.6	49.0	41.9	40.1	50.3	43.3		42.6	30.7	47.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	76.9	5.3	0.2	2.3	7.2	1.6	1.1	205.1		5.0	3.7	14.7
Delay (s)	126.3	44.6	48.8	51.3	49.2	41.7	51.5	248.4		47.6	34.4	62.2
Level of Service	F	D	D	D	D	D	D	F		D	C	E
Approach Delay (s)		69.2			47.3			229.8			44.6	
Approach LOS		E			D			F			D	

Intersection Summary			
HCM Average Control Delay	88.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	115.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

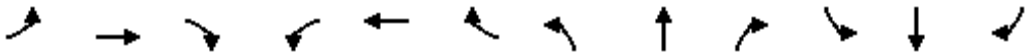


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	273	57	84	137	63	92	1025	204	92	859	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3447		1770	3372		1770	3451		1770	3454	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3447		1770	3372		1770	3451		1770	3454	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	201	287	60	88	144	66	97	1079	215	97	904	173
RTOR Reduction (vph)	0	20	0	0	58	0	0	18	0	0	15	0
Lane Group Flow (vph)	201	327	0	88	152	0	97	1276	0	97	1062	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.3	15.5		9.1	10.3		6.0	33.3		10.9	38.2	
Effective Green, g (s)	14.3	15.5		9.1	10.3		6.0	33.3		10.9	38.2	
Actuated g/C Ratio	0.16	0.17		0.10	0.11		0.07	0.37		0.12	0.42	
Clearance Time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	281	594		179	386		118	1277		214	1466	
v/s Ratio Prot	c0.11	0.09		c0.05	0.04		0.05	c0.37		0.05	c0.31	
v/s Ratio Perm												
v/c Ratio	0.72	0.55		0.49	0.39		0.82	1.00		0.45	0.72	
Uniform Delay, d1	35.9	34.1		38.3	36.9		41.5	28.3		36.8	21.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.4	1.1		2.1	0.7		34.9	25.1		1.5	3.1	
Delay (s)	44.3	35.2		40.4	37.6		76.4	53.4		38.3	24.7	
Level of Service	D	D		D	D		E	D		D	C	
Approach Delay (s)		38.5			38.4			55.0			25.8	
Approach LOS		D			D			E			C	

Intersection Summary			
HCM Average Control Delay	40.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

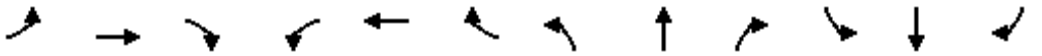
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	88	205	84	136	313	137	42	222	84	149	422	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.96		1.00	0.95		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3385		1770	3377		3433	3394		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3385		1770	3377		3433	3394		3433	3539	1583
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)	96	223	91	148	340	149	46	241	91	162	459	110
RTOR Reduction (vph)	0	55	0	0	59	0	0	39	0	0	0	66
Lane Group Flow (vph)	96	259	0	148	430	0	46	293	0	162	459	44
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases												2
Actuated Green, G (s)	7.8	14.3		10.6	17.1		3.9	25.1		8.9	30.1	30.1
Effective Green, g (s)	7.8	14.3		10.6	17.1		3.9	25.1		8.9	30.1	30.1
Actuated g/C Ratio	0.10	0.19		0.14	0.23		0.05	0.34		0.12	0.40	0.40
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	184	646		250	771		179	1137		408	1422	636
v/s Ratio Prot	0.05	0.08		c0.08	c0.13		0.01	0.09		c0.05	c0.13	
v/s Ratio Perm												0.03
v/c Ratio	0.52	0.40		0.59	0.56		0.26	0.26		0.40	0.32	0.07
Uniform Delay, d1	31.8	26.5		30.1	25.6		34.1	18.1		30.5	15.4	13.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.7	0.4		3.7	0.9		0.8	0.5		0.6	0.6	0.2
Delay (s)	34.4	27.0		33.9	26.4		34.9	18.7		31.2	16.0	14.0
Level of Service	C	C		C	C		C	B		C	B	B
Approach Delay (s)		28.7			28.2			20.6			19.1	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	74.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



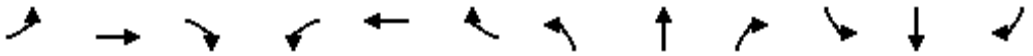
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	125	175	88	69	36	223	1289	181	53	943	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3474		1770	3520	
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)	1770	1863	1583	1770	1863	1583	3433	3474		1770	3520	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	132	184	93	73	38	235	1357	191	56	993	37
RTOR Reduction (vph)	0	0	159	0	0	32	0	9	0	0	2	0
Lane Group Flow (vph)	54	132	25	93	73	6	235	1539	0	56	1028	0
Turn Type	Prot		Over	Prot		Perm	Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	6.9	14.2	16.0	10.0	18.3	18.3	16.0	64.6		6.2	54.8	
Effective Green, g (s)	6.9	14.2	16.0	10.0	18.3	18.3	16.0	64.6		6.2	54.8	
Actuated g/C Ratio	0.06	0.12	0.13	0.08	0.15	0.15	0.13	0.54		0.05	0.46	
Clearance Time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	102	220	211	148	284	241	458	1870		91	1607	
v/s Ratio Prot	0.03	c0.07	0.02	c0.05	c0.04		0.07	c0.44		0.03	c0.29	
v/s Ratio Perm						0.00						
v/c Ratio	0.53	0.60	0.12	0.63	0.26	0.02	0.51	0.82		0.62	0.64	
Uniform Delay, d1	55.0	50.2	45.8	53.2	44.9	43.3	48.4	23.0		55.7	25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.9	4.4	0.2	8.1	0.5	0.0	1.0	4.3		11.7	2.0	
Delay (s)	59.9	54.6	46.0	61.3	45.3	43.3	49.3	27.2		67.5	27.0	
Level of Service	E	D	D	E	D	D	D	C		E	C	
Approach Delay (s)		51.1			52.2			30.1			29.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	34.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



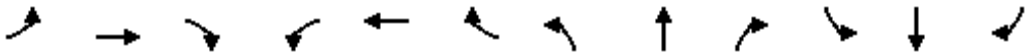
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	232	766	554	302	563	240	438	1199	259	217	850	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	244	806	583	318	593	253	461	1262	273	228	895	107
RTOR Reduction (vph)	0	0	13	0	0	132	0	0	161	0	0	61
Lane Group Flow (vph)	244	806	570	318	593	121	461	1262	112	228	895	46
Turn Type	Prot		pt+ov	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4	4 5	3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	10.9	26.0	51.5	12.0	27.1	27.1	18.5	48.0	48.0	9.0	39.5	39.5
Effective Green, g (s)	10.9	26.0	51.5	12.0	27.1	27.1	18.5	48.0	48.0	9.0	39.5	39.5
Actuated g/C Ratio	0.09	0.22	0.43	0.10	0.23	0.23	0.15	0.40	0.40	0.08	0.33	0.33
Clearance Time (s)	5.0	7.0		5.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	312	1102	679	343	799	357	529	1416	633	257	1165	521
v/s Ratio Prot	0.07	0.16	c0.36	c0.09	0.17		0.13	c0.36		0.07	0.25	
v/s Ratio Perm						0.08			0.07			0.03
v/c Ratio	0.78	0.73	0.84	0.93	0.74	0.34	0.87	0.89	0.18	0.89	0.77	0.09
Uniform Delay, d1	53.4	43.7	30.6	53.6	43.2	38.9	49.6	33.6	23.2	55.0	36.1	27.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.0	2.5	9.0	30.3	3.7	0.6	14.6	8.8	0.6	28.5	4.9	0.3
Delay (s)	65.4	46.3	39.5	83.8	46.9	39.5	64.2	42.4	23.9	83.5	41.0	28.1
Level of Service	E	D	D	F	D	D	E	D	C	F	D	C
Approach Delay (s)		46.7			55.4			44.9			47.8	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	48.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



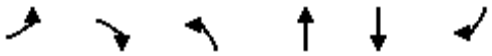
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	5	6	101	5	678	9	1329	137	677	1158	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	5.5		4.0	5.5	
Lane Util. Factor		1.00	1.00		1.00	0.88	1.00	0.95		0.97	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1797	1583		1778	2787	1770	3490		3433	3534	
Flt Permitted		0.82	1.00		0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1537	1583		1345	2787	1770	3490		3433	3534	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	5	6	106	5	714	9	1399	144	713	1219	13
RTOR Reduction (vph)	0	0	5	0	0	18	0	9	0	0	1	0
Lane Group Flow (vph)	0	19	1	0	111	696	9	1534	0	713	1231	0
Turn Type	Perm		Perm	Perm		pt+ov	Prot			Prot		
Protected Phases		4			8	8 1	5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		16.0	16.0		16.0	39.0	0.8	41.5		19.0	59.7	
Effective Green, g (s)		16.0	16.0		16.0	39.0	0.8	41.5		19.0	59.7	
Actuated g/C Ratio		0.18	0.18		0.18	0.43	0.01	0.46		0.21	0.66	
Clearance Time (s)		4.0	4.0		4.0		4.0	5.5		4.0	5.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		273	281		239	1208	16	1609		725	2344	
v/s Ratio Prot						c0.25	0.01	c0.44		c0.21	0.35	
v/s Ratio Perm		0.01	0.00		0.08							
v/c Ratio		0.07	0.00		0.46	0.58	0.56	0.95		0.98	0.53	
Uniform Delay, d1		30.8	30.4		33.2	19.3	44.4	23.3		35.3	7.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1	0.0		1.4	0.7	38.3	13.8		29.1	0.8	
Delay (s)		30.9	30.4		34.6	19.9	82.7	37.2		64.4	8.7	
Level of Service		C	C		C	B	F	D		E	A	
Approach Delay (s)		30.8			21.9			37.4			29.1	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



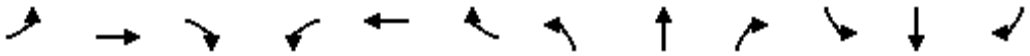
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	125	176	308	466	355	413	326	1420	701	39	1145	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	6.3	6.3	5.6	6.3		5.6	6.3	6.3	5.6	6.3	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3254		3433	5085	1583	3433	3492	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3254		3433	5085	1583	3433	3492	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	132	185	324	491	374	435	343	1495	738	41	1205	118
RTOR Reduction (vph)	0	0	9	0	70	0	0	0	50	0	5	0
Lane Group Flow (vph)	132	185	315	491	739	0	343	1495	688	41	1318	0
Turn Type	Prot		pt+ov	Prot			Prot		pt+ov	Prot		
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	
Permitted Phases												
Actuated Green, G (s)	6.8	12.9	45.7	26.3	32.4		27.2	73.0	104.9	4.0	49.8	
Effective Green, g (s)	6.8	12.9	40.1	26.3	32.4		27.2	73.0	99.3	4.0	49.8	
Actuated g/C Ratio	0.05	0.09	0.29	0.19	0.23		0.19	0.52	0.71	0.03	0.36	
Clearance Time (s)	5.6	6.3		5.6	6.3		5.6	6.3		5.6	6.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	167	326	453	645	753		667	2651	1123	98	1242	
v/s Ratio Prot	0.04	0.05	c0.20	0.14	c0.23		0.10	0.29	0.43	0.01	c0.38	
v/s Ratio Perm												
v/c Ratio	0.79	0.57	0.70	0.76	0.98		0.51	0.56	0.61	0.42	1.06	
Uniform Delay, d1	65.9	60.9	44.5	53.9	53.5		50.5	22.7	10.5	66.9	45.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	22.0	2.3	4.6	5.3	28.1		0.7	0.9	1.0	2.9	43.4	
Delay (s)	87.9	63.1	49.1	59.2	81.6		51.2	23.6	11.5	69.7	88.5	
Level of Service	F	E	D	E	F		D	C	B	E	F	
Approach Delay (s)		61.2			73.1			23.8			88.0	
Approach LOS		E			E			C			F	

Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



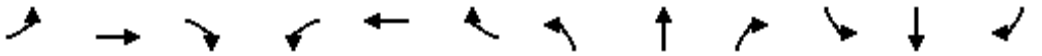
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	799	367	0	1648	1591	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00		0.86	0.86	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		6408	6408	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		6408	6408	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	841	386	0	1735	1675	0
RTOR Reduction (vph)	0	5	0	0	0	0
Lane Group Flow (vph)	841	381	0	1735	1675	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	35.8	35.8		66.2	66.2	
Effective Green, g (s)	35.8	35.8		66.2	66.2	
Actuated g/C Ratio	0.33	0.33		0.60	0.60	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1117	515		3856	3856	
v/s Ratio Prot	c0.24			c0.27	0.26	
v/s Ratio Perm		0.24				
v/c Ratio	0.75	0.74		0.45	0.43	
Uniform Delay, d1	33.1	33.0		12.0	11.8	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.9	5.7		0.4	0.4	
Delay (s)	36.1	38.6		12.3	12.2	
Level of Service	D	D		B	B	
Approach Delay (s)	36.9			12.3	12.2	
Approach LOS	D			B	B	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



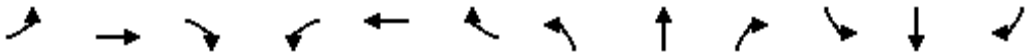
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	47	10	192	9	451	6	1131	320	740	1175	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91		0.97	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1812		1770	1863	1583	1770	4917		3433	5059	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1812		1770	1863	1583	1770	4917		3433	5059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	69	49	11	202	9	475	6	1191	337	779	1237	45
RTOR Reduction (vph)	0	9	0	0	0	128	0	48	0	0	3	0
Lane Group Flow (vph)	69	51	0	202	9	347	6	1480	0	779	1279	0
Turn Type	Split			Split		pt+ov	Prot			Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.1	8.1		16.9	16.9	42.1	0.8	33.8		25.2	58.2	
Effective Green, g (s)	8.1	8.1		16.9	16.9	42.1	0.8	33.8		25.2	58.2	
Actuated g/C Ratio	0.08	0.08		0.17	0.17	0.42	0.01	0.34		0.25	0.58	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	143	147		299	315	666	14	1662		865	2944	
v/s Ratio Prot	c0.04	0.03		c0.11	0.00	0.22	0.00	c0.30		c0.23	0.25	
v/s Ratio Perm												
v/c Ratio	0.48	0.35		0.68	0.03	0.52	0.43	0.89		0.90	0.43	
Uniform Delay, d1	43.9	43.4		39.0	34.7	21.5	49.4	31.3		36.2	11.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	1.4		5.9	0.0	0.7	19.7	7.6		12.4	0.5	
Delay (s)	46.5	44.9		44.9	34.7	22.2	69.1	39.0		48.6	12.2	
Level of Service	D	D		D	C	C	E	D		D	B	
Approach Delay (s)		45.7			29.1			39.1			25.9	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	31.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



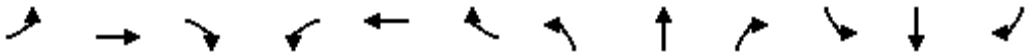
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	412	175	200	169	121	210	217	805	390	304	529	486
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
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)	448	190	217	184	132	228	236	875	424	330	575	528
RTOR Reduction (vph)	0	0	194	0	0	204	0	0	363	0	0	360
Lane Group Flow (vph)	448	190	23	184	132	24	236	875	61	330	575	168
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	12.1	12.6	7.0	9.6	10.1	7.0	7.0	21.1	9.6	7.0	21.1	21.1
Effective Green, g (s)	12.1	12.6	7.0	9.6	10.1	7.0	7.0	21.1	9.6	7.0	21.1	21.1
Actuated g/C Ratio	0.18	0.19	0.11	0.14	0.15	0.11	0.11	0.32	0.14	0.11	0.32	0.32
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	627	354	167	256	284	167	362	1126	229	362	1126	504
v/s Ratio Prot	c0.13	c0.10	0.01	0.10	0.07	0.02	0.07	c0.25	0.04	c0.10	0.16	
v/s Ratio Perm												0.11
v/c Ratio	0.71	0.54	0.14	0.72	0.46	0.14	0.65	0.78	0.27	0.91	0.51	0.33
Uniform Delay, d1	25.5	24.2	26.9	27.1	25.6	26.9	28.5	20.5	25.2	29.3	18.4	17.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	1.6	0.4	9.3	1.2	0.4	4.2	5.3	0.6	26.4	1.7	1.8
Delay (s)	29.3	25.8	27.3	36.3	26.8	27.3	32.7	25.8	25.9	55.7	20.1	19.0
Level of Service	C	C	C	D	C	C	C	C	C	E	C	B
Approach Delay (s)		28.0			30.3			26.8			27.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.8%	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)	78	472	354	320	443	22	749	33	77	55	48	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	3433	3514		1681	1692	1583		3324	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (perm)	1770	3539	1583	3433	3514		1681	1692	1583		3324	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	82	497	373	337	466	23	788	35	81	58	51	44
RTOR Reduction (vph)	0	0	288	0	4	0	0	0	57	0	39	0
Lane Group Flow (vph)	82	497	85	337	485	0	410	413	24	0	114	0
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	7.7	17.0	17.0	12.1	21.4		22.0	22.0	22.0		7.9	
Effective Green, g (s)	7.7	17.0	17.0	12.1	21.4		22.0	22.0	22.0		7.9	
Actuated g/C Ratio	0.10	0.23	0.23	0.16	0.29		0.29	0.29	0.29		0.11	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	182	802	359	554	1003		493	496	464		350	
v/s Ratio Prot	0.05	c0.14		c0.10	0.14		0.24	c0.24			c0.03	
v/s Ratio Perm			0.05						0.02			
v/c Ratio	0.45	0.62	0.24	0.61	0.48		0.83	0.83	0.05		0.32	
Uniform Delay, d1	31.7	26.1	23.7	29.2	22.2		24.8	24.8	19.0		31.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.8	1.4	0.3	1.9	0.4		15.0	15.0	0.2		0.5	
Delay (s)	33.4	27.5	24.0	31.1	22.6		39.8	39.8	19.2		31.6	
Level of Service	C	C	C	C	C		D	D	B		C	
Approach Delay (s)		26.7			26.1			38.0			31.6	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

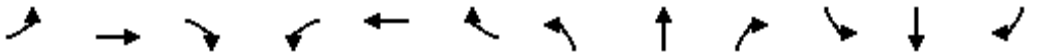


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	682	277	66	93	390	110	150	47	11	149	56	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3438		1770	3422		1681	1724	1583	1770	1755	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3438		1770	3422		1681	1724	1583	1770	1755	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	718	292	69	98	411	116	158	49	12	157	59	37
RTOR Reduction (vph)	0	23	0	0	33	0	0	0	11	0	30	0
Lane Group Flow (vph)	718	338	0	98	494	0	103	104	1	157	66	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	26.7	33.6		9.1	16.0		9.0	9.0	9.0	12.3	12.3	
Effective Green, g (s)	26.7	33.6		9.1	16.0		9.0	9.0	9.0	12.3	12.3	
Actuated g/C Ratio	0.33	0.42		0.11	0.20		0.11	0.11	0.11	0.15	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1146	1444		201	684		189	194	178	272	270	
v/s Ratio Prot	c0.21	0.10		0.06	c0.14		c0.06	0.06		c0.09	0.04	
v/s Ratio Perm									0.00			
v/c Ratio	0.63	0.23		0.49	0.72		0.54	0.54	0.01	0.58	0.25	
Uniform Delay, d1	22.4	14.9		33.3	29.9		33.6	33.5	31.5	31.4	29.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.6	0.4		1.9	3.8		3.2	2.8	0.0	3.0	0.5	
Delay (s)	25.0	15.3		35.1	33.7		36.8	36.4	31.6	34.4	30.2	
Level of Service	C	B		D	C		D	D	C	C	C	
Approach Delay (s)		21.8			33.9			36.3			32.8	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	889	76	204	796	134	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	966	83	222	865	146	277
RTOR Reduction (vph)	0	46	0	0	0	238
Lane Group Flow (vph)	966	37	222	865	146	39
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	25.0	26.1	10.3	39.3	26.1	10.3
Effective Green, g (s)	25.0	26.1	10.3	39.3	26.1	10.3
Actuated g/C Ratio	0.34	0.36	0.14	0.54	0.36	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1205	563	482	1895	1221	222
v/s Ratio Prot	c0.27	0.02	0.06	c0.24	c0.04	0.02
v/s Ratio Perm						
v/c Ratio	0.80	0.07	0.46	0.46	0.12	0.18
Uniform Delay, d1	22.0	15.6	29.0	10.5	15.9	27.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	0.2	0.7	0.2	0.2	0.4
Delay (s)	25.9	15.8	29.7	10.7	16.1	28.2
Level of Service	C	B	C	B	B	C
Approach Delay (s)	25.1			14.5	24.0	
Approach LOS	C			B	C	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.0%	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)	3	1105	352	79	782	1	243	2	68	8	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.5	5.9	5.2	7.5	5.9	5.2	5.9	5.2	5.2	5.9	5.9
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
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)	3	1201	383	86	850	1	264	2	74	9	1	5
RTOR Reduction (vph)	0	0	118	0	0	0	0	0	58	0	0	5
Lane Group Flow (vph)	3	1201	265	86	850	1	264	2	16	9	1	0
Turn Type	Prot		custom	Prot		custom	Prot		pm+ov	Prot		Perm
Protected Phases	7	4	2!	3	8	6!	5	2!	3	1	6!	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.1	72.9	87.6	13.1	72.9	74.8	15.1	14.7	27.8	2.3	1.9	1.9
Effective Green, g (s)	13.1	72.9	87.6	13.1	72.9	74.8	15.1	14.7	27.8	2.3	1.9	1.9
Actuated g/C Ratio	0.10	0.57	0.69	0.10	0.57	0.59	0.12	0.12	0.22	0.02	0.01	0.01
Clearance Time (s)	5.2	7.5	5.9	5.2	7.5	5.9	5.2	5.9	5.2	5.2	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	183	2035	1094	355	2035	934	409	410	347	62	53	24
v/s Ratio Prot	0.00	c0.34	c0.03	c0.03	0.24	0.00	c0.08	0.00	0.00	0.00	0.00	
v/s Ratio Perm			0.14			0.00			0.01			0.00
v/c Ratio	0.02	0.59	0.24	0.24	0.42	0.00	0.65	0.00	0.05	0.15	0.02	0.00
Uniform Delay, d1	51.1	17.3	7.3	52.3	15.1	10.7	53.3	49.6	39.0	61.3	61.5	61.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	1.3	0.1	0.4	0.6	0.0	3.5	0.0	0.1	1.1	0.1	0.1
Delay (s)	51.1	18.6	7.4	52.6	15.7	10.7	56.8	49.6	39.1	62.4	61.7	61.6
Level of Service	D	B	A	D	B	B	E	D	D	E	E	E
Approach Delay (s)		16.0			19.1			52.9			62.1	
Approach LOS		B			B			D			E	

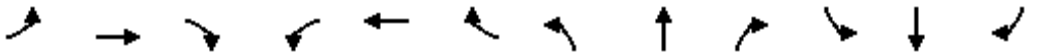
Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	126.8	Sum of lost time (s)	17.9
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

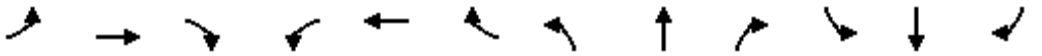
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	660	407	111	519	549	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	717	442	121	564	597	327
RTOR Reduction (vph)	0	320	0	0	0	299
Lane Group Flow (vph)	717	122	121	564	597	28
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	25.0	16.1	5.0	34.0	16.1	5.0
Effective Green, g (s)	25.0	16.1	5.0	34.0	16.1	5.0
Actuated g/C Ratio	0.43	0.28	0.09	0.59	0.28	0.09
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	802	439	152	2071	951	136
v/s Ratio Prot	c0.38	0.08	c0.07	0.16	c0.17	0.02
v/s Ratio Perm						
v/c Ratio	0.89	0.28	0.80	0.27	0.63	0.21
Uniform Delay, d1	15.3	16.5	26.0	5.9	18.4	24.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.4	1.6	24.3	0.1	3.1	0.8
Delay (s)	27.7	18.0	50.4	6.0	21.5	25.5
Level of Service	C	B	D	A	C	C
Approach Delay (s)	24.0			13.9	22.9	
Approach LOS	C			B	C	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.5%	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)	213	590	205	180	317	50	193	631	320	49	423	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3467		3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3467		3433	3539	1583	1770	3539	1583
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)	232	641	223	196	345	54	210	686	348	53	460	99
RTOR Reduction (vph)	0	0	167	0	16	0	0	0	191	0	0	69
Lane Group Flow (vph)	232	641	56	196	383	0	210	686	157	53	460	30
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	9.3	19.5	19.5	9.0	19.2		9.1	27.9	27.9	5.0	23.8	23.8
Effective Green, g (s)	9.3	19.5	19.5	9.0	19.2		9.1	27.9	27.9	5.0	23.8	23.8
Actuated g/C Ratio	0.12	0.25	0.25	0.12	0.25		0.12	0.36	0.36	0.06	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	412	892	399	399	860		404	1276	571	114	1088	487
v/s Ratio Prot	c0.07	c0.18		0.06	0.11		c0.06	c0.19		0.03	0.13	
v/s Ratio Perm			0.04						0.10			0.02
v/c Ratio	0.56	0.72	0.14	0.49	0.45		0.52	0.54	0.27	0.46	0.42	0.06
Uniform Delay, d1	32.1	26.4	22.5	32.1	24.6		32.1	19.6	17.6	34.9	21.3	18.9
Progression Factor	1.00	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	2.8	0.2	1.0	0.4		1.1	1.6	1.2	3.0	1.2	0.2
Delay (s)	33.9	29.2	22.6	33.0	25.0		33.2	21.3	18.8	37.9	22.5	19.2
Level of Service	C	C	C	C	C		C	C	B	D	C	B
Approach Delay (s)		28.9			27.6			22.6			23.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.6%	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)	168	3	239	3	7	3	324	1262	3	3	708	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	3433	3539	1583	3433	5084		3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	3433	3539	1583	3433	5084		3433	5085	1583
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)	183	3	260	3	8	3	352	1372	3	3	770	189
RTOR Reduction (vph)	0	0	225	0	0	3	0	0	0	0	0	113
Lane Group Flow (vph)	183	3	35	3	8	0	352	1375	0	3	770	76
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	5.7	7.0	7.0	0.6	1.9	1.9	7.1	27.1		0.6	20.6	20.6
Effective Green, g (s)	5.7	7.0	7.0	0.6	1.9	1.9	7.1	27.1		0.6	20.6	20.6
Actuated g/C Ratio	0.11	0.14	0.14	0.01	0.04	0.04	0.14	0.53		0.01	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	381	254	216	40	131	59	475	2686		40	2042	636
v/s Ratio Prot	c0.05	0.00		0.00	0.00		c0.10	c0.27		0.00	0.15	
v/s Ratio Perm			c0.02			0.00						0.05
v/c Ratio	0.48	0.01	0.16	0.07	0.06	0.00	0.74	0.51		0.07	0.38	0.12
Uniform Delay, d1	21.4	19.2	19.6	25.1	23.8	23.8	21.2	7.8		25.1	10.8	9.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	0.0	0.4	0.8	0.2	0.0	6.1	0.7		0.8	0.5	0.4
Delay (s)	22.4	19.2	19.9	25.9	24.0	23.8	27.4	8.5		25.9	11.4	10.0
Level of Service	C	B	B	C	C	C	C	A		C	B	B
Approach Delay (s)		20.9			24.4			12.4			11.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Appendix D

City of Oceanside Series 11 Sub-Area Model Network & Forecast Volume Plot

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SANDAG Series 11
Combined North County Model
Oceanside CE Update

Alternative BaseB1
2030 Functional Class Network

Functional Classifications:

- Freeway
- Prime
- Major
- Collector
- Local Collector
- Rural Collector
- Local
- Freeway Connector
- Ramp
- Zone Connector
- Light & Commuter Rail
- Zone Boundary

Intersection Controls:

- Signal
- All-Way Stop
- One-Way Stop
- Ramp Meter
- Rail Crossing

Speeds and Lanes:

- Adjusted Speed
- Modeled Speed
- Lanes
- Lane Imbalance
- Traffic Analysis Zone

Feet 0 900 1,800
Meters 108 324 540

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March 23, 2009

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SANDAG Series 11
Combined North County Model
Oceanside CE Update

Alternative B1
2030 Daily Traffic Volumes

Model Run 03/20/09
SR 11 CNCM OCEANSIDE CE - 2030RE BASE B1
2030 - Reasonably Expected

Functional Classifications:

- Freeway
- Prime
- Major
- Collector
- Local Collector
- Rural Collector
- Local
- Freeway Connector
- Ramp
- Zone Connector
- Light & Commuter Rail
- Zone Boundary

Forecasted Volumes:

- # Adjusted Volume
- # Unadjusted Volume
- # Traffic Analysis Zone

Feet 0 900 1,800
Meters 108 324 540

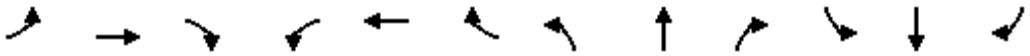
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San Diego's Regional Planning Agency

March 25, 2009

Appendix E

Modified 1995 CE Scenario Intersection Calculation Sheets & Peak Hour Warrant 3 Sheets

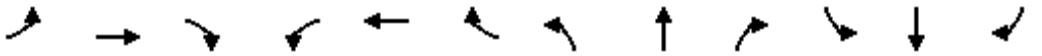
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	5	530	0	165	0	140	330	70	100	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.6	4.6	4.0		4.6	4.0		4.6	
Lane Util. Factor			1.00	0.95	0.95	1.00		0.95	1.00		0.95	
Frt			0.86	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (prot)			1611	1681	1681	1583		3539	1583		3456	
Flt Permitted			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (perm)			1611	1681	1681	1583		3539	1583		3456	
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)	0	0	5	576	0	179	0	152	359	76	109	5
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	288	288	179	0	152	359	0	188	0
Turn Type			custom	Prot		Free	Split		Free	Split		
Protected Phases				3	8		2	2		6	6	
Permitted Phases			4			Free			Free			
Actuated Green, G (s)			1.0	19.5	24.5	75.1		18.8	75.1		18.0	
Effective Green, g (s)			1.0	19.5	24.5	75.1		18.8	75.1		18.0	
Actuated g/C Ratio			0.01	0.26	0.33	1.00		0.25	1.00		0.24	
Clearance Time (s)			4.0	4.6	4.6			4.6			4.6	
Vehicle Extension (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			21	436	548	1583		886	1583		828	
v/s Ratio Prot				c0.17	c0.14			0.04			0.05	
v/s Ratio Perm			0.00		0.03	0.11			c0.23			
v/c Ratio			0.00	0.66	0.53	0.11		0.17	0.23		0.23	
Uniform Delay, d1			36.6	24.8	20.6	0.0		22.1	0.0		23.0	
Progression Factor			1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2			0.1	3.7	0.9	0.1		0.4	0.3		0.6	
Delay (s)			36.6	28.6	21.5	0.1		22.5	0.3		23.6	
Level of Service			D	C	C	A		C	A		C	
Approach Delay (s)		36.6			19.1			6.9			23.6	
Approach LOS		D			B			A			C	

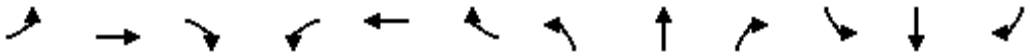
Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	4.6
Intersection Capacity Utilization	35.0%	ICU Level of Service	A
Analysis Period (min)	15		
Description: SR-76 & Coast Hwy			

c Critical Lane Group



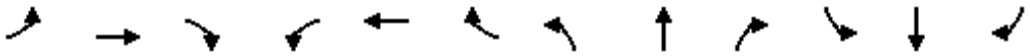
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	15	30	10	10	30	20	340	10	20	435	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1784	1583		1695		1770	3524		1770	3495	
Flt Permitted		0.71	1.00		0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1324	1583		1580		1770	3524		1770	3495	
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)	125	16	33	11	11	33	22	370	11	22	473	43
RTOR Reduction (vph)	0	0	27	0	27	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	141	6	0	28	0	22	378	0	22	509	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		8.2	8.2		8.2		1.5	10.6		10.7	19.8	
Effective Green, g (s)		8.2	8.2		8.2		1.5	10.6		10.7	19.8	
Actuated g/C Ratio		0.19	0.19		0.19		0.04	0.25		0.25	0.47	
Clearance Time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		255	305		305		62	879		446	1628	
v/s Ratio Prot							c0.01	c0.11		0.01	c0.15	
v/s Ratio Perm		c0.11	0.00		0.02							
v/c Ratio		0.55	0.02		0.09		0.35	0.43		0.05	0.31	
Uniform Delay, d1		15.5	13.9		14.1		20.0	13.4		12.0	7.1	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.6	0.0		0.1		3.5	0.3		0.0	0.1	
Delay (s)		18.1	13.9		14.2		23.5	13.7		12.1	7.2	
Level of Service		B	B		B		C	B		B	A	
Approach Delay (s)		17.3			14.2			14.3			7.4	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	42.5	Sum of lost time (s)	17.2
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



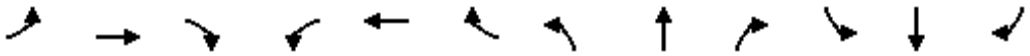
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	125	40	170	190	65	5	265	100	10	340	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0			5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95			0.95			0.95	
Frpb, ped/bikes		1.00	0.98		1.00			0.99			1.00	
Flpb, ped/bikes		1.00	1.00		1.00			1.00			1.00	
Frt		1.00	0.85		0.98			0.96			0.99	
Flt Protected		0.99	1.00		0.98			1.00			1.00	
Satd. Flow (prot)		3508	1549		3370			3372			3478	
Flt Permitted		0.87	1.00		0.77			0.95			0.94	
Satd. Flow (perm)		3079	1549		2638			3199			3269	
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)	27	136	43	185	207	71	5	288	109	11	370	38
RTOR Reduction (vph)	0	0	20	0	21	0	0	76	0	0	15	0
Lane Group Flow (vph)	0	163	23	0	442	0	0	326	0	0	404	0
Confl. Peds. (#/hr)	10		11	11		10			11			16
Confl. Bikes (#/hr)			1						2			2
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		27.1	27.1		27.1			13.0			13.0	
Effective Green, g (s)		27.1	27.1		27.1			13.0			13.0	
Actuated g/C Ratio		0.54	0.54		0.54			0.26			0.26	
Clearance Time (s)		5.0	5.0		5.0			5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0			4.0			4.0	
Lane Grp Cap (vph)		1665	838		1427			830			848	
v/s Ratio Prot												
v/s Ratio Perm		0.05	0.02		c0.17			0.10			c0.12	
v/c Ratio		0.10	0.03		0.31			0.39			0.48	
Uniform Delay, d1		5.6	5.4		6.3			15.3			15.7	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.1	0.1		0.6			0.4			0.6	
Delay (s)		5.7	5.4		6.9			15.7			16.3	
Level of Service		A	A		A			B			B	
Approach Delay (s)		5.6			6.9			15.7			16.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	50.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



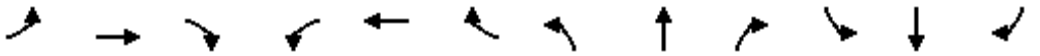
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	115	60	165	120	185	25	250	85	145	255	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.96	1.00	1.00	0.95	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1852	1520	1681	1755	1505	1770	3379		1770	3466	
Flt Permitted		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1852	1520	1681	1755	1505	1770	3379		1770	3466	
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)	16	125	65	179	130	201	27	272	92	158	277	27
RTOR Reduction (vph)	0	0	32	0	0	174	0	19	0	0	4	0
Lane Group Flow (vph)	0	141	33	152	157	27	27	345	0	158	300	0
Confl. Peds. (#/hr)	14		10	10		14			3			15
Confl. Bikes (#/hr)			4			5			3			3
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		13.8	13.8	16.9	16.9	16.9	4.5	59.1		15.4	70.0	
Effective Green, g (s)		13.8	13.8	16.9	16.9	16.9	4.5	59.1		15.4	70.0	
Actuated g/C Ratio		0.11	0.11	0.14	0.14	0.14	0.04	0.48		0.12	0.56	
Clearance Time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Vehicle Extension (s)		2.0	2.0	3.5	3.5	3.5	2.0	3.5		2.0	3.5	
Lane Grp Cap (vph)		206	169	229	239	205	64	1610		220	1957	
v/s Ratio Prot		c0.08		c0.09	0.09		0.02	c0.10		c0.09	0.09	
v/s Ratio Perm			0.02			0.02						
v/c Ratio		0.68	0.20	0.66	0.66	0.13	0.42	0.21		0.72	0.15	
Uniform Delay, d1		53.0	50.1	50.9	50.8	47.1	58.5	18.9		52.2	12.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.3	0.2	7.3	6.6	0.4	1.6	0.3		9.0	0.2	
Delay (s)		60.3	50.3	58.2	57.4	47.5	60.1	19.2		61.2	13.0	
Level of Service		E	D	E	E	D	E	B		E	B	
Approach Delay (s)		57.1			53.7			22.0			29.5	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



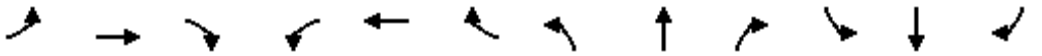
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	80	20	260	40	205	10	210	90	170	260	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		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		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.95		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1560		1785	1583	1770	3343		1770	3514	
Flt Permitted	0.95	1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1560		1785	1583	1770	3343		1770	3514	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	87	22	283	43	223	11	228	98	185	283	11
RTOR Reduction (vph)	0	0	20	0	0	187	0	47	0	0	3	0
Lane Group Flow (vph)	5	87	2	0	326	36	11	279	0	185	291	0
Confl. Peds. (#/hr)	7		2	2		7			5			8
Confl. Bikes (#/hr)						2			4			8
Turn Type	Split		Perm	Split		Over	Prot			Prot		
Protected Phases	4	4		8	8	1	5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.5	7.5	7.5		17.9	11.7	0.6	15.3		11.7	26.4	
Effective Green, g (s)	7.5	7.5	7.5		17.9	11.7	0.6	15.3		11.7	26.4	
Actuated g/C Ratio	0.10	0.10	0.10		0.25	0.16	0.01	0.21		0.16	0.37	
Clearance Time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Vehicle Extension (s)	3.5	3.5	3.5		3.0	2.0	2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	186	195	164		447	259	15	715		290	1297	
v/s Ratio Prot	0.00	c0.05			c0.18	0.02	0.01	c0.08		c0.10	0.08	
v/s Ratio Perm			0.00									
v/c Ratio	0.03	0.45	0.01		0.73	0.14	0.73	0.39		0.64	0.22	
Uniform Delay, d1	28.7	30.0	28.7		24.6	25.6	35.4	24.1		27.9	15.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.9	0.0		5.9	0.1	93.0	0.4		3.4	0.1	
Delay (s)	28.8	32.0	28.7		30.5	25.7	128.3	24.5		31.3	15.6	
Level of Service	C	C	C		C	C	F	C		C	B	
Approach Delay (s)		31.2			28.5			27.8			21.7	
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)	71.5	Sum of lost time (s)	19.1
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



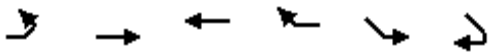
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	400	10	100	705	240	20	25	240	140	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	3526		1770	3539	1583	1770	1863	1583	1681	1682	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	
Satd. Flow (perm)	1770	3526		1770	3539	1583	1770	1863	1583	1681	1682	
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)	16	435	11	109	766	261	22	27	261	152	43	22
RTOR Reduction (vph)	0	2	0	0	0	201	0	0	201	0	13	0
Lane Group Flow (vph)	16	444	0	109	766	60	22	27	60	109	95	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.8	16.9		4.7	20.8	16.1	16.1	16.1	16.1	16.1	16.1	
Effective Green, g (s)	0.8	16.9		4.7	20.8	16.1	16.1	16.1	16.1	16.1	16.1	
Actuated g/C Ratio	0.01	0.24		0.07	0.30	0.23	0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	20	854		119	1055	365	408	430	365	388	388	
v/s Ratio Prot	0.01	0.13		c0.06	c0.22	0.04	0.01	0.01		c0.06	0.06	
v/s Ratio Perm									c0.04			
v/c Ratio	0.80	0.52		0.92	0.73	0.16	0.05	0.06	0.16	0.28	0.24	
Uniform Delay, d1	34.4	22.9		32.4	21.9	21.5	20.9	21.0	21.5	22.1	21.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	110.1	0.5		56.6	2.5	1.0	0.3	0.3	1.0	1.8	1.5	
Delay (s)	144.5	23.5		88.9	24.5	22.4	21.2	21.2	22.4	23.9	23.4	
Level of Service	F	C		F	C	C	C	C	C	C	C	
Approach Delay (s)		27.7			30.2			22.2			23.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.0%	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)	340	440	20	255	885	825	5	120	65	85	90	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.95		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)	3433	3516		1770	3539	1583	1770	1764		1681	1762	1583
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)	3433	3516		1770	3539	1583	1770	1764		1681	1762	1583
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)	370	478	22	277	962	897	5	130	71	92	98	125
RTOR Reduction (vph)	0	4	0	0	0	389	0	23	0	0	0	98
Lane Group Flow (vph)	370	496	0	277	962	508	5	178	0	83	107	28
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Actuated Green, G (s)	10.0	24.0		16.9	30.9	30.9	13.3	13.3		19.8	19.8	19.8
Effective Green, g (s)	10.0	24.0		16.9	30.9	30.9	13.3	13.3		19.8	19.8	19.8
Actuated g/C Ratio	0.11	0.27		0.19	0.34	0.34	0.15	0.15		0.22	0.22	0.22
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	381	938		332	1215	543	262	261		370	388	348
v/s Ratio Prot	c0.11	0.14		c0.16	0.27		0.00	c0.10		0.05	c0.06	
v/s Ratio Perm						c0.32						0.02
v/c Ratio	0.97	0.53		0.83	0.79	0.94	0.02	0.68		0.22	0.28	0.08
Uniform Delay, d1	39.9	28.2		35.2	26.6	28.6	32.8	36.3		28.8	29.1	27.9
Progression Factor	1.00	1.00		0.98	1.29	1.94	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	38.3	0.5		4.6	0.9	8.2	0.0	7.2		1.4	1.8	0.4
Delay (s)	78.2	28.7		39.1	35.3	63.7	32.8	43.5		30.2	30.9	28.3
Level of Service	E	C		D	D	E	C	D		C	C	C
Approach Delay (s)		49.7			47.7			43.2			29.7	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

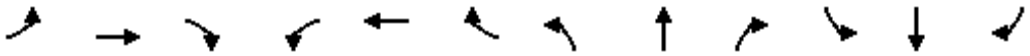


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	120	470	1405	250	690	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3459		3433	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3459		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	511	1527	272	750	609
RTOR Reduction (vph)	0	0	16	0	0	11
Lane Group Flow (vph)	130	511	1783	0	750	598
Turn Type	Prot					pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases						
Actuated Green, G (s)	7.0	57.0	46.0		25.0	36.0
Effective Green, g (s)	7.0	57.0	46.0		25.0	36.0
Actuated g/C Ratio	0.08	0.63	0.51		0.28	0.40
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	138	2241	1768		954	633
v/s Ratio Prot	0.07	0.14	c0.52		0.22	c0.38
v/s Ratio Perm						
v/c Ratio	0.94	0.23	1.01		0.79	0.94
Uniform Delay, d1	41.3	7.1	22.0		30.0	26.0
Progression Factor	1.03	0.55	1.00		1.00	1.00
Incremental Delay, d2	54.6	0.0	23.5		6.5	22.8
Delay (s)	97.3	3.9	45.5		36.5	48.8
Level of Service	F	A	D		D	D
Approach Delay (s)		22.9	45.5		42.0	
Approach LOS		C	D		D	

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

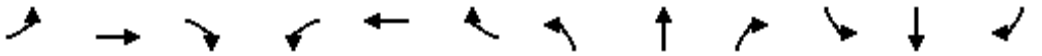
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	95	590	165	125	1010	110	150	125	95	270	80	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3310		3433	3251	
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)	1770	3539	1583	1770	3539	1583	3433	3310		3433	3251	
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)	103	641	179	136	1098	120	163	136	103	293	87	103
RTOR Reduction (vph)	0	0	117	0	0	73	0	90	0	0	79	0
Lane Group Flow (vph)	103	641	62	136	1098	47	163	149	0	293	111	0
Turn Type	Prot		Over	Prot		Perm	Split			Split		
Protected Phases	7	4	2	3	8		6	6		2	2	
Permitted Phases						8						
Actuated Green, G (s)	5.0	22.4	17.0	8.6	26.0	26.0	9.4	9.4		17.0	17.0	
Effective Green, g (s)	5.0	22.4	17.0	8.6	26.0	26.0	9.4	9.4		17.0	17.0	
Actuated g/C Ratio	0.07	0.31	0.23	0.12	0.35	0.35	0.13	0.13		0.23	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	121	1080	367	207	1254	561	440	424		795	753	
v/s Ratio Prot	c0.06	0.18	0.04	0.08	c0.31		c0.05	0.05		c0.09	0.03	
v/s Ratio Perm						0.03						
v/c Ratio	0.85	0.59	0.17	0.66	0.88	0.08	0.37	0.35		0.37	0.15	
Uniform Delay, d1	33.8	21.6	22.6	31.0	22.2	15.8	29.3	29.2		23.7	22.4	
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	40.4	0.9	1.0	7.3	7.1	0.1	0.5	0.5		1.3	0.4	
Delay (s)	74.2	22.5	23.6	38.3	29.3	15.8	29.8	29.7		25.0	22.8	
Level of Service	E	C	C	D	C	B	C	C		C	C	
Approach Delay (s)		28.5			29.0			29.8			24.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



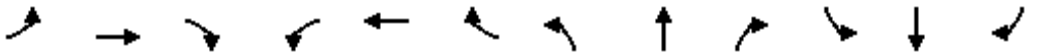
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	365	15	10	635	685	20	40	35	225	5	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3519		1770	3539	1583		1832	1583	1681	1641	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3519		1770	3539	1583		1832	1583	1681	1641	
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)	293	397	16	11	690	745	22	43	38	245	5	38
RTOR Reduction (vph)	0	3	0	0	0	312	0	0	33	0	15	0
Lane Group Flow (vph)	293	410	0	11	690	433	0	65	5	147	126	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	16.0	36.4		0.8	21.2	24.0		12.8	12.8	24.0	24.0	
Effective Green, g (s)	16.0	36.4		0.8	21.2	24.0		12.8	12.8	24.0	24.0	
Actuated g/C Ratio	0.18	0.40		0.01	0.24	0.27		0.14	0.14	0.27	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	315	1423		16	834	422		261	225	448	438	
v/s Ratio Prot	c0.17	0.12		0.01	c0.19	c0.27		c0.04		0.09	0.08	
v/s Ratio Perm									0.00			
v/c Ratio	0.93	0.29		0.69	0.83	1.03		0.25	0.02	0.33	0.29	
Uniform Delay, d1	36.4	18.1		44.5	32.7	33.0		34.3	33.2	26.5	26.2	
Progression Factor	1.00	1.00		1.08	0.94	2.09		1.00	1.00	1.00	1.00	
Incremental Delay, d2	33.0	0.1		59.8	4.7	43.1		2.3	0.2	1.9	1.7	
Delay (s)	69.4	18.2		107.8	35.5	112.1		36.6	33.4	28.5	27.9	
Level of Service	E	B		F	D	F		D	C	C	C	
Approach Delay (s)		39.4			75.5			35.4			28.2	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM Average Control Delay	58.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



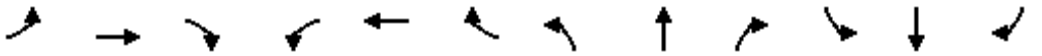
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	440	90	40	970	360	95	65	20	295	130	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1770	3449		1770	3539	1583	1681	1752	1583	1681	1735	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (perm)	1770	3449		1770	3539	1583	1681	1752	1583	1681	1735	1583
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)	103	478	98	43	1054	391	103	71	22	321	141	288
RTOR Reduction (vph)	0	18	0	0	0	246	0	0	18	0	0	229
Lane Group Flow (vph)	103	558	0	43	1054	145	85	89	4	228	234	59
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	7.2	36.1		3.9	32.8	32.8	15.7	15.7	15.7	18.3	18.3	18.3
Effective Green, g (s)	7.2	36.1		3.9	32.8	32.8	15.7	15.7	15.7	18.3	18.3	18.3
Actuated g/C Ratio	0.08	0.40		0.04	0.36	0.36	0.17	0.17	0.17	0.20	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	142	1383		77	1290	577	293	306	276	342	353	322
v/s Ratio Prot	c0.06	c0.16		0.02	c0.30		0.05	c0.05		c0.14	0.13	
v/s Ratio Perm						0.09			0.00			0.04
v/c Ratio	0.73	0.40		0.56	0.82	0.25	0.29	0.29	0.01	0.67	0.66	0.18
Uniform Delay, d1	40.4	19.3		42.2	25.9	20.0	32.3	32.3	30.7	33.0	33.0	29.7
Progression Factor	1.02	0.67		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.3	0.2		8.5	4.1	0.2	2.5	2.4	0.1	4.9	4.6	0.3
Delay (s)	57.6	13.1		50.7	30.0	20.2	34.8	34.7	30.8	37.9	37.6	29.9
Level of Service	E	B		D	C	C	C	C	C	D	D	C
Approach Delay (s)		19.9			28.0			34.3			34.8	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



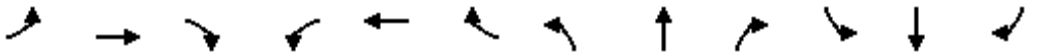
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	555	110	60	1005	20	115	65	85	105	120	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3451		1770	3529		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3451		1770	3529		1770	1863	1583	1770	1863	1583
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)	87	603	120	65	1092	22	125	71	92	114	130	147
RTOR Reduction (vph)	0	20	0	0	2	0	0	0	73	0	0	117
Lane Group Flow (vph)	87	703	0	65	1112	0	125	71	19	114	130	30
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.9	26.8		4.5	27.4		16.1	16.1	16.1	16.1	16.1	16.1
Effective Green, g (s)	3.9	26.8		4.5	27.4		16.1	16.1	16.1	16.1	16.1	16.1
Actuated g/C Ratio	0.05	0.34		0.06	0.34		0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	87	1163		100	1216		358	377	321	358	377	321
v/s Ratio Prot	c0.05	0.20		0.04	c0.32		c0.07	0.04		0.06	c0.07	
v/s Ratio Perm									0.01			0.02
v/c Ratio	1.00	0.60		0.65	0.91		0.35	0.19	0.06	0.32	0.34	0.09
Uniform Delay, d1	37.8	21.9		36.7	24.9		27.2	26.3	25.6	27.0	27.2	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	96.5	0.9		14.1	10.6		2.7	1.1	0.3	2.3	2.5	0.6
Delay (s)	134.3	22.8		50.8	35.6		29.9	27.4	25.9	29.4	29.7	26.3
Level of Service	F	C		D	D		C	C	C	C	C	C
Approach Delay (s)		34.8			36.4			28.0			28.3	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



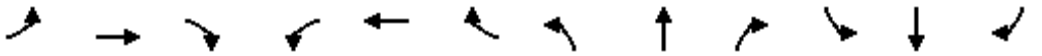
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	1170	165	355	3025	140	345	250	145	405	505	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
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)	82	1272	179	386	3288	152	375	272	158	440	549	163
RTOR Reduction (vph)	0	0	93	0	0	62	0	0	137	0	0	74
Lane Group Flow (vph)	82	1272	86	386	3288	90	375	272	21	440	549	89
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	4.0	62.1	62.1	18.9	77.0	77.0	13.0	17.0	17.0	16.0	20.0	20.0
Effective Green, g (s)	4.0	62.1	62.1	18.9	77.0	77.0	13.0	17.0	17.0	16.0	20.0	20.0
Actuated g/C Ratio	0.03	0.48	0.48	0.15	0.59	0.59	0.10	0.13	0.13	0.12	0.15	0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	106	2429	756	499	3012	938	343	665	207	423	544	429
v/s Ratio Prot	0.02	0.25		c0.11	c0.65		0.11	0.05		c0.13	c0.16	
v/s Ratio Perm			0.05			0.06			0.01			0.03
v/c Ratio	0.77	0.52	0.11	0.77	1.09	0.10	1.09	0.41	0.10	1.04	1.01	0.21
Uniform Delay, d1	62.6	23.6	18.7	53.5	26.5	11.5	58.5	51.9	49.8	57.0	55.0	48.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.8	0.2	0.1	7.3	47.4	0.0	76.0	1.9	1.0	54.6	40.9	1.1
Delay (s)	91.4	23.9	18.8	60.8	73.9	11.5	134.5	53.7	50.7	111.6	95.9	49.2
Level of Service	F	C	B	E	E	B	F	D	D	F	F	D
Approach Delay (s)		26.9			70.1			90.8			95.3	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	67.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



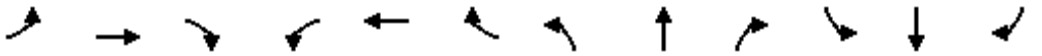
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	330	110	110	450	205	125	330	140	160	850	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3373		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3373		1770	3539	1583	1770	3539	1583
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)	250	359	120	120	489	223	136	359	152	174	924	478
RTOR Reduction (vph)	0	0	0	0	58	0	0	0	123	0	0	279
Lane Group Flow (vph)	250	359	120	120	654	0	136	359	29	174	924	199
Turn Type	Split		Free	Split			Split		Over	Split		Over
Protected Phases	4	4		8	8		2	2	8	6	6	4
Permitted Phases			Free									
Actuated Green, G (s)	15.0	15.0	89.0	17.0	17.0		17.0	17.0	17.0	24.0	24.0	15.0
Effective Green, g (s)	15.0	15.0	89.0	17.0	17.0		17.0	17.0	17.0	24.0	24.0	15.0
Actuated g/C Ratio	0.17	0.17	1.00	0.19	0.19		0.19	0.19	0.19	0.27	0.27	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	579	596	1583	656	644		338	676	302	477	954	267
v/s Ratio Prot	0.07	0.10		0.03	c0.19		0.08	c0.10	0.02	0.10	c0.26	c0.13
v/s Ratio Perm			0.08									
v/c Ratio	0.43	0.60	0.08	0.18	1.02		0.40	0.53	0.10	0.36	0.97	0.75
Uniform Delay, d1	33.2	34.2	0.0	30.2	36.0		31.5	32.4	29.7	26.3	32.1	35.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7	0.1	0.1	39.3		3.5	3.0	0.1	2.2	22.5	10.8
Delay (s)	33.7	36.0	0.1	30.3	75.3		35.1	35.4	29.8	28.5	54.6	46.0
Level of Service	C	D	A	C	E		D	D	C	C	D	D
Approach Delay (s)		29.3			68.8			34.0			49.1	
Approach LOS		C			E			C			D	

Intersection Summary			
HCM Average Control Delay	47.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



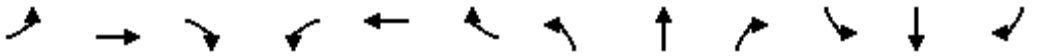
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	125	120	645	175	65	60	415	180	45	1075	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1726		3433	1863	1583	1770	3539	1583	1770	3527	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1726		3433	1863	1583	1770	3539	1583	1770	3527	
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)	33	136	130	701	190	71	65	451	196	49	1168	27
RTOR Reduction (vph)	0	39	0	0	0	45	0	0	120	0	2	0
Lane Group Flow (vph)	33	227	0	701	190	26	65	451	76	49	1193	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	2.9	16.2		19.4	32.7	32.7	3.1	34.6	34.6	3.5	35.0	
Effective Green, g (s)	2.9	16.2		19.4	32.7	32.7	3.1	34.6	34.6	3.5	35.0	
Actuated g/C Ratio	0.03	0.18		0.22	0.36	0.36	0.03	0.39	0.39	0.04	0.39	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	57	312		742	679	577	61	1365	611	69	1376	
v/s Ratio Prot	0.02	c0.13		c0.20	0.10		c0.04	0.13		0.03	c0.34	
v/s Ratio Perm						0.02			0.05			
v/c Ratio	0.58	0.73		0.94	0.28	0.04	1.07	0.33	0.12	0.71	0.87	
Uniform Delay, d1	42.8	34.7		34.6	20.2	18.4	43.3	19.4	17.8	42.6	25.2	
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	13.5	8.3		20.5	0.2	0.0	134.6	0.6	0.4	29.0	7.6	
Delay (s)	56.3	42.9		55.2	20.4	18.4	177.9	20.0	18.2	71.6	32.8	
Level of Service	E	D		E	C	B	F	C	B	E	C	
Approach Delay (s)		44.4			45.6			33.9			34.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	38.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



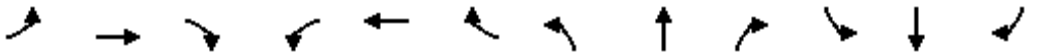
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	375	1055	125	465	995	180	175	1545	485	155	950	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
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)	408	1147	136	505	1082	196	190	1679	527	168	1033	228
RTOR Reduction (vph)	0	0	57	0	0	137	0	0	186	0	0	0
Lane Group Flow (vph)	408	1147	79	505	1082	59	190	1679	341	168	1033	228
Turn Type	Prot		Perm	Prot		Over	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4						2			Free
Actuated Green, G (s)	12.0	31.0	31.0	15.0	34.0	5.0	6.0	33.0	33.0	5.0	32.0	100.0
Effective Green, g (s)	12.0	31.0	31.0	15.0	34.0	5.0	6.0	33.0	33.0	5.0	32.0	100.0
Actuated g/C Ratio	0.12	0.31	0.31	0.15	0.34	0.05	0.06	0.33	0.33	0.05	0.32	1.00
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	412	1097	491	515	1203	79	206	1678	522	172	1132	1583
v/s Ratio Prot	0.12	c0.32		c0.15	c0.31	0.04	c0.06	c0.33		0.05	0.29	
v/s Ratio Perm			0.05						0.22			c0.14
v/c Ratio	0.99	1.05	0.16	0.98	0.90	0.75	0.92	1.00	0.65	0.98	0.91	0.14
Uniform Delay, d1	43.9	34.5	25.1	42.4	31.4	46.9	46.8	33.5	28.6	47.4	32.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	41.6	39.9	0.2	34.5	9.2	31.7	41.4	22.1	6.2	61.1	12.6	0.2
Delay (s)	85.6	74.4	25.2	76.9	40.5	78.6	88.2	55.6	34.8	108.6	45.2	0.2
Level of Service	F	E	C	E	D	E	F	E	C	F	D	A
Approach Delay (s)		73.1			55.0			53.6			45.5	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	56.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



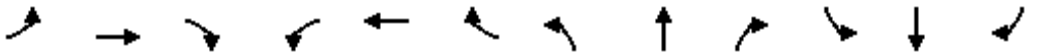
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	70	95	380	150	95	185	1000	310	150	1725	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.96		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	3539	1583	3433	3334		3433	4905		3433	5070	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3334		3433	4905		3433	5070	
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)	38	76	103	413	163	103	201	1087	337	163	1875	38
RTOR Reduction (vph)	0	0	94	0	82	0	0	31	0	0	1	0
Lane Group Flow (vph)	38	76	9	413	184	0	201	1393	0	163	1912	0
Turn Type	Prot		Over	Prot			Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.2	6.3	11.5	18.7	17.8		11.5	81.3		5.0	74.8	
Effective Green, g (s)	7.2	6.3	11.5	18.7	17.8		11.5	81.3		5.0	74.8	
Actuated g/C Ratio	0.05	0.05	0.09	0.14	0.13		0.09	0.61		0.04	0.56	
Clearance Time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Vehicle Extension (s)	3.0	2.0	1.2	2.0	2.0		1.2	5.0		0.8	5.8	
Lane Grp Cap (vph)	95	167	136	481	444		296	2985		128	2839	
v/s Ratio Prot	0.02	0.02	0.01	c0.12	c0.06		c0.06	0.28		c0.05	c0.38	
v/s Ratio Perm												
v/c Ratio	0.40	0.46	0.07	0.86	0.41		0.68	0.47		1.27	0.67	
Uniform Delay, d1	61.1	62.0	56.1	56.2	53.1		59.3	14.3		64.3	20.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	0.7	0.1	13.7	0.2		4.8	0.5		170.4	1.3	
Delay (s)	63.9	62.7	56.2	69.8	53.3		64.1	14.8		234.7	22.1	
Level of Service	E	E	E	E	D		E	B		F	C	
Approach Delay (s)		59.8			63.4			20.9			38.8	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM Average Control Delay	37.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	133.6	Sum of lost time (s)	16.7
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



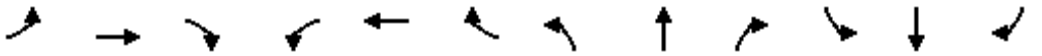
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	610	5	560	140	935	0	0	1750	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	1.00
Frt				1.00	0.93	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1534	1504	3433	5085			5085	1583
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1534	1504	3433	5085			5085	1583
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)	0	0	0	663	5	609	152	1016	0	0	1902	489
RTOR Reduction (vph)	0	0	0	0	32	75	0	0	0	0	0	251
Lane Group Flow (vph)	0	0	0	444	399	327	152	1016	0	0	1902	238
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.0	31.0	29.9	9.8	58.0			44.0	44.0
Effective Green, g (s)				31.0	31.0	29.9	9.8	58.0			44.0	44.0
Actuated g/C Ratio				0.31	0.31	0.30	0.10	0.58			0.44	0.44
Clearance Time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				521	476	450	336	2949			2237	697
v/s Ratio Prot				c0.26	0.26		c0.04	0.20			c0.37	
v/s Ratio Perm						0.22						0.15
v/c Ratio				0.85	0.84	0.73	0.45	0.34			0.85	0.34
Uniform Delay, d1				32.4	32.2	31.4	42.6	11.0			25.1	18.5
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				12.7	12.2	5.8	1.0	0.3			4.3	1.3
Delay (s)				45.1	44.3	37.2	43.5	11.3			29.3	19.8
Level of Service				D	D	D	D	B			C	B
Approach Delay (s)		0.0			42.3			15.5			27.4	
Approach LOS		A			D			B			C	

Intersection Summary			
HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



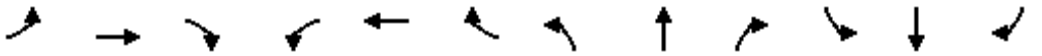
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	0	170	0	0	0	0	735	440	605	1745	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Lane Util. Factor	0.97		1.00					0.91	1.00	0.97	0.91	
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)	3433		1583					5085	1583	3433	5085	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					5085	1583	3433	5085	
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)	370	0	185	0	0	0	0	799	478	658	1897	0
RTOR Reduction (vph)	0	0	19	0	0	0	0	0	244	0	0	0
Lane Group Flow (vph)	370	0	166	0	0	0	0	799	234	658	1897	0
Turn Type	Prot		custom						Perm	Prot		
Protected Phases	7							2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	19.4		18.3					60.5	60.5	29.4	94.6	
Effective Green, g (s)	19.4		18.3					60.5	60.5	29.4	94.6	
Actuated g/C Ratio	0.16		0.15					0.48	0.48	0.24	0.76	
Clearance Time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	533		232					2461	766	807	3848	
v/s Ratio Prot	c0.11							0.16		c0.19	c0.37	
v/s Ratio Perm			0.10						0.15			
v/c Ratio	0.69		0.72					0.32	0.31	0.82	0.49	
Uniform Delay, d1	50.0		50.9					19.7	19.5	45.2	5.9	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.9		10.1					0.4	1.0	6.4	0.5	
Delay (s)	53.9		60.9					20.1	20.6	51.6	6.4	
Level of Service	D		E					C	C	D	A	
Approach Delay (s)		56.2			0.0			20.3			18.0	
Approach LOS		E			A			C			B	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	8.7
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)	10	125	530	210	120	5	550	35	250	10	110	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.88	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	2787	3433	1852		3433	1863	2787	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	2787	3433	1852		3433	1863	2787	1770	1863	1583
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)	11	136	576	228	130	5	598	38	272	11	120	27
RTOR Reduction (vph)	0	0	451	0	2	0	0	0	247	0	0	19
Lane Group Flow (vph)	11	136	125	228	133	0	598	38	25	11	120	8
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	0.7	8.9	14.3	6.1	14.3		14.3	34.2	6.1	0.7	20.6	20.6
Effective Green, g (s)	0.7	8.9	14.3	6.1	14.3		14.3	34.2	6.1	0.7	20.6	20.6
Actuated g/C Ratio	0.01	0.14	0.22	0.09	0.22		0.22	0.52	0.09	0.01	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	19	478	605	318	402		745	967	258	19	582	495
v/s Ratio Prot	0.01	0.04	0.04	c0.07	c0.07		c0.17	0.02	0.01	0.01	c0.06	
v/s Ratio Perm												0.01
v/c Ratio	0.58	0.28	0.21	0.72	0.33		0.80	0.04	0.10	0.58	0.21	0.02
Uniform Delay, d1	32.5	25.6	21.1	29.1	21.8		24.5	7.8	27.4	32.5	16.6	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.3	0.3	0.2	7.5	0.5		6.2	0.1	0.2	36.3	0.8	0.1
Delay (s)	68.7	26.0	21.3	36.6	22.2		30.7	7.9	27.5	68.7	17.4	15.7
Level of Service	E	C	C	D	C		C	A	C	E	B	B
Approach Delay (s)		22.9			31.2			28.8			20.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	65.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

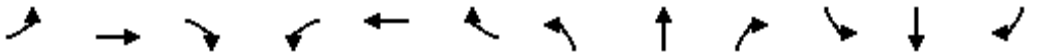


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	80	255	830	30	30	135	585	430	70	1010	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.91	0.91		1.00	0.95	0.88	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1610	3217		1770	3539	2787	1770	3534	
Flt Permitted	0.95	1.00	1.00	0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1610	3217		1770	3539	2787	1770	3534	
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)	54	87	277	902	33	33	147	636	467	76	1098	11
RTOR Reduction (vph)	0	0	194	0	4	0	0	0	337	0	1	0
Lane Group Flow (vph)	54	87	83	451	513	0	147	636	130	76	1108	0
Turn Type	Split		Perm	Split			Prot		Over	Prot		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases			4									
Actuated Green, G (s)	10.6	10.6	10.6	24.1	24.1		10.9	28.4	24.1	7.6	25.1	
Effective Green, g (s)	10.6	10.6	10.6	24.1	24.1		10.9	28.4	24.1	7.6	25.1	
Actuated g/C Ratio	0.12	0.12	0.12	0.28	0.28		0.13	0.33	0.28	0.09	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	216	433	194	448	894		223	1159	775	155	1023	
v/s Ratio Prot	0.03	0.02		c0.28	0.16		c0.08	c0.18	0.05	0.04	c0.31	
v/s Ratio Perm			c0.05									
v/c Ratio	0.25	0.20	0.43	1.01	0.95dl		0.66	0.55	0.17	0.49	1.08	
Uniform Delay, d1	34.5	34.2	35.2	31.3	26.9		36.1	23.9	23.7	37.7	30.8	
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	0.6	0.2	1.5	44.2	0.9		6.9	1.9	0.1	2.4	53.5	
Delay (s)	35.1	34.5	36.8	75.5	27.8		43.0	25.8	23.8	40.1	84.3	
Level of Service	D	C	D	E	C		D	C	C	D	F	
Approach Delay (s)		36.1			50.0			27.1			81.5	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM Average Control Delay	50.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	86.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

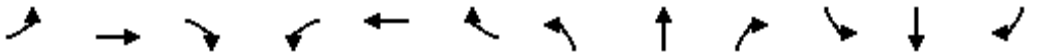
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



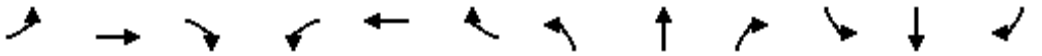
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	5	75	85	55	10	85	565	50	5	1405	1050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		1808	1583	1770	3496		1770	3539	2787
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		1808	1583	1770	3496		1770	3539	2787
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)	359	5	82	92	60	11	92	614	54	5	1527	1141
RTOR Reduction (vph)	0	0	0	0	0	4	0	4	0	0	0	0
Lane Group Flow (vph)	359	5	82	0	152	7	92	664	0	5	1527	1141
Turn Type	Split		Free	Split		Perm	Prot			Prot		Over
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			Free			8						
Actuated Green, G (s)	53.0	53.0	152.4		15.2	15.2	6.0	67.4		0.8	62.2	53.0
Effective Green, g (s)	53.0	53.0	152.4		15.2	15.2	6.0	67.4		0.8	62.2	53.0
Actuated g/C Ratio	0.35	0.35	1.00		0.10	0.10	0.04	0.44		0.01	0.41	0.35
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1194	648	1583		180	158	70	1546		9	1444	969
v/s Ratio Prot	0.10	0.00			c0.08		c0.05	0.19		0.00	c0.43	c0.41
v/s Ratio Perm			0.05			0.00						
v/c Ratio	0.30	0.01	0.05		0.84	0.05	1.31	0.43		0.56	1.06	1.18
Uniform Delay, d1	36.2	32.5	0.0		67.4	62.0	73.2	29.3		75.6	45.1	49.7
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	0.1	0.0	0.1		28.7	0.1	212.9	0.9		58.1	40.5	90.7
Delay (s)	36.3	32.5	0.1		96.1	62.2	286.1	30.1		133.7	85.6	140.4
Level of Service	D	C	A		F	E	F	C		F	F	F
Approach Delay (s)		29.6			93.8			61.1			109.1	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM Average Control Delay	90.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	152.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



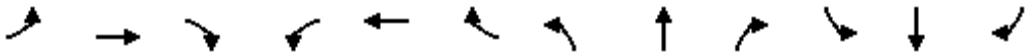
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	325	140	45	535	260	185	475	30	760	1040	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.91	0.91		0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.99	
Satd. Flow (prot)	3433	3539	1583	1770	3366		1610	3355		1610	3334	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.99	
Satd. Flow (perm)	3433	3539	1583	1770	3366		1610	3355		1610	3334	
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)	60	353	152	49	582	283	201	516	33	826	1130	103
RTOR Reduction (vph)	0	0	119	0	54	0	0	4	0	0	5	0
Lane Group Flow (vph)	60	353	33	49	811	0	181	565	0	669	1385	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	3.2	23.5	23.5	4.7	25.0		20.0	20.0		45.0	45.0	
Effective Green, g (s)	3.2	23.5	23.5	4.7	25.0		20.0	20.0		45.0	45.0	
Actuated g/C Ratio	0.03	0.22	0.22	0.04	0.23		0.18	0.18		0.41	0.41	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	101	762	341	76	771		295	614		663	1374	
v/s Ratio Prot	0.02	0.10		c0.03	c0.24		0.11	c0.17		c0.42	0.42	
v/s Ratio Perm			0.02									
v/c Ratio	0.59	0.46	0.10	0.64	1.05		0.61	0.92		1.01	1.01	
Uniform Delay, d1	52.4	37.4	34.3	51.4	42.1		41.0	43.8		32.1	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.0	0.4	0.1	17.2	46.9		9.2	21.2		37.2	26.2	
Delay (s)	61.4	37.8	34.5	68.7	89.0		50.2	65.0		69.3	58.3	
Level of Service	E	D	C	E	F		D	E		E	E	
Approach Delay (s)		39.4			87.9			61.5			61.9	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	64.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	109.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



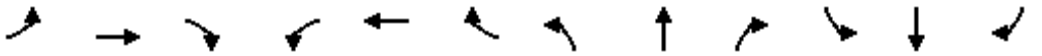
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	1080	375	325	2270	125	315	265	330	45	370	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		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)	1770	5085	1583	1770	5085	1583	3433	3245		3433	3470	
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)	1770	5085	1583	1770	5085	1583	3433	3245		3433	3470	
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)	16	1174	408	353	2467	136	342	288	359	49	402	60
RTOR Reduction (vph)	0	0	210	0	0	61	0	185	0	0	10	0
Lane Group Flow (vph)	16	1174	198	353	2467	75	342	462	0	49	452	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)	1.5	39.7	39.7	27.2	65.4	65.4	14.5	31.4		4.0	20.9	
Effective Green, g (s)	1.5	39.7	39.7	27.2	65.4	65.4	14.5	31.4		4.0	20.9	
Actuated g/C Ratio	0.01	0.34	0.34	0.23	0.55	0.55	0.12	0.27		0.03	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	22	1706	531	407	2811	875	421	861		116	613	
v/s Ratio Prot	0.01	0.23		c0.20	c0.49		c0.10	0.14		0.01	c0.13	
v/s Ratio Perm			0.13			0.05						
v/c Ratio	0.73	0.69	0.37	0.87	0.88	0.09	0.81	0.54		0.42	0.74	
Uniform Delay, d1	58.2	34.0	29.8	43.8	23.0	12.4	50.6	37.2		56.0	46.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	76.4	1.2	0.4	17.4	3.4	0.0	11.4	2.4		2.5	7.7	
Delay (s)	134.6	35.1	30.3	61.2	26.4	12.5	61.9	39.6		58.5	53.8	
Level of Service	F	D	C	E	C	B	E	D		E	D	
Approach Delay (s)		34.9			29.9			47.3			54.3	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	36.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	118.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	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)	250	140	85	305	535	265	65	540	135	230	700	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.95		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3339		1770	3363		1770	3433		1770	3356	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3339		1770	3363		1770	3433		1770	3356	
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)	272	152	92	332	582	288	71	587	147	250	761	402
RTOR Reduction (vph)	0	74	0	0	68	0	0	25	0	0	77	0
Lane Group Flow (vph)	272	170	0	332	802	0	71	709	0	250	1086	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.0	17.4		19.6	22.0		4.0	24.0		13.0	33.0	
Effective Green, g (s)	15.0	17.4		19.6	22.0		4.0	24.0		13.0	33.0	
Actuated g/C Ratio	0.17	0.19		0.22	0.24		0.04	0.27		0.14	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	646		385	822		79	915		256	1231	
v/s Ratio Prot	0.15	0.05		c0.19	c0.24		0.04	0.21		c0.14	c0.32	
v/s Ratio Perm												
v/c Ratio	0.92	0.26		0.86	0.98		0.90	0.77		0.98	0.88	
Uniform Delay, d1	36.9	30.8		33.9	33.7		42.8	30.5		38.3	26.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.6	0.2		17.7	25.3		67.3	6.4		49.2	9.3	
Delay (s)	69.5	31.1		51.6	59.0		110.1	36.9		87.6	36.0	
Level of Service	E	C		D	E		F	D		F	D	
Approach Delay (s)		51.3			57.0			43.3			45.1	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.3%	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)	185	810	195	190	1110	130	180	495	150	245	760	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4937		3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4937		3433	5085	1583	3433	3539	1583	3433	3539	1583
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)	201	880	212	207	1207	141	196	538	163	266	826	196
RTOR Reduction (vph)	0	51	0	0	0	123	0	0	116	0	0	179
Lane Group Flow (vph)	201	1041	0	207	1207	18	196	538	47	266	826	17
Turn Type	Prot			Prot		Over	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases									2			
Actuated Green, G (s)	7.0	22.8		7.9	23.7	10.3	7.0	22.8	22.8	10.3	26.1	7.0
Effective Green, g (s)	7.0	22.8		7.9	23.7	10.3	7.0	22.8	22.8	10.3	26.1	7.0
Actuated g/C Ratio	0.09	0.29		0.10	0.30	0.13	0.09	0.29	0.29	0.13	0.33	0.09
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	301	1411		340	1510	204	301	1011	452	443	1157	139
v/s Ratio Prot	0.06	0.21		c0.06	c0.24	0.01	0.06	0.15		c0.08	c0.23	0.01
v/s Ratio Perm									0.03			
v/c Ratio	0.67	0.74		0.61	0.80	0.09	0.65	0.53	0.10	0.60	0.71	0.12
Uniform Delay, d1	35.3	25.8		34.5	25.9	30.6	35.2	24.0	21.0	32.8	23.6	33.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.5	2.1		3.1	3.1	0.2	5.0	2.0	0.5	2.3	3.8	0.4
Delay (s)	40.8	27.9		37.5	28.9	30.8	40.2	26.0	21.4	35.1	27.3	34.0
Level of Service	D	C		D	C	C	D	C	C	D	C	C
Approach Delay (s)		29.9			30.2			28.3			30.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	29.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Oceanside Circulation Element Update
AWSC Intersection Analysis

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #27 Rancho Del Oro Rd & Vista Del Oro Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.469
Loss Time (sec):	0	Average Delay (sec/veh):	148.1
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Vista Del Oro Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	10	860	60	100	1370	20	35	15	55	80	5	65
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:	10	860	60	100	1370	20	35	15	55	80	5	65
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:	11	935	65	109	1489	22	38	16	60	87	5	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	935	65	109	1489	22	38	16	60	87	5	71
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:	11	935	65	109	1489	22	38	16	60	87	5	71
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.87	0.13	1.00	1.97	0.03	0.33	0.14	0.53	0.54	0.03	0.43
Final Sat.:	471	949	67	478	1013	15	159	68	251	262	16	213
Capacity Analysis Module:												
Vol/Sat:	0.02	0.98	0.98	0.23	1.47	1.47	0.24	0.24	0.24	0.33	0.33	0.33
Crit Moves:		****			****			****				****
Delay/Veh:	10.5	62.5	60.6	12.4	240	239.4	12.6	12.6	12.6	13.7	13.7	13.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.5	62.5	60.6	12.4	240	239.4	12.6	12.6	12.6	13.7	13.7	13.7
LOS by Move:	B	F	F	B	F	F	B	B	B	B	B	B
ApproachDel:		61.8			225.0			12.6			13.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		61.8			225.0			12.6			13.7	
LOS by Appr:		F			F			B			B	
AllWayAvgQ:	0.0	7.6	7.2	0.3	33.0	32.8	0.3	0.3	0.3	0.5	0.5	0.5

Note: Queue reported is the number of cars per lane.

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Oceanside Circulation Element Update
AWSC Intersection Analysis

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #28 Rancho Del Oro Rd & Cameo Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.521
Loss Time (sec):	0	Average Delay (sec/veh):	183.9
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Cameo Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	1 0	0 1	0
Volume Module:												
Base Vol:	10	1100	50	90	985	10	35	10	35	135	10	180
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:	10	1100	50	90	985	10	35	10	35	135	10	180
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:	11	1196	54	98	1071	11	38	11	38	147	11	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	1196	54	98	1071	11	38	11	38	147	11	196
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:	11	1196	54	98	1071	11	38	11	38	147	11	196
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.91	0.09	1.00	1.98	0.02	0.44	0.12	0.44	1.00	0.05	0.95
Final Sat.:	385	786	36	396	834	8	176	50	176	376	22	405
Capacity Analysis Module:												
Vol/Sat:	0.03	1.52	1.52	0.25	1.28	1.28	0.22	0.22	0.22	0.39	0.48	0.48
Crit Moves:		****			****		****					****
Delay/Veh:	12.3	269	266.6	14.7	170	169.8	14.2	14.2	14.2	18.2	18.6	18.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.3	269	266.6	14.7	170	169.8	14.2	14.2	14.2	18.2	18.6	18.6
LOS by Move:	B	F	F	B	F	F	B	B	B	C	C	C
ApproachDel:	266.8			157.3			14.2			18.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	266.8			157.3			14.2			18.5		
LOS by Appr:	F			F			B			C		
AllWayAvgQ:	0.0	29.6	29.2	0.3	18.6	18.6	0.3	0.3	0.3	0.6	0.9	0.9

Note: Queue reported is the number of cars per lane.

Oceanside Circulation Element Update
AWSC Intersection Analysis

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

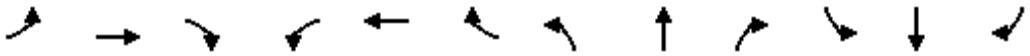
Intersection #29 Rancho Del Oro Rd & Trieste Way & Sicily Way

Cycle (sec):	100	Critical Vol./Cap.(X):	1.253
Loss Time (sec):	0	Average Delay (sec/veh):	100.8
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Trieste Way & Sicily Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	5	850	5	5	1395	5	5	0	15	15	0	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:	5	850	5	5	1395	5	5	0	15	15	0	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:	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:	5	924	5	5	1516	5	5	0	16	16	0	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	924	5	5	1516	5	5	0	16	16	0	11
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:	5	924	5	5	1516	5	5	0	16	16	0	11
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.99	0.01	1.00	1.99	0.01	0.25	0.00	0.75	0.60	0.00	0.40
Final Sat.:	528	1133	7	557	1210	4	136	0	409	316	0	210
Capacity Analysis Module:												
Vol/Sat:	0.01	0.82	0.81	0.01	1.25	1.25	0.04	xxxx	0.04	0.05	xxxx	0.05
Crit Moves:		****			****		****					****
Delay/Veh:	9.6	31.1	31.0	9.2	147	146.7	9.8	0.0	9.8	10.1	0.0	10.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.6	31.1	31.0	9.2	147	146.7	9.8	0.0	9.8	10.1	0.0	10.1
LOS by Move:	A	D	D	A	F	F	A	*	A	B	*	B
ApproachDel:		30.9			146.4			9.8			10.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		30.9			146.4			9.8			10.1	
LOS by Appr:		D			F			A			B	
AllWayAvgQ:	0.0	3.5	3.5	0.0	23.3	23.3	0.0	0.0	0.0	0.1	0.1	0.1

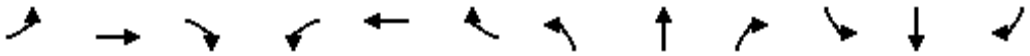
Note: Queue reported is the number of cars per lane.

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to IBI GROUP, IRVINE, CA



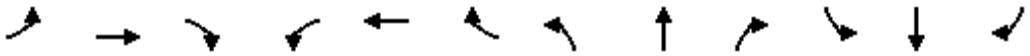
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	15	55	80	5	65	10	860	60	100	1370	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.94		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1702			1708		1770	3505		1770	3531	
Flt Permitted		0.85			0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1477			1465		1770	3505		1770	3531	
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)	38	16	60	87	5	71	11	935	65	109	1489	22
RTOR Reduction (vph)	0	51	0	0	54	0	0	7	0	0	1	0
Lane Group Flow (vph)	0	63	0	0	109	0	11	993	0	109	1510	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		7.3			7.3		0.6	25.1		5.9	30.4	
Effective Green, g (s)		7.3			7.3		0.6	25.1		5.9	30.4	
Actuated g/C Ratio		0.15			0.15		0.01	0.50		0.12	0.60	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		214			213		21	1749		208	2134	
v/s Ratio Prot							0.01	0.28		c0.06	c0.43	
v/s Ratio Perm		0.04			c0.07							
v/c Ratio		0.29			0.51		0.52	0.57		0.52	0.71	
Uniform Delay, d1		19.2			19.9		24.7	8.8		20.9	6.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			2.1		21.6	0.4		2.4	1.1	
Delay (s)		20.0			21.9		46.3	9.2		23.3	8.0	
Level of Service		B			C		D	A		C	A	
Approach Delay (s)		20.0			21.9			9.6			9.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



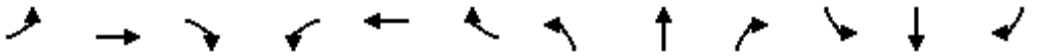
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	10	35	135	10	180	10	1100	50	90	985	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt		0.94		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715		1770	1598		1770	3516		1770	3534	
Flt Permitted		0.76		0.79	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1331		1463	1598		1770	3516		1770	3534	
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)	38	11	38	147	11	196	11	1196	54	98	1071	11
RTOR Reduction (vph)	0	31	0	0	137	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	56	0	147	70	0	11	1246	0	98	1081	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.9		10.9	10.9		0.8	31.9		4.8	35.9	
Effective Green, g (s)		10.9		10.9	10.9		0.8	31.9		4.8	35.9	
Actuated g/C Ratio		0.18		0.18	0.18		0.01	0.54		0.08	0.60	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		243		268	292		24	1882		143	2129	
v/s Ratio Prot					0.04		0.01	c0.35		c0.06	c0.31	
v/s Ratio Perm		0.04		c0.10								
v/c Ratio		0.23		0.55	0.24		0.46	0.66		0.69	0.51	
Uniform Delay, d1		20.8		22.1	20.8		29.2	10.0		26.7	6.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5		2.3	0.4		13.2	1.9		12.8	0.9	
Delay (s)		21.3		24.4	21.2		42.4	11.8		39.4	7.7	
Level of Service		C		C	C		D	B		D	A	
Approach Delay (s)		21.3			22.5			12.1			10.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



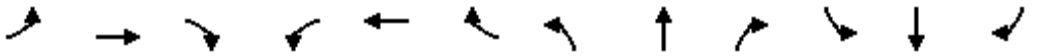
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	0	15	15	0	10	5	850	5	5	1395	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.90			0.94		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1710		1770	3536		1770	3537	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1671			1760		1770	3536		1770	3537	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	0	16	16	0	11	5	924	5	5	1516	5
RTOR Reduction (vph)	0	16	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	5	0	0	16	0	5	929	0	5	1521	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		1.4			1.4		0.7	40.2		0.7	40.2	
Effective Green, g (s)		1.4			1.4		0.7	40.2		0.7	40.2	
Actuated g/C Ratio		0.03			0.03		0.01	0.74		0.01	0.74	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		43			45		23	2618		23	2619	
v/s Ratio Prot							c0.00	0.26		0.00	c0.43	
v/s Ratio Perm		0.00			c0.01							
v/c Ratio		0.13			0.36		0.22	0.35		0.22	0.58	
Uniform Delay, d1		25.9			26.0		26.5	2.5		26.5	3.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			4.9		4.7	0.4		4.7	0.9	
Delay (s)		27.2			30.9		31.2	2.9		31.2	4.2	
Level of Service		C			C		C	A		C	A	
Approach Delay (s)		27.2			30.9			3.0			4.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



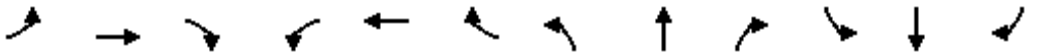
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	40	150	235	70	75	205	470	180	40	1390	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3264		1770	3392		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3264		1770	3392		1770	3539	1583
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)	11	43	163	255	76	82	223	511	196	43	1511	43
RTOR Reduction (vph)	0	0	129	0	73	0	0	0	0	0	0	24
Lane Group Flow (vph)	11	43	34	255	85	0	223	707	0	43	1511	19
Turn Type	Prot		Over	Prot			Prot			Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases												
Actuated Green, G (s)	2.8	4.0	16.1	7.0	8.2		16.1	35.2		16.1	35.2	2.8
Effective Green, g (s)	2.8	4.0	16.1	7.0	8.2		16.1	35.2		16.1	35.2	2.8
Actuated g/C Ratio	0.04	0.05	0.21	0.09	0.10		0.21	0.45		0.21	0.45	0.04
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	63	181	325	307	342		364	1525		364	1591	57
v/s Ratio Prot	0.01	0.01	0.02	c0.07	c0.03		c0.13	0.21		0.02	c0.43	0.01
v/s Ratio Perm												
v/c Ratio	0.17	0.24	0.10	0.83	0.25		0.61	0.46		0.12	0.95	0.33
Uniform Delay, d1	36.6	35.7	25.2	35.1	32.2		28.3	15.0		25.3	20.7	36.8
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	1.3	0.7	0.6	17.1	0.4		7.5	1.0		0.7	13.4	3.4
Delay (s)	38.0	36.4	25.9	52.2	32.6		35.8	16.0		26.0	34.1	40.2
Level of Service	D	D	C	D	C		D	B		C	C	D
Approach Delay (s)		28.6			44.7			20.7			34.1	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.2%	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)	575	55	55	170	175	55	40	1255	85	30	255	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	0.95		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.93		1.00	0.96		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1723		3433	3412		1770	5085	1583	1770	4911	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1723		3433	3412		1770	5085	1583	1770	4911	
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)	625	60	60	185	190	60	43	1364	92	33	277	82
RTOR Reduction (vph)	0	44	0	0	47	0	0	0	59	0	54	0
Lane Group Flow (vph)	625	76	0	185	203	0	43	1364	33	33	305	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	13.1	16.7		6.1	9.7		2.8	22.7	22.7	1.5	21.4	
Effective Green, g (s)	13.1	16.7		6.1	9.7		2.8	22.7	22.7	1.5	21.4	
Actuated g/C Ratio	0.21	0.27		0.10	0.15		0.04	0.36	0.36	0.02	0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	714	457		332	525		79	1832	570	42	1668	
v/s Ratio Prot	c0.18	0.04		0.05	c0.06		c0.02	c0.27		0.02	0.06	
v/s Ratio Perm									0.02			
v/c Ratio	0.88	0.17		0.56	0.39		0.54	0.74	0.06	0.79	0.18	
Uniform Delay, d1	24.2	17.8		27.2	24.0		29.5	17.6	13.2	30.6	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.6	0.2		2.0	0.5		7.5	2.8	0.2	62.3	0.2	
Delay (s)	35.8	18.0		29.2	24.4		36.9	20.4	13.4	92.8	14.9	
Level of Service	D	B		C	C		D	C	B	F	B	
Approach Delay (s)		32.9			26.5			20.5			21.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

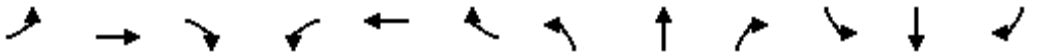


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	25	80	345	30	185	75	1055	110	25	620	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		1.00	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1623		1770	5085	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1623		1770	5085	1583	1770	3539	1583
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)	60	27	87	375	33	201	82	1147	120	27	674	33
RTOR Reduction (vph)	0	0	76	0	161	0	0	0	69	0	0	22
Lane Group Flow (vph)	60	27	11	375	73	0	82	1147	51	27	674	11
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	3.3	6.4	6.4	7.3	10.4		5.2	22.2	22.2	0.7	17.7	17.7
Effective Green, g (s)	3.3	6.4	6.4	7.3	10.4		5.2	22.2	22.2	0.7	17.7	17.7
Actuated g/C Ratio	0.06	0.12	0.12	0.14	0.20		0.10	0.42	0.42	0.01	0.34	0.34
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	111	227	193	476	321		175	2146	668	24	1191	533
v/s Ratio Prot	0.03	0.01		c0.11	c0.04		c0.05	c0.23		0.02	0.19	
v/s Ratio Perm			0.01						0.03			0.01
v/c Ratio	0.54	0.12	0.05	0.79	0.23		0.47	0.53	0.08	1.12	0.57	0.02
Uniform Delay, d1	23.9	20.6	20.4	21.9	17.7		22.4	11.3	9.1	25.9	14.3	11.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.3	0.2	0.1	8.4	0.4		2.0	1.0	0.2	225.0	2.0	0.1
Delay (s)	29.2	20.8	20.5	30.3	18.1		24.4	12.3	9.3	250.9	16.3	11.7
Level of Service	C	C	C	C	B		C	B	A	F	B	B
Approach Delay (s)		23.6			25.6			12.8			24.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

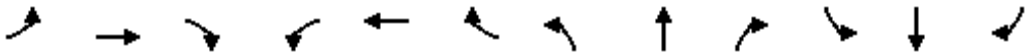
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	170	355	810	310	10	10	10	10	240	10	1070
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1723			1777	2787
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)	1770	3539	1583	3433	3539	1583	1770	1723			1777	2787
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)	11	185	386	880	337	11	11	11	11	261	11	1163
RTOR Reduction (vph)	0	0	303	0	0	5	0	10	0	0	0	758
Lane Group Flow (vph)	11	185	83	880	337	6	11	12	0	0	272	405
Turn Type	Prot		Perm	Prot		Perm	Split			Split		Over
Protected Phases	5	2		1	6		4	4		8	8	1
Permitted Phases			2			6						
Actuated Green, G (s)	0.7	17.2	17.2	27.8	44.3	44.3	3.8	3.8			15.1	27.8
Effective Green, g (s)	0.7	17.2	17.2	27.8	44.3	44.3	3.8	3.8			15.1	27.8
Actuated g/C Ratio	0.01	0.22	0.22	0.35	0.55	0.55	0.05	0.05			0.19	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	16	762	341	1194	1962	878	84	82			336	970
v/s Ratio Prot	0.01	0.05		c0.26	0.10		0.01	c0.01			c0.15	0.15
v/s Ratio Perm			c0.05			0.00						
v/c Ratio	0.69	0.24	0.24	0.74	0.17	0.01	0.13	0.14			0.81	0.42
Uniform Delay, d1	39.5	26.0	26.0	22.8	8.8	8.0	36.5	36.5			31.0	19.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	80.1	0.8	1.7	2.4	0.2	0.0	0.7	0.8			13.4	0.3
Delay (s)	119.6	26.7	27.7	25.3	9.0	8.0	37.2	37.3			44.4	20.2
Level of Service	F	C	C	C	A	A	D	D			D	C
Approach Delay (s)		29.1			20.6			37.2			24.8	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	79.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.4%	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)	410	890	40	390	1480	490	60	600	170	440	790	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3422		3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3422		3433	3539	1583
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)	446	967	43	424	1609	533	65	652	185	478	859	609
RTOR Reduction (vph)	0	0	41	0	0	352	0	21	0	0	0	441
Lane Group Flow (vph)	446	967	2	424	1609	181	65	816	0	478	859	168
Turn Type	Prot		Over	Prot		Over	Prot			Prot		Over
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases											6	
Actuated Green, G (s)	17.0	29.6	6.3	16.5	29.1	22.0	6.3	29.9		22.0	45.6	17.0
Effective Green, g (s)	17.0	29.6	6.3	16.5	29.1	22.0	6.3	29.9		22.0	45.6	17.0
Actuated g/C Ratio	0.15	0.26	0.06	0.14	0.26	0.19	0.06	0.26		0.19	0.40	0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	512	1320	87	497	1298	305	190	898		663	1416	236
v/s Ratio Prot	c0.13	0.19	0.00	0.12	c0.32	0.11	0.02	c0.24		c0.14	0.24	0.11
v/s Ratio Perm												
v/c Ratio	0.87	0.73	0.03	0.85	1.24	0.59	0.34	0.91		0.72	0.61	0.71
Uniform Delay, d1	47.4	38.6	51.0	47.6	42.5	41.9	51.9	40.7		43.1	27.1	46.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.0	2.1	0.1	13.3	114.6	3.1	1.1	14.6		3.9	1.9	9.8
Delay (s)	62.4	40.7	51.1	60.9	157.0	45.0	52.9	55.4		47.0	29.0	55.9
Level of Service	E	D	D	E	F	D	D	E		D	C	E
Approach Delay (s)		47.7			117.9			55.2			41.9	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM Average Control Delay	73.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	114.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

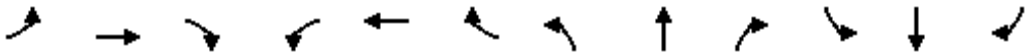


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	175	80	230	290	45	85	625	90	55	1065	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3373		1770	3468		1770	3472		1770	3422	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3373		1770	3468		1770	3472		1770	3422	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	184	184	84	242	305	47	89	658	95	58	1121	316
RTOR Reduction (vph)	0	50	0	0	11	0	0	10	0	0	23	0
Lane Group Flow (vph)	184	218	0	242	341	0	89	743	0	58	1414	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.1	12.3		18.5	15.7		8.3	51.1		6.9	49.7	
Effective Green, g (s)	15.1	12.3		18.5	15.7		8.3	51.1		6.9	49.7	
Actuated g/C Ratio	0.14	0.11		0.17	0.14		0.08	0.46		0.06	0.45	
Clearance Time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	243	377		298	495		134	1613		111	1546	
v/s Ratio Prot	c0.10	0.06		c0.14	0.10		c0.05	0.21		0.03	c0.41	
v/s Ratio Perm												
v/c Ratio	0.76	0.58		0.81	0.69		0.66	0.46		0.52	0.91	
Uniform Delay, d1	45.7	46.4		44.1	44.8		49.5	20.1		50.0	28.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.6	2.2		15.4	4.0		11.7	1.0		4.4	9.9	
Delay (s)	58.3	48.5		59.4	48.8		61.2	21.0		54.3	38.1	
Level of Service	E	D		E	D		E	C		D	D	
Approach Delay (s)		52.5			53.1			25.3			38.7	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

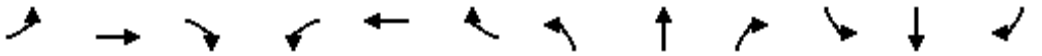
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	55	385	80	95	155	65	165	505	95	80	250	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.97		1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3448		1770	3382		3433	3455		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3448		1770	3382		3433	3455		3433	3539	1583
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)	60	418	87	103	168	71	179	549	103	87	272	228
RTOR Reduction (vph)	0	21	0	0	52	0	0	14	0	0	0	152
Lane Group Flow (vph)	60	484	0	103	187	0	179	638	0	87	272	76
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases												2
Actuated Green, G (s)	5.1	16.9		7.8	19.6		9.3	28.4		5.8	24.9	24.9
Effective Green, g (s)	5.1	16.9		7.8	19.6		9.3	28.4		5.8	24.9	24.9
Actuated g/C Ratio	0.07	0.23		0.10	0.26		0.12	0.38		0.08	0.33	0.33
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	121	778		184	885		426	1310		266	1177	526
v/s Ratio Prot	0.03	c0.14		c0.06	c0.06		c0.05	c0.18		0.03	0.08	
v/s Ratio Perm												0.05
v/c Ratio	0.50	0.62		0.56	0.21		0.42	0.49		0.33	0.23	0.14
Uniform Delay, d1	33.7	26.1		31.9	21.6		30.3	17.7		32.7	18.1	17.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.2	1.6		3.7	0.1		0.7	1.3		0.7	0.5	0.6
Delay (s)	36.8	27.7		35.6	21.7		31.0	19.0		33.4	18.5	18.1
Level of Service	D	C		D	C		C	B		C	B	B
Approach Delay (s)		28.7			25.9			21.6			20.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	74.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



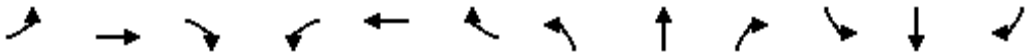
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	90	390	150	160	185	150	785	70	25	1295	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	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	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3496		1770	3510	
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)	1770	1863	1583	1770	1863	1583	3433	3496		1770	3510	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	95	411	158	168	195	158	826	74	26	1363	79
RTOR Reduction (vph)	0	0	338	0	0	151	0	5	0	0	4	0
Lane Group Flow (vph)	11	95	73	158	168	44	158	895	0	26	1438	0
Turn Type	Prot		Over	Prot		Perm	Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	0.8	14.9	7.9	10.0	25.1	25.1	7.9	55.3		4.8	52.2	
Effective Green, g (s)	0.8	14.9	7.9	10.0	25.1	25.1	7.9	55.3		4.8	52.2	
Actuated g/C Ratio	0.01	0.14	0.07	0.09	0.23	0.23	0.07	0.50		0.04	0.47	
Clearance Time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	13	252	114	161	425	361	247	1758		77	1666	
v/s Ratio Prot	0.01	0.05	c0.05	c0.09	c0.09		0.05	0.26		0.01	c0.41	
v/s Ratio Perm						0.03						
v/c Ratio	0.85	0.38	0.64	0.98	0.40	0.12	0.64	0.51		0.34	0.86	
Uniform Delay, d1	54.5	43.3	49.7	49.9	36.0	33.7	49.7	18.3		51.1	25.7	
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	166.4	0.9	11.7	65.1	0.6	0.2	5.4	1.1		2.6	6.2	
Delay (s)	221.0	44.3	61.4	115.0	36.6	33.9	55.0	19.3		53.7	31.9	
Level of Service	F	D	E	F	D	C	E	B		D	C	
Approach Delay (s)		61.6			59.4			24.7			32.3	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	85.6%	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)	100	395	410	375	710	130	505	840	165	145	1425	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	3539	1583	3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	416	432	395	747	137	532	884	174	153	1500	111
RTOR Reduction (vph)	0	0	3	0	0	104	0	0	103	0	0	60
Lane Group Flow (vph)	105	416	429	395	747	33	532	884	71	153	1500	51
Turn Type	Prot		pt+ov	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4	4 5	3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	4.7	17.0	35.0	14.0	26.3	26.3	18.0	45.0	45.0	9.0	37.0	37.0
Effective Green, g (s)	4.7	17.0	35.0	14.0	26.3	26.3	18.0	45.0	45.0	9.0	37.0	37.0
Actuated g/C Ratio	0.04	0.15	0.32	0.13	0.24	0.24	0.16	0.41	0.41	0.08	0.34	0.34
Clearance Time (s)	5.0	7.0		5.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	786	504	437	846	378	562	2080	648	281	1710	532
v/s Ratio Prot	0.03	0.08	0.27	c0.12	c0.21		c0.15	0.17		0.04	c0.29	
v/s Ratio Perm						0.02			0.04			0.03
v/c Ratio	0.71	0.53	0.85	0.90	0.88	0.09	0.95	0.42	0.11	0.54	0.88	0.10
Uniform Delay, d1	52.0	42.8	35.1	47.3	40.4	32.5	45.5	23.2	20.1	48.5	34.4	25.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.2	0.6	12.9	21.7	10.8	0.1	25.1	0.6	0.3	2.2	6.7	0.4
Delay (s)	67.2	43.5	48.0	69.0	51.1	32.6	70.6	23.9	20.5	50.7	41.1	25.4
Level of Service	E	D	D	E	D	C	E	C	C	D	D	C
Approach Delay (s)		48.1			54.7			39.1			40.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	44.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

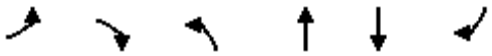


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	5	20	140	5	565	5	935	95	690	1585	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	5.5		4.0	5.5	
Lane Util. Factor		1.00	1.00	1.00	0.95	0.95	1.00	0.91		0.97	0.91	
Frt		1.00	0.85	1.00	0.85	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.97	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1801	1583	1770	1509	1504	1770	5015		3433	5080	
Flt Permitted		0.97	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1801	1583	1770	1509	1504	1770	5015		3433	5080	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	5	21	147	5	595	5	984	100	726	1668	11
RTOR Reduction (vph)	0	0	20	0	254	166	0	9	0	0	0	0
Lane Group Flow (vph)	0	16	1	147	49	131	5	1075	0	726	1679	0
Turn Type	Split		Perm	Split		pt+ov	Prot			Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)		4.3	4.3	16.3	16.3	48.6	1.2	43.6		28.3	70.7	
Effective Green, g (s)		4.3	4.3	16.3	16.3	48.6	1.2	43.6		28.3	70.7	
Actuated g/C Ratio		0.04	0.04	0.15	0.15	0.44	0.01	0.40		0.26	0.64	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0	5.5		4.0	5.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		70	62	262	224	664	19	1988		883	3265	
v/s Ratio Prot		c0.01		c0.08	0.03	0.09	0.00	0.21		c0.21	c0.33	
v/s Ratio Perm			0.00									
v/c Ratio		0.23	0.01	0.56	0.22	0.20	0.26	0.54		0.82	0.51	
Uniform Delay, d1		51.2	50.8	43.5	41.2	18.8	54.0	25.5		38.5	10.5	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7	0.1	2.7	0.5	0.1	7.3	1.1		6.2	0.6	
Delay (s)		52.9	50.9	46.3	41.7	18.9	61.2	26.6		44.7	11.1	
Level of Service		D	D	D	D	B	E	C		D	B	
Approach Delay (s)		51.8			33.6			26.7			21.2	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

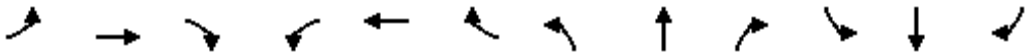
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	135	255	440	110	340	110	875	805	45	1400	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5062	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5062	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	142	268	463	116	358	116	921	847	47	1474	47
RTOR Reduction (vph)	0	0	8	0	0	123	0	0	120	0	3	0
Lane Group Flow (vph)	58	142	260	463	116	235	116	921	727	47	1518	0
Turn Type	Prot		pt+ov	Prot		Perm	Prot		pt+ov	Prot		
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	
Permitted Phases						8						
Actuated Green, G (s)	4.0	12.0	29.7	18.9	26.9	26.9	12.1	42.9	67.4	2.4	33.2	
Effective Green, g (s)	4.0	12.0	24.1	18.9	26.9	26.9	12.1	42.9	61.8	2.4	33.2	
Actuated g/C Ratio	0.04	0.12	0.24	0.19	0.27	0.27	0.12	0.43	0.62	0.02	0.33	
Clearance Time (s)	5.6	6.3		5.6	6.3	6.3	5.6	6.3		5.6	6.3	
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)	137	425	382	649	952	426	415	2181	978	82	1681	
v/s Ratio Prot	0.02	0.04	c0.16	0.13	0.03		0.03	0.18	c0.46	0.01	c0.30	
v/s Ratio Perm						c0.15						
v/c Ratio	0.42	0.33	0.68	0.71	0.12	0.55	0.28	0.42	0.74	0.57	0.90	
Uniform Delay, d1	46.9	40.3	34.5	38.0	27.6	31.4	40.0	19.9	13.5	48.3	31.9	
Progression Factor	1.00	1.00	1.00	0.80	0.87	0.80	0.76	0.38	1.04	1.00	1.00	
Incremental Delay, d2	2.1	0.5	5.0	3.5	0.1	1.4	0.4	0.6	3.0	9.3	8.4	
Delay (s)	49.0	40.8	39.4	34.1	24.2	26.4	30.6	8.2	17.0	57.6	40.2	
Level of Service	D	D	D	C	C	C	C	A	B	E	D	
Approach Delay (s)		41.0			29.9			13.6			40.7	
Approach LOS		D			C			B			D	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



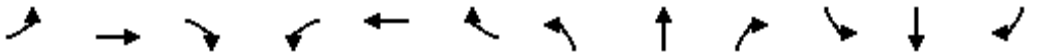
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	630	225	0	1115	1665	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00		0.86	0.86	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		6408	6408	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		6408	6408	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	663	237	0	1174	1753	0
RTOR Reduction (vph)	0	8	0	0	0	0
Lane Group Flow (vph)	663	229	0	1174	1753	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	26.0	26.0		66.0	66.0	
Effective Green, g (s)	26.0	26.0		66.0	66.0	
Actuated g/C Ratio	0.26	0.26		0.66	0.66	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	893	412		4229	4229	
v/s Ratio Prot	c0.19			0.18	c0.27	
v/s Ratio Perm		0.14				
v/c Ratio	0.74	0.56		0.28	0.41	
Uniform Delay, d1	33.9	32.0		7.1	8.0	
Progression Factor	1.00	1.00		0.63	0.49	
Incremental Delay, d2	3.4	1.6		0.1	0.2	
Delay (s)	37.3	33.6		4.6	4.1	
Level of Service	D	C		A	A	
Approach Delay (s)	36.3			4.6	4.1	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



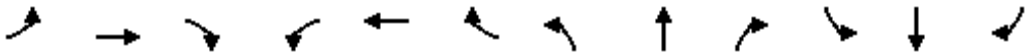
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	70	15	115	15	210	45	820	295	565	1210	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1813		1770	1863	1583	1770	5085	1583	3433	5019	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1813		1770	1863	1583	1770	5085	1583	3433	5019	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	74	16	121	16	221	47	863	311	595	1274	121
RTOR Reduction (vph)	0	8	0	0	0	131	0	0	191	0	9	0
Lane Group Flow (vph)	89	82	0	121	16	90	47	863	120	595	1386	0
Turn Type	Split			Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	10.3	10.3		12.3	12.3	35.1	4.2	38.6	38.6	22.8	57.2	
Effective Green, g (s)	10.3	10.3		12.3	12.3	35.1	4.2	38.6	38.6	22.8	57.2	
Actuated g/C Ratio	0.10	0.10		0.12	0.12	0.35	0.04	0.39	0.39	0.23	0.57	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	182	187		218	229	556	74	1963	611	783	2871	
v/s Ratio Prot	c0.05	0.05		c0.07	0.01	0.06	0.03	0.17		c0.17	c0.28	
v/s Ratio Perm									0.08			
v/c Ratio	0.49	0.44		0.56	0.07	0.16	0.64	0.44	0.20	0.76	0.48	
Uniform Delay, d1	42.4	42.1		41.3	38.8	22.3	47.1	22.7	20.4	36.0	12.7	
Progression Factor	1.00	1.00		1.04	0.86	5.99	1.00	1.00	1.00	0.81	0.33	
Incremental Delay, d2	2.1	1.6		2.5	0.1	0.1	16.5	0.7	0.7	4.0	0.5	
Delay (s)	44.4	43.8		45.3	33.6	133.8	63.6	23.4	21.1	33.2	4.7	
Level of Service	D	D		D	C	F	E	C	C	C	A	
Approach Delay (s)		44.1			99.4			24.4			13.2	
Approach LOS		D			F			C			B	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



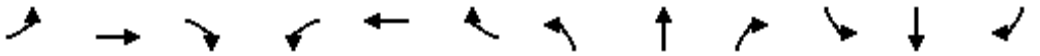
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	30	110	395	70	335	80	690	110	215	1205	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
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)	152	33	120	429	76	364	87	750	120	234	1310	217
RTOR Reduction (vph)	0	0	114	0	0	317	0	0	88	0	0	125
Lane Group Flow (vph)	152	33	6	429	76	47	87	750	32	234	1310	92
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	10.8	4.4	4.0	21.1	14.7	10.2	4.0	27.0	21.1	10.2	33.2	33.2
Effective Green, g (s)	10.8	4.4	4.0	21.1	14.7	10.2	4.0	27.0	21.1	10.2	33.2	33.2
Actuated g/C Ratio	0.14	0.06	0.05	0.27	0.19	0.13	0.05	0.34	0.27	0.13	0.42	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	471	104	80	475	348	205	174	1214	424	445	1493	668
v/s Ratio Prot	0.04	0.02	0.00	c0.24	c0.04	0.03	0.03	0.21	0.02	c0.07	c0.37	
v/s Ratio Perm												0.06
v/c Ratio	0.32	0.32	0.08	0.90	0.22	0.23	0.50	0.62	0.08	0.53	0.88	0.14
Uniform Delay, d1	30.6	35.7	35.6	27.8	27.1	30.7	36.4	21.5	21.5	32.0	20.9	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	1.8	0.4	20.3	0.3	0.6	2.3	2.4	0.1	1.1	7.6	0.4
Delay (s)	31.0	37.5	36.0	48.1	27.4	31.3	38.6	23.9	21.6	33.1	28.5	14.4
Level of Service	C	D	D	D	C	C	D	C	C	C	C	B
Approach Delay (s)		33.7			39.2			25.0			27.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	29.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	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)	70	605	305	275	325	30	515	50	220	35	65	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	3433	3494		1681	1700	1583		3357	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1770	3539	1583	3433	3494		1681	1700	1583		3357	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	637	321	289	342	32	542	53	232	37	68	37
RTOR Reduction (vph)	0	0	122	0	7	0	0	0	147	0	34	0
Lane Group Flow (vph)	74	637	199	289	367	0	298	297	85	0	108	0
Turn Type	Prot		pt+ov	Prot			Split		Perm	Split		
Protected Phases	7	4	4 2	3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	8.3	25.3	62.1	13.4	30.4		36.8	36.8	36.8		8.5	
Effective Green, g (s)	8.3	25.3	62.1	13.4	30.4		36.8	36.8	36.8		8.5	
Actuated g/C Ratio	0.08	0.25	0.62	0.13	0.30		0.37	0.37	0.37		0.08	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	147	895	983	460	1062		619	626	583		285	
v/s Ratio Prot	0.04	c0.18	0.13	c0.08	0.11		c0.18	0.17			c0.03	
v/s Ratio Perm									0.05			
v/c Ratio	0.50	0.71	0.20	0.63	0.35		0.48	0.47	0.15		0.38	
Uniform Delay, d1	43.9	34.0	8.2	40.9	27.1		24.3	24.2	21.1		43.3	
Progression Factor	1.01	0.88	1.77	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.1	2.1	0.1	2.7	0.2		2.7	2.6	0.5		0.8	
Delay (s)	46.4	31.9	14.6	43.6	27.3		26.9	26.8	21.6		44.1	
Level of Service	D	C	B	D	C		C	C	C		D	
Approach Delay (s)		27.6			34.4			25.4			44.1	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

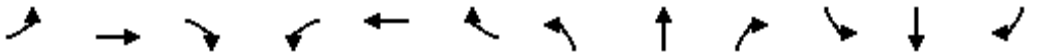


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	775	220	25	30	345	45	20	5	10	85	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3486		1770	3478		1681	1717	1583	1770	1636	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3486		1770	3478		1681	1717	1583	1770	1636	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	816	232	26	32	363	47	21	5	11	89	11	47
RTOR Reduction (vph)	0	5	0	0	10	0	0	0	11	0	43	0
Lane Group Flow (vph)	816	253	0	32	400	0	13	13	0	89	15	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	52.1	65.7		5.0	18.6		4.2	4.2	4.2	9.1	9.1	
Effective Green, g (s)	52.1	65.7		5.0	18.6		4.2	4.2	4.2	9.1	9.1	
Actuated g/C Ratio	0.52	0.66		0.05	0.19		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1789	2290		89	647		71	72	66	161	149	
v/s Ratio Prot	c0.24	0.07		0.02	c0.12		c0.01	0.01		c0.05	0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.46	0.11		0.36	0.62		0.18	0.18	0.01	0.55	0.10	
Uniform Delay, d1	15.0	6.3		46.0	37.4		46.2	46.2	45.9	43.5	41.7	
Progression Factor	1.79	0.55		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.1		2.5	1.8		1.2	1.2	0.0	4.1	0.3	
Delay (s)	27.6	3.6		48.4	39.2		47.5	47.4	45.9	47.6	42.0	
Level of Service	C	A		D	D		D	D	D	D	D	
Approach Delay (s)		21.8			39.9			47.0			45.4	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	29.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

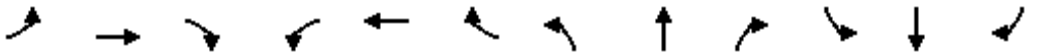
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	500	50	240	550	70	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	54	261	598	76	272
RTOR Reduction (vph)	0	34	0	0	0	225
Lane Group Flow (vph)	543	20	261	598	76	47
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	14.7	21.2	10.0	28.7	21.2	10.0
Effective Green, g (s)	14.7	21.2	10.0	28.7	21.2	10.0
Actuated g/C Ratio	0.25	0.37	0.17	0.50	0.37	0.17
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	899	580	593	1754	1257	273
v/s Ratio Prot	c0.15	0.01	c0.08	0.17	c0.02	0.03
v/s Ratio Perm						
v/c Ratio	0.60	0.03	0.44	0.34	0.06	0.17
Uniform Delay, d1	19.0	11.8	21.4	8.9	11.9	20.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	0.5	0.1	0.1	0.3
Delay (s)	20.2	11.9	22.0	9.0	12.0	20.7
Level of Service	C	B	C	A	B	C
Approach Delay (s)	19.4			12.9	18.8	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



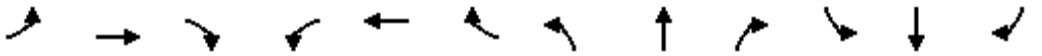
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	900	260	250	1800	60	340	190	200	80	280	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
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)	272	978	283	272	1957	65	370	207	217	87	304	163
RTOR Reduction (vph)	0	0	242	0	0	42	0	0	190	0	0	141
Lane Group Flow (vph)	272	978	41	272	1957	23	370	207	27	87	304	22
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	16.8	45.5	16.9	14.8	43.5	13.0	16.9	19.7	14.8	13.0	15.8	15.8
Effective Green, g (s)	16.8	45.5	16.9	14.8	43.5	13.0	16.9	19.7	14.8	13.0	15.8	15.8
Actuated g/C Ratio	0.14	0.39	0.14	0.13	0.37	0.11	0.14	0.17	0.13	0.11	0.14	0.14
Clearance Time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	1981	229	435	1894	176	497	597	201	382	479	214
v/s Ratio Prot	c0.15	0.19	0.03	0.08	c0.38	0.01	c0.11	c0.06	0.02	0.03	c0.09	
v/s Ratio Perm												0.01
v/c Ratio	1.07	0.49	0.18	0.63	1.03	0.13	0.74	0.35	0.14	0.23	0.63	0.10
Uniform Delay, d1	50.0	26.9	43.9	48.4	36.6	46.8	47.9	42.9	45.3	47.3	47.8	44.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	75.1	0.9	0.4	2.8	29.8	0.3	6.0	0.4	0.3	0.3	2.7	0.2
Delay (s)	125.1	27.8	44.2	51.2	66.4	47.2	53.9	43.2	45.6	47.6	50.5	44.5
Level of Service	F	C	D	D	E	D	D	D	D	D	D	D
Approach Delay (s)		48.1			64.1			48.8			48.3	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	55.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	116.8	Sum of lost time (s)	29.7
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



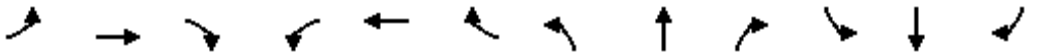
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	300	340	400	450	100	410	200	320	200	650	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3442		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3442		3433	5085	1583	1770	5085	1583
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)	76	326	370	435	489	109	446	217	348	217	707	163
RTOR Reduction (vph)	0	0	306	0	21	0	0	0	251	0	0	131
Lane Group Flow (vph)	76	326	64	435	577	0	446	217	97	217	707	32
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	6.6	13.7	14.6	23.6	30.7		14.6	18.2	23.6	13.2	16.8	16.8
Effective Green, g (s)	6.6	13.7	14.6	23.6	30.7		14.6	18.2	23.6	13.2	16.8	16.8
Actuated g/C Ratio	0.08	0.16	0.17	0.28	0.36		0.17	0.21	0.28	0.16	0.20	0.20
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	138	572	273	493	1248		592	1093	441	276	1009	314
v/s Ratio Prot	0.04	c0.09	0.04	c0.25	0.17		c0.13	0.04	0.06	0.12	c0.14	
v/s Ratio Perm												0.02
v/c Ratio	0.55	0.57	0.23	0.88	0.46		0.75	0.20	0.22	0.79	0.70	0.10
Uniform Delay, d1	37.6	32.8	30.2	29.2	20.7		33.3	27.3	23.5	34.4	31.6	27.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	1.3	0.4	16.8	0.3		5.4	0.4	0.3	13.7	4.1	0.7
Delay (s)	42.3	34.1	30.7	46.0	21.0		38.7	27.7	23.7	48.1	35.7	28.4
Level of Service	D	C	C	D	C		D	C	C	D	D	C
Approach Delay (s)		33.3			31.5			31.2			37.1	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	33.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



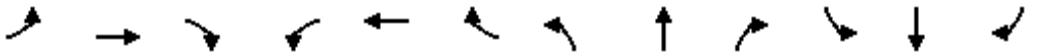
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	330	305	520	585	60	170	445	155	70	1265	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3490		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3490		3433	5085	1583	1770	5085	1583
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)	196	359	332	565	636	65	185	484	168	76	1375	397
RTOR Reduction (vph)	0	0	132	0	8	0	0	0	104	0	0	108
Lane Group Flow (vph)	196	359	200	565	693	0	185	484	64	76	1375	289
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	9.3	16.6	16.6	19.4	26.7		7.9	36.3	36.3	6.8	35.2	35.2
Effective Green, g (s)	9.3	16.6	16.6	19.4	26.7		7.9	36.3	36.3	6.8	35.2	35.2
Actuated g/C Ratio	0.10	0.17	0.17	0.20	0.28		0.08	0.38	0.38	0.07	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	336	618	276	700	980		285	1941	604	127	1882	586
v/s Ratio Prot	0.06	0.10		c0.16	c0.20		c0.05	0.10		0.04	c0.27	
v/s Ratio Perm			0.13						0.04			0.18
v/c Ratio	0.58	0.58	0.72	0.81	0.71		0.65	0.25	0.11	0.60	0.73	0.49
Uniform Delay, d1	41.0	36.1	37.1	36.1	30.7		42.3	20.1	18.9	42.8	25.9	23.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	1.4	9.1	6.8	2.4		5.0	0.3	0.4	7.4	2.5	2.9
Delay (s)	43.6	37.4	46.2	42.9	33.0		47.3	20.4	19.3	50.2	28.4	26.0
Level of Service	D	D	D	D	C		D	C	B	D	C	C
Approach Delay (s)		42.1			37.4			26.1			28.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	95.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.2%	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)	345	700	540	30	60	60	315	770	150	420	1215	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	3433	3539	1583	3433	4961		3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	3433	3539	1583	3433	4961		3433	5085	1583
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)	375	761	587	33	65	65	342	837	163	457	1321	228
RTOR Reduction (vph)	0	0	201	0	0	51	0	32	0	0	0	163
Lane Group Flow (vph)	375	761	386	33	65	14	342	968	0	457	1321	65
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	19.0	36.1	36.1	2.3	19.4	19.4	9.0	21.1		13.0	25.1	25.1
Effective Green, g (s)	19.0	36.1	36.1	2.3	19.4	19.4	9.0	21.1		13.0	25.1	25.1
Actuated g/C Ratio	0.21	0.41	0.41	0.03	0.22	0.22	0.10	0.24		0.15	0.28	0.28
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	737	760	646	89	776	347	349	1183		504	1442	449
v/s Ratio Prot	c0.11	c0.41		0.01	0.02		0.10	0.20		c0.13	c0.26	
v/s Ratio Perm			0.24			0.01						0.04
v/c Ratio	0.51	1.00	0.60	0.37	0.08	0.04	0.98	0.82		0.91	0.92	0.14
Uniform Delay, d1	30.6	26.2	20.5	42.4	27.5	27.2	39.7	31.9		37.2	30.7	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	33.0	1.5	2.6	0.0	0.0	42.2	6.4		19.8	10.6	0.7
Delay (s)	31.2	59.2	22.0	45.0	27.5	27.3	81.9	38.2		57.0	41.3	24.3
Level of Service	C	E	C	D	C	C	F	D		E	D	C
Approach Delay (s)		40.4			31.0			49.4			43.0	
Approach LOS		D			C			D			D	

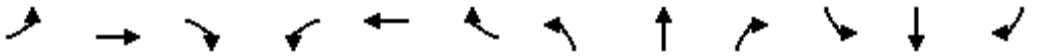
Intersection Summary			
HCM Average Control Delay	43.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	5	550	0	110	10	250	610	275	400	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.6	4.6	4.6	4.0		4.6	4.0		4.6	
Lane Util. Factor			1.00	0.95	0.95	1.00		0.95	1.00		0.95	
Frt			0.86	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (prot)			1611	1681	1681	1583		3532	1583		3469	
Flt Permitted			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (perm)			1611	1681	1681	1583		3532	1583		3469	
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)	0	0	5	598	0	120	11	272	663	299	435	0
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	299	299	120	0	283	663	0	734	0
Turn Type			custom	Prot		Free	Split		Free	Split		
Protected Phases				3	8		2	2		6	6	
Permitted Phases			4			Free			Free			
Actuated Green, G (s)			1.0	15.4	21.0	73.2		18.4	73.2		20.0	
Effective Green, g (s)			1.0	15.4	21.0	73.2		18.4	73.2		20.0	
Actuated g/C Ratio			0.01	0.21	0.29	1.00		0.25	1.00		0.27	
Clearance Time (s)			4.6	4.6	4.6			4.6			4.6	
Vehicle Extension (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			22	354	482	1583		888	1583		948	
v/s Ratio Prot				c0.18	0.13			0.08			c0.21	
v/s Ratio Perm			0.00		0.05	0.08			c0.42			
v/c Ratio			0.00	0.84	0.62	0.08		0.32	0.42		0.77	
Uniform Delay, d1			35.6	27.8	22.6	0.0		22.3	0.0		24.5	
Progression Factor			1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2			0.1	16.6	2.5	0.1		0.9	0.8		6.1	
Delay (s)			35.7	44.4	25.1	0.1		23.2	0.8		30.7	
Level of Service			D	D	C	A		C	A		C	
Approach Delay (s)		35.7			29.0			7.5			30.7	
Approach LOS		D			C			A			C	

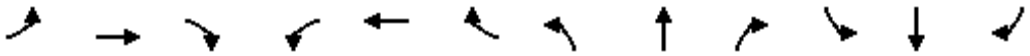
Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	9.2
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
Description: SR-76 & Coast Hwy			

c Critical Lane Group



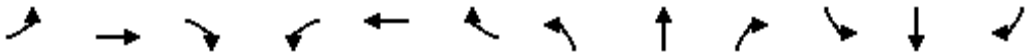
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	40	65	20	25	50	35	670	20	20	695	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.93		1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1793	1583		1713		1770	3524		1770	3466	
Flt Permitted		0.77	1.00		0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1434	1583		1580		1770	3524		1770	3466	
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)	152	43	71	22	27	54	38	728	22	22	755	120
RTOR Reduction (vph)	0	0	55	0	42	0	0	3	0	0	13	0
Lane Group Flow (vph)	0	195	16	0	61	0	38	747	0	22	862	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		13.0	13.0		13.0		3.3	20.8		10.3	27.8	
Effective Green, g (s)		13.0	13.0		13.0		3.3	20.8		10.3	27.8	
Actuated g/C Ratio		0.23	0.23		0.23		0.06	0.36		0.18	0.49	
Clearance Time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		326	360		360		102	1284		319	1687	
v/s Ratio Prot							c0.02	c0.21		0.01	c0.25	
v/s Ratio Perm		c0.14	0.01		0.04							
v/c Ratio		0.60	0.04		0.17		0.37	0.58		0.07	0.51	
Uniform Delay, d1		19.7	17.2		17.7		25.9	14.6		19.4	10.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.9	0.1		0.2		2.3	0.7		0.1	0.3	
Delay (s)		22.7	17.3		17.9		28.2	15.3		19.5	10.3	
Level of Service		C	B		B		C	B		B	B	
Approach Delay (s)		21.2			17.9			15.9			10.5	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	57.1	Sum of lost time (s)	17.2
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



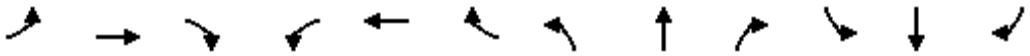
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	320	100	165	295	95	15	620	275	25	540	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0			5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95			0.95			0.95	
Frpb, ped/bikes		1.00	0.94		0.99			0.99			0.99	
Flpb, ped/bikes		1.00	1.00		0.99			1.00			1.00	
Frt		1.00	0.85		0.97			0.95			0.98	
Flt Protected		0.99	1.00		0.99			1.00			1.00	
Satd. Flow (prot)		3495	1496		3350			3328			3442	
Flt Permitted		0.75	1.00		0.71			0.94			0.89	
Satd. Flow (perm)		2664	1496		2429			3129			3079	
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)	87	348	109	179	321	103	16	674	299	27	587	82
RTOR Reduction (vph)	0	0	63	0	28	0	0	85	0	0	18	0
Lane Group Flow (vph)	0	435	46	0	575	0	0	904	0	0	678	0
Confl. Peds. (#/hr)	32		45	45		32	56		34	34		56
Confl. Bikes (#/hr)			2			1			5			2
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		24.1	24.1		24.1			23.1			23.1	
Effective Green, g (s)		24.1	24.1		24.1			23.1			23.1	
Actuated g/C Ratio		0.42	0.42		0.42			0.40			0.40	
Clearance Time (s)		5.0	5.0		5.0			5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0			4.0			4.0	
Lane Grp Cap (vph)		1122	630		1023			1264			1243	
v/s Ratio Prot												
v/s Ratio Perm		0.16	0.03		c0.24			c0.29			0.22	
v/c Ratio		0.39	0.07		0.56			0.71			0.55	
Uniform Delay, d1		11.4	9.9		12.6			14.3			13.0	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		1.0	0.2		2.2			2.1			0.6	
Delay (s)		12.5	10.1		14.8			16.4			13.6	
Level of Service		B	B		B			B			B	
Approach Delay (s)		12.0			14.8			16.4			13.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	57.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



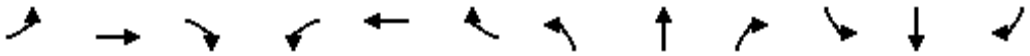
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	220	90	220	200	250	55	615	205	265	635	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.93	1.00	1.00	0.91	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1846	1469	1681	1761	1443	1770	3356		1770	3477	
Flt Permitted		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1846	1469	1681	1761	1443	1770	3356		1770	3477	
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)	54	239	98	239	217	272	60	668	223	288	690	38
RTOR Reduction (vph)	0	0	22	0	0	229	0	25	0	0	3	0
Lane Group Flow (vph)	0	293	76	215	241	43	60	866	0	288	725	0
Confl. Peds. (#/hr)	35		25	25		35			11			42
Confl. Bikes (#/hr)			9			2			8			3
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		22.1	22.1	19.4	19.4	19.4	6.6	40.5		22.2	56.1	
Effective Green, g (s)		22.1	22.1	19.4	19.4	19.4	6.6	40.5		22.2	56.1	
Actuated g/C Ratio		0.18	0.18	0.16	0.16	0.16	0.05	0.33		0.18	0.46	
Clearance Time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Vehicle Extension (s)		2.0	2.0	3.5	3.5	3.5	2.0	3.5		2.0	3.5	
Lane Grp Cap (vph)		332	264	265	278	228	95	1105		319	1586	
v/s Ratio Prot		c0.16		0.13	c0.14		0.03	c0.26		c0.16	0.21	
v/s Ratio Perm			0.05			0.03						
v/c Ratio		0.88	0.29	0.81	0.87	0.19	0.63	0.78		0.90	0.46	
Uniform Delay, d1		49.2	43.6	50.0	50.5	45.0	57.0	37.3		49.3	23.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		22.4	0.2	17.4	24.0	0.5	9.6	5.6		26.7	1.0	
Delay (s)		71.6	43.9	67.4	74.5	45.4	66.6	42.9		76.0	23.9	
Level of Service		E	D	E	E	D	E	D		E	C	
Approach Delay (s)		64.7			61.5			44.4			38.7	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	49.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



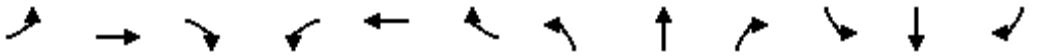
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	70	35	220	90	380	40	555	275	325	455	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98		1.00	1.00	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1550		1799	1583	1770	3302		1770	3519	
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1550		1799	1583	1770	3302		1770	3519	
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)	22	76	38	239	98	413	43	603	299	353	495	16
RTOR Reduction (vph)	0	0	35	0	0	328	0	58	0	0	2	0
Lane Group Flow (vph)	22	76	3	0	337	85	43	844	0	353	509	0
Confl. Peds. (#/hr)	17		4	4		17			12			3
Confl. Bikes (#/hr)			1			3			6			7
Turn Type	Split		Perm	Split		Over	Prot			Prot		
Protected Phases	4	4		8	8	1	5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	8.0	8.0	8.0		19.5	19.0	3.3	27.0		19.0	42.7	
Effective Green, g (s)	8.0	8.0	8.0		19.5	19.0	3.3	27.0		19.0	42.7	
Actuated g/C Ratio	0.09	0.09	0.09		0.21	0.21	0.04	0.29		0.21	0.46	
Clearance Time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Vehicle Extension (s)	3.5	3.5	3.5		3.0	2.0	2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	153	161	134		379	325	63	963		363	1623	
v/s Ratio Prot	0.01	c0.04			c0.19	0.05	0.02	c0.26		c0.20	0.14	
v/s Ratio Perm			0.00									
v/c Ratio	0.14	0.47	0.02		0.89	0.26	0.68	0.88		0.97	0.31	
Uniform Delay, d1	39.1	40.3	38.7		35.5	30.9	44.1	31.2		36.5	15.7	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.6	0.1		21.5	0.2	21.6	9.0		39.5	0.1	
Delay (s)	39.6	42.9	38.8		57.0	31.1	65.7	40.2		76.1	15.8	
Level of Service	D	D	D		E	C	E	D		E	B	
Approach Delay (s)		41.2			42.7			41.4			40.4	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	19.1
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



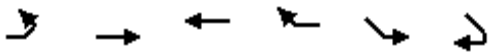
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	770	20	195	875	270	25	80	265	380	65	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3526		1770	3539	1583	1770	1863	1583	1681	1693	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3526		1770	3539	1583	1770	1863	1583	1681	1693	
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)	65	837	22	212	951	293	27	87	288	413	71	22
RTOR Reduction (vph)	0	2	0	0	0	217	0	0	164	0	4	0
Lane Group Flow (vph)	65	857	0	212	951	76	27	87	124	252	250	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	4.0	20.8		11.0	27.8	16.0	17.0	17.0	17.0	16.0	16.0	
Effective Green, g (s)	4.0	20.8		11.0	27.8	16.0	17.0	17.0	17.0	16.0	16.0	
Actuated g/C Ratio	0.05	0.26		0.14	0.34	0.20	0.21	0.21	0.21	0.20	0.20	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	88	908		241	1218	313	372	392	333	333	335	
v/s Ratio Prot	0.04	c0.24		c0.12	0.27	0.05	0.02	0.05		c0.15	0.15	
v/s Ratio Perm									c0.08			
v/c Ratio	0.74	0.94		0.88	0.78	0.24	0.07	0.22	0.37	0.76	0.75	
Uniform Delay, d1	37.9	29.4		34.3	23.8	27.3	25.6	26.4	27.3	30.6	30.5	
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	27.3	17.7		28.4	3.3	1.8	0.4	1.3	3.2	14.8	14.1	
Delay (s)	65.2	47.1		62.6	27.1	29.2	26.0	27.7	30.5	45.4	44.6	
Level of Service	E	D		E	C	C	C	C	C	D	D	
Approach Delay (s)		48.4			32.7			29.6			45.0	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.2%	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)	795	800	40	140	1080	700	25	45	70	325	25	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3433	3514		1770	3539	1583	1770	1693		1681	1697	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3433	3514		1770	3539	1583	1770	1693		1681	1697	1583
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)	864	870	43	152	1174	761	27	49	76	353	27	163
RTOR Reduction (vph)	0	3	0	0	0	359	0	54	0	0	0	130
Lane Group Flow (vph)	864	910	0	152	1174	402	27	71	0	191	189	33
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Actuated Green, G (s)	27.0	48.0		14.0	35.0	35.0	10.0	10.0		22.0	22.0	22.0
Effective Green, g (s)	27.0	48.0		14.0	35.0	35.0	10.0	10.0		22.0	22.0	22.0
Actuated g/C Ratio	0.25	0.44		0.13	0.32	0.32	0.09	0.09		0.20	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	843	1533		225	1126	504	161	154		336	339	317
v/s Ratio Prot	c0.25	0.26		0.09	c0.33		0.02	c0.04		c0.11	0.11	
v/s Ratio Perm						0.25						0.02
v/c Ratio	1.02	0.59		0.68	1.04	0.80	0.17	0.46		0.57	0.56	0.10
Uniform Delay, d1	41.5	23.6		45.8	37.5	34.3	46.2	47.5		39.7	39.6	35.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	37.5	0.6		7.8	38.6	8.5	0.5	2.2		6.8	6.5	0.6
Delay (s)	79.0	24.2		53.6	76.1	42.8	46.7	49.7		46.5	46.1	36.6
Level of Service	E	C		D	E	D	D	D		D	D	D
Approach Delay (s)		50.8			62.3			49.1			43.4	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	55.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

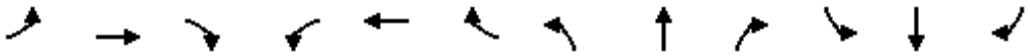


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	135	1060	1095	210	965	825
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3454		3433	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3454		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	1152	1190	228	1049	897
RTOR Reduction (vph)	0	0	18	0	0	6
Lane Group Flow (vph)	147	1152	1400	0	1049	891
Turn Type	Prot					pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases						
Actuated Green, G (s)	7.0	44.0	33.0		38.0	49.0
Effective Green, g (s)	7.0	44.0	33.0		38.0	49.0
Actuated g/C Ratio	0.08	0.49	0.37		0.42	0.54
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	138	1730	1266		1449	862
v/s Ratio Prot	0.08	0.33	c0.41		0.31	c0.56
v/s Ratio Perm						
v/c Ratio	1.07	0.67	1.11		0.72	1.03
Uniform Delay, d1	41.5	17.4	28.5		21.6	20.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	95.1	1.0	59.6		3.2	39.7
Delay (s)	136.6	18.4	88.1		24.8	60.2
Level of Service	F	B	F		C	E
Approach Delay (s)		31.8	88.1		41.1	
Approach LOS		C	F		D	

Intersection Summary			
HCM Average Control Delay	52.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

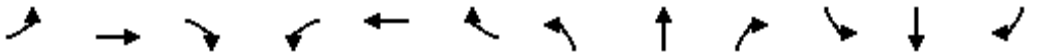
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	175	1215	270	170	835	65	240	220	120	355	185	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		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)	1770	3539	1583	1770	3539	1583	3433	3352		3433	3365	
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)	1770	3539	1583	1770	3539	1583	3433	3352		3433	3365	
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)	190	1321	293	185	908	71	261	239	130	386	201	98
RTOR Reduction (vph)	0	0	84	0	0	47	0	84	0	0	66	0
Lane Group Flow (vph)	190	1321	209	185	908	24	261	285	0	386	233	0
Turn Type	Prot		Over	Prot		Perm	Split			Split		
Protected Phases	7	4	2	3	8		6	6		2	2	
Permitted Phases						8						
Actuated Green, G (s)	12.2	33.0	16.0	9.0	29.8	29.8	13.0	13.0		16.0	16.0	
Effective Green, g (s)	12.2	33.0	16.0	9.0	29.8	29.8	13.0	13.0		16.0	16.0	
Actuated g/C Ratio	0.14	0.38	0.18	0.10	0.34	0.34	0.15	0.15		0.18	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	248	1342	291	183	1212	542	513	501		631	619	
v/s Ratio Prot	0.11	c0.37	c0.13	c0.10	0.26		0.08	c0.08		0.11	0.07	
v/s Ratio Perm						0.02						
v/c Ratio	0.77	0.98	0.72	1.01	0.75	0.04	0.51	0.57		0.61	0.38	
Uniform Delay, d1	36.0	26.7	33.4	39.0	25.3	19.1	34.1	34.4		32.6	31.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.2	20.7	14.2	69.4	2.6	0.0	0.8	1.5		4.4	1.7	
Delay (s)	49.2	47.5	47.5	108.4	27.9	19.1	34.9	35.9		37.0	32.9	
Level of Service	D	D	D	F	C	B	C	D		D	C	
Approach Delay (s)		47.7			40.1			35.5			35.2	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	41.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	87.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



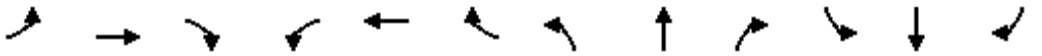
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	830	25	95	1165	575	15	25	40	550	15	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3524		1770	3539	1583		1829	1583	1681	1624	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3524		1770	3539	1583		1829	1583	1681	1624	
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)	293	902	27	103	1266	625	16	27	43	598	16	136
RTOR Reduction (vph)	0	1	0	0	0	86	0	0	38	0	14	0
Lane Group Flow (vph)	293	928	0	103	1266	539	0	43	5	383	353	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	23.0	58.7		13.3	49.0	44.0		18.0	18.0	44.0	44.0	
Effective Green, g (s)	23.0	58.7		13.3	49.0	44.0		18.0	18.0	44.0	44.0	
Actuated g/C Ratio	0.15	0.39		0.09	0.33	0.29		0.12	0.12	0.29	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	271	1379		157	1156	464		219	190	493	476	
v/s Ratio Prot	c0.17	0.26		0.06	c0.36	c0.34		c0.02		0.23	0.22	
v/s Ratio Perm									0.00			
v/c Ratio	1.08	0.67		0.66	1.10	1.16		0.20	0.03	0.78	0.74	
Uniform Delay, d1	63.5	37.7		66.1	50.5	53.0		59.5	58.3	48.5	47.9	
Progression Factor	1.00	1.00		1.03	0.84	0.97		1.00	1.00	1.00	1.00	
Incremental Delay, d2	78.0	1.3		3.7	48.8	82.5		2.0	0.3	11.4	10.0	
Delay (s)	141.5	39.0		71.8	91.4	133.9		61.5	58.5	59.9	57.8	
Level of Service	F	D		E	F	F		E	E	E	E	
Approach Delay (s)		63.6			103.7			60.0			58.9	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM Average Control Delay	82.4	HCM Level of Service	F
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



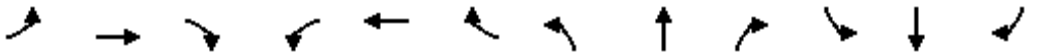
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	1200	125	35	1015	305	160	55	30	780	105	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1770	3489		1770	3539	1583	1681	1727	1583	1681	1704	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1770	3489		1770	3539	1583	1681	1727	1583	1681	1704	1583
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)	103	1304	136	38	1103	332	174	60	33	848	114	717
RTOR Reduction (vph)	0	5	0	0	0	122	0	0	30	0	0	72
Lane Group Flow (vph)	103	1435	0	38	1103	210	115	119	3	475	487	645
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	9.0	59.6		3.2	53.8	53.8	13.7	13.7	13.7	57.5	57.5	57.5
Effective Green, g (s)	9.0	59.6		3.2	53.8	53.8	13.7	13.7	13.7	57.5	57.5	57.5
Actuated g/C Ratio	0.06	0.40		0.02	0.36	0.36	0.09	0.09	0.09	0.38	0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	106	1386		38	1269	568	154	158	145	644	653	607
v/s Ratio Prot	c0.06	c0.41		0.02	0.31		0.07	c0.07		0.28	0.29	
v/s Ratio Perm						0.13			0.00			c0.41
v/c Ratio	0.97	1.04		1.00	0.87	0.37	0.75	0.75	0.02	0.74	0.75	1.06
Uniform Delay, d1	70.4	45.2		73.4	44.8	35.6	66.5	66.5	62.0	39.8	39.9	46.2
Progression Factor	1.04	0.65		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	64.6	30.0		146.0	6.6	0.4	27.7	27.8	0.3	4.4	4.6	54.5
Delay (s)	137.8	59.3		219.4	51.4	36.0	94.2	94.3	62.3	44.2	44.6	100.8
Level of Service	F	E		F	D	D	F	F	E	D	D	F
Approach Delay (s)		64.5			52.3			90.3			68.5	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM Average Control Delay	63.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



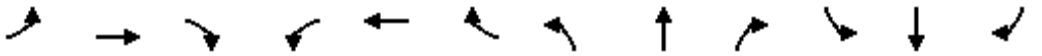
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	1500	215	135	905	30	145	170	190	150	215	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3473		1770	3522		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3473		1770	3522		1770	1863	1583	1770	1863	1583
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)	190	1630	234	147	984	33	158	185	207	163	234	152
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	157	0	0	113
Lane Group Flow (vph)	190	1855	0	147	1015	0	158	185	50	163	234	39
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	17.4	61.0		10.0	53.6		17.0	17.0	17.0	16.0	16.0	16.0
Effective Green, g (s)	17.4	61.0		10.0	53.6		17.0	17.0	17.0	16.0	16.0	16.0
Actuated g/C Ratio	0.14	0.51		0.08	0.45		0.14	0.14	0.14	0.13	0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	1765		148	1573		251	264	224	236	248	211
v/s Ratio Prot	0.11	c0.53		c0.08	0.29		0.09	c0.10		0.09	c0.13	
v/s Ratio Perm									0.03			0.02
v/c Ratio	0.74	1.05		0.99	0.65		0.63	0.70	0.22	0.69	0.94	0.19
Uniform Delay, d1	49.1	29.5		55.0	25.8		48.5	49.1	45.6	49.6	51.6	46.2
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	10.6	36.2		71.6	0.9		11.4	14.4	2.3	15.3	44.2	1.9
Delay (s)	59.7	65.7		126.6	26.7		59.9	63.5	47.9	65.0	95.8	48.2
Level of Service	E	E		F	C		E	E	D	E	F	D
Approach Delay (s)		65.1			39.3			56.6			73.5	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM Average Control Delay	58.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



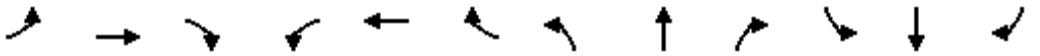
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	2890	415	165	1550	485	265	480	285	305	315	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
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)	130	3141	451	179	1685	527	288	522	310	332	342	136
RTOR Reduction (vph)	0	0	155	0	0	162	0	0	72	0	0	118
Lane Group Flow (vph)	130	3141	296	179	1685	365	288	522	238	332	342	18
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	8.7	77.0	77.0	7.0	75.3	75.3	12.9	18.0	18.0	12.0	17.1	17.1
Effective Green, g (s)	8.7	77.0	77.0	7.0	75.3	75.3	12.9	18.0	18.0	12.0	17.1	17.1
Actuated g/C Ratio	0.07	0.59	0.59	0.05	0.58	0.58	0.10	0.14	0.14	0.09	0.13	0.13
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	230	3012	938	185	2945	917	341	704	219	317	466	367
v/s Ratio Prot	0.04	c0.62		c0.05	0.33		0.08	0.10		c0.10	0.10	
v/s Ratio Perm			0.19			0.23			c0.15			0.01
v/c Ratio	0.57	1.04	0.32	0.97	0.57	0.40	0.84	0.74	1.09	1.05	0.73	0.05
Uniform Delay, d1	58.8	26.5	13.3	61.4	17.2	15.0	57.6	53.8	56.0	59.0	54.3	49.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	29.0	0.2	56.1	0.3	0.3	17.1	6.9	86.6	63.5	9.8	0.3
Delay (s)	62.0	55.5	13.5	117.5	17.5	15.2	74.7	60.7	142.6	122.5	64.1	49.6
Level of Service	E	E	B	F	B	B	E	E	F	F	E	D
Approach Delay (s)		50.6			24.5			87.0			85.6	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM Average Control Delay	51.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



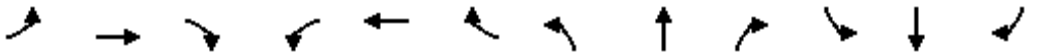
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	465	610	200	255	395	120	220	805	220	305	475	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3416		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3416		1770	3539	1583	1770	3539	1583
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)	505	663	217	277	429	130	239	875	239	332	516	304
RTOR Reduction (vph)	0	0	0	0	32	0	0	0	197	0	0	128
Lane Group Flow (vph)	505	663	217	277	527	0	239	875	42	332	516	176
Turn Type	Split		Free	Split			Split		Over	Split		pt+ov
Protected Phases	4	4		8	8		2	2	8	6	6	6 4
Permitted Phases			Free									
Actuated Green, G (s)	17.0	17.0	90.0	16.0	16.0		24.0	24.0	16.0	17.0	17.0	38.0
Effective Green, g (s)	17.0	17.0	90.0	16.0	16.0		24.0	24.0	16.0	17.0	17.0	38.0
Actuated g/C Ratio	0.19	0.19	1.00	0.18	0.18		0.27	0.27	0.18	0.19	0.19	0.42
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	648	668	1583	610	607		472	944	281	334	668	668
v/s Ratio Prot	0.15	c0.19		0.08	c0.15		0.14	c0.25	0.03	c0.19	0.15	0.11
v/s Ratio Perm			0.14									
v/c Ratio	0.78	0.99	0.14	0.45	0.87		0.51	0.93	0.15	0.99	0.77	0.26
Uniform Delay, d1	34.7	36.4	0.0	33.1	36.0		28.0	32.1	31.3	36.4	34.7	16.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	32.8	0.2	0.5	12.5		3.8	16.2	0.3	47.8	8.5	0.2
Delay (s)	40.6	69.2	0.2	33.6	48.5		31.8	48.3	31.5	84.2	43.1	17.1
Level of Service	D	E	A	C	D		C	D	C	F	D	B
Approach Delay (s)		48.0			43.6			42.5			48.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



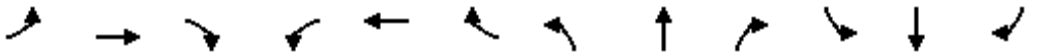
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	205	90	345	110	55	120	1095	550	50	810	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1777		3433	1863	1583	1770	3539	1583	1770	3511	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1777		3433	1863	1583	1770	3539	1583	1770	3511	
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)	54	223	98	375	120	60	130	1190	598	54	880	49
RTOR Reduction (vph)	0	22	0	0	0	43	0	0	290	0	6	0
Lane Group Flow (vph)	54	299	0	375	120	17	130	1190	308	54	923	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	3.5	16.2		8.0	20.7	20.7	7.0	29.3	29.3	2.4	24.7	
Effective Green, g (s)	3.5	16.2		8.0	20.7	20.7	7.0	29.3	29.3	2.4	24.7	
Actuated g/C Ratio	0.05	0.23		0.11	0.29	0.29	0.10	0.41	0.41	0.03	0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	86	400		382	536	456	172	1442	645	59	1206	
v/s Ratio Prot	0.03	c0.17		c0.11	0.06		c0.07	c0.34		0.03	0.26	
v/s Ratio Perm						0.01			0.19			
v/c Ratio	0.63	0.75		0.98	0.22	0.04	0.76	0.83	0.48	0.92	0.77	
Uniform Delay, d1	33.6	25.9		31.9	19.5	18.4	31.6	19.0	15.7	34.6	21.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	13.5	7.4		41.0	0.2	0.0	17.1	5.5	2.5	86.4	4.7	
Delay (s)	47.0	33.3		72.8	19.7	18.5	48.7	24.5	18.2	121.0	25.7	
Level of Service	D	C		E	B	B	D	C	B	F	C	
Approach Delay (s)		35.3			55.5			24.2			30.9	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	71.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



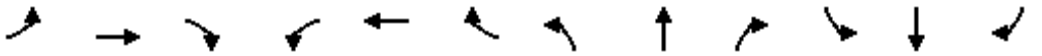
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	680	135	335	935	95	70	535	250	155	1390	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
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)	158	739	147	364	1016	103	76	582	272	168	1511	408
RTOR Reduction (vph)	0	0	81	0	0	85	0	0	140	0	0	0
Lane Group Flow (vph)	158	739	66	364	1016	18	76	582	132	168	1511	408
Turn Type	Prot		Perm	Prot		Over	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4						2			Free
Actuated Green, G (s)	5.0	21.0	21.0	10.0	26.0	7.8	3.2	35.8	35.8	7.8	40.4	90.6
Effective Green, g (s)	5.0	21.0	21.0	10.0	26.0	7.8	3.2	35.8	35.8	7.8	40.4	90.6
Actuated g/C Ratio	0.06	0.23	0.23	0.11	0.29	0.09	0.04	0.40	0.40	0.09	0.45	1.00
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	189	820	367	379	1016	136	121	2009	626	296	1578	1583
v/s Ratio Prot	0.05	0.21		c0.11	c0.29	0.01	0.02	0.11		c0.05	c0.43	
v/s Ratio Perm			0.04						0.08			0.26
v/c Ratio	0.84	0.90	0.18	0.96	1.00	0.13	0.63	0.29	0.21	0.57	0.96	0.26
Uniform Delay, d1	42.4	33.8	27.9	40.1	32.3	38.3	43.1	18.7	18.1	39.8	24.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.1	13.0	0.2	35.8	28.2	0.4	9.8	0.4	0.8	2.5	14.6	0.4
Delay (s)	68.5	46.8	28.1	75.9	60.5	38.7	52.9	19.1	18.8	42.3	38.9	0.4
Level of Service	E	D	C	E	E	D	D	B	B	D	D	A
Approach Delay (s)		47.5			62.8			21.8			31.6	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



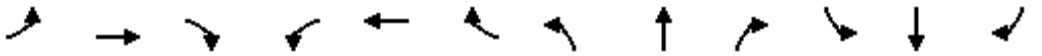
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	295	400	310	270	170	475	1845	415	170	1465	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.97		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	3539	1583	3433	3334		3433	4945		3433	5039	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3334		3433	4945		3433	5039	
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)	245	321	435	337	293	185	516	2005	451	185	1592	103
RTOR Reduction (vph)	0	0	278	0	70	0	0	24	0	0	5	0
Lane Group Flow (vph)	245	321	157	337	408	0	516	2432	0	185	1690	0
Turn Type	Prot		Over	Prot			Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.8	18.3	23.7	16.9	20.4		23.7	71.1		5.0	52.4	
Effective Green, g (s)	14.8	18.3	23.7	16.9	20.4		23.7	71.1		5.0	52.4	
Actuated g/C Ratio	0.11	0.14	0.18	0.13	0.15		0.18	0.53		0.04	0.39	
Clearance Time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Vehicle Extension (s)	3.0	2.0	1.2	2.0	2.0		1.2	5.0		0.8	5.8	
Lane Grp Cap (vph)	196	485	281	434	509		609	2632		128	1976	
v/s Ratio Prot	c0.14	0.09	0.10	0.10	c0.12		0.15	c0.49		c0.05	0.34	
v/s Ratio Perm												
v/c Ratio	1.25	0.66	0.56	0.78	0.80		0.85	0.92		1.45	0.86	
Uniform Delay, d1	59.4	54.7	50.2	56.5	54.6		53.2	28.8		64.3	37.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	147.5	2.6	1.4	7.8	8.3		10.2	6.9		238.7	5.0	
Delay (s)	206.9	57.3	51.5	64.3	63.0		63.4	35.7		303.0	42.1	
Level of Service	F	E	D	E	E		E	D		F	D	
Approach Delay (s)		91.4			63.5			40.5			67.8	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM Average Control Delay	58.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	133.6	Sum of lost time (s)	16.7
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



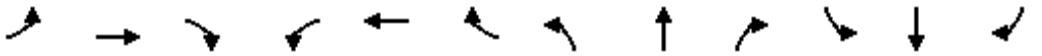
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	695	10	690	335	2045	0	0	1615	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	1.00
Frt				1.00	0.92	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1526	1504	3433	5085			5085	1583
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1526	1504	3433	5085			5085	1583
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)	0	0	0	755	11	750	364	2223	0	0	1755	609
RTOR Reduction (vph)	0	0	0	0	3	4	0	0	0	0	0	368
Lane Group Flow (vph)	0	0	0	528	505	476	364	2223	0	0	1755	241
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.0	31.0	29.9	14.6	58.0			39.2	39.2
Effective Green, g (s)				31.0	31.0	29.9	14.6	58.0			39.2	39.2
Actuated g/C Ratio				0.31	0.31	0.30	0.15	0.58			0.39	0.39
Clearance Time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				521	473	450	501	2949			1993	621
v/s Ratio Prot				0.31	c0.33		0.11	c0.44			c0.35	
v/s Ratio Perm						0.32						0.15
v/c Ratio				1.01	1.07	1.06	0.73	0.75			0.88	0.39
Uniform Delay, d1				34.5	34.5	35.0	40.8	15.7			28.2	21.8
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				42.8	60.3	58.9	5.2	1.8			6.0	1.8
Delay (s)				77.3	94.8	93.9	46.0	17.5			34.2	23.6
Level of Service				E	F	F	D	B			C	C
Approach Delay (s)		0.0			88.4			21.5			31.5	
Approach LOS		A			F			C			C	

Intersection Summary			
HCM Average Control Delay	40.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



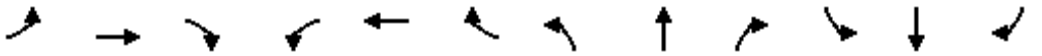
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	650	0	210	0	0	0	0	1730	775	660	1650	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Lane Util. Factor	0.97		1.00					0.91	1.00	0.97	0.91	
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)	3433		1583					5085	1583	3433	5085	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					5085	1583	3433	5085	
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)	707	0	228	0	0	0	0	1880	842	717	1793	0
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	197	0	0	0
Lane Group Flow (vph)	707	0	205	0	0	0	0	1880	645	717	1793	0
Turn Type	Prot		custom						Perm	Prot		
Protected Phases	7							2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	22.4		21.3					55.4	55.4	31.5	91.6	
Effective Green, g (s)	22.4		21.3					55.4	55.4	31.5	91.6	
Actuated g/C Ratio	0.18		0.17					0.44	0.44	0.25	0.73	
Clearance Time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	615		270					2254	702	865	3726	
v/s Ratio Prot	c0.21							0.37		c0.21	0.35	
v/s Ratio Perm			0.13						c0.41			
v/c Ratio	1.15		0.76					0.83	0.92	0.83	0.48	
Uniform Delay, d1	51.3		49.4					30.7	32.7	44.2	6.9	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	85.1		11.5					3.8	19.0	6.6	0.4	
Delay (s)	136.4		60.9					34.6	51.7	50.8	7.3	
Level of Service	F		E					C	D	D	A	
Approach Delay (s)		118.0			0.0			39.9			19.8	
Approach LOS		F			A			D			B	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



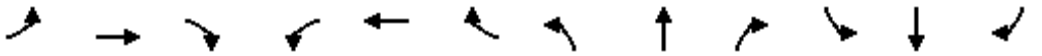
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	375	925	530	390	10	1050	180	960	5	90	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.88	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	2787	3433	1856		3433	1863	2787	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	2787	3433	1856		3433	1863	2787	1770	1863	1583
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)	65	408	1005	576	424	11	1141	196	1043	5	98	43
RTOR Reduction (vph)	0	0	702	0	1	0	0	0	886	0	0	34
Lane Group Flow (vph)	65	408	303	576	434	0	1141	196	157	5	98	9
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	4.0	15.6	28.0	14.0	25.6		28.0	46.4	14.0	0.8	19.2	19.2
Effective Green, g (s)	4.0	15.6	28.0	14.0	25.6		28.0	46.4	14.0	0.8	19.2	19.2
Actuated g/C Ratio	0.04	0.17	0.30	0.15	0.28		0.30	0.50	0.15	0.01	0.21	0.21
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	76	595	841	518	512		1036	932	420	15	385	328
v/s Ratio Prot	0.04	0.12	0.11	c0.17	c0.23		c0.33	0.11	0.06	0.00	c0.05	
v/s Ratio Perm												0.01
v/c Ratio	0.86	0.69	0.36	1.11	0.85		1.10	0.21	0.37	0.33	0.25	0.03
Uniform Delay, d1	44.1	36.3	25.4	39.4	31.8		32.4	13.0	35.5	45.7	30.8	29.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.8	3.3	0.3	73.9	12.4		60.0	0.5	0.6	12.7	1.6	0.2
Delay (s)	100.9	39.6	25.7	113.3	44.1		92.4	13.5	36.0	58.4	32.4	29.5
Level of Service	F	D	C	F	D		F	B	D	E	C	C
Approach Delay (s)		32.8			83.5			61.2			32.4	
Approach LOS		C			F			E			C	

Intersection Summary			
HCM Average Control Delay	56.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	92.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



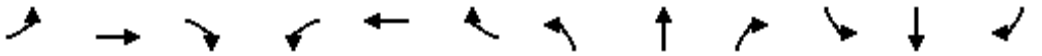
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	90	110	630	90	65	285	870	905	55	825	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.91	0.91		1.00	0.95	0.88	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1610	3212		1770	3539	2787	1770	3500	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1610	3212		1770	3539	2787	1770	3500	
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)	38	98	120	685	98	71	310	946	984	60	897	71
RTOR Reduction (vph)	0	0	109	0	11	0	0	0	705	0	6	0
Lane Group Flow (vph)	38	98	11	342	501	0	310	946	279	60	962	0
Turn Type	Split		Perm	Split			Prot		Over	Prot		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.8	7.8	7.8	24.0	24.0		12.0	29.8	24.0	7.1	24.9	
Effective Green, g (s)	7.8	7.8	7.8	24.0	24.0		12.0	29.8	24.0	7.1	24.9	
Actuated g/C Ratio	0.09	0.09	0.09	0.28	0.28		0.14	0.35	0.28	0.08	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	163	326	146	456	910		251	1245	790	148	1029	
v/s Ratio Prot	0.02	c0.03		c0.21	0.16		c0.18	0.27	0.10	0.03	c0.27	
v/s Ratio Perm			0.01									
v/c Ratio	0.23	0.30	0.08	0.75	0.55		1.24	0.76	0.35	0.41	0.94	
Uniform Delay, d1	35.7	35.9	35.2	27.6	25.8		36.4	24.3	24.2	36.8	29.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.5	0.2	6.8	0.7		135.2	4.4	0.3	1.8	16.2	
Delay (s)	36.4	36.4	35.4	34.4	26.5		171.6	28.7	24.4	38.6	45.3	
Level of Service	D	D	D	C	C		F	C	C	D	D	
Approach Delay (s)		35.9			29.7			46.6			44.9	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	42.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



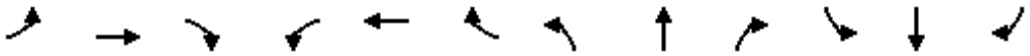
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1025	105	45	150	95	10	90	945	160	35	850	725
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		1807	1583	1770	3462		1770	3539	2787
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		1807	1583	1770	3462		1770	3539	2787
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)	1114	114	49	163	103	11	98	1027	174	38	924	788
RTOR Reduction (vph)	0	0	0	0	0	3	0	13	0	0	0	0
Lane Group Flow (vph)	1114	114	49	0	266	8	98	1188	0	38	924	788
Turn Type	Split		Free	Split		Perm	Prot			Prot		Over
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			Free			8						
Actuated Green, G (s)	31.0	31.0	101.6		16.0	16.0	7.0	36.2		2.4	31.6	31.0
Effective Green, g (s)	31.0	31.0	101.6		16.0	16.0	7.0	36.2		2.4	31.6	31.0
Actuated g/C Ratio	0.31	0.31	1.00		0.16	0.16	0.07	0.36		0.02	0.31	0.31
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1047	568	1583		285	249	122	1234		42	1101	850
v/s Ratio Prot	c0.32	0.06			c0.15		c0.06	c0.34		0.02	0.26	0.28
v/s Ratio Perm			0.03			0.00						
v/c Ratio	1.06	0.20	0.03		0.93	0.03	0.80	0.96		0.90	0.84	0.93
Uniform Delay, d1	35.3	26.1	0.0		42.3	36.2	46.6	32.0		49.5	32.6	34.2
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	46.5	0.2	0.0		35.8	0.1	30.5	18.1		101.5	7.7	15.8
Delay (s)	81.8	26.3	0.0		78.1	36.3	77.1	50.2		151.0	40.3	50.0
Level of Service	F	C	A		E	D	E	D		F	D	D
Approach Delay (s)		73.7			76.4			52.2			47.1	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	57.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



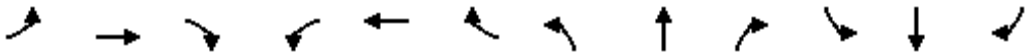
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	235	820	150	105	485	300	210	715	20	240	725	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.91	0.91		0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3336		1610	3372		1610	3311	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3336		1610	3372		1610	3311	
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)	255	891	163	114	527	326	228	777	22	261	788	141
RTOR Reduction (vph)	0	0	69	0	80	0	0	1	0	0	11	0
Lane Group Flow (vph)	255	891	94	114	773	0	205	821	0	235	944	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	10.0	31.0	31.0	8.0	29.0		31.0	31.0		34.0	34.0	
Effective Green, g (s)	10.0	31.0	31.0	8.0	29.0		31.0	31.0		34.0	34.0	
Actuated g/C Ratio	0.08	0.26	0.26	0.07	0.24		0.26	0.26		0.28	0.28	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	286	914	409	118	806		416	871		456	938	
v/s Ratio Prot	c0.07	c0.25		0.06	0.23		0.13	c0.24		0.15	c0.29	
v/s Ratio Perm			0.06									
v/c Ratio	0.89	0.97	0.23	0.97	0.96		0.49	0.94		0.52	1.01	
Uniform Delay, d1	54.5	44.1	35.1	55.9	44.9		37.8	43.6		36.1	43.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	27.3	23.6	0.3	71.5	22.0		4.1	19.3		4.1	31.0	
Delay (s)	81.8	67.7	35.4	127.4	67.0		41.9	62.9		40.2	74.0	
Level of Service	F	E	D	F	E		D	E		D	E	
Approach Delay (s)		66.4			74.1			58.7			67.3	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM Average Control Delay	66.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



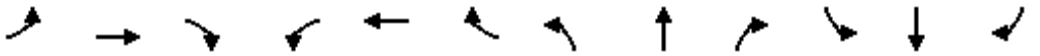
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	2545	320	185	1530	130	195	195	280	105	210	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		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)	1770	5085	1583	1770	5085	1583	3433	3226		3433	3463	
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)	1770	5085	1583	1770	5085	1583	3433	3226		3433	3463	
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)	54	2766	348	201	1663	141	212	212	304	114	228	38
RTOR Reduction (vph)	0	0	132	0	0	55	0	117	0	0	11	0
Lane Group Flow (vph)	54	2766	216	201	1663	86	212	399	0	114	255	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	66.8	66.8	14.0	73.9	73.9	8.0	18.0		6.0	16.0	
Effective Green, g (s)	6.9	66.8	66.8	14.0	73.9	73.9	8.0	18.0		6.0	16.0	
Actuated g/C Ratio	0.06	0.55	0.55	0.12	0.61	0.61	0.07	0.15		0.05	0.13	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	101	2812	875	205	3111	968	227	481		171	459	
v/s Ratio Prot	0.03	c0.54		c0.11	0.33		c0.06	c0.12		0.03	0.07	
v/s Ratio Perm			0.14			0.05						
v/c Ratio	0.53	0.98	0.25	0.98	0.53	0.09	0.93	0.83		0.67	0.55	
Uniform Delay, d1	55.4	26.5	14.0	53.3	13.5	9.6	56.1	49.9		56.4	49.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	13.3	0.1	57.0	0.2	0.0	41.5	15.1		9.4	4.8	
Delay (s)	60.7	39.7	14.1	110.3	13.7	9.7	97.7	65.0		65.8	53.8	
Level of Service	E	D	B	F	B	A	F	E		E	D	
Approach Delay (s)		37.3			23.1			74.5			57.4	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.5%	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)	260	580	75	115	330	75	115	675	350	85	465	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3478		1770	3441		1770	3358		1770	3388	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3478		1770	3441		1770	3358		1770	3388	
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)	283	630	82	125	359	82	125	734	380	92	505	201
RTOR Reduction (vph)	0	13	0	0	25	0	0	82	0	0	52	0
Lane Group Flow (vph)	283	699	0	125	416	0	125	1032	0	92	654	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.0	20.4		7.8	14.2		7.8	29.0		5.0	26.2	
Effective Green, g (s)	14.0	20.4		7.8	14.2		7.8	29.0		5.0	26.2	
Actuated g/C Ratio	0.18	0.26		0.10	0.18		0.10	0.37		0.06	0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	317	907		177	625		177	1245		113	1135	
v/s Ratio Prot	c0.16	c0.20		0.07	0.12		c0.07	c0.31		0.05	0.19	
v/s Ratio Perm												
v/c Ratio	0.89	0.77		0.71	0.67		0.71	0.83		0.81	0.58	
Uniform Delay, d1	31.4	26.7		34.1	29.8		34.1	22.3		36.1	21.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.5	4.1		12.1	2.7		12.1	6.5		34.4	2.1	
Delay (s)	56.9	30.8		46.2	32.5		46.2	28.8		70.6	23.6	
Level of Service	E	C		D	C		D	C		E	C	
Approach Delay (s)		38.2			35.5			30.6			29.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.8%	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)	270	1365	310	280	1020	195	195	680	290	165	410	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4944		3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4944		3433	5085	1583	3433	3539	1583	3433	3539	1583
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)	293	1484	337	304	1109	212	212	739	315	179	446	103
RTOR Reduction (vph)	0	37	0	0	0	194	0	0	169	0	0	90
Lane Group Flow (vph)	293	1784	0	304	1109	18	212	739	146	179	446	13
Turn Type	Prot			Prot		Over	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases									2			
Actuated Green, G (s)	12.2	39.0		10.9	37.7	8.7	10.3	25.1	25.1	8.7	23.5	12.2
Effective Green, g (s)	12.2	39.0		10.9	37.7	8.7	10.3	25.1	25.1	8.7	23.5	12.2
Actuated g/C Ratio	0.12	0.39		0.11	0.38	0.09	0.10	0.25	0.25	0.09	0.24	0.12
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	420	1934		375	1923	138	355	891	399	300	834	194
v/s Ratio Prot	0.09	c0.36		c0.09	0.22	0.01	c0.06	c0.21		0.05	0.13	0.01
v/s Ratio Perm									0.09			
v/c Ratio	0.70	0.92		0.81	0.58	0.13	0.60	0.83	0.37	0.60	0.53	0.06
Uniform Delay, d1	42.0	28.9		43.4	24.7	42.0	42.7	35.3	30.7	43.8	33.3	38.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	7.9		12.5	0.4	0.4	2.7	8.8	2.6	3.2	2.5	0.1
Delay (s)	47.0	36.8		55.9	25.1	42.5	45.4	44.1	33.3	47.0	35.8	38.8
Level of Service	D	D		E	C	D	D	D	C	D	D	D
Approach Delay (s)		38.2			33.1			41.6			39.0	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	99.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #27 Rancho Del Oro Rd & Vista Del Oro Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.363
Loss Time (sec):	0	Average Delay (sec/veh):	130.5
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Vista Del Oro Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	40	1350	40	30	995	35	20	0	20	30	5	25
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:	40	1350	40	30	995	35	20	0	20	30	5	25
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:	43	1467	43	33	1082	38	22	0	22	33	5	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1467	43	33	1082	38	22	0	22	33	5	27
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:	43	1467	43	33	1082	38	22	0	22	33	5	27
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.94	0.06	1.00	1.93	0.07	0.50	0.00	0.50	0.50	0.08	0.42
Final Sat.:	514	1077	32	513	1072	38	256	0	256	259	43	216
Capacity Analysis Module:												
Vol/Sat:	0.08	1.36	1.36	0.06	1.01	1.01	0.08	xxxx	0.08	0.13	0.13	0.13
Crit Moves:		****			****		****				****	
Delay/Veh:	10.4	193	191.5	10.2	65.6	64.4	10.6	0.0	10.6	10.9	10.9	10.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.4	193	191.5	10.2	65.6	64.4	10.6	0.0	10.6	10.9	10.9	10.9
LOS by Move:	B	F	F	B	F	F	B	*	B	B	B	B
ApproachDel:	188.2			64.0			10.6			10.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	188.2			64.0			10.6			10.9		
LOS by Appr:	F			F			B			B		
AllWayAvgQ:	0.1	28.6	28.2	0.1	8.8	8.5	0.1	0.1	0.1	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #28 Rancho Del Oro Rd & Cameo Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.472
Loss Time (sec):	0	Average Delay (sec/veh):	185.0
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Cameo Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	1 0	0	1 0
Volume Module:												
Base Vol:	20	1025	175	180	1115	10	10	10	10	85	10	115
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:	20	1025	175	180	1115	10	10	10	10	85	10	115
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:	22	1114	190	196	1212	11	11	11	11	92	11	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1114	190	196	1212	11	11	11	11	92	11	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:	22	1114	190	196	1212	11	11	11	11	92	11	125
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.71	0.29	1.00	1.98	0.02	0.34	0.33	0.33	1.00	0.08	0.92
Final Sat.:	411	757	131	430	908	8	140	140	140	381	35	399
Capacity Analysis Module:												
Vol/Sat:	0.05	1.47	1.45	0.45	1.33	1.33	0.08	0.08	0.08	0.24	0.31	0.31
Crit Moves:		****			****		****					****
Delay/Veh:	11.9	246	236.5	17.8	188	187.1	12.1	12.1	12.1	15.1	14.7	14.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	246	236.5	17.8	188	187.1	12.1	12.1	12.1	15.1	14.7	14.7
LOS by Move:	B	F	F	C	F	F	B	B	B	C	B	B
ApproachDel:	240.9			164.1			12.1			14.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	240.9			164.1			12.1			14.9		
LOS by Appr:	F			F			B			B		
AllWayAvgQ:	0.1	29.5	28.2	0.8	22.6	22.5	0.1	0.1	0.1	0.3	0.4	0.4

Note: Queue reported is the number of cars per lane.

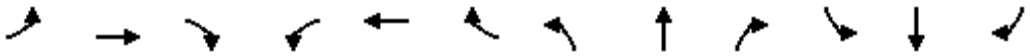
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #29 Rancho Del Oro Rd & Trieste Way & Sicily Way

Cycle (sec):	100	Critical Vol./Cap.(X):	1.437
Loss Time (sec):	0	Average Delay (sec/veh):	152.3
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Trieste Way & Sicily Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	25	1525	20	5	990	5	5	5	10	10	0	5
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:	25	1525	20	5	990	5	5	5	10	10	0	5
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:	27	1658	22	5	1076	5	5	5	11	11	0	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	1658	22	5	1076	5	5	5	11	11	0	5
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:	27	1658	22	5	1076	5	5	5	11	11	0	5
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.97	0.03	1.00	1.99	0.01	0.25	0.25	0.50	0.67	0.00	0.33
Final Sat.:	538	1153	15	530	1138	6	134	134	269	347	0	174
Capacity Analysis Module:												
Vol/Sat:	0.05	1.44	1.44	0.01	0.95	0.94	0.04	0.04	0.04	0.03	xxxx	0.03
Crit Moves:		****			****				****	****		
Delay/Veh:	9.7	224	223.3	9.6	49.9	49.7	9.9	9.9	9.9	10.1	0.0	10.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.7	224	223.3	9.6	49.9	49.7	9.9	9.9	9.9	10.1	0.0	10.1
LOS by Move:	A	F	F	A	E	E	A	A	A	B	*	B
ApproachDel:	220.8			49.7			9.9			10.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	220.8			49.7			9.9			10.1		
LOS by Appr:	F			E			A			B		
AllWayAvgQ:	0.1	35.0	34.8	0.0	6.5	6.5	0.0	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

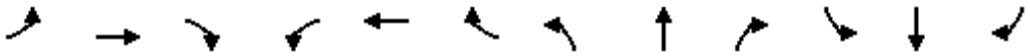


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	0	20	30	5	25	40	1350	40	30	995	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1695			1715		1770	3524		1770	3521	
Flt Permitted		0.87			0.82		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1516			1436		1770	3524		1770	3521	
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)	22	0	22	33	5	27	43	1467	43	33	1082	38
RTOR Reduction (vph)	0	20	0	0	25	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	24	0	0	40	0	43	1508	0	33	1117	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.6			4.6		1.9	35.3		1.5	34.9	
Effective Green, g (s)		4.6			4.6		1.9	35.3		1.5	34.9	
Actuated g/C Ratio		0.09			0.09		0.04	0.66		0.03	0.65	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		131			124		63	2330		50	2301	
v/s Ratio Prot							c0.02	c0.43		0.02	0.32	
v/s Ratio Perm		0.02			c0.03							
v/c Ratio		0.18			0.33		0.68	0.65		0.66	0.49	
Uniform Delay, d1		22.7			22.9		25.5	5.4		25.7	4.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			1.5		26.3	1.4		28.1	0.7	
Delay (s)		23.3			24.5		51.8	6.8		53.8	5.4	
Level of Service		C			C		D	A		D	A	
Approach Delay (s)		23.3			24.5			8.0			6.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	53.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

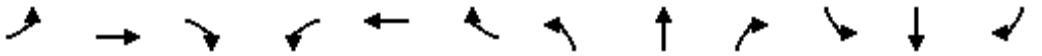
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	85	10	115	20	1025	175	180	1115	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt		0.95		1.00	0.86		1.00	0.98		1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750		1770	1606		1770	3462		1770	3534	
Flt Permitted		0.87		0.74	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1556		1370	1606		1770	3462		1770	3534	
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)	11	11	11	92	11	125	22	1114	190	196	1212	11
RTOR Reduction (vph)	0	10	0	0	108	0	0	18	0	0	1	0
Lane Group Flow (vph)	0	23	0	92	28	0	22	1286	0	196	1222	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		7.8		7.8	7.8		0.8	31.3		7.0	37.5	
Effective Green, g (s)		7.8		7.8	7.8		0.8	31.3		7.0	37.5	
Actuated g/C Ratio		0.13		0.13	0.13		0.01	0.54		0.12	0.65	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		209		184	216		24	1865		213	2281	
v/s Ratio Prot					0.02		0.01	c0.37		c0.11	0.35	
v/s Ratio Perm		0.02		c0.07								
v/c Ratio		0.11		0.50	0.13		0.92	0.69		0.92	0.54	
Uniform Delay, d1		22.1		23.3	22.2		28.6	9.8		25.3	5.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2		2.1	0.3		145.1	2.1		40.1	0.9	
Delay (s)		22.3		25.5	22.4		173.7	11.9		65.4	6.5	
Level of Service		C		C	C		F	B		E	A	
Approach Delay (s)		22.3			23.7			14.6			14.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



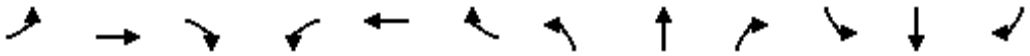
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	10	10	0	5	25	1525	20	5	990	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.96		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1711			1725		1770	3532		1770	3537	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1731			1784		1770	3532		1770	3537	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	11	11	0	5	27	1658	22	5	1076	5
RTOR Reduction (vph)	0	11	0	0	5	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	10	0	0	11	0	27	1679	0	5	1081	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		1.3			1.3		0.7	39.7		0.7	39.7	
Effective Green, g (s)		1.3			1.3		0.7	39.7		0.7	39.7	
Actuated g/C Ratio		0.02			0.02		0.01	0.74		0.01	0.74	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		42			43		23	2611		23	2615	
v/s Ratio Prot							c0.02	c0.48		0.00	0.31	
v/s Ratio Perm		0.01			c0.01							
v/c Ratio		0.24			0.26		1.17	0.64		0.22	0.41	
Uniform Delay, d1		25.7			25.7		26.5	3.5		26.2	2.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0			3.2		246.2	1.2		4.7	0.5	
Delay (s)		28.7			28.9		272.7	4.7		30.9	3.1	
Level of Service		C			C		F	A		C	A	
Approach Delay (s)		28.7			28.9			9.0			3.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	53.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



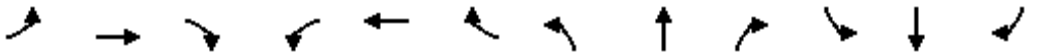
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	130	455	400	115	185	130	1280	200	20	735	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3212		1770	3468		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3212		1770	3468		1770	3539	1583
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)	76	141	495	435	125	201	141	1391	217	22	799	65
RTOR Reduction (vph)	0	0	227	0	169	0	0	11	0	0	0	57
Lane Group Flow (vph)	76	141	268	435	157	0	141	1597	0	22	799	8
Turn Type	Prot		Over	Prot			Prot			Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases												
Actuated Green, G (s)	7.6	10.3	26.0	14.0	16.7		26.0	48.0		16.0	38.0	7.6
Effective Green, g (s)	7.6	10.3	26.0	14.0	16.7		26.0	48.0		16.0	38.0	7.6
Actuated g/C Ratio	0.07	0.10	0.25	0.13	0.16		0.25	0.46		0.15	0.36	0.07
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	129	349	395	461	514		441	1596		272	1289	115
v/s Ratio Prot	0.04	c0.04	c0.17	c0.13	0.05		0.08	c0.46		0.01	0.23	0.01
v/s Ratio Perm												
v/c Ratio	0.59	0.40	0.68	0.94	0.31		0.32	1.00		0.08	0.62	0.07
Uniform Delay, d1	46.8	44.1	35.4	44.8	38.7		31.9	28.1		37.8	27.2	45.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.7	0.8	9.0	28.1	0.3		1.9	22.7		0.6	2.2	0.3
Delay (s)	53.6	44.9	44.4	72.8	39.0		33.8	50.9		38.4	29.5	45.3
Level of Service	D	D	D	E	D		C	D		D	C	D
Approach Delay (s)		45.5			58.3			49.5			30.9	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	104.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.4%	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)	110	140	65	155	105	25	95	330	120	95	1630	585
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	0.95		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.95		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1774		3433	3438		1770	5085	1583	1770	4884	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1774		3433	3438		1770	5085	1583	1770	4884	
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)	120	152	71	168	114	27	103	359	130	103	1772	636
RTOR Reduction (vph)	0	22	0	0	22	0	0	0	68	0	77	0
Lane Group Flow (vph)	120	201	0	168	119	0	103	359	62	103	2331	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	4.0	13.0		4.0	13.0		5.0	37.4	37.4	7.5	39.9	
Effective Green, g (s)	4.0	13.0		4.0	13.0		5.0	37.4	37.4	7.5	39.9	
Actuated g/C Ratio	0.05	0.17		0.05	0.17		0.06	0.48	0.48	0.10	0.51	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	176	296		176	574		114	2441	760	170	2502	
v/s Ratio Prot	0.03	c0.11		c0.05	0.03		c0.06	0.07		0.06	c0.48	
v/s Ratio Perm									0.04			
v/c Ratio	0.68	0.68		0.95	0.21		0.90	0.15	0.08	0.61	0.93	
Uniform Delay, d1	36.3	30.5		36.9	28.0		36.2	11.3	11.0	33.8	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.4	6.3		54.2	0.2		54.9	0.1	0.2	6.0	7.8	
Delay (s)	46.7	36.8		91.0	28.2		91.1	11.5	11.2	39.8	25.5	
Level of Service	D	D		F	C		F	B	B	D	C	
Approach Delay (s)		40.3			62.3			25.2			26.1	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	30.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

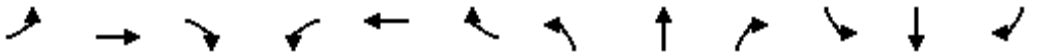


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	60	135	330	75	35	190	735	525	210	1540	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1757	1504	1770	5085	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1757	1504	1770	5085	1583	1770	3539	1583
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)	60	65	147	359	82	38	207	799	571	228	1674	60
RTOR Reduction (vph)	0	0	132	0	2	29	0	0	346	0	0	12
Lane Group Flow (vph)	60	65	15	359	84	5	207	799	225	228	1674	48
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.7	9.7	9.7	10.0	13.0	13.0	12.0	37.0	37.0	21.0	46.0	46.0
Effective Green, g (s)	6.7	9.7	9.7	10.0	13.0	13.0	12.0	37.0	37.0	21.0	46.0	46.0
Actuated g/C Ratio	0.07	0.10	0.10	0.11	0.14	0.14	0.13	0.39	0.39	0.22	0.49	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	127	193	164	366	244	209	227	2008	625	397	1737	777
v/s Ratio Prot	0.03	0.03		c0.10	c0.05		c0.12	0.16		0.13	c0.47	
v/s Ratio Perm			0.01			0.00			0.14			0.03
v/c Ratio	0.47	0.34	0.09	0.98	0.35	0.02	0.91	0.40	0.36	0.57	0.96	0.06
Uniform Delay, d1	41.8	39.0	38.0	41.8	36.5	34.9	40.3	20.4	20.0	32.4	23.0	12.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	1.0	0.2	41.7	0.9	0.0	36.6	0.6	1.6	2.0	14.6	0.2
Delay (s)	44.6	40.1	38.3	83.5	37.4	34.9	76.9	20.9	21.6	34.4	37.6	12.7
Level of Service	D	D	D	F	D	C	E	C	C	C	D	B
Approach Delay (s)		40.1			71.8			28.5			36.5	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	93.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

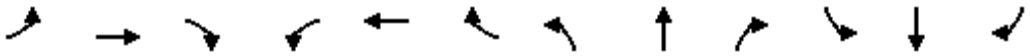
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	460	450	1595	420	10	10	10	10	560	10	990
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1723			1776	2787
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)	1770	3539	1583	3433	3539	1583	1770	1723			1776	2787
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)	11	500	489	1734	457	11	11	11	11	609	11	1076
RTOR Reduction (vph)	0	0	371	0	0	5	0	11	0	0	0	241
Lane Group Flow (vph)	11	500	118	1734	457	6	11	11	0	0	620	835
Turn Type	Prot		Perm	Prot		Perm	Split			Split		pm+ov
Protected Phases	5	2		1	6		4	4		8	8	1
Permitted Phases			2			6						8
Actuated Green, G (s)	1.5	21.0	21.0	58.6	78.1	78.1	4.3	4.3			41.1	99.7
Effective Green, g (s)	1.5	21.0	21.0	58.6	78.1	78.1	4.3	4.3			41.1	99.7
Actuated g/C Ratio	0.01	0.15	0.15	0.42	0.55	0.55	0.03	0.03			0.29	0.71
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	19	527	236	1427	1960	877	54	53			518	1971
v/s Ratio Prot	0.01	c0.14		c0.51	0.13		0.01	c0.01			c0.35	0.18
v/s Ratio Perm			0.07			0.00						0.12
v/c Ratio	0.58	0.95	0.50	1.22	0.23	0.01	0.20	0.21			1.20	0.42
Uniform Delay, d1	69.4	59.5	55.2	41.2	16.1	14.1	66.7	66.7			49.9	8.6
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	36.3	28.4	7.4	103.5	0.3	0.0	1.9	2.0			106.2	0.1
Delay (s)	105.7	87.8	62.5	144.7	16.4	14.1	68.5	68.7			156.2	8.8
Level of Service	F	F	E	F	B	B	E	E			F	A
Approach Delay (s)		75.7			117.4			68.7			62.7	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM Average Control Delay	89.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	141.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
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)	650	1430	100	230	1270	540	150	850	510	600	1060	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3340		3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3340		3433	3539	1583
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)	707	1554	109	250	1380	587	163	924	554	652	1152	598
RTOR Reduction (vph)	0	0	99	0	0	327	0	74	0	0	0	324
Lane Group Flow (vph)	707	1554	10	250	1380	260	163	1404	0	652	1152	274
Turn Type	Prot		Over	Prot		Over	Prot			Prot		Over
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases											6	
Actuated Green, G (s)	17.0	32.3	10.9	13.7	29.0	26.9	10.9	29.0		26.9	45.0	17.0
Effective Green, g (s)	17.0	32.3	10.9	13.7	29.0	26.9	10.9	29.0		26.9	45.0	17.0
Actuated g/C Ratio	0.14	0.27	0.09	0.12	0.25	0.23	0.09	0.25		0.23	0.38	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	495	1393	146	399	1251	361	317	822		783	1351	228
v/s Ratio Prot	c0.21	c0.31	0.01	0.07	0.27	0.16	0.05	c0.42		c0.19	0.33	0.17
v/s Ratio Perm												
v/c Ratio	1.43	1.12	0.07	0.63	1.10	0.72	0.51	1.71		0.83	0.85	1.20
Uniform Delay, d1	50.5	42.8	48.9	49.7	44.5	42.0	51.0	44.5		43.4	33.4	50.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	204.2	62.4	0.2	3.1	58.6	6.7	1.4	323.9		7.6	7.0	124.4
Delay (s)	254.6	105.2	49.1	52.7	103.0	48.7	52.4	368.3		50.9	40.4	174.8
Level of Service	F	F	D	D	F	D	D	F		D	D	F
Approach Delay (s)		147.2			83.0			336.9			76.7	
Approach LOS		F			F			F			E	

Intersection Summary			
HCM Average Control Delay	147.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	117.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

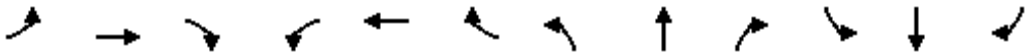


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	375	80	125	205	95	105	1155	245	120	1035	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.95		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3446		1770	3371		1770	3446		1770	3453	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3446		1770	3371		1770	3446		1770	3453	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	284	395	84	132	216	100	111	1216	258	126	1089	211
RTOR Reduction (vph)	0	14	0	0	43	0	0	14	0	0	12	0
Lane Group Flow (vph)	284	465	0	132	273	0	111	1460	0	126	1288	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	23.3	23.8		14.1	14.6		11.3	59.7		11.2	59.6	
Effective Green, g (s)	23.3	23.8		14.1	14.6		11.3	59.7		11.2	59.6	
Actuated g/C Ratio	0.18	0.18		0.11	0.11		0.09	0.46		0.09	0.46	
Clearance Time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	317	631		192	379		154	1583		152	1583	
v/s Ratio Prot	c0.16	c0.13		0.07	0.08		0.06	c0.42		c0.07	0.37	
v/s Ratio Perm												
v/c Ratio	0.90	0.74		0.69	0.72		0.72	0.92		0.83	0.81	
Uniform Delay, d1	52.2	50.1		55.8	55.7		57.8	33.0		58.5	30.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.9	4.5		9.8	6.6		15.3	10.4		29.5	4.7	
Delay (s)	78.1	54.6		65.6	62.4		73.1	43.4		88.0	35.1	
Level of Service	E	D		E	E		E	D		F	D	
Approach Delay (s)		63.4			63.3			45.5			39.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	48.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

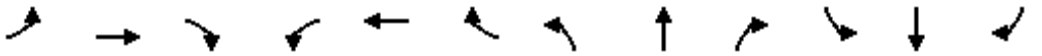
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	140	340	150	290	520	255	80	450	130	270	860	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.95		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3377		1770	3365		3433	3420		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3377		1770	3365		3433	3420		3433	3539	1583
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)	152	370	163	315	565	277	87	489	141	293	935	234
RTOR Reduction (vph)	0	58	0	0	67	0	0	29	0	0	0	154
Lane Group Flow (vph)	152	475	0	315	775	0	87	601	0	293	935	80
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases												2
Actuated Green, G (s)	11.3	21.6		13.1	23.4		6.3	24.1		11.7	29.5	29.5
Effective Green, g (s)	11.3	21.6		13.1	23.4		6.3	24.1		11.7	29.5	29.5
Actuated g/C Ratio	0.13	0.25		0.15	0.27		0.07	0.28		0.14	0.34	0.34
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	231	843		268	910		250	953		464	1207	540
v/s Ratio Prot	0.09	0.14		c0.18	c0.23		0.03	0.18		c0.09	c0.26	
v/s Ratio Perm												0.05
v/c Ratio	0.66	0.56		1.18	0.85		0.35	0.63		0.63	0.77	0.15
Uniform Delay, d1	35.8	28.3		36.7	29.9		38.1	27.3		35.4	25.5	19.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.6	0.9		110.9	7.7		0.8	3.2		2.8	4.9	0.6
Delay (s)	42.4	29.2		147.6	37.6		39.0	30.5		38.2	30.4	20.4
Level of Service	D	C		F	D		D	C		D	C	C
Approach Delay (s)		32.1			67.6			31.5			30.4	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM Average Control Delay	41.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	86.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



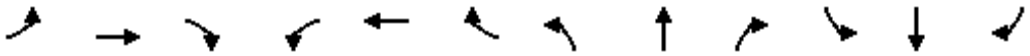
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	190	265	110	110	45	290	1450	205	60	1065	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3473		1770	3515	
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)	1770	1863	1583	1770	1863	1583	3433	3473		1770	3515	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	79	200	279	116	116	47	305	1526	216	63	1121	53
RTOR Reduction (vph)	0	0	206	0	0	41	0	8	0	0	3	0
Lane Group Flow (vph)	79	200	73	116	116	6	305	1734	0	63	1171	0
Turn Type	Prot		Over	Prot		Perm	Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	13.5	18.4	14.1	11.4	17.3	17.3	14.1	69.6		5.6	61.1	
Effective Green, g (s)	13.5	18.4	14.1	11.4	17.3	17.3	14.1	69.6		5.6	61.1	
Actuated g/C Ratio	0.10	0.14	0.11	0.09	0.13	0.13	0.11	0.54		0.04	0.47	
Clearance Time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	184	264	172	155	248	211	372	1859		76	1652	
v/s Ratio Prot	0.04	c0.11	0.05	c0.07	0.06		0.09	c0.50		c0.04	0.33	
v/s Ratio Perm						0.00						
v/c Ratio	0.43	0.76	0.42	0.75	0.47	0.03	0.82	0.93		0.83	0.71	
Uniform Delay, d1	54.6	53.7	54.2	57.9	52.1	49.0	56.7	28.0		61.7	27.4	
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	1.6	11.7	1.7	17.8	1.4	0.1	13.2	10.1		49.7	2.6	
Delay (s)	56.2	65.4	55.8	75.7	53.5	49.1	69.9	38.1		111.4	30.0	
Level of Service	E	E	E	E	D	D	E	D		F	C	
Approach Delay (s)		59.3			62.0			42.8			34.1	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM Average Control Delay	43.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	86.9%	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)	290	960	695	330	640	265	495	1310	280	240	945	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	3539	1583	3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	305	1011	732	347	674	279	521	1379	295	253	995	132
RTOR Reduction (vph)	0	0	4	0	0	145	0	0	181	0	0	90
Lane Group Flow (vph)	305	1011	728	347	674	134	521	1379	114	253	995	42
Turn Type	Prot		pt+ov	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4	4 5	3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	16.0	42.0	62.0	14.0	40.0	40.0	20.0	39.0	39.0	10.0	30.0	30.0
Effective Green, g (s)	16.0	42.0	62.0	14.0	40.0	40.0	20.0	39.0	39.0	10.0	30.0	30.0
Actuated g/C Ratio	0.12	0.32	0.48	0.11	0.31	0.31	0.15	0.30	0.30	0.08	0.23	0.23
Clearance Time (s)	5.0	7.0		5.0	7.0	7.0	5.0	7.0	7.0	6.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	423	1643	755	370	1089	487	528	1526	475	264	1173	365
v/s Ratio Prot	0.09	0.20	c0.46	c0.10	0.19		c0.15	c0.27		0.07	c0.20	
v/s Ratio Perm						0.08			0.07			0.03
v/c Ratio	0.72	0.62	0.96	0.94	0.62	0.27	0.99	0.90	0.24	0.96	0.85	0.12
Uniform Delay, d1	54.9	37.2	32.9	57.6	38.5	34.0	54.9	43.7	34.3	59.8	47.8	39.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.0	0.7	24.2	30.9	1.1	0.3	35.4	9.1	1.2	43.5	7.7	0.6
Delay (s)	60.8	37.9	57.1	88.5	39.5	34.3	90.3	52.8	35.5	103.3	55.5	40.2
Level of Service	E	D	E	F	D	C	F	D	D	F	E	D
Approach Delay (s)		48.2			51.5			59.4			62.8	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	55.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

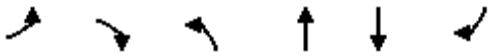


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	5	10	105	5	695	10	1505	155	755	1290	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	5.5		4.0	5.5	
Lane Util. Factor		1.00	1.00	1.00	0.95	0.95	1.00	0.91		0.97	0.91	
Frt		1.00	0.85	1.00	0.85	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794	1583	1770	1508	1504	1770	5014		3433	5076	
Flt Permitted		0.96	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1794	1583	1770	1508	1504	1770	5014		3433	5076	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	5	11	111	5	732	11	1584	163	795	1358	16
RTOR Reduction (vph)	0	0	11	0	320	149	0	9	0	0	1	0
Lane Group Flow (vph)	0	21	0	111	51	217	11	1738	0	795	1373	0
Turn Type	Split		Perm	Split		pt+ov	Prot			Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)		4.8	4.8	16.2	16.2	51.4	0.8	56.3		35.2	90.7	
Effective Green, g (s)		4.8	4.8	16.2	16.2	51.4	0.8	56.3		35.2	90.7	
Actuated g/C Ratio		0.04	0.04	0.12	0.12	0.40	0.01	0.43		0.27	0.70	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0	5.5		4.0	5.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		66	58	221	188	595	11	2171		930	3541	
v/s Ratio Prot		c0.01		c0.06	0.03	0.14	0.01	c0.35		c0.23	0.27	
v/s Ratio Perm			0.00									
v/c Ratio		0.32	0.01	0.50	0.27	0.36	1.00	0.80		0.85	0.39	
Uniform Delay, d1		61.0	60.3	53.1	51.5	27.8	64.6	32.0		45.0	8.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.8	0.0	1.8	0.8	0.4	271.4	3.2		7.7	0.3	
Delay (s)		63.8	60.4	54.9	52.3	28.1	336.0	35.2		52.7	8.5	
Level of Service		E	E	D	D	C	F	D		D	A	
Approach Delay (s)		62.6			42.2			37.1			24.7	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

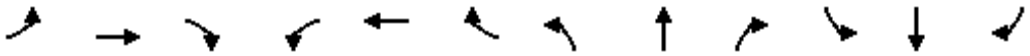
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	120	310	450	285	425	255	1420	670	45	1170	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5025	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5025	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	126	326	474	300	447	268	1495	705	47	1232	105
RTOR Reduction (vph)	0	0	7	0	0	65	0	0	125	0	8	0
Lane Group Flow (vph)	121	126	319	474	300	383	268	1495	580	47	1329	0
Turn Type	Prot		pt+ov	Prot		Perm	Prot		pt+ov	Prot		
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	
Permitted Phases						8						
Actuated Green, G (s)	6.0	15.5	29.9	18.0	27.5	27.5	14.4	49.4	73.0	3.3	38.3	
Effective Green, g (s)	6.0	15.5	29.9	18.0	27.5	27.5	14.4	49.4	67.4	3.3	38.3	
Actuated g/C Ratio	0.05	0.14	0.27	0.16	0.25	0.25	0.13	0.45	0.61	0.03	0.35	
Clearance Time (s)	5.6	6.3		5.6	6.3	6.3	5.6	6.3		5.6	6.3	
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)	187	499	430	562	885	396	449	2284	970	103	1750	
v/s Ratio Prot	0.04	0.04	c0.20	0.14	0.08		0.08	c0.29	0.37	0.01	c0.26	
v/s Ratio Perm						c0.24						
v/c Ratio	0.65	0.25	0.74	0.84	0.34	0.97	0.60	0.65	0.60	0.46	0.76	
Uniform Delay, d1	51.0	42.1	36.5	44.6	33.8	40.8	45.1	23.6	13.0	52.5	31.8	
Progression Factor	1.00	1.00	1.00	0.78	0.75	0.69	0.89	0.94	1.00	1.00	1.00	
Incremental Delay, d2	7.5	0.3	6.8	9.9	0.2	33.5	2.0	1.4	0.9	3.2	3.2	
Delay (s)	58.4	42.4	43.4	44.8	25.7	61.8	42.2	23.6	13.9	55.7	34.9	
Level of Service	E	D	D	D	C	E	D	C	B	E	C	
Approach Delay (s)		46.3			46.3			22.9			35.6	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



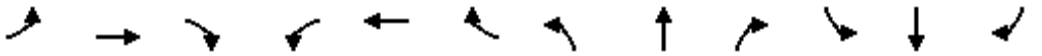
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	630	390	0	1705	1515	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00		0.86	0.81	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		6408	7544	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		6408	7544	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	663	411	0	1795	1595	0
RTOR Reduction (vph)	0	7	0	0	0	0
Lane Group Flow (vph)	663	404	0	1795	1595	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	35.6	35.6		66.4	66.4	
Effective Green, g (s)	35.6	35.6		66.4	66.4	
Actuated g/C Ratio	0.32	0.32		0.60	0.60	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1111	512		3868	4554	
v/s Ratio Prot	0.19			c0.28	0.21	
v/s Ratio Perm		c0.25				
v/c Ratio	0.60	0.79		0.46	0.35	
Uniform Delay, d1	31.2	33.8		12.0	11.0	
Progression Factor	1.00	1.00		0.96	0.75	
Incremental Delay, d2	0.9	7.9		0.2	0.1	
Delay (s)	32.1	41.7		11.8	8.3	
Level of Service	C	D		B	A	
Approach Delay (s)	35.7			11.8	8.3	
Approach LOS	D			B	A	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



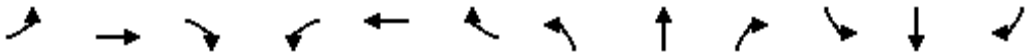
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	120	15	200	20	415	25	1145	380	630	1210	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1831		1770	1863	1583	1770	5085	1583	3433	5047	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1831		1770	1863	1583	1770	5085	1583	3433	5047	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	126	16	211	21	437	26	1205	400	663	1274	68
RTOR Reduction (vph)	0	4	0	0	0	56	0	0	256	0	5	0
Lane Group Flow (vph)	153	138	0	211	21	381	26	1205	144	663	1337	0
Turn Type	Split			Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	13.7	13.7		16.6	16.6	44.7	3.0	39.6	39.6	24.1	60.7	
Effective Green, g (s)	13.7	13.7		16.6	16.6	44.7	3.0	39.6	39.6	24.1	60.7	
Actuated g/C Ratio	0.12	0.12		0.15	0.15	0.41	0.03	0.36	0.36	0.22	0.55	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	220	228		267	281	643	48	1831	570	752	2785	
v/s Ratio Prot	c0.09	0.08		c0.12	0.01	0.24	0.01	c0.24		c0.19	0.26	
v/s Ratio Perm									0.09			
v/c Ratio	0.70	0.60		0.79	0.07	0.59	0.54	0.66	0.25	0.88	0.48	
Uniform Delay, d1	46.2	45.6		45.0	40.1	25.5	52.8	29.5	24.8	41.6	15.0	
Progression Factor	1.00	1.00		0.68	0.69	0.22	1.00	1.00	1.00	0.71	0.78	
Incremental Delay, d2	9.2	4.5		10.6	0.1	1.0	11.9	1.9	1.1	13.3	0.6	
Delay (s)	55.3	50.0		41.1	27.7	6.5	64.7	31.4	25.8	42.9	12.2	
Level of Service	E	D		D	C	A	E	C	C	D	B	
Approach Delay (s)		52.8			18.1			30.6			22.4	
Approach LOS		D			B			C			C	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



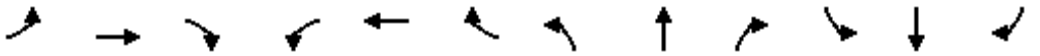
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	510	230	270	255	160	295	290	1210	585	425	795	605
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
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)	554	250	293	277	174	321	315	1315	636	462	864	658
RTOR Reduction (vph)	0	0	259	0	0	222	0	0	298	0	0	337
Lane Group Flow (vph)	554	250	34	277	174	99	315	1315	338	462	864	321
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	18.5	15.5	11.7	19.0	16.0	13.0	11.7	36.0	19.0	13.0	37.3	37.3
Effective Green, g (s)	18.5	15.5	11.7	19.0	16.0	13.0	11.7	36.0	19.0	13.0	37.3	37.3
Actuated g/C Ratio	0.19	0.16	0.12	0.19	0.16	0.13	0.12	0.36	0.19	0.13	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	638	290	186	338	300	207	404	1280	302	449	1327	593
v/s Ratio Prot	0.16	c0.13	0.02	0.16	0.09	0.06	0.09	c0.37	c0.21	c0.13	0.24	
v/s Ratio Perm												0.20
v/c Ratio	0.87	0.86	0.19	0.82	0.58	0.48	0.78	1.03	1.12	1.03	0.65	0.54
Uniform Delay, d1	39.3	41.0	39.6	38.6	38.6	40.1	42.6	31.8	40.2	43.2	25.7	24.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.0	22.2	0.5	14.3	2.7	1.8	9.2	32.4	88.1	50.1	2.5	3.5
Delay (s)	51.3	63.1	40.1	52.9	41.4	41.9	51.9	64.1	128.4	93.3	28.2	27.9
Level of Service	D	E	D	D	D	D	D	E	F	F	C	C
Approach Delay (s)		51.0			45.7			80.5			43.3	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM Average Control Delay	58.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	99.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.1%	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)	85	520	300	350	425	25	665	35	85	60	55	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	3433	3510		1681	1693	1583		3328	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (perm)	1770	3539	1583	3433	3510		1681	1693	1583		3328	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	547	316	368	447	26	700	37	89	63	58	47
RTOR Reduction (vph)	0	0	122	0	4	0	0	0	53	0	40	0
Lane Group Flow (vph)	89	547	194	368	469	0	371	366	36	0	128	0
Turn Type	Prot		pt+ov	Prot			Split		Perm	Split		
Protected Phases	7	4	4 2	3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	9.5	23.2	67.6	16.9	30.6		44.4	44.4	44.4		9.5	
Effective Green, g (s)	9.5	23.2	67.6	16.9	30.6		44.4	44.4	44.4		9.5	
Actuated g/C Ratio	0.09	0.21	0.61	0.15	0.28		0.40	0.40	0.40		0.09	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	153	746	973	527	976		679	683	639		287	
v/s Ratio Prot	0.05	c0.15	0.12	c0.11	0.13		c0.22	0.22			c0.04	
v/s Ratio Perm									0.02			
v/c Ratio	0.58	0.73	0.20	0.70	0.48		0.55	0.54	0.06		0.45	
Uniform Delay, d1	48.3	40.5	9.3	44.1	33.1		25.1	25.0	20.0		47.7	
Progression Factor	0.88	0.89	1.71	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.9	3.3	0.1	4.0	0.4		3.1	3.0	0.2		1.1	
Delay (s)	47.3	39.4	16.0	48.2	33.5		28.2	28.0	20.2		48.8	
Level of Service	D	D	B	D	C		C	C	C		D	
Approach Delay (s)		32.4			39.9			27.2			48.8	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



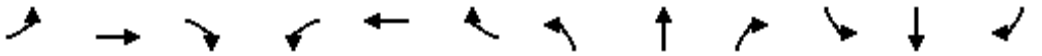
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	345	80	115	485	135	165	50	15	170	65	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3439		1770	3424		1681	1723	1583	1770	1756	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3439		1770	3424		1681	1723	1583	1770	1756	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	779	363	84	121	511	142	174	53	16	179	68	42
RTOR Reduction (vph)	0	16	0	0	24	0	0	0	14	0	21	0
Lane Group Flow (vph)	779	431	0	121	629	0	113	114	2	179	89	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	42.8	52.8		13.7	23.7		12.3	12.3	12.3	15.2	15.2	
Effective Green, g (s)	42.8	52.8		13.7	23.7		12.3	12.3	12.3	15.2	15.2	
Actuated g/C Ratio	0.39	0.48		0.12	0.22		0.11	0.11	0.11	0.14	0.14	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1336	1651		220	738		188	193	177	245	243	
v/s Ratio Prot	c0.23	0.13		0.07	c0.18		c0.07	0.07		c0.10	0.05	
v/s Ratio Perm									0.00			
v/c Ratio	0.58	0.26		0.55	0.85		0.60	0.59	0.01	0.73	0.37	
Uniform Delay, d1	26.6	17.0		45.3	41.5		46.5	46.5	43.4	45.4	43.0	
Progression Factor	0.76	0.69		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	0.2		3.0	9.4		5.3	4.8	0.0	10.7	0.9	
Delay (s)	21.2	12.0		48.2	50.9		51.8	51.2	43.5	56.1	44.0	
Level of Service	C	B		D	D		D	D	D	E	D	
Approach Delay (s)		17.8			50.5			51.0			51.5	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



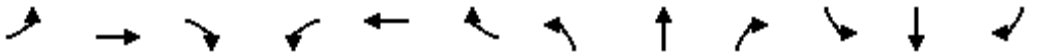
Movement	WBL	WBR	NBL	NBR	SEL	SER
Lane Configurations						
Volume (vph)	190	640	130	230	600	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.97	1.00	0.97	1.00
Frt	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	2787	3433	1583	3433	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	2787	3433	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	696	141	250	652	87
RTOR Reduction (vph)	0	363	0	213	0	52
Lane Group Flow (vph)	207	333	141	37	652	35
Turn Type		custom		Over		Over
Protected Phases	3	8	2	3	4	2
Permitted Phases						
Actuated Green, G (s)	9.6	31.4	26.3	9.6	17.8	26.3
Effective Green, g (s)	9.6	31.4	26.3	9.6	17.8	26.3
Actuated g/C Ratio	0.15	0.48	0.40	0.15	0.27	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	502	1332	1374	231	930	634
v/s Ratio Prot	c0.06	0.12	c0.04	0.02	c0.19	0.02
v/s Ratio Perm						
v/c Ratio	0.41	0.25	0.10	0.16	0.70	0.05
Uniform Delay, d1	25.5	10.2	12.3	24.5	21.6	12.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.1	0.1	0.3	2.4	0.2
Delay (s)	26.0	10.3	12.5	24.8	24.0	12.2
Level of Service	C	B	B	C	C	B
Approach Delay (s)	13.9		20.4		22.6	
Approach LOS	B		C		C	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	65.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



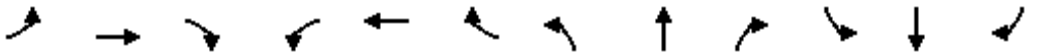
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	1800	420	200	1350	20	400	500	450	50	460	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
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)	163	1957	457	217	1467	22	435	543	489	54	500	109
RTOR Reduction (vph)	0	0	60	0	0	12	0	0	118	0	0	2
Lane Group Flow (vph)	163	1957	397	217	1467	10	435	543	371	54	500	107
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	14.2	45.6	64.3	13.0	44.4	54.7	18.7	32.8	45.8	10.3	24.4	38.6
Effective Green, g (s)	14.2	45.6	64.3	13.0	44.4	54.7	18.7	32.8	45.8	10.3	24.4	38.6
Actuated g/C Ratio	0.11	0.36	0.51	0.10	0.35	0.44	0.15	0.26	0.36	0.08	0.19	0.31
Clearance Time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	200	1848	811	356	1799	690	512	925	578	145	688	487
v/s Ratio Prot	c0.09	c0.38	0.07	0.06	0.29	0.00	c0.13	0.15	0.07	0.03	c0.14	0.02
v/s Ratio Perm			0.18			0.00			0.17			0.04
v/c Ratio	0.81	1.06	0.49	0.61	0.82	0.01	0.85	0.59	0.64	0.37	0.73	0.22
Uniform Delay, d1	54.4	40.0	19.9	53.8	36.8	20.1	52.0	40.4	33.0	54.5	47.4	32.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.9	38.6	0.5	2.9	4.2	0.0	12.5	1.0	2.4	1.6	3.8	0.2
Delay (s)	76.2	78.5	20.4	56.8	41.0	20.1	64.5	41.4	35.5	56.2	51.3	32.5
Level of Service	E	E	C	E	D	C	E	D	D	E	D	C
Approach Delay (s)		68.1			42.8			46.3			48.6	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	54.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	125.5	Sum of lost time (s)	16.3
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



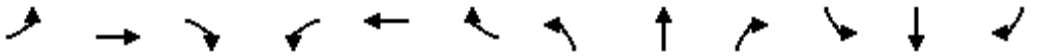
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	400	300	150	200	300	350	850	250	170	450	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3220		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3220		3433	5085	1583	1770	5085	1583
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)	272	435	326	163	217	326	380	924	272	185	489	152
RTOR Reduction (vph)	0	0	262	0	279	0	0	0	231	0	0	113
Lane Group Flow (vph)	272	435	64	163	264	0	380	924	41	185	489	39
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	16.8	16.3	16.1	12.3	11.8		16.1	24.7	12.3	12.6	21.2	21.2
Effective Green, g (s)	16.8	16.3	16.1	12.3	11.8		16.1	24.7	12.3	12.6	21.2	21.2
Actuated g/C Ratio	0.21	0.20	0.20	0.15	0.14		0.20	0.30	0.15	0.15	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	363	704	311	266	464		675	1534	238	272	1316	410
v/s Ratio Prot	c0.15	c0.12	0.04	0.09	0.08		0.11	c0.18	0.03	c0.10	0.10	
v/s Ratio Perm												0.02
v/c Ratio	0.75	0.62	0.21	0.61	0.57		0.56	0.60	0.17	0.68	0.37	0.10
Uniform Delay, d1	30.6	30.0	27.5	32.6	32.7		29.7	24.4	30.4	32.7	24.9	23.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.2	1.6	1.5	4.1	1.6		3.4	1.8	0.3	6.8	0.8	0.5
Delay (s)	38.8	31.6	29.0	36.7	34.3		33.1	26.2	30.7	39.6	25.7	23.5
Level of Service	D	C	C	D	C		C	C	C	D	C	C
Approach Delay (s)		32.7			34.8			28.6			28.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.2%	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)	435	1080	395	355	580	105	375	1390	625	100	930	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3458		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3458		3433	5085	1583	1770	5085	1583
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)	473	1174	429	386	630	114	408	1511	679	109	1011	201
RTOR Reduction (vph)	0	0	160	0	15	0	0	0	202	0	0	78
Lane Group Flow (vph)	473	1174	269	386	729	0	408	1511	477	109	1011	123
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	16.5	34.0	34.0	12.0	29.5		13.9	31.0	31.0	7.0	24.1	24.1
Effective Green, g (s)	16.5	34.0	34.0	12.0	29.5		13.9	31.0	31.0	7.0	24.1	24.1
Actuated g/C Ratio	0.16	0.34	0.34	0.12	0.29		0.14	0.31	0.31	0.07	0.24	0.24
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	566	1203	538	412	1020		477	1576	491	124	1225	382
v/s Ratio Prot	c0.14	c0.33		0.11	0.21		c0.12	0.30		0.06	0.20	
v/s Ratio Perm			0.17						c0.30			0.08
v/c Ratio	0.84	0.98	0.50	0.94	0.71		0.86	0.96	0.97	0.88	0.83	0.32
Uniform Delay, d1	40.4	32.6	26.2	43.6	31.5		42.1	33.9	34.1	46.1	36.0	31.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.3	20.2	0.7	28.7	2.4		14.0	14.8	34.1	45.5	6.4	2.2
Delay (s)	50.8	52.8	27.0	72.3	33.9		56.0	48.7	68.1	91.6	42.4	33.4
Level of Service	D	D	C	E	C		E	D	E	F	D	C
Approach Delay (s)		47.0			47.0			54.9			45.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

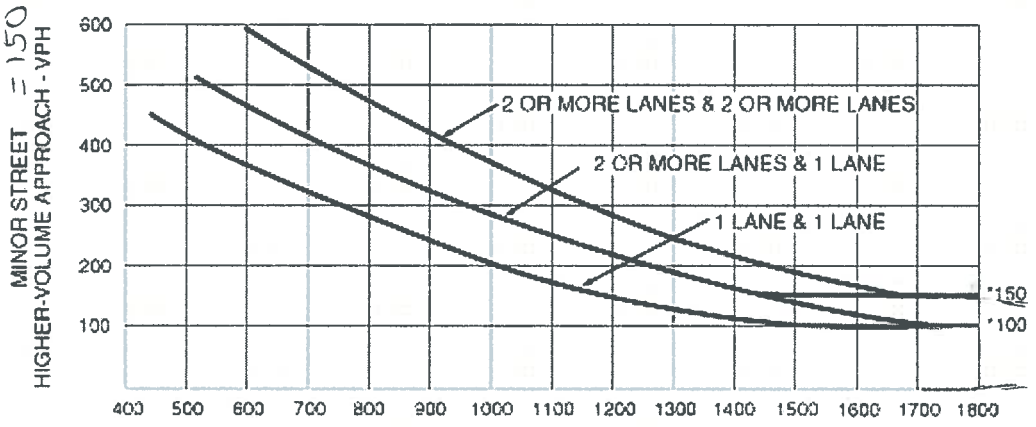


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	400	90	575	90	205	90	775	1530	90	90	855	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	3433	3539	1583	3433	5043		3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	3433	3539	1583	3433	5043		3433	5085	1583
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)	435	98	625	98	223	98	842	1663	98	98	929	451
RTOR Reduction (vph)	0	0	356	0	0	82	0	8	0	0	0	234
Lane Group Flow (vph)	435	98	269	98	223	16	842	1753	0	98	929	217
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	11.0	20.2	20.2	3.2	12.4	12.4	20.0	34.8		3.2	18.0	18.0
Effective Green, g (s)	11.0	20.2	20.2	3.2	12.4	12.4	20.0	34.8		3.2	18.0	18.0
Actuated g/C Ratio	0.14	0.26	0.26	0.04	0.16	0.16	0.26	0.45		0.04	0.23	0.23
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	488	486	413	142	567	254	887	2267		142	1183	368
v/s Ratio Prot	c0.13	0.05		0.03	0.06		c0.25	c0.35		0.03	0.18	
v/s Ratio Perm			c0.17			0.01						0.14
v/c Ratio	0.89	0.20	0.65	0.69	0.39	0.06	0.95	0.77		0.69	0.79	0.59
Uniform Delay, d1	32.6	22.3	25.5	36.6	29.1	27.6	28.2	18.0		36.6	27.9	26.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.2	0.2	3.7	13.5	0.5	0.1	18.8	2.6		13.5	5.3	6.8
Delay (s)	50.8	22.5	29.1	50.1	29.6	27.7	47.0	20.6		50.1	33.2	33.2
Level of Service	D	C	C	D	C	C	D	C		D	C	C
Approach Delay (s)		36.7			33.9			29.2			34.3	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Figure 4C-3. Warrant 3, Peak Hour

Rancho Del Oro | Vista Del Oro



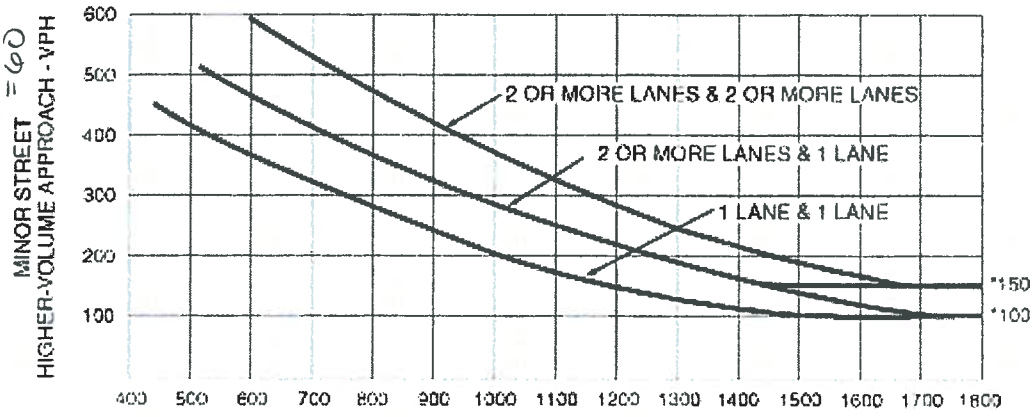
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2420

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Baseline AM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Vista Del Oro



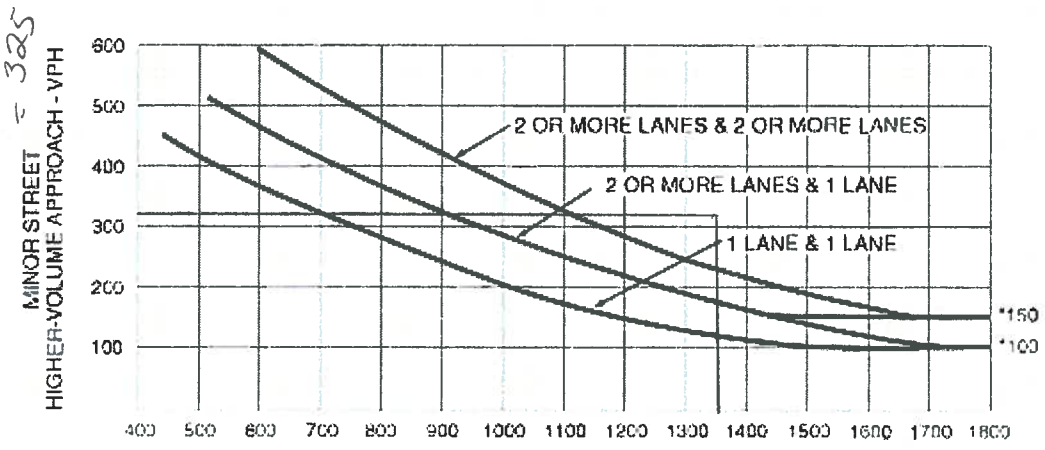
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2490

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

Baseline PM

Figure 4C-3. Warrant 3, Peak Hour

RDO/Cameo Dr



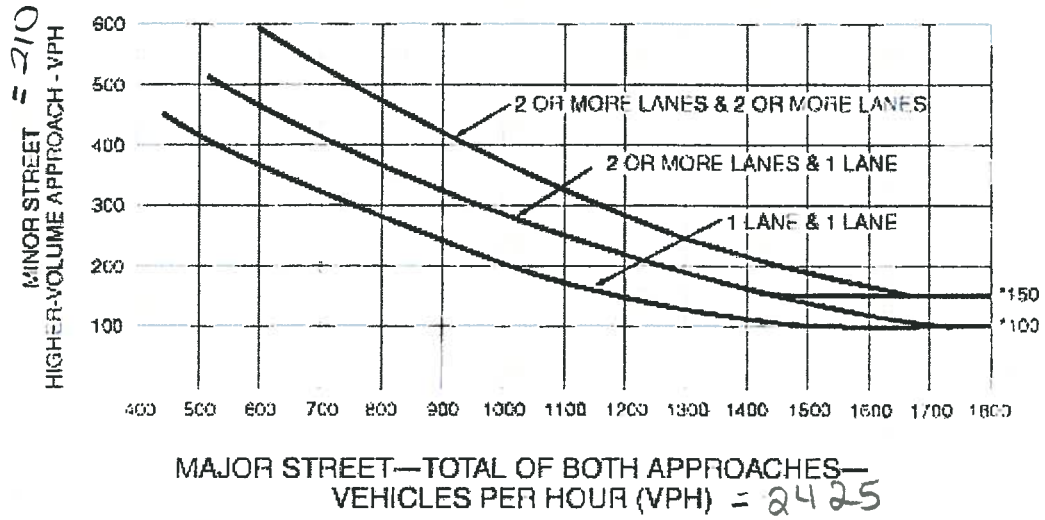
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 1355

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Baseline AM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Cameo Dr



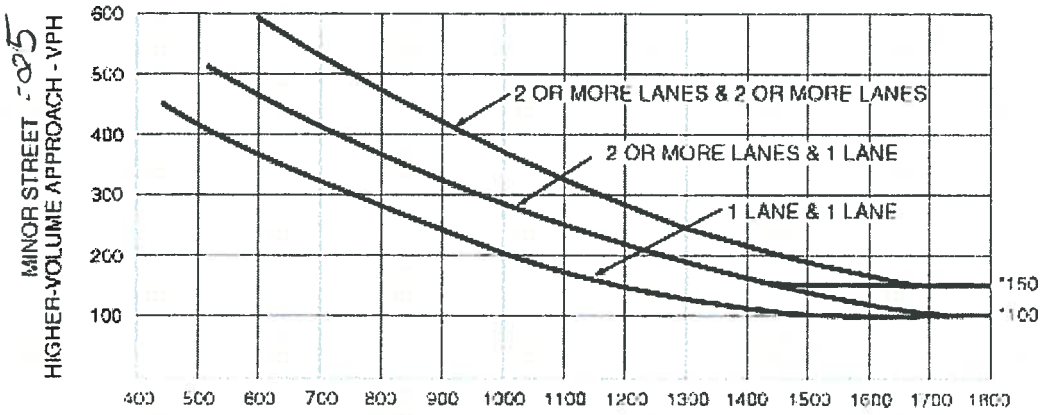
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2425

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Baseline PM

Figure 4C-3. Warrant 3, Peak Hour

RDO | Trieste | Sicily



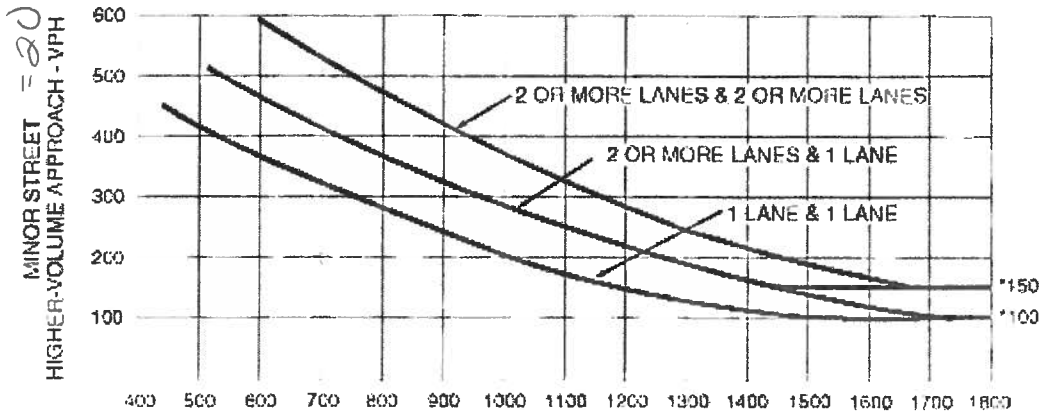
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2265

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Baseline AM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Trieste / Sicily



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2570

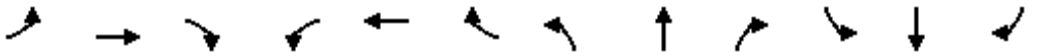
*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Baseline PM

Appendix F

Alternative 1 Scenario Intersection Calculation Sheets & Peak Hour Warrant 3 Sheets

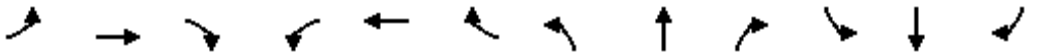
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	5	530	0	165	0	140	330	70	100	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.6	4.6	4.0		4.6	4.0		4.6	
Lane Util. Factor			1.00	0.95	0.95	1.00		0.95	1.00		0.95	
Frt			0.86	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (prot)			1611	1681	1681	1583		3539	1583		3456	
Flt Permitted			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (perm)			1611	1681	1681	1583		3539	1583		3456	
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)	0	0	5	576	0	179	0	152	359	76	109	5
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	288	288	179	0	152	359	0	188	0
Turn Type			custom	Prot		Free	Split		Free	Split		
Protected Phases				3	8		2	2		6	6	
Permitted Phases			4			Free			Free			
Actuated Green, G (s)			1.0	19.5	24.5	75.1		18.8	75.1		18.0	
Effective Green, g (s)			1.0	19.5	24.5	75.1		18.8	75.1		18.0	
Actuated g/C Ratio			0.01	0.26	0.33	1.00		0.25	1.00		0.24	
Clearance Time (s)			4.0	4.6	4.6			4.6			4.6	
Vehicle Extension (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			21	436	548	1583		886	1583		828	
v/s Ratio Prot				c0.17	c0.14			0.04			0.05	
v/s Ratio Perm			0.00		0.03	0.11			c0.23			
v/c Ratio			0.00	0.66	0.53	0.11		0.17	0.23		0.23	
Uniform Delay, d1			36.6	24.8	20.6	0.0		22.1	0.0		23.0	
Progression Factor			1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2			0.1	3.7	0.9	0.1		0.4	0.3		0.6	
Delay (s)			36.6	28.6	21.5	0.1		22.5	0.3		23.6	
Level of Service			D	C	C	A		C	A		C	
Approach Delay (s)		36.6			19.1			6.9			23.6	
Approach LOS		D			B			A			C	

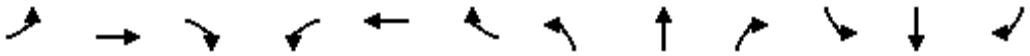
Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	4.6
Intersection Capacity Utilization	35.0%	ICU Level of Service	A
Analysis Period (min)	15		
Description: SR-76 & Coast Hwy			

c Critical Lane Group



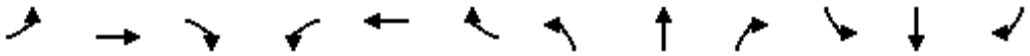
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	15	30	10	10	30	20	340	10	20	435	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1784	1583		1695		1770	3524		1770	3495	
Flt Permitted		0.71	1.00		0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1324	1583		1580		1770	3524		1770	3495	
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)	125	16	33	11	11	33	22	370	11	22	473	43
RTOR Reduction (vph)	0	0	27	0	27	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	141	6	0	28	0	22	378	0	22	509	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		8.2	8.2		8.2		1.5	10.6		10.7	19.8	
Effective Green, g (s)		8.2	8.2		8.2		1.5	10.6		10.7	19.8	
Actuated g/C Ratio		0.19	0.19		0.19		0.04	0.25		0.25	0.47	
Clearance Time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		255	305		305		62	879		446	1628	
v/s Ratio Prot							c0.01	c0.11		0.01	c0.15	
v/s Ratio Perm		c0.11	0.00		0.02							
v/c Ratio		0.55	0.02		0.09		0.35	0.43		0.05	0.31	
Uniform Delay, d1		15.5	13.9		14.1		20.0	13.4		12.0	7.1	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.6	0.0		0.1		3.5	0.3		0.0	0.1	
Delay (s)		18.1	13.9		14.2		23.5	13.7		12.1	7.2	
Level of Service		B	B		B		C	B		B	A	
Approach Delay (s)		17.3			14.2			14.3			7.4	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	42.5	Sum of lost time (s)	17.2
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



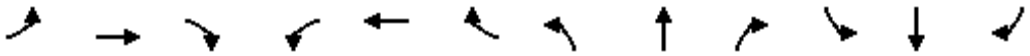
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	110	350	70	15	240	0	0	265	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor				1.00	0.95		1.00	0.95			0.95	
Frpb, ped/bikes				1.00	1.00		1.00	1.00			0.99	
Flpb, ped/bikes				0.99	1.00		1.00	1.00			1.00	
Frt				1.00	0.97		1.00	1.00			0.95	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1754	3439		1770	3539			3336	
Flt Permitted				0.95	1.00		0.50	1.00			1.00	
Satd. Flow (perm)				1754	3439		922	3539			3336	
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)	0	0	0	120	380	76	16	261	0	0	288	141
RTOR Reduction (vph)	0	0	0	0	22	0	0	0	0	0	106	0
Lane Group Flow (vph)	0	0	0	120	434	0	16	261	0	0	323	0
Confl. Peds. (#/hr)	10		11	11		10			11			16
Confl. Bikes (#/hr)			1						2			2
Turn Type				Perm			Perm					
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)				26.0	26.0		11.8	11.8			11.8	
Effective Green, g (s)				26.0	26.0		11.8	11.8			11.8	
Actuated g/C Ratio				0.54	0.54		0.25	0.25			0.25	
Clearance Time (s)				5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)				3.0	3.0		4.0	4.0			4.0	
Lane Grp Cap (vph)				954	1871		228	874			824	
v/s Ratio Prot					c0.13			0.07			c0.10	
v/s Ratio Perm				0.07			0.02					
v/c Ratio				0.13	0.23		0.07	0.30			0.39	
Uniform Delay, d1				5.3	5.7		13.8	14.6			15.0	
Progression Factor				1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2				0.3	0.3		0.2	0.3			0.4	
Delay (s)				5.6	6.0		14.0	14.9			15.4	
Level of Service				A	A		B	B			B	
Approach Delay (s)		0.0			5.9			14.8			15.4	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



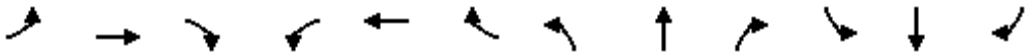
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	115	60	165	120	185	25	250	85	145	255	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.96	1.00	1.00	0.95	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1852	1520	1681	1755	1505	1770	3379		1770	3466	
Flt Permitted		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1852	1520	1681	1755	1505	1770	3379		1770	3466	
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)	16	125	65	179	130	201	27	272	92	158	277	27
RTOR Reduction (vph)	0	0	32	0	0	174	0	19	0	0	4	0
Lane Group Flow (vph)	0	141	33	152	157	27	27	345	0	158	300	0
Confl. Peds. (#/hr)	14		10	10		14			3			15
Confl. Bikes (#/hr)			4			5			3			3
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		13.8	13.8	16.9	16.9	16.9	4.5	59.1		15.4	70.0	
Effective Green, g (s)		13.8	13.8	16.9	16.9	16.9	4.5	59.1		15.4	70.0	
Actuated g/C Ratio		0.11	0.11	0.14	0.14	0.14	0.04	0.48		0.12	0.56	
Clearance Time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Vehicle Extension (s)		2.0	2.0	3.5	3.5	3.5	2.0	3.5		2.0	3.5	
Lane Grp Cap (vph)		206	169	229	239	205	64	1610		220	1957	
v/s Ratio Prot		c0.08		c0.09	0.09		0.02	c0.10		c0.09	0.09	
v/s Ratio Perm			0.02			0.02						
v/c Ratio		0.68	0.20	0.66	0.66	0.13	0.42	0.21		0.72	0.15	
Uniform Delay, d1		53.0	50.1	50.9	50.8	47.1	58.5	18.9		52.2	12.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.3	0.2	7.3	6.6	0.4	1.6	0.3		9.0	0.2	
Delay (s)		60.3	50.3	58.2	57.4	47.5	60.1	19.2		61.2	13.0	
Level of Service		E	D	E	E	D	E	B		E	B	
Approach Delay (s)		57.1			53.7			22.0			29.5	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



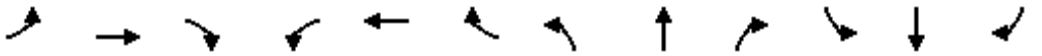
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	80	20	260	40	205	10	210	90	170	260	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		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		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.95		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1560		1785	1583	1770	3343		1770	3514	
Flt Permitted	0.95	1.00	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1560		1785	1583	1770	3343		1770	3514	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	87	22	283	43	223	11	228	98	185	283	11
RTOR Reduction (vph)	0	0	20	0	0	187	0	47	0	0	3	0
Lane Group Flow (vph)	5	87	2	0	326	36	11	279	0	185	291	0
Confl. Peds. (#/hr)	7		2	2		7			5			8
Confl. Bikes (#/hr)						2			4			8
Turn Type	Split		Perm	Split		Over	Prot			Prot		
Protected Phases	4	4		8	8	1	5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.5	7.5	7.5		17.9	11.7	0.6	15.3		11.7	26.4	
Effective Green, g (s)	7.5	7.5	7.5		17.9	11.7	0.6	15.3		11.7	26.4	
Actuated g/C Ratio	0.10	0.10	0.10		0.25	0.16	0.01	0.21		0.16	0.37	
Clearance Time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Vehicle Extension (s)	3.5	3.5	3.5		3.0	2.0	2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	186	195	164		447	259	15	715		290	1297	
v/s Ratio Prot	0.00	c0.05			c0.18	0.02	0.01	c0.08		c0.10	0.08	
v/s Ratio Perm			0.00									
v/c Ratio	0.03	0.45	0.01		0.73	0.14	0.73	0.39		0.64	0.22	
Uniform Delay, d1	28.7	30.0	28.7		24.6	25.6	35.4	24.1		27.9	15.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.9	0.0		5.9	0.1	93.0	0.4		3.4	0.1	
Delay (s)	28.8	32.0	28.7		30.5	25.7	128.3	24.5		31.3	15.6	
Level of Service	C	C	C		C	C	F	C		C	B	
Approach Delay (s)		31.2			28.5			27.8			21.7	
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)	71.5	Sum of lost time (s)	19.1
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



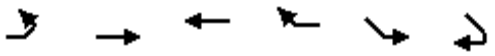
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	480	5	150	705	240	25	25	320	150	35	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	3534		1770	3539	1583	1770	1863	1583	1681	1678	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	
Satd. Flow (perm)	1770	3534		1770	3539	1583	1770	1863	1583	1681	1678	
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)	16	522	5	163	766	261	27	27	348	163	38	22
RTOR Reduction (vph)	0	1	0	0	0	80	0	0	299	0	8	0
Lane Group Flow (vph)	16	526	0	163	766	181	27	27	49	112	103	0
Turn Type	Prot			Prot		pm+ov	Split		Over	Split		
Protected Phases	5	2		1	6	8	4	4	1	8	8	
Permitted Phases						6						
Actuated Green, G (s)	1.6	44.4		15.6	58.4	76.4	16.0	16.0	15.6	18.0	18.0	
Effective Green, g (s)	1.6	44.4		15.6	58.4	76.4	16.0	16.0	15.6	18.0	18.0	
Actuated g/C Ratio	0.01	0.40		0.14	0.53	0.69	0.15	0.15	0.14	0.16	0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	26	1426		251	1879	1099	257	271	224	275	275	
v/s Ratio Prot	0.01	0.15		c0.09	c0.22	0.03	c0.02	0.01	0.03	c0.07	0.06	
v/s Ratio Perm						0.09						
v/c Ratio	0.62	0.37		0.65	0.41	0.16	0.11	0.10	0.22	0.41	0.37	
Uniform Delay, d1	53.9	23.0		44.6	15.4	5.8	40.8	40.8	41.8	41.2	41.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	36.3	0.7		5.7	0.7	0.3	0.8	0.7	0.5	4.4	3.8	
Delay (s)	90.2	23.7		50.3	16.1	6.1	41.6	41.5	42.3	45.6	44.8	
Level of Service	F	C		D	B	A	D	D	D	D	D	
Approach Delay (s)		25.7			18.6			42.2			45.2	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.9%	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)	340	590	20	255	975	825	5	120	65	85	90	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.95		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)	3433	3522		1770	3539	1583	1770	1764		1681	1762	1583
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)	3433	3522		1770	3539	1583	1770	1764		1681	1762	1583
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)	370	641	22	277	1060	897	5	130	71	92	98	125
RTOR Reduction (vph)	0	3	0	0	0	388	0	23	0	0	0	98
Lane Group Flow (vph)	370	660	0	277	1060	509	5	178	0	83	107	27
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Actuated Green, G (s)	10.0	24.1		16.9	31.0	31.0	13.3	13.3		19.7	19.7	19.7
Effective Green, g (s)	10.0	24.1		16.9	31.0	31.0	13.3	13.3		19.7	19.7	19.7
Actuated g/C Ratio	0.11	0.27		0.19	0.34	0.34	0.15	0.15		0.22	0.22	0.22
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	381	943		332	1219	545	262	261		368	386	347
v/s Ratio Prot	c0.11	0.19		c0.16	0.30		0.00	c0.10		0.05	c0.06	
v/s Ratio Perm						c0.32						0.02
v/c Ratio	0.97	0.70		0.83	0.87	0.93	0.02	0.68		0.23	0.28	0.08
Uniform Delay, d1	39.9	29.7		35.2	27.6	28.5	32.8	36.3		28.9	29.2	27.9
Progression Factor	1.00	1.00		0.98	1.30	1.97	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	38.3	2.3		1.7	0.7	3.3	0.0	7.2		1.4	1.8	0.4
Delay (s)	78.2	32.0		36.2	36.4	59.5	32.8	43.5		30.3	31.0	28.4
Level of Service	E	C		D	D	E	C	D		C	C	C
Approach Delay (s)		48.5			45.7			43.2			29.8	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	45.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

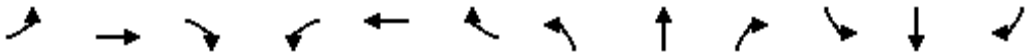


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	120	620	1495	250	690	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3463		3433	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3463		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	674	1625	272	750	609
RTOR Reduction (vph)	0	0	15	0	0	8
Lane Group Flow (vph)	130	674	1882	0	750	601
Turn Type	Prot					pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases						
Actuated Green, G (s)	7.0	57.0	46.0		25.0	36.0
Effective Green, g (s)	7.0	57.0	46.0		25.0	36.0
Actuated g/C Ratio	0.08	0.63	0.51		0.28	0.40
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	138	2241	1770		954	633
v/s Ratio Prot	0.07	0.19	c0.54		0.22	c0.38
v/s Ratio Perm						
v/c Ratio	0.94	0.30	1.06		0.79	0.95
Uniform Delay, d1	41.3	7.5	22.0		30.0	26.1
Progression Factor	1.04	0.43	1.00		1.00	1.00
Incremental Delay, d2	50.3	0.1	40.5		6.5	23.6
Delay (s)	93.4	3.3	62.5		36.5	49.7
Level of Service	F	A	E		D	D
Approach Delay (s)		17.8	62.5		42.4	
Approach LOS		B	E		D	

Intersection Summary			
HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

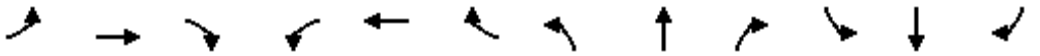
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	95	600	170	130	1020	110	150	125	95	275	80	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3310		3433	3251	
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)	1770	3539	1583	1770	3539	1583	3433	3310		3433	3251	
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)	103	652	185	141	1109	120	163	136	103	299	87	103
RTOR Reduction (vph)	0	0	118	0	0	72	0	90	0	0	79	0
Lane Group Flow (vph)	103	652	67	141	1109	48	163	149	0	299	111	0
Turn Type	Prot		Over	Prot		Perm	Split			Split		
Protected Phases	7	4	2	3	8		6	6		2	2	
Permitted Phases						8						
Actuated Green, G (s)	5.0	22.4	17.0	8.7	26.1	26.1	9.4	9.4		17.0	17.0	
Effective Green, g (s)	5.0	22.4	17.0	8.7	26.1	26.1	9.4	9.4		17.0	17.0	
Actuated g/C Ratio	0.07	0.30	0.23	0.12	0.36	0.36	0.13	0.13		0.23	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	120	1079	366	210	1257	562	439	423		794	752	
v/s Ratio Prot	0.06	0.18	0.04	c0.08	c0.31		c0.05	0.05		c0.09	0.03	
v/s Ratio Perm						0.03						
v/c Ratio	0.86	0.60	0.18	0.67	0.88	0.09	0.37	0.35		0.38	0.15	
Uniform Delay, d1	33.9	21.8	22.7	31.0	22.3	15.8	29.3	29.3		23.8	22.5	
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	41.7	1.0	1.1	8.2	7.6	0.1	0.5	0.5		1.4	0.4	
Delay (s)	75.6	22.7	23.8	39.2	29.8	15.8	29.9	29.8		25.2	22.9	
Level of Service	E	C	C	D	C	B	C	C		C	C	
Approach Delay (s)		28.7			29.6			29.8			24.3	
Approach LOS		C			C			C			C	

Intersection Summary					
HCM Average Control Delay	28.5	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.65				
Actuated Cycle Length (s)	73.5	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	61.1%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					



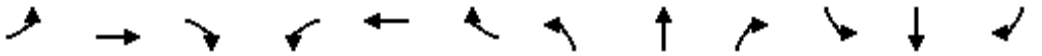
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	360	20	15	645	695	25	60	50	225	5	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3511		1770	3539	1583		1836	1583	1681	1641	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3511		1770	3539	1583		1836	1583	1681	1641	
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)	293	391	22	16	701	755	27	65	54	245	5	38
RTOR Reduction (vph)	0	4	0	0	0	311	0	0	46	0	15	0
Lane Group Flow (vph)	293	409	0	16	701	444	0	92	8	147	126	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	16.0	34.8		1.6	20.4	24.0		13.6	13.6	24.0	24.0	
Effective Green, g (s)	16.0	34.8		1.6	20.4	24.0		13.6	13.6	24.0	24.0	
Actuated g/C Ratio	0.18	0.39		0.02	0.23	0.27		0.15	0.15	0.27	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	315	1358		31	802	422		277	239	448	438	
v/s Ratio Prot	c0.17	0.12		0.01	c0.20	c0.28		c0.05		0.09	0.08	
v/s Ratio Perm									0.01			
v/c Ratio	0.93	0.30		0.52	0.87	1.05		0.33	0.03	0.33	0.29	
Uniform Delay, d1	36.4	19.2		43.8	33.6	33.0		34.1	32.6	26.5	26.2	
Progression Factor	1.00	1.00		1.10	0.93	2.09		1.00	1.00	1.00	1.00	
Incremental Delay, d2	33.0	0.1		9.4	7.3	50.4		3.2	0.3	1.9	1.7	
Delay (s)	69.4	19.3		57.5	38.6	119.2		37.3	32.9	28.5	27.9	
Level of Service	E	B		E	D	F		D	C	C	C	
Approach Delay (s)		40.1			80.2			35.7			28.2	
Approach LOS		D			F			D			C	

Intersection Summary			
HCM Average Control Delay	61.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



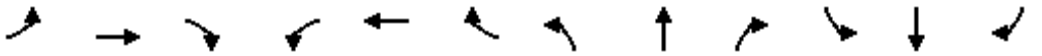
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	450	90	40	995	360	95	65	20	295	130	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1770	3451		1770	3539	1583	1681	1752	1583	1681	1735	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (perm)	1770	3451		1770	3539	1583	1681	1752	1583	1681	1735	1583
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)	103	489	98	43	1082	391	103	71	22	321	141	288
RTOR Reduction (vph)	0	18	0	0	0	241	0	0	18	0	0	231
Lane Group Flow (vph)	103	569	0	43	1082	150	85	89	4	228	234	57
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	7.2	36.7		3.9	33.4	33.4	15.5	15.5	15.5	17.9	17.9	17.9
Effective Green, g (s)	7.2	36.7		3.9	33.4	33.4	15.5	15.5	15.5	17.9	17.9	17.9
Actuated g/C Ratio	0.08	0.41		0.04	0.37	0.37	0.17	0.17	0.17	0.20	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	142	1407		77	1313	587	290	302	273	334	345	315
v/s Ratio Prot	c0.06	c0.16		0.02	c0.31		0.05	c0.05		c0.14	0.13	
v/s Ratio Perm						0.09			0.00			0.04
v/c Ratio	0.73	0.40		0.56	0.82	0.25	0.29	0.29	0.01	0.68	0.68	0.18
Uniform Delay, d1	40.4	18.9		42.2	25.6	19.7	32.5	32.5	30.9	33.4	33.4	30.0
Progression Factor	0.99	0.68		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.3	0.2		8.5	4.3	0.2	2.6	2.5	0.1	5.7	5.2	0.3
Delay (s)	56.2	13.1		50.7	30.0	19.9	35.0	35.0	31.0	39.1	38.6	30.2
Level of Service	E	B		D	C	B	D	C	C	D	D	C
Approach Delay (s)		19.5			28.0			34.5			35.5	
Approach LOS		B			C			C			D	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



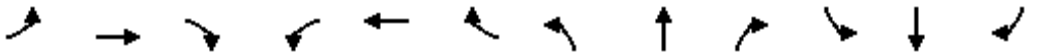
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	560	110	60	1010	20	115	65	85	105	120	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3452		1770	3529		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3452		1770	3529		1770	1863	1583	1770	1863	1583
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)	87	609	120	65	1098	22	125	71	92	114	130	147
RTOR Reduction (vph)	0	21	0	0	2	0	0	0	73	0	0	117
Lane Group Flow (vph)	87	708	0	65	1118	0	125	71	19	114	130	30
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.9	24.0		6.7	26.8		16.1	16.1	16.1	16.1	16.1	16.1
Effective Green, g (s)	3.9	24.0		6.7	26.8		16.1	16.1	16.1	16.1	16.1	16.1
Actuated g/C Ratio	0.05	0.30		0.08	0.34		0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	87	1050		150	1199		361	380	323	361	380	323
v/s Ratio Prot	c0.05	0.21		0.04	c0.32		c0.07	0.04		0.06	c0.07	
v/s Ratio Perm									0.01			0.02
v/c Ratio	1.00	0.67		0.43	0.93		0.35	0.19	0.06	0.32	0.34	0.09
Uniform Delay, d1	37.5	24.0		34.3	25.2		26.9	26.0	25.3	26.7	26.9	25.5
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	96.5	1.7		2.0	12.9		2.6	1.1	0.3	2.3	2.4	0.6
Delay (s)	134.0	25.8		36.3	38.1		29.5	27.1	25.6	29.0	29.3	26.0
Level of Service	F	C		D	D		C	C	C	C	C	C
Approach Delay (s)		37.3			38.0			27.7			28.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	35.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



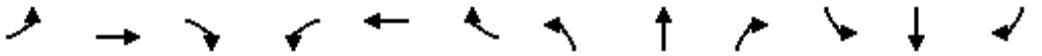
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	1175	165	360	3030	145	350	255	150	410	510	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
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)	87	1277	179	391	3293	158	380	277	163	446	554	163
RTOR Reduction (vph)	0	0	96	0	0	66	0	0	142	0	0	74
Lane Group Flow (vph)	87	1277	83	391	3293	92	380	277	21	446	554	89
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	4.0	60.6	60.6	19.4	76.0	76.0	14.0	17.0	17.0	17.0	20.0	20.0
Effective Green, g (s)	4.0	60.6	60.6	19.4	76.0	76.0	14.0	17.0	17.0	17.0	20.0	20.0
Actuated g/C Ratio	0.03	0.47	0.47	0.15	0.58	0.58	0.11	0.13	0.13	0.13	0.15	0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	106	2370	738	512	2973	925	370	665	207	449	544	429
v/s Ratio Prot	0.03	0.25		c0.11	c0.65		0.11	0.05		c0.13	c0.16	
v/s Ratio Perm			0.05			0.06			0.01			0.03
v/c Ratio	0.82	0.54	0.11	0.76	1.11	0.10	1.03	0.42	0.10	0.99	1.02	0.21
Uniform Delay, d1	62.6	24.7	19.6	53.1	27.0	11.9	58.0	51.9	49.8	56.4	55.0	48.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	37.7	0.2	0.1	6.7	54.0	0.0	53.9	1.9	1.0	40.5	43.3	1.1
Delay (s)	100.4	25.0	19.6	59.8	81.0	12.0	111.9	53.9	50.8	97.0	98.3	49.2
Level of Service	F	C	B	E	F	B	F	D	D	F	F	D
Approach Delay (s)		28.6			76.0			80.1			90.9	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	68.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



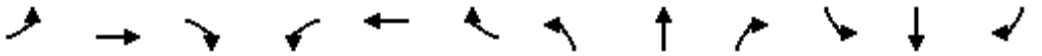
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	330	110	110	450	210	125	335	140	160	865	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3370		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3370		1770	3539	1583	1770	3539	1583
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)	250	359	120	120	489	228	136	364	152	174	940	478
RTOR Reduction (vph)	0	0	0	0	61	0	0	0	123	0	0	274
Lane Group Flow (vph)	250	359	120	120	656	0	136	364	29	174	940	204
Turn Type	Split		Free	Split			Split		Over	Split		Over
Protected Phases	4	4		8	8		2	2	8	6	6	4
Permitted Phases			Free									
Actuated Green, G (s)	15.0	15.0	89.0	17.0	17.0		16.0	16.0	17.0	25.0	25.0	15.0
Effective Green, g (s)	15.0	15.0	89.0	17.0	17.0		16.0	16.0	17.0	25.0	25.0	15.0
Actuated g/C Ratio	0.17	0.17	1.00	0.19	0.19		0.18	0.18	0.19	0.28	0.28	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	579	596	1583	656	644		318	636	302	497	994	267
v/s Ratio Prot	0.07	0.10		0.03	c0.19		0.08	c0.10	0.02	0.10	c0.27	c0.13
v/s Ratio Perm			0.08									
v/c Ratio	0.43	0.60	0.08	0.18	1.02		0.43	0.57	0.10	0.35	0.95	0.77
Uniform Delay, d1	33.2	34.2	0.0	30.2	36.0		32.4	33.4	29.7	25.5	31.3	35.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.7	0.1	0.1	40.4		4.2	3.7	0.1	1.9	18.1	12.3
Delay (s)	33.7	36.0	0.1	30.3	76.4		36.6	37.1	29.8	27.5	49.4	47.6
Level of Service	C	D	A	C	E		D	D	C	C	D	D
Approach Delay (s)		29.3			69.8			35.3			46.5	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



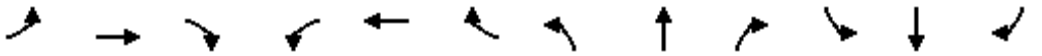
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	135	125	670	190	70	65	420	190	45	1085	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1728		3433	1863	1583	1770	3539	1583	1770	3527	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1728		3433	1863	1583	1770	3539	1583	1770	3527	
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)	33	147	136	728	207	76	71	457	207	49	1179	27
RTOR Reduction (vph)	0	37	0	0	0	48	0	0	126	0	2	0
Lane Group Flow (vph)	33	246	0	728	207	28	71	457	81	49	1204	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	3.0	16.8		20.0	33.8	33.8	4.0	36.1	36.1	3.6	35.7	
Effective Green, g (s)	3.0	16.8		20.0	33.8	33.8	4.0	36.1	36.1	3.6	35.7	
Actuated g/C Ratio	0.03	0.18		0.22	0.37	0.37	0.04	0.39	0.39	0.04	0.39	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	57	314		742	681	578	77	1381	618	69	1361	
v/s Ratio Prot	0.02	c0.14		c0.21	0.11		c0.04	0.13		0.03	c0.34	
v/s Ratio Perm						0.02			0.05			
v/c Ratio	0.58	0.78		0.98	0.30	0.05	0.92	0.33	0.13	0.71	0.88	
Uniform Delay, d1	44.1	36.1		36.1	21.0	19.0	44.1	19.7	18.1	43.9	26.5	
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	13.5	12.1		28.2	0.3	0.0	76.1	0.6	0.4	29.0	8.7	
Delay (s)	57.6	48.2		64.3	21.2	19.0	120.2	20.4	18.6	72.9	35.2	
Level of Service	E	D		E	C	B	F	C	B	E	D	
Approach Delay (s)		49.2			52.1			29.5			36.7	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	41.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	92.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



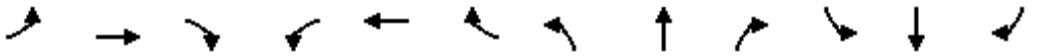
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	375	1050	125	470	995	180	175	1550	485	155	955	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
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)	408	1141	136	511	1082	196	190	1685	527	168	1038	223
RTOR Reduction (vph)	0	0	57	0	0	137	0	0	186	0	0	0
Lane Group Flow (vph)	408	1141	79	511	1082	59	190	1685	341	168	1038	223
Turn Type	Prot		Perm	Prot		Over	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4						2			Free
Actuated Green, G (s)	12.0	31.0	31.0	15.0	34.0	5.0	6.0	33.0	33.0	5.0	32.0	100.0
Effective Green, g (s)	12.0	31.0	31.0	15.0	34.0	5.0	6.0	33.0	33.0	5.0	32.0	100.0
Actuated g/C Ratio	0.12	0.31	0.31	0.15	0.34	0.05	0.06	0.33	0.33	0.05	0.32	1.00
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	412	1097	491	515	1203	79	206	1678	522	172	1132	1583
v/s Ratio Prot	0.12	c0.32		c0.15	c0.31	0.04	c0.06	c0.33		0.05	0.29	
v/s Ratio Perm			0.05						0.22			c0.14
v/c Ratio	0.99	1.04	0.16	0.99	0.90	0.75	0.92	1.00	0.65	0.98	0.92	0.14
Uniform Delay, d1	43.9	34.5	25.1	42.4	31.4	46.9	46.8	33.5	28.6	47.4	32.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	41.6	38.2	0.2	37.5	9.2	31.7	41.4	23.0	6.2	61.1	13.0	0.2
Delay (s)	85.6	72.7	25.2	79.9	40.5	78.6	88.2	56.5	34.8	108.6	45.7	0.2
Level of Service	F	E	C	E	D	E	F	E	C	F	D	A
Approach Delay (s)		72.0			56.0			54.2			46.0	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	57.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



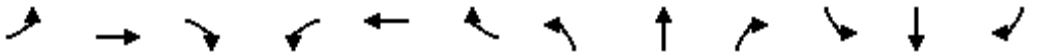
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	70	90	380	150	95	175	905	310	155	1560	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.96		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	3539	1583	3433	3334		3433	4891		3433	5069	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3334		3433	4891		3433	5069	
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)	38	76	98	413	163	103	190	984	337	168	1696	38
RTOR Reduction (vph)	0	0	90	0	82	0	0	34	0	0	1	0
Lane Group Flow (vph)	38	76	8	413	184	0	190	1287	0	168	1733	0
Turn Type	Prot		Over	Prot			Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.2	6.3	11.0	18.7	17.8		11.0	81.3		5.0	75.3	
Effective Green, g (s)	7.2	6.3	11.0	18.7	17.8		11.0	81.3		5.0	75.3	
Actuated g/C Ratio	0.05	0.05	0.08	0.14	0.13		0.08	0.61		0.04	0.56	
Clearance Time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Vehicle Extension (s)	3.0	2.0	1.2	2.0	2.0		1.2	5.0		0.8	5.8	
Lane Grp Cap (vph)	95	167	130	481	444		283	2976		128	2857	
v/s Ratio Prot	0.02	0.02	0.01	c0.12	c0.06		c0.06	0.26		c0.05	c0.34	
v/s Ratio Perm												
v/c Ratio	0.40	0.46	0.06	0.86	0.41		0.67	0.43		1.31	0.61	
Uniform Delay, d1	61.1	62.0	56.5	56.2	53.1		59.5	13.9		64.3	19.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	0.7	0.1	13.7	0.2		4.9	0.5		185.4	1.0	
Delay (s)	63.9	62.7	56.6	69.8	53.3		64.4	14.4		249.7	20.3	
Level of Service	E	E	E	E	D		E	B		F	C	
Approach Delay (s)		60.1			63.4			20.6			40.6	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	133.6	Sum of lost time (s)	16.7
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



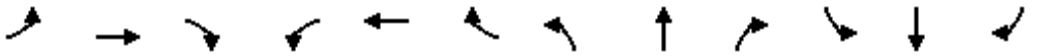
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	615	5	540	140	850	0	0	1595	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	1.00
Frt				1.00	0.93	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)				1681	1541	1504	3433	5085			5085	1583
Flt Permitted				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1541	1504	3433	5085			5085	1583
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)	0	0	0	668	5	587	152	924	0	0	1734	473
RTOR Reduction (vph)	0	0	0	0	28	93	0	0	0	0	0	265
Lane Group Flow (vph)	0	0	0	434	399	306	152	924	0	0	1734	208
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.0	31.0	29.9	9.8	58.0			44.0	44.0
Effective Green, g (s)				31.0	31.0	29.9	9.8	58.0			44.0	44.0
Actuated g/C Ratio				0.31	0.31	0.30	0.10	0.58			0.44	0.44
Clearance Time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				521	478	450	336	2949			2237	697
v/s Ratio Prot				0.26	c0.26		c0.04	0.18			c0.34	
v/s Ratio Perm						0.20						0.13
v/c Ratio				0.83	0.84	0.68	0.45	0.31			0.78	0.30
Uniform Delay, d1				32.1	32.1	30.8	42.6	10.8			23.8	18.1
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				11.0	12.0	4.1	1.0	0.3			2.7	1.1
Delay (s)				43.0	44.1	34.9	43.5	11.1			26.5	19.1
Level of Service				D	D	C	D	B			C	B
Approach Delay (s)		0.0			40.8			15.6			24.9	
Approach LOS		A			D			B			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



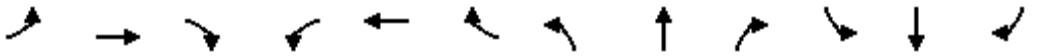
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	360	0	170	0	0	0	0	630	445	615	1595	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Lane Util. Factor	0.97		1.00					0.91	1.00	0.97	0.91	
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)	3433		1583					5085	1583	3433	5085	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					5085	1583	3433	5085	
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)	391	0	185	0	0	0	0	685	484	668	1734	0
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	249	0	0	0
Lane Group Flow (vph)	391	0	158	0	0	0	0	685	235	668	1734	0
Turn Type	Prot		custom						Perm	Prot		
Protected Phases	7							2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	18.7		17.6					60.8	60.8	29.8	95.3	
Effective Green, g (s)	18.7		17.6					60.8	60.8	29.8	95.3	
Actuated g/C Ratio	0.15		0.14					0.49	0.49	0.24	0.76	
Clearance Time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	514		223					2473	770	818	3877	
v/s Ratio Prot	c0.11							0.13		c0.19	c0.34	
v/s Ratio Perm			0.10						0.15			
v/c Ratio	0.76		0.71					0.28	0.31	0.82	0.45	
Uniform Delay, d1	51.0		51.2					19.1	19.4	45.0	5.4	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.5		9.8					0.3	1.0	6.3	0.4	
Delay (s)	57.6		61.0					19.3	20.4	51.4	5.7	
Level of Service	E		E					B	C	D	A	
Approach Delay (s)		58.7			0.0			19.8			18.4	
Approach LOS		E			A			B			B	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	71.2%	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)	10	125	530	210	120	5	550	35	250	10	110	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.88	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	2787	3433	1852		3433	1863	2787	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	2787	3433	1852		3433	1863	2787	1770	1863	1583
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)	11	136	576	228	130	5	598	38	272	11	120	27
RTOR Reduction (vph)	0	0	451	0	2	0	0	0	247	0	0	19
Lane Group Flow (vph)	11	136	125	228	133	0	598	38	25	11	120	8
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	0.7	8.9	14.3	6.1	14.3		14.3	34.2	6.1	0.7	20.6	20.6
Effective Green, g (s)	0.7	8.9	14.3	6.1	14.3		14.3	34.2	6.1	0.7	20.6	20.6
Actuated g/C Ratio	0.01	0.14	0.22	0.09	0.22		0.22	0.52	0.09	0.01	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	19	478	605	318	402		745	967	258	19	582	495
v/s Ratio Prot	0.01	0.04	0.04	c0.07	c0.07		c0.17	0.02	0.01	0.01	c0.06	
v/s Ratio Perm												0.01
v/c Ratio	0.58	0.28	0.21	0.72	0.33		0.80	0.04	0.10	0.58	0.21	0.02
Uniform Delay, d1	32.5	25.6	21.1	29.1	21.8		24.5	7.8	27.4	32.5	16.6	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.3	0.3	0.2	7.5	0.5		6.2	0.1	0.2	36.3	0.8	0.1
Delay (s)	68.7	26.0	21.3	36.6	22.2		30.7	7.9	27.5	68.7	17.4	15.7
Level of Service	E	C	C	D	C		C	A	C	E	B	B
Approach Delay (s)		22.9			31.2			28.8			20.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	65.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

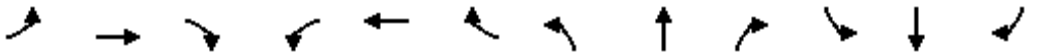


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	80	255	830	30	30	135	595	430	70	1030	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.91	0.91		1.00	0.95	0.88	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1610	3217		1770	3539	2787	1770	3534	
Flt Permitted	0.95	1.00	1.00	0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1610	3217		1770	3539	2787	1770	3534	
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)	54	87	277	902	33	33	147	647	467	76	1120	11
RTOR Reduction (vph)	0	0	194	0	4	0	0	0	337	0	1	0
Lane Group Flow (vph)	54	87	83	451	513	0	147	647	130	76	1130	0
Turn Type	Split		Perm	Split			Prot		Over	Prot		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases			4									
Actuated Green, G (s)	10.6	10.6	10.6	24.1	24.1		10.9	28.4	24.1	7.6	25.1	
Effective Green, g (s)	10.6	10.6	10.6	24.1	24.1		10.9	28.4	24.1	7.6	25.1	
Actuated g/C Ratio	0.12	0.12	0.12	0.28	0.28		0.13	0.33	0.28	0.09	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	216	433	194	448	894		223	1159	775	155	1023	
v/s Ratio Prot	0.03	0.02		c0.28	0.16		c0.08	c0.18	0.05	0.04	c0.32	
v/s Ratio Perm			c0.05									
v/c Ratio	0.25	0.20	0.43	1.01	0.95dl		0.66	0.56	0.17	0.49	1.10	
Uniform Delay, d1	34.5	34.2	35.2	31.3	26.9		36.1	24.0	23.7	37.7	30.8	
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	0.6	0.2	1.5	44.2	0.9		6.9	1.9	0.1	2.4	61.4	
Delay (s)	35.1	34.5	36.8	75.5	27.8		43.0	25.9	23.8	40.1	92.2	
Level of Service	D	C	D	E	C		D	C	C	D	F	
Approach Delay (s)		36.1			50.0			27.1			89.0	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM Average Control Delay	53.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	86.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

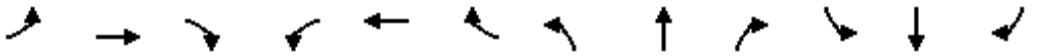
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



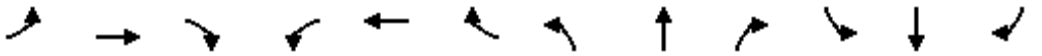
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	335	5	75	85	55	10	85	570	55	5	1425	1070
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		1808	1583	1770	3492		1770	3539	2787
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		1808	1583	1770	3492		1770	3539	2787
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)	364	5	82	92	60	11	92	620	60	5	1549	1163
RTOR Reduction (vph)	0	0	0	0	0	4	0	4	0	0	0	0
Lane Group Flow (vph)	364	5	82	0	152	7	92	676	0	5	1549	1163
Turn Type	Split		Free	Split		Perm	Prot			Prot		Over
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			Free			8						
Actuated Green, G (s)	53.0	53.0	152.4		15.2	15.2	6.0	67.4		0.8	62.2	53.0
Effective Green, g (s)	53.0	53.0	152.4		15.2	15.2	6.0	67.4		0.8	62.2	53.0
Actuated g/C Ratio	0.35	0.35	1.00		0.10	0.10	0.04	0.44		0.01	0.41	0.35
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1194	648	1583		180	158	70	1544		9	1444	969
v/s Ratio Prot	0.11	0.00			c0.08		c0.05	0.19		0.00	c0.44	c0.42
v/s Ratio Perm			0.05			0.00						
v/c Ratio	0.30	0.01	0.05		0.84	0.05	1.31	0.44		0.56	1.07	1.20
Uniform Delay, d1	36.3	32.5	0.0		67.4	62.0	73.2	29.4		75.6	45.1	49.7
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	0.1	0.0	0.1		28.7	0.1	212.9	0.9		58.1	45.8	100.1
Delay (s)	36.4	32.5	0.1		96.1	62.2	286.1	30.3		133.7	90.9	149.8
Level of Service	D	C	A		F	E	F	C		F	F	F
Approach Delay (s)		29.8			93.8			60.8			116.2	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM Average Control Delay	95.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	152.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



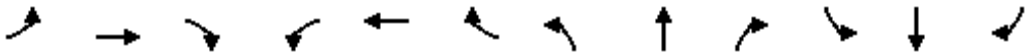
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	330	140	45	540	265	185	485	30	785	1060	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.91	0.91		0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.99	
Satd. Flow (prot)	3433	3539	1583	1770	3364		1610	3355		1610	3334	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.99	
Satd. Flow (perm)	3433	3539	1583	1770	3364		1610	3355		1610	3334	
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)	60	359	152	49	587	288	201	527	33	853	1152	103
RTOR Reduction (vph)	0	0	120	0	50	0	0	3	0	0	5	0
Lane Group Flow (vph)	60	359	32	49	825	0	181	577	0	691	1412	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	3.2	25.0	25.0	6.2	28.0		21.0	21.0		51.0	51.0	
Effective Green, g (s)	3.2	25.0	25.0	6.2	28.0		21.0	21.0		51.0	51.0	
Actuated g/C Ratio	0.03	0.21	0.21	0.05	0.23		0.18	0.18		0.43	0.43	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	92	742	332	92	790		284	591		689	1426	
v/s Ratio Prot	0.02	0.10		c0.03	c0.25		0.11	c0.17		c0.43	0.42	
v/s Ratio Perm			0.02									
v/c Ratio	0.65	0.48	0.10	0.53	1.04		0.64	0.98		1.00	0.99	
Uniform Delay, d1	57.4	41.4	38.0	55.1	45.6		45.6	48.8		34.1	33.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.4	0.5	0.1	5.8	44.3		10.5	31.5		35.0	21.7	
Delay (s)	72.8	41.9	38.1	60.9	89.9		56.0	80.4		69.1	55.5	
Level of Service	E	D	D	E	F		E	F		E	E	
Approach Delay (s)		44.2			88.3			74.6			60.0	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	66.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	119.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



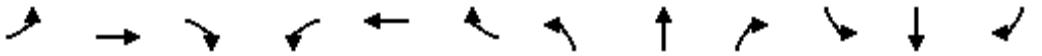
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	1080	390	340	2270	125	325	275	345	45	385	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		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)	1770	5085	1583	1770	5085	1583	3433	3244		3433	3473	
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)	1770	5085	1583	1770	5085	1583	3433	3244		3433	3473	
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)	16	1174	424	370	2467	136	353	299	375	49	418	60
RTOR Reduction (vph)	0	0	199	0	0	62	0	188	0	0	9	0
Lane Group Flow (vph)	16	1174	225	370	2467	74	353	486	0	49	469	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)	1.6	39.0	39.0	27.8	65.2	65.2	14.5	33.5		3.9	22.9	
Effective Green, g (s)	1.6	39.0	39.0	27.8	65.2	65.2	14.5	33.5		3.9	22.9	
Actuated g/C Ratio	0.01	0.32	0.32	0.23	0.54	0.54	0.12	0.28		0.03	0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	24	1650	514	409	2758	859	414	904		111	662	
v/s Ratio Prot	0.01	0.23		c0.21	c0.49		c0.10	0.15		0.01	c0.14	
v/s Ratio Perm			0.14			0.05						
v/c Ratio	0.67	0.71	0.44	0.90	0.89	0.09	0.85	0.54		0.44	0.71	
Uniform Delay, d1	59.0	35.7	32.0	44.9	24.4	13.2	51.8	36.8		57.1	45.5	
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	52.8	1.5	0.6	22.9	4.2	0.0	15.5	2.3		2.8	6.3	
Delay (s)	111.8	37.1	32.6	67.8	28.6	13.2	67.3	39.1		59.9	51.8	
Level of Service	F	D	C	E	C	B	E	D		E	D	
Approach Delay (s)		36.7			32.8			48.8			52.6	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.6%	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)	250	140	85	305	535	265	65	545	135	230	705	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.95		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3339		1770	3363		1770	3434		1770	3356	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3339		1770	3363		1770	3434		1770	3356	
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)	272	152	92	332	582	288	71	592	147	250	766	402
RTOR Reduction (vph)	0	74	0	0	68	0	0	24	0	0	75	0
Lane Group Flow (vph)	272	170	0	332	802	0	71	715	0	250	1093	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.0	17.4		19.6	22.0		4.0	24.0		13.0	33.0	
Effective Green, g (s)	15.0	17.4		19.6	22.0		4.0	24.0		13.0	33.0	
Actuated g/C Ratio	0.17	0.19		0.22	0.24		0.04	0.27		0.14	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	646		385	822		79	916		256	1231	
v/s Ratio Prot	0.15	0.05		c0.19	c0.24		0.04	0.21		c0.14	c0.33	
v/s Ratio Perm												
v/c Ratio	0.92	0.26		0.86	0.98		0.90	0.78		0.98	0.89	
Uniform Delay, d1	36.9	30.8		33.9	33.7		42.8	30.6		38.3	26.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.6	0.2		17.7	25.3		67.3	6.5		49.2	9.7	
Delay (s)	69.5	31.1		51.6	59.0		110.1	37.1		87.6	36.4	
Level of Service	E	C		D	E		F	D		F	D	
Approach Delay (s)		51.3			57.0			43.5			45.5	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	49.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
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)	185	815	200	190	1110	130	180	500	150	245	765	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4935		3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4935		3433	5085	1583	3433	3539	1583	3433	3539	1583
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)	201	886	217	207	1207	141	196	543	163	266	832	196
RTOR Reduction (vph)	0	52	0	0	0	123	0	0	118	0	0	175
Lane Group Flow (vph)	201	1051	0	207	1207	18	196	543	45	266	832	21
Turn Type	Prot			Prot		Over	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases									2			
Actuated Green, G (s)	8.6	22.9		8.6	22.9	10.2	7.0	21.8	21.8	10.2	25.0	8.6
Effective Green, g (s)	8.6	22.9		8.6	22.9	10.2	7.0	21.8	21.8	10.2	25.0	8.6
Actuated g/C Ratio	0.11	0.29		0.11	0.29	0.13	0.09	0.27	0.27	0.13	0.31	0.11
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	371	1422		371	1465	203	302	970	434	440	1113	171
v/s Ratio Prot	0.06	0.21		c0.06	c0.24	0.01	0.06	0.15		c0.08	c0.24	0.01
v/s Ratio Perm									0.03			
v/c Ratio	0.54	0.74		0.56	0.82	0.09	0.65	0.56	0.10	0.60	0.75	0.12
Uniform Delay, d1	33.6	25.6		33.6	26.4	30.6	35.1	24.7	21.5	32.7	24.4	32.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	2.1		1.8	3.9	0.2	4.8	2.3	0.5	2.3	4.6	0.3
Delay (s)	35.2	27.6		35.5	30.3	30.7	39.8	27.1	22.0	35.1	29.0	32.4
Level of Service	D	C		D	C	C	D	C	C	D	C	C
Approach Delay (s)		28.8			31.0			28.9			30.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #27 Rancho Del Oro Rd & Vista Del Oro Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.469
Loss Time (sec):	0	Average Delay (sec/veh):	148.1
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Vista Del Oro Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	10	860	60	100	1370	20	35	15	55	80	5	65
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:	10	860	60	100	1370	20	35	15	55	80	5	65
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:	11	935	65	109	1489	22	38	16	60	87	5	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	935	65	109	1489	22	38	16	60	87	5	71
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:	11	935	65	109	1489	22	38	16	60	87	5	71
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.87	0.13	1.00	1.97	0.03	0.33	0.14	0.53	0.54	0.03	0.43
Final Sat.:	471	949	67	478	1013	15	159	68	251	262	16	213
Capacity Analysis Module:												
Vol/Sat:	0.02	0.98	0.98	0.23	1.47	1.47	0.24	0.24	0.24	0.33	0.33	0.33
Crit Moves:		****			****			****				****
Delay/Veh:	10.5	62.5	60.6	12.4	240	239.4	12.6	12.6	12.6	13.7	13.7	13.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.5	62.5	60.6	12.4	240	239.4	12.6	12.6	12.6	13.7	13.7	13.7
LOS by Move:	B	F	F	B	F	F	B	B	B	B	B	B
ApproachDel:		61.8			225.0			12.6			13.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		61.8			225.0			12.6			13.7	
LOS by Appr:		F			F			B			B	
AllWayAvgQ:	0.0	7.6	7.2	0.3	33.0	32.8	0.3	0.3	0.3	0.5	0.5	0.5

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #28 Rancho Del Oro Rd & Cameo Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.521
Loss Time (sec):	0	Average Delay (sec/veh):	183.9
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Cameo Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	1 0	0	1 0
Volume Module:0												
Base Vol:	10	1100	50	90	985	10	35	10	35	135	10	180
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:	10	1100	50	90	985	10	35	10	35	135	10	180
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:	11	1196	54	98	1071	11	38	11	38	147	11	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	1196	54	98	1071	11	38	11	38	147	11	196
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:	11	1196	54	98	1071	11	38	11	38	147	11	196
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.91	0.09	1.00	1.98	0.02	0.44	0.12	0.44	1.00	0.05	0.95
Final Sat.:	385	786	36	396	834	8	176	50	176	376	22	405
Capacity Analysis Module:												
Vol/Sat:	0.03	1.52	1.52	0.25	1.28	1.28	0.22	0.22	0.22	0.39	0.48	0.48
Crit Moves:	****			****			****					****
Delay/Veh:	12.3	269	266.6	14.7	170	169.8	14.2	14.2	14.2	18.2	18.6	18.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.3	269	266.6	14.7	170	169.8	14.2	14.2	14.2	18.2	18.6	18.6
LOS by Move:	B	F	F	B	F	F	B	B	B	C	C	C
ApproachDel:	266.8			157.3			14.2			18.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	266.8			157.3			14.2			18.5		
LOS by Appr:	F			F			B			C		
AllWayAvgQ:	0.0	29.6	29.2	0.3	18.6	18.6	0.3	0.3	0.3	0.6	0.9	0.9

Note: Queue reported is the number of cars per lane.

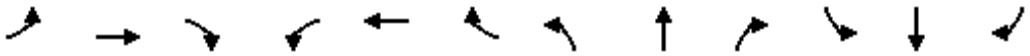
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #29 Rancho Del Oro Rd & Trieste Way & Sicily Way

Cycle (sec):	100	Critical Vol./Cap.(X):	1.253
Loss Time (sec):	0	Average Delay (sec/veh):	100.8
Optimal Cycle:	0	Level Of Service:	F

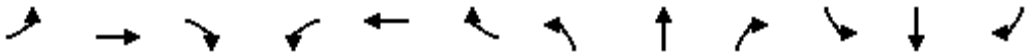
Street Name:	Rancho Del Oro Rd						Trieste Way & Sicily Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	5	850	5	5	1395	5	5	0	15	15	0	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:	5	850	5	5	1395	5	5	0	15	15	0	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:	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:	5	924	5	5	1516	5	5	0	16	16	0	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	924	5	5	1516	5	5	0	16	16	0	11
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:	5	924	5	5	1516	5	5	0	16	16	0	11
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.99	0.01	1.00	1.99	0.01	0.25	0.00	0.75	0.60	0.00	0.40
Final Sat.:	528	1133	7	557	1210	4	136	0	409	316	0	210
Capacity Analysis Module:												
Vol/Sat:	0.01	0.82	0.81	0.01	1.25	1.25	0.04	xxxx	0.04	0.05	xxxx	0.05
Crit Moves:		****			****		****					****
Delay/Veh:	9.6	31.1	31.0	9.2	147	146.7	9.8	0.0	9.8	10.1	0.0	10.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.6	31.1	31.0	9.2	147	146.7	9.8	0.0	9.8	10.1	0.0	10.1
LOS by Move:	A	D	D	A	F	F	A	*	A	B	*	B
ApproachDel:		30.9			146.4			9.8			10.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		30.9			146.4			9.8			10.1	
LOS by Appr:		D			F			A			B	
AllWayAvgQ:	0.0	3.5	3.5	0.0	23.3	23.3	0.0	0.0	0.0	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.



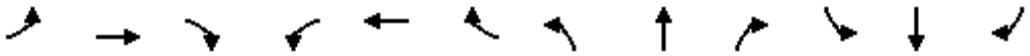
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	15	55	80	5	65	10	860	60	100	1370	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.94		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1702			1708		1770	3505		1770	3531	
Flt Permitted		0.85			0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1477			1465		1770	3505		1770	3531	
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)	38	16	60	87	5	71	11	935	65	109	1489	22
RTOR Reduction (vph)	0	51	0	0	54	0	0	7	0	0	1	0
Lane Group Flow (vph)	0	63	0	0	109	0	11	993	0	109	1510	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		7.3			7.3		0.6	25.1		5.9	30.4	
Effective Green, g (s)		7.3			7.3		0.6	25.1		5.9	30.4	
Actuated g/C Ratio		0.15			0.15		0.01	0.50		0.12	0.60	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		214			213		21	1749		208	2134	
v/s Ratio Prot							0.01	0.28		c0.06	c0.43	
v/s Ratio Perm		0.04			c0.07							
v/c Ratio		0.29			0.51		0.52	0.57		0.52	0.71	
Uniform Delay, d1		19.2			19.9		24.7	8.8		20.9	6.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			2.1		21.6	0.4		2.4	1.1	
Delay (s)		20.0			21.9		46.3	9.2		23.3	8.0	
Level of Service		B			C		D	A		C	A	
Approach Delay (s)		20.0			21.9			9.6			9.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



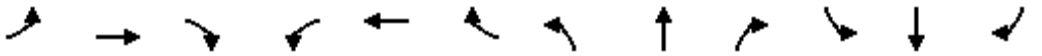
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	10	35	135	10	180	10	1100	50	90	985	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt		0.94		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715		1770	1598		1770	3516		1770	3534	
Flt Permitted		0.76		0.79	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1331		1463	1598		1770	3516		1770	3534	
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)	38	11	38	147	11	196	11	1196	54	98	1071	11
RTOR Reduction (vph)	0	31	0	0	137	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	56	0	147	70	0	11	1246	0	98	1081	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.9		10.9	10.9		0.8	31.9		4.8	35.9	
Effective Green, g (s)		10.9		10.9	10.9		0.8	31.9		4.8	35.9	
Actuated g/C Ratio		0.18		0.18	0.18		0.01	0.54		0.08	0.60	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		243		268	292		24	1882		143	2129	
v/s Ratio Prot					0.04		0.01	c0.35		c0.06	c0.31	
v/s Ratio Perm		0.04		c0.10								
v/c Ratio		0.23		0.55	0.24		0.46	0.66		0.69	0.51	
Uniform Delay, d1		20.8		22.1	20.8		29.2	10.0		26.7	6.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5		2.3	0.4		13.2	1.9		12.8	0.9	
Delay (s)		21.3		24.4	21.2		42.4	11.8		39.4	7.7	
Level of Service		C		C	C		D	B		D	A	
Approach Delay (s)		21.3			22.5			12.1			10.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



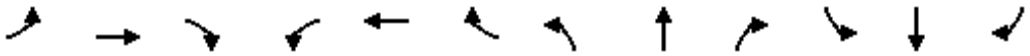
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	0	15	15	0	10	5	850	5	5	1395	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.90			0.94		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1710		1770	3536		1770	3537	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1671			1760		1770	3536		1770	3537	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	0	16	16	0	11	5	924	5	5	1516	5
RTOR Reduction (vph)	0	16	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	5	0	0	16	0	5	929	0	5	1521	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		1.4			1.4		0.7	40.2		0.7	40.2	
Effective Green, g (s)		1.4			1.4		0.7	40.2		0.7	40.2	
Actuated g/C Ratio		0.03			0.03		0.01	0.74		0.01	0.74	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		43			45		23	2618		23	2619	
v/s Ratio Prot							c0.00	0.26		0.00	c0.43	
v/s Ratio Perm		0.00			c0.01							
v/c Ratio		0.13			0.36		0.22	0.35		0.22	0.58	
Uniform Delay, d1		25.9			26.0		26.5	2.5		26.5	3.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			4.9		4.7	0.4		4.7	0.9	
Delay (s)		27.2			30.9		31.2	2.9		31.2	4.2	
Level of Service		C			C		C	A		C	A	
Approach Delay (s)		27.2			30.9			3.0			4.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



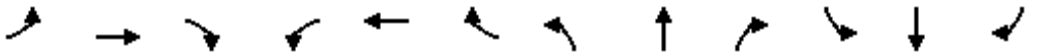
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	40	150	235	70	75	210	475	180	40	1400	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3264		1770	3393		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3264		1770	3393		1770	3539	1583
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)	11	43	163	255	76	82	228	516	196	43	1522	43
RTOR Reduction (vph)	0	0	129	0	73	0	0	40	0	0	0	24
Lane Group Flow (vph)	11	43	34	255	85	0	228	672	0	43	1522	19
Turn Type	Prot		Over	Prot			Prot			Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases												
Actuated Green, G (s)	2.8	4.0	16.1	7.0	8.2		16.1	35.2		16.1	35.2	2.8
Effective Green, g (s)	2.8	4.0	16.1	7.0	8.2		16.1	35.2		16.1	35.2	2.8
Actuated g/C Ratio	0.04	0.05	0.21	0.09	0.10		0.21	0.45		0.21	0.45	0.04
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	63	181	325	307	342		364	1525		364	1591	57
v/s Ratio Prot	0.01	0.01	0.02	c0.07	c0.03		c0.13	0.20		0.02	c0.43	0.01
v/s Ratio Perm												
v/c Ratio	0.17	0.24	0.10	0.83	0.25		0.63	0.44		0.12	0.96	0.33
Uniform Delay, d1	36.6	35.7	25.2	35.1	32.2		28.4	14.8		25.3	20.8	36.8
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	1.3	0.7	0.6	17.1	0.4		7.9	0.9		0.7	14.4	3.4
Delay (s)	38.0	36.4	25.9	52.2	32.6		36.3	15.7		26.0	35.2	40.2
Level of Service	D	D	C	D	C		D	B		C	D	D
Approach Delay (s)		28.6			44.7			20.7			35.1	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	31.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



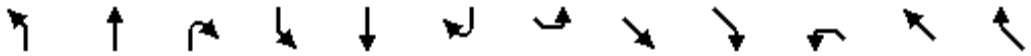
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	585	60	55	195	200	65	40	1290	100	40	260	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	0.95		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.93		1.00	0.96		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1729		3433	3408		1770	5085	1583	1770	4914	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1729		3433	3408		1770	5085	1583	1770	4914	
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)	636	65	60	212	217	71	43	1402	109	43	283	82
RTOR Reduction (vph)	0	43	0	0	48	0	0	0	74	0	56	0
Lane Group Flow (vph)	636	82	0	212	240	0	43	1402	35	43	309	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	13.9	18.1		6.2	10.4		2.8	20.3	20.3	2.2	19.7	
Effective Green, g (s)	13.9	18.1		6.2	10.4		2.8	20.3	20.3	2.2	19.7	
Actuated g/C Ratio	0.22	0.29		0.10	0.17		0.04	0.32	0.32	0.04	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	760	498		339	564		79	1644	512	62	1541	
v/s Ratio Prot	c0.19	0.05		0.06	c0.07		c0.02	c0.28		0.02	0.06	
v/s Ratio Perm									0.02			
v/c Ratio	0.84	0.17		0.63	0.42		0.54	0.85	0.07	0.69	0.20	
Uniform Delay, d1	23.4	16.7		27.2	23.5		29.4	19.9	14.7	30.0	15.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.0	0.2		3.6	0.5		7.5	5.8	0.3	28.5	0.3	
Delay (s)	31.3	16.9		30.8	24.0		36.8	25.7	15.0	58.5	16.1	
Level of Service	C	B		C	C		D	C	B	E	B	
Approach Delay (s)		29.0			26.9			25.2			20.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



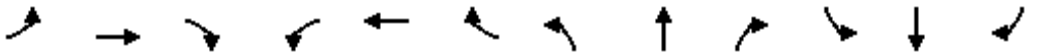
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	25	80	335	30	175	75	1200	105	25	665	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1580	1504	1770	5085	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1580	1504	1770	5085	1583	1770	3539	1583
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)	60	27	87	364	33	190	82	1304	114	27	723	33
RTOR Reduction (vph)	0	0	77	0	67	88	0	0	64	0	0	22
Lane Group Flow (vph)	60	27	10	364	48	20	82	1304	50	27	723	11
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	3.4	5.9	5.9	7.2	9.7	9.7	5.3	22.9	22.9	0.7	18.3	18.3
Effective Green, g (s)	3.4	5.9	5.9	7.2	9.7	9.7	5.3	22.9	22.9	0.7	18.3	18.3
Actuated g/C Ratio	0.06	0.11	0.11	0.14	0.18	0.18	0.10	0.43	0.43	0.01	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	114	209	177	469	291	277	178	2210	688	24	1229	550
v/s Ratio Prot	0.03	0.01		c0.11	c0.03		c0.05	c0.26		0.02	0.20	
v/s Ratio Perm			0.01			0.01			0.03			0.01
v/c Ratio	0.53	0.13	0.06	0.78	0.17	0.07	0.46	0.59	0.07	1.12	0.59	0.02
Uniform Delay, d1	23.9	21.1	20.9	22.0	18.1	17.8	22.4	11.3	8.7	26.0	14.1	11.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.3	0.1	7.9	0.3	0.1	1.9	1.2	0.2	225.0	2.1	0.1
Delay (s)	28.2	21.4	21.0	29.8	18.4	17.9	24.2	12.5	8.9	251.0	16.2	11.4
Level of Service	C	C	C	C	B	B	C	B	A	F	B	B
Approach Delay (s)		23.6			25.4			12.9			24.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	52.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



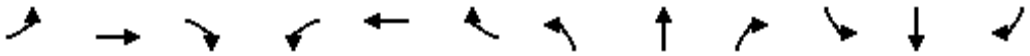
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	180	375	885	335	10	10	10	10	255	10	1200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1723			1777	2787
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)	1770	3539	1583	3433	3539	1583	1770	1723			1777	2787
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)	11	196	408	962	364	11	11	11	11	277	11	1304
RTOR Reduction (vph)	0	0	320	0	0	4	0	11	0	0	0	434
Lane Group Flow (vph)	11	196	88	962	364	7	11	11	0	0	288	870
Turn Type	Prot		Perm	Prot		Perm	Split			Split		pm+ov
Protected Phases	5	2		1	6		4	4		8	8	1
Permitted Phases			2			6						8
Actuated Green, G (s)	0.7	22.5	22.5	40.9	62.7	62.7	3.8	3.8			20.8	61.7
Effective Green, g (s)	0.7	22.5	22.5	40.9	62.7	62.7	3.8	3.8			20.8	61.7
Actuated g/C Ratio	0.01	0.22	0.22	0.39	0.60	0.60	0.04	0.04			0.20	0.59
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	12	766	342	1350	2134	954	65	63			355	1653
v/s Ratio Prot	c0.01	0.06		c0.28	0.10		0.01	c0.01			c0.16	0.21
v/s Ratio Perm			c0.06			0.00						0.11
v/c Ratio	0.92	0.26	0.26	0.71	0.17	0.01	0.17	0.18			0.81	0.53
Uniform Delay, d1	51.6	33.8	33.8	26.6	9.1	8.2	48.6	48.6			39.7	12.5
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	212.2	0.8	1.8	1.8	0.2	0.0	1.2	1.4			13.1	0.3
Delay (s)	263.8	34.6	35.6	28.4	9.3	8.2	49.8	50.0			52.9	12.8
Level of Service	F	C	D	C	A	A	D	D			D	B
Approach Delay (s)		39.4			23.0			49.9			20.1	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	104.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.8%	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)	430	900	40	390	1490	550	60	620	170	500	820	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3425		3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3425		3433	3539	1583
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)	467	978	43	424	1620	598	65	674	185	543	891	641
RTOR Reduction (vph)	0	0	41	0	0	342	0	20	0	0	0	448
Lane Group Flow (vph)	467	978	2	424	1620	256	65	839	0	543	891	193
Turn Type	Prot		Over	Prot		Over	Prot			Prot		Over
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases											6	
Actuated Green, G (s)	17.0	29.5	6.4	16.6	29.1	24.6	6.4	29.9		24.6	48.1	17.0
Effective Green, g (s)	17.0	29.5	6.4	16.6	29.1	24.6	6.4	29.9		24.6	48.1	17.0
Actuated g/C Ratio	0.15	0.25	0.05	0.14	0.25	0.21	0.05	0.26		0.21	0.41	0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	501	1287	87	489	1269	334	188	878		724	1460	231
v/s Ratio Prot	c0.14	0.19	0.00	0.12	c0.32	c0.16	0.02	c0.24		0.16	0.25	0.12
v/s Ratio Perm												
v/c Ratio	0.93	0.76	0.03	0.87	1.28	0.77	0.35	0.96		0.75	0.61	0.83
Uniform Delay, d1	49.2	40.3	52.2	48.9	43.8	43.3	53.1	42.7		43.1	26.9	48.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	24.4	2.6	0.1	14.9	130.7	10.0	1.1	21.3		4.4	1.9	22.0
Delay (s)	73.6	42.9	52.3	63.8	174.5	53.3	54.2	64.0		47.5	28.8	70.4
Level of Service	E	D	D	E	F	D	D	E		D	C	E
Approach Delay (s)		52.8			129.3			63.3			46.5	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM Average Control Delay	80.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	116.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

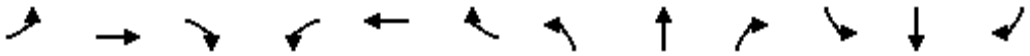


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	175	80	220	290	45	85	625	90	55	1065	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3373		1770	3468		1770	3472		1770	3422	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3373		1770	3468		1770	3472		1770	3422	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	184	184	84	232	305	47	89	658	95	58	1121	316
RTOR Reduction (vph)	0	50	0	0	11	0	0	10	0	0	23	0
Lane Group Flow (vph)	184	218	0	232	341	0	89	743	0	58	1414	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.1	12.3		18.0	15.2		8.3	51.6		6.9	50.2	
Effective Green, g (s)	15.1	12.3		18.0	15.2		8.3	51.6		6.9	50.2	
Actuated g/C Ratio	0.14	0.11		0.16	0.14		0.08	0.47		0.06	0.46	
Clearance Time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	243	377		290	479		134	1629		111	1562	
v/s Ratio Prot	c0.10	0.06		c0.13	0.10		c0.05	0.21		0.03	c0.41	
v/s Ratio Perm												
v/c Ratio	0.76	0.58		0.80	0.71		0.66	0.46		0.52	0.91	
Uniform Delay, d1	45.7	46.4		44.3	45.3		49.5	19.7		50.0	27.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.6	2.2		14.5	4.9		11.7	0.9		4.4	9.1	
Delay (s)	58.3	48.5		58.8	50.2		61.2	20.6		54.3	36.8	
Level of Service	E	D		E	D		E	C		D	D	
Approach Delay (s)		52.5			53.6			24.9			37.5	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

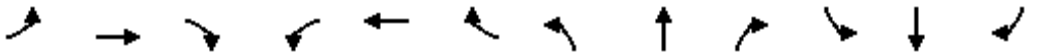
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	55	380	75	95	150	65	165	505	95	80	255	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.98		1.00	0.95		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3451		1770	3378		3433	3455		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3451		1770	3378		3433	3455		3433	3539	1583
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)	60	413	82	103	163	71	179	549	103	87	277	228
RTOR Reduction (vph)	0	19	0	0	53	0	0	14	0	0	0	152
Lane Group Flow (vph)	60	476	0	103	181	0	179	638	0	87	277	76
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases												2
Actuated Green, G (s)	5.1	16.7		7.8	19.4		9.3	28.4		5.8	24.9	24.9
Effective Green, g (s)	5.1	16.7		7.8	19.4		9.3	28.4		5.8	24.9	24.9
Actuated g/C Ratio	0.07	0.22		0.10	0.26		0.12	0.38		0.08	0.33	0.33
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	121	772		185	877		427	1314		267	1180	528
v/s Ratio Prot	0.03	c0.14		c0.06	c0.05		c0.05	c0.18		0.03	0.08	
v/s Ratio Perm												0.05
v/c Ratio	0.50	0.62		0.56	0.21		0.42	0.49		0.33	0.23	0.14
Uniform Delay, d1	33.6	26.1		31.8	21.6		30.2	17.6		32.6	18.0	17.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.2	1.5		3.6	0.1		0.7	1.3		0.7	0.5	0.6
Delay (s)	36.7	27.6		35.4	21.7		30.9	18.9		33.3	18.5	18.0
Level of Service	D	C		D	C		C	B		C	B	B
Approach Delay (s)		28.6			25.9			21.5			20.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	74.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



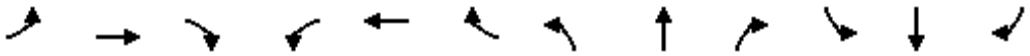
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	90	395	50	160	180	150	780	70	25	1290	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	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	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3495		1770	3510	
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)	1770	1863	1583	1770	1863	1583	3433	3495		1770	3510	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	95	416	53	168	189	158	821	74	26	1358	79
RTOR Reduction (vph)	0	0	299	0	0	155	0	5	0	0	3	0
Lane Group Flow (vph)	11	95	117	53	168	34	158	890	0	26	1434	0
Turn Type	Prot		Over	Prot		Perm	Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	0.8	15.0	9.0	4.8	20.0	20.0	9.0	61.1		4.1	56.2	
Effective Green, g (s)	0.8	15.0	9.0	4.8	20.0	20.0	9.0	61.1		4.1	56.2	
Actuated g/C Ratio	0.01	0.14	0.08	0.04	0.18	0.18	0.08	0.56		0.04	0.51	
Clearance Time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	13	254	130	77	339	288	281	1941		66	1793	
v/s Ratio Prot	0.01	0.05	c0.07	c0.03	c0.09		0.05	0.25		0.01	c0.41	
v/s Ratio Perm						0.02						
v/c Ratio	0.85	0.37	0.90	0.69	0.50	0.12	0.56	0.46		0.39	0.80	
Uniform Delay, d1	54.5	43.2	50.0	51.9	40.5	37.6	48.6	14.6		51.7	22.2	
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	166.4	0.9	48.6	22.6	1.1	0.2	2.6	0.8		3.8	3.8	
Delay (s)	221.0	44.2	98.7	74.4	41.6	37.8	51.2	15.4		55.6	26.1	
Level of Service	F	D	F	E	D	D	D	B		E	C	
Approach Delay (s)		91.3			44.1			20.7			26.6	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM Average Control Delay	36.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



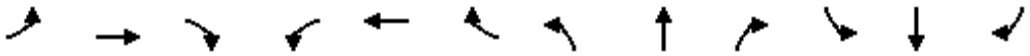
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	395	410	375	715	130	505	835	165	145	1415	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0		5.0	7.0	7.0	6.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	4968		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	4968		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	416	432	395	753	137	532	879	174	153	1489	111
RTOR Reduction (vph)	0	0	3	0	24	0	0	0	103	0	0	60
Lane Group Flow (vph)	105	416	429	395	866	0	532	879	71	153	1489	51
Turn Type	Prot		pt+ov	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4	4 5	3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	7.2	17.0	35.0	14.0	23.8		18.0	45.0	45.0	9.0	37.0	37.0
Effective Green, g (s)	7.2	17.0	35.0	14.0	23.8		18.0	45.0	45.0	9.0	37.0	37.0
Actuated g/C Ratio	0.07	0.15	0.32	0.13	0.22		0.16	0.41	0.41	0.08	0.34	0.34
Clearance Time (s)	5.0	7.0		5.0	7.0		5.0	7.0	7.0	6.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	225	786	504	437	1075		562	2080	648	281	1710	532
v/s Ratio Prot	0.03	0.08	0.27	c0.12	c0.17		c0.15	0.17		0.04	c0.29	
v/s Ratio Perm									0.04			0.03
v/c Ratio	0.47	0.53	0.85	0.90	0.81		0.95	0.42	0.11	0.54	0.87	0.10
Uniform Delay, d1	49.5	42.8	35.1	47.3	40.9		45.5	23.2	20.1	48.5	34.3	25.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.6	12.9	21.7	4.5		25.1	0.6	0.3	2.2	6.4	0.4
Delay (s)	51.1	43.5	48.0	69.0	45.4		70.6	23.9	20.5	50.7	40.6	25.4
Level of Service	D	D	D	E	D		E	C	C	D	D	C
Approach Delay (s)		46.4			52.6			39.2			40.6	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	43.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



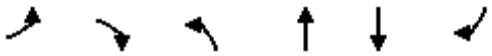
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	5	20	140	5	565	5	925	90	685	1580	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	4.0	5.5	
Lane Util. Factor		1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85	1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1801	1583	1770	1509	1504	1770	3539	1583	3433	3536	
Flt Permitted		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1801	1583	1770	1509	1504	1770	3539	1583	3433	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	5	21	147	5	595	5	974	95	721	1663	11
RTOR Reduction (vph)	0	0	20	0	254	167	0	0	57	0	0	0
Lane Group Flow (vph)	0	16	1	147	49	130	5	974	38	721	1674	0
Turn Type	Split		Perm	Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)		4.3	4.3	16.3	16.3	48.1	0.8	44.1	44.1	27.8	71.1	
Effective Green, g (s)		4.3	4.3	16.3	16.3	48.1	0.8	44.1	44.1	27.8	71.1	
Actuated g/C Ratio		0.04	0.04	0.15	0.15	0.44	0.01	0.40	0.40	0.25	0.65	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0	5.5	5.5	4.0	5.5	
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)		70	62	262	224	658	13	1419	635	868	2286	
v/s Ratio Prot		c0.01		c0.08	0.03	0.09	0.00	0.28		c0.21	c0.47	
v/s Ratio Perm			0.00						0.02			
v/c Ratio		0.23	0.01	0.56	0.22	0.20	0.38	0.69	0.06	0.83	0.73	
Uniform Delay, d1		51.2	50.8	43.5	41.2	19.1	54.4	27.2	20.2	38.9	13.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.7	0.1	2.7	0.5	0.1	17.9	2.7	0.2	6.8	2.1	
Delay (s)		52.9	50.9	46.3	41.7	19.2	72.2	30.0	20.4	45.7	15.2	
Level of Service		D	D	D	D	B	E	C	C	D	B	
Approach Delay (s)		51.8			33.7			29.3			24.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



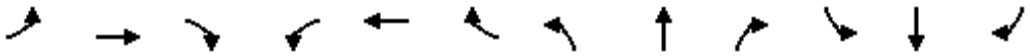
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	135	255	430	110	335	110	840	780	45	1325	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5060	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5060	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	142	268	453	116	353	116	884	821	47	1395	47
RTOR Reduction (vph)	0	0	8	0	0	127	0	0	120	0	3	0
Lane Group Flow (vph)	58	142	260	453	116	226	116	884	701	47	1439	0
Turn Type	Prot		pt+ov	Prot		Perm	Prot		pt+ov	Prot		
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	
Permitted Phases						8						
Actuated Green, G (s)	4.0	12.0	29.6	18.4	26.4	26.4	12.0	43.4	67.4	2.4	33.8	
Effective Green, g (s)	4.0	12.0	24.0	18.4	26.4	26.4	12.0	43.4	61.8	2.4	33.8	
Actuated g/C Ratio	0.04	0.12	0.24	0.18	0.26	0.26	0.12	0.43	0.62	0.02	0.34	
Clearance Time (s)	5.6	6.3		5.6	6.3	6.3	5.6	6.3		5.6	6.3	
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)	137	425	380	632	934	418	412	2207	978	82	1710	
v/s Ratio Prot	0.02	0.04	c0.16	c0.13	0.03		0.03	0.17	0.44	0.01	c0.28	
v/s Ratio Perm						0.14						
v/c Ratio	0.42	0.33	0.68	0.72	0.12	0.54	0.28	0.40	0.72	0.57	0.84	
Uniform Delay, d1	46.9	40.3	34.5	38.4	28.0	31.6	40.1	19.4	13.1	48.3	30.6	
Progression Factor	1.00	1.00	1.00	0.69	0.60	0.53	0.77	0.38	1.76	1.00	1.00	
Incremental Delay, d2	2.1	0.5	5.0	3.6	0.1	1.2	0.4	0.5	2.4	9.3	5.2	
Delay (s)	49.0	40.8	39.6	30.1	16.9	18.1	31.1	7.9	25.4	57.6	35.8	
Level of Service	D	D	D	C	B	B	C	A	C	E	D	
Approach Delay (s)		41.1			23.8			17.3			36.5	
Approach LOS		D			C			B			D	

Intersection Summary			
HCM Average Control Delay	27.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	24.5
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



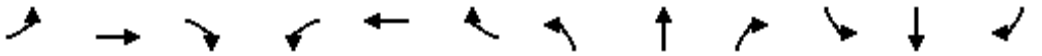
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	435	440	0	1295	1665	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00		0.86	0.86	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		6408	6408	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		6408	6408	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	458	463	0	1363	1753	0
RTOR Reduction (vph)	0	7	0	0	0	0
Lane Group Flow (vph)	458	456	0	1363	1753	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	33.8	33.8		58.2	58.2	
Effective Green, g (s)	33.8	33.8		58.2	58.2	
Actuated g/C Ratio	0.34	0.34		0.58	0.58	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1160	535		3729	3729	
v/s Ratio Prot	0.13			0.21	c0.27	
v/s Ratio Perm		c0.29				
v/c Ratio	0.39	0.85		0.37	0.47	
Uniform Delay, d1	25.3	30.8		11.1	12.0	
Progression Factor	1.00	1.00		0.87	0.44	
Incremental Delay, d2	0.2	12.4		0.2	0.3	
Delay (s)	25.5	43.2		9.8	5.6	
Level of Service	C	D		A	A	
Approach Delay (s)	34.4			9.8	5.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



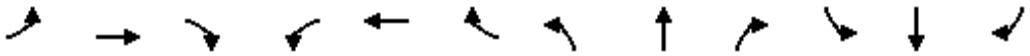
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	70	15	115	15	250	45	945	295	635	1345	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1813		1770	1863	1583	1770	5085	1583	3433	5020	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1813		1770	1863	1583	1770	5085	1583	3433	5020	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	74	16	121	16	263	47	995	311	668	1416	132
RTOR Reduction (vph)	0	8	0	0	0	111	0	0	196	0	9	0
Lane Group Flow (vph)	105	82	0	121	16	152	47	995	115	668	1539	0
Turn Type	Split			Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	11.2	11.2		12.0	12.0	35.8	3.6	37.0	37.0	23.8	57.2	
Effective Green, g (s)	11.2	11.2		12.0	12.0	35.8	3.6	37.0	37.0	23.8	57.2	
Actuated g/C Ratio	0.11	0.11		0.12	0.12	0.36	0.04	0.37	0.37	0.24	0.57	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	198	203		212	224	567	64	1881	586	817	2871	
v/s Ratio Prot	c0.06	0.05		c0.07	0.01	0.10	0.03	0.20		c0.19	c0.31	
v/s Ratio Perm									0.07			
v/c Ratio	0.53	0.40		0.57	0.07	0.27	0.73	0.53	0.20	0.82	0.54	
Uniform Delay, d1	41.9	41.3		41.6	39.1	22.8	47.7	24.7	21.4	36.0	13.2	
Progression Factor	1.00	1.00		0.94	0.78	3.83	1.00	1.00	1.00	0.69	0.48	
Incremental Delay, d2	2.7	1.3		3.0	0.1	0.2	35.0	1.1	0.7	5.6	0.6	
Delay (s)	44.6	42.6		41.9	30.4	87.4	82.7	25.7	22.1	30.6	7.0	
Level of Service	D	D		D	C	F	F	C	C	C	A	
Approach Delay (s)		43.7			71.4			26.9			14.1	
Approach LOS		D			E			C			B	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



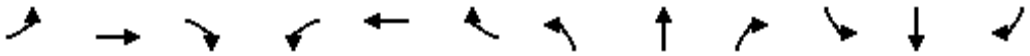
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	30	110	395	70	335	85	690	110	210	1205	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
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)	152	33	120	429	76	364	92	750	120	228	1310	217
RTOR Reduction (vph)	0	0	114	0	0	317	0	0	88	0	0	125
Lane Group Flow (vph)	152	33	6	429	76	47	92	750	32	228	1310	92
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	10.8	4.4	4.0	21.1	14.7	10.1	4.0	27.1	21.1	10.1	33.2	33.2
Effective Green, g (s)	10.8	4.4	4.0	21.1	14.7	10.1	4.0	27.1	21.1	10.1	33.2	33.2
Actuated g/C Ratio	0.14	0.06	0.05	0.27	0.19	0.13	0.05	0.34	0.27	0.13	0.42	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	471	104	80	475	348	203	174	1219	424	441	1493	668
v/s Ratio Prot	0.04	0.02	0.00	c0.24	c0.04	0.03	0.03	0.21	0.02	c0.07	c0.37	
v/s Ratio Perm												0.06
v/c Ratio	0.32	0.32	0.08	0.90	0.22	0.23	0.53	0.62	0.08	0.52	0.88	0.14
Uniform Delay, d1	30.6	35.7	35.6	27.8	27.1	30.8	36.4	21.5	21.5	32.0	20.9	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	1.8	0.4	20.3	0.3	0.6	2.9	2.3	0.1	1.0	7.6	0.4
Delay (s)	31.0	37.5	36.0	48.1	27.4	31.4	39.3	23.8	21.6	33.0	28.5	14.4
Level of Service	C	D	D	D	C	C	D	C	C	C	C	B
Approach Delay (s)		33.7			39.3			25.0			27.3	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	29.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	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)	70	605	305	275	325	30	515	50	220	35	65	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	3433	3494		1681	1700	1583		3357	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1770	3539	1583	3433	3494		1681	1700	1583		3357	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	637	321	289	342	32	542	53	232	37	68	37
RTOR Reduction (vph)	0	0	122	0	7	0	0	0	147	0	34	0
Lane Group Flow (vph)	74	637	199	289	367	0	298	297	85	0	108	0
Turn Type	Prot		pt+ov	Prot			Split		Perm	Split		
Protected Phases	7	4	4 2	3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	8.3	25.3	62.1	13.4	30.4		36.8	36.8	36.8		8.5	
Effective Green, g (s)	8.3	25.3	62.1	13.4	30.4		36.8	36.8	36.8		8.5	
Actuated g/C Ratio	0.08	0.25	0.62	0.13	0.30		0.37	0.37	0.37		0.08	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	147	895	983	460	1062		619	626	583		285	
v/s Ratio Prot	0.04	c0.18	0.13	c0.08	0.11		c0.18	0.17			c0.03	
v/s Ratio Perm									0.05			
v/c Ratio	0.50	0.71	0.20	0.63	0.35		0.48	0.47	0.15		0.38	
Uniform Delay, d1	43.9	34.0	8.2	40.9	27.1		24.3	24.2	21.1		43.3	
Progression Factor	1.15	0.97	2.53	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.2	2.2	0.1	2.7	0.2		2.7	2.6	0.5		0.8	
Delay (s)	52.7	35.2	20.8	43.6	27.3		26.9	26.8	21.6		44.1	
Level of Service	D	D	C	D	C		C	C	C		D	
Approach Delay (s)		32.0			34.4			25.4			44.1	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

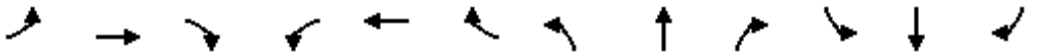


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	775	220	25	30	345	45	20	5	10	85	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3486		1770	3478		1681	1717	1583	1770	1636	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3486		1770	3478		1681	1717	1583	1770	1636	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	816	232	26	32	363	47	21	5	11	89	11	47
RTOR Reduction (vph)	0	5	0	0	10	0	0	0	11	0	43	0
Lane Group Flow (vph)	816	253	0	32	400	0	13	13	0	89	15	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	52.1	65.7		5.0	18.6		4.2	4.2	4.2	9.1	9.1	
Effective Green, g (s)	52.1	65.7		5.0	18.6		4.2	4.2	4.2	9.1	9.1	
Actuated g/C Ratio	0.52	0.66		0.05	0.19		0.04	0.04	0.04	0.09	0.09	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1789	2290		89	647		71	72	66	161	149	
v/s Ratio Prot	c0.24	0.07		0.02	c0.12		c0.01	0.01		c0.05	0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.46	0.11		0.36	0.62		0.18	0.18	0.01	0.55	0.10	
Uniform Delay, d1	15.0	6.3		46.0	37.4		46.2	46.2	45.9	43.5	41.7	
Progression Factor	1.88	0.62		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.1		2.5	1.8		1.2	1.2	0.0	4.1	0.3	
Delay (s)	28.9	4.0		48.4	39.2		47.5	47.4	45.9	47.6	42.0	
Level of Service	C	A		D	D		D	D	D	D	D	
Approach Delay (s)		22.9			39.9			47.0			45.4	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

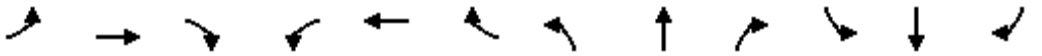
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	500	60	240	560	80	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	65	261	609	87	272
RTOR Reduction (vph)	0	41	0	0	0	225
Lane Group Flow (vph)	543	24	261	609	87	47
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	14.7	21.2	10.0	28.7	21.2	10.0
Effective Green, g (s)	14.7	21.2	10.0	28.7	21.2	10.0
Actuated g/C Ratio	0.25	0.37	0.17	0.50	0.37	0.17
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	899	580	593	1754	1257	273
v/s Ratio Prot	c0.15	0.02	c0.08	0.17	c0.03	0.03
v/s Ratio Perm						
v/c Ratio	0.60	0.04	0.44	0.35	0.07	0.17
Uniform Delay, d1	19.0	11.8	21.4	8.9	11.9	20.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	0.5	0.1	0.1	0.3
Delay (s)	20.2	11.9	22.0	9.0	12.0	20.7
Level of Service	C	B	C	A	B	C
Approach Delay (s)	19.3			12.9	18.6	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



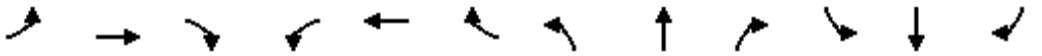
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	1000	260	550	1750	30	340	100	300	50	100	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
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)	163	1087	283	598	1902	33	370	109	326	54	109	109
RTOR Reduction (vph)	0	0	136	0	0	17	0	0	116	0	0	3
Lane Group Flow (vph)	163	1087	147	598	1902	16	370	109	210	54	109	106
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	15.6	42.0	58.9	18.4	44.8	55.2	16.9	18.6	37.0	10.4	12.1	27.7
Effective Green, g (s)	15.6	42.0	58.9	18.4	44.8	55.2	16.9	18.6	37.0	10.4	12.1	27.7
Actuated g/C Ratio	0.14	0.37	0.52	0.16	0.40	0.49	0.15	0.16	0.33	0.09	0.11	0.24
Clearance Time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	244	1887	824	558	2012	772	513	581	517	163	378	387
v/s Ratio Prot	0.09	0.21	0.03	c0.17	c0.37	0.00	c0.11	0.03	c0.07	0.03	0.03	0.04
v/s Ratio Perm			0.07			0.01			0.07			0.03
v/c Ratio	0.67	0.58	0.18	1.07	0.95	0.02	0.72	0.19	0.41	0.33	0.29	0.27
Uniform Delay, d1	46.3	28.5	14.4	47.4	33.0	15.0	45.9	40.8	29.6	48.1	46.6	34.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.8	1.3	0.1	58.7	10.8	0.0	5.0	0.2	0.5	1.2	0.4	0.4
Delay (s)	53.1	29.8	14.5	106.1	43.8	15.0	50.9	40.9	30.1	49.3	47.0	35.0
Level of Service	D	C	B	F	D	B	D	D	C	D	D	C
Approach Delay (s)		29.4			58.1			41.1			42.7	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM Average Control Delay	46.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	113.2	Sum of lost time (s)	17.9
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



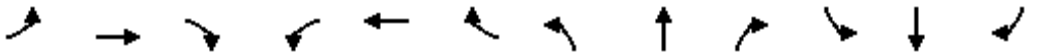
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	230	340	400	450	50	410	200	320	150	600	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3486		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3486		3433	5085	1583	1770	5085	1583
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)	33	250	370	435	489	54	446	217	348	163	652	163
RTOR Reduction (vph)	0	0	300	0	10	0	0	0	251	0	0	132
Lane Group Flow (vph)	33	250	70	435	533	0	446	217	97	163	652	31
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	2.9	12.9	16.1	23.6	33.6		16.1	20.0	23.6	12.2	16.1	16.1
Effective Green, g (s)	2.9	12.9	16.1	23.6	33.6		16.1	20.0	23.6	12.2	16.1	16.1
Actuated g/C Ratio	0.03	0.15	0.19	0.28	0.40		0.19	0.24	0.28	0.14	0.19	0.19
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	61	539	301	493	1383		653	1201	441	255	967	301
v/s Ratio Prot	0.02	c0.07	0.04	c0.25	0.15		c0.13	c0.04	0.06	0.09	c0.13	
v/s Ratio Perm												0.02
v/c Ratio	0.54	0.46	0.23	0.88	0.39		0.68	0.18	0.22	0.64	0.67	0.10
Uniform Delay, d1	40.2	32.7	29.1	29.2	18.2		31.9	25.8	23.5	34.2	31.9	28.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4	0.6	1.8	16.8	0.2		5.7	0.3	0.3	5.2	3.8	0.7
Delay (s)	49.7	33.4	30.9	46.0	18.4		37.6	26.1	23.7	39.4	35.6	29.0
Level of Service	D	C	C	D	B		D	C	C	D	D	C
Approach Delay (s)		32.8			30.7			30.4			35.1	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	32.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



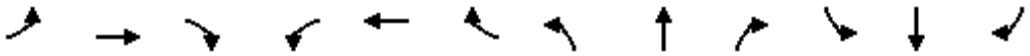
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	330	305	520	585	60	170	435	155	65	1240	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3490		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3490		3433	5085	1583	1770	5085	1583
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)	196	359	332	565	636	65	185	473	168	71	1348	391
RTOR Reduction (vph)	0	0	133	0	8	0	0	0	104	0	0	109
Lane Group Flow (vph)	196	359	199	565	693	0	185	473	64	71	1348	282
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	9.3	16.6	16.6	19.4	26.7		7.9	36.3	36.3	6.7	35.1	35.1
Effective Green, g (s)	9.3	16.6	16.6	19.4	26.7		7.9	36.3	36.3	6.7	35.1	35.1
Actuated g/C Ratio	0.10	0.17	0.17	0.20	0.28		0.08	0.38	0.38	0.07	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	336	618	277	701	981		285	1943	605	125	1879	585
v/s Ratio Prot	0.06	0.10		c0.16	c0.20		c0.05	0.09		0.04	c0.27	
v/s Ratio Perm			0.13						0.04			0.18
v/c Ratio	0.58	0.58	0.72	0.81	0.71		0.65	0.24	0.11	0.57	0.72	0.48
Uniform Delay, d1	41.0	36.0	37.0	36.0	30.6		42.2	20.0	18.9	42.7	25.7	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	1.4	8.6	6.7	2.3		5.0	0.3	0.4	5.8	2.4	2.8
Delay (s)	43.6	37.4	45.6	42.7	33.0		47.2	20.3	19.3	48.6	28.1	25.8
Level of Service	D	D	D	D	C		D	C	B	D	C	C
Approach Delay (s)		41.8			37.3			26.1			28.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.7%	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)	360	740	540	30	60	65	315	900	160	445	1415	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	3433	3539	1583	3433	4970		3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	3433	3539	1583	3433	4970		3433	5085	1583
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)	391	804	587	33	65	71	342	978	174	484	1538	239
RTOR Reduction (vph)	0	0	175	0	0	55	0	23	0	0	0	166
Lane Group Flow (vph)	391	804	412	33	65	16	342	1129	0	484	1538	73
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	23.6	46.1	46.1	2.3	24.8	24.8	11.0	28.0		16.0	33.0	33.0
Effective Green, g (s)	23.6	46.1	46.1	2.3	24.8	24.8	11.0	28.0		16.0	33.0	33.0
Actuated g/C Ratio	0.22	0.43	0.43	0.02	0.23	0.23	0.10	0.26		0.15	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	747	792	673	73	810	362	348	1284		507	1548	482
v/s Ratio Prot	c0.11	c0.43		0.01	0.02		0.10	0.23		c0.14	c0.30	
v/s Ratio Perm			0.26			0.01						0.05
v/c Ratio	0.52	1.02	0.61	0.45	0.08	0.04	0.98	0.88		0.95	0.99	0.15
Uniform Delay, d1	37.4	31.2	24.2	52.4	32.8	32.6	48.6	38.6		45.8	37.6	27.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	35.8	1.7	4.4	0.0	0.1	43.3	8.8		28.6	21.4	0.7
Delay (s)	38.1	67.0	25.9	56.8	32.9	32.6	91.9	47.4		74.5	59.0	28.1
Level of Service	D	E	C	E	C	C	F	D		E	E	C
Approach Delay (s)		47.1			37.4			57.6			59.0	
Approach LOS		D			D			E			E	

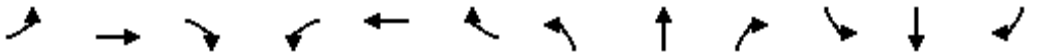
Intersection Summary			
HCM Average Control Delay	54.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	108.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	5	550	0	110	10	250	610	275	400	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.6	4.6	4.0		4.6	4.0		4.6	
Lane Util. Factor			1.00	0.95	0.95	1.00		0.95	1.00		0.95	
Frt			0.86	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (prot)			1611	1681	1681	1583		3532	1583		3469	
Flt Permitted			1.00	0.95	0.95	1.00		1.00	1.00		0.98	
Satd. Flow (perm)			1611	1681	1681	1583		3532	1583		3469	
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)	0	0	5	598	0	120	11	272	663	299	435	0
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	299	299	120	0	283	663	0	734	0
Turn Type			custom	Prot		Free	Split		Free	Split		
Protected Phases				3	8		2	2		6	6	
Permitted Phases			4			Free			Free			
Actuated Green, G (s)			1.0	19.5	24.5	75.1		18.8	75.1		18.0	
Effective Green, g (s)			1.0	19.5	24.5	75.1		18.8	75.1		18.0	
Actuated g/C Ratio			0.01	0.26	0.33	1.00		0.25	1.00		0.24	
Clearance Time (s)			4.0	4.6	4.6			4.6			4.6	
Vehicle Extension (s)			3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)			21	436	548	1583		884	1583		831	
v/s Ratio Prot				c0.18	0.14			0.08			c0.21	
v/s Ratio Perm			0.00		0.04	0.08			c0.42			
v/c Ratio			0.00	0.69	0.55	0.08		0.32	0.42		0.88	
Uniform Delay, d1			36.6	25.0	20.7	0.0		22.9	0.0		27.5	
Progression Factor			1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2			0.1	4.4	1.1	0.1		1.0	0.8		13.1	
Delay (s)			36.6	29.5	21.9	0.1		23.9	0.8		40.7	
Level of Service			D	C	C	A		C	A		D	
Approach Delay (s)		36.6			21.4			7.7			40.7	
Approach LOS		D			C			A			D	

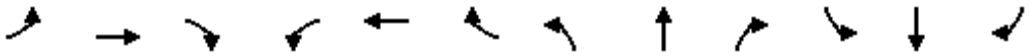
Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	9.2
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
Description: SR-76 & Coast Hwy			

c Critical Lane Group



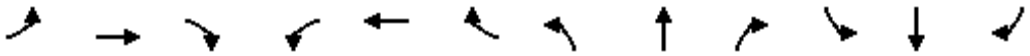
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	40	65	20	25	50	35	670	20	20	695	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.93		1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1793	1583		1713		1770	3524		1770	3466	
Flt Permitted		0.77	1.00		0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1433	1583		1581		1770	3524		1770	3466	
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)	152	43	71	22	27	54	38	728	22	22	755	120
RTOR Reduction (vph)	0	0	55	0	41	0	0	3	0	0	13	0
Lane Group Flow (vph)	0	195	17	0	62	0	38	747	0	22	862	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		13.2	13.2		13.2		3.4	20.3		10.3	27.2	
Effective Green, g (s)		13.2	13.2		13.2		3.4	20.3		10.3	27.2	
Actuated g/C Ratio		0.23	0.23		0.23		0.06	0.36		0.18	0.48	
Clearance Time (s)		4.2	4.2		4.2		4.6	4.2		4.6	4.2	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		333	368		367		106	1259		321	1660	
v/s Ratio Prot							c0.02	c0.21		0.01	c0.25	
v/s Ratio Perm		c0.14	0.01		0.04							
v/c Ratio		0.59	0.04		0.17		0.36	0.59		0.07	0.52	
Uniform Delay, d1		19.4	16.9		17.4		25.7	14.9		19.3	10.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.6	0.1		0.2		2.1	0.8		0.1	0.3	
Delay (s)		22.0	17.0		17.6		27.7	15.6		19.4	10.5	
Level of Service		C	B		B		C	B		B	B	
Approach Delay (s)		20.6			17.6			16.2			10.8	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	17.2
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



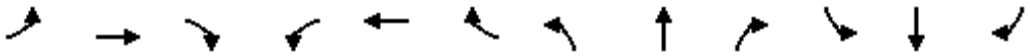
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	115	510	115	50	535	0	0	555	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor				1.00	0.95		1.00	0.95			0.95	
Frpb, ped/bikes				1.00	1.00		1.00	1.00			0.99	
Flpb, ped/bikes				0.99	1.00		1.00	1.00			1.00	
Frt				1.00	0.97		1.00	1.00			0.96	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1752	3428		1770	3539			3386	
Flt Permitted				0.95	1.00		0.25	1.00			1.00	
Satd. Flow (perm)				1752	3428		473	3539			3386	
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)	0	0	0	125	554	125	54	582	0	0	603	196
RTOR Reduction (vph)	0	0	0	0	30	0	0	0	0	0	58	0
Lane Group Flow (vph)	0	0	0	125	649	0	54	582	0	0	741	0
Confl. Peds. (#/hr)	10		11	11		10			11			16
Confl. Bikes (#/hr)			1						2			2
Turn Type				Perm			Perm					
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)				24.2	24.2		19.8	19.8			19.8	
Effective Green, g (s)				24.2	24.2		19.8	19.8			19.8	
Actuated g/C Ratio				0.45	0.45		0.37	0.37			0.37	
Clearance Time (s)				5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)				3.0	3.0		4.0	4.0			4.0	
Lane Grp Cap (vph)				785	1536		173	1298			1242	
v/s Ratio Prot					c0.19			0.16			c0.22	
v/s Ratio Perm				0.07			0.11					
v/c Ratio				0.16	0.42		0.31	0.45			0.60	
Uniform Delay, d1				8.9	10.1		12.2	13.0			13.9	
Progression Factor				1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2				0.4	0.9		1.4	0.3			0.9	
Delay (s)				9.3	11.0		13.6	13.3			14.8	
Level of Service				A	B		B	B			B	
Approach Delay (s)		0.0			10.7			13.3			14.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	54.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



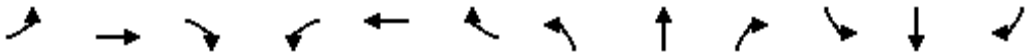
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	220	90	220	200	250	55	615	205	265	635	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.96	1.00	1.00	0.95	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		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1846	1525	1681	1761	1507	1770	3379		1770	3496	
Flt Permitted		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1846	1525	1681	1761	1507	1770	3379		1770	3496	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	239	98	239	217	272	60	668	223	288	690	38
RTOR Reduction (vph)	0	0	22	0	0	229	0	26	0	0	3	0
Lane Group Flow (vph)	0	293	76	215	241	43	60	865	0	288	725	0
Confl. Peds. (#/hr)	14		10	10		14			3			15
Confl. Bikes (#/hr)			4			5			3			3
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		22.2	22.2	19.4	19.4	19.4	7.0	40.4		22.2	55.6	
Effective Green, g (s)		22.2	22.2	19.4	19.4	19.4	7.0	40.4		22.2	55.6	
Actuated g/C Ratio		0.18	0.18	0.16	0.16	0.16	0.06	0.33		0.18	0.45	
Clearance Time (s)		4.6	4.6	5.0	5.0	5.0	4.2	5.0		4.2	5.0	
Vehicle Extension (s)		2.0	2.0	3.5	3.5	3.5	2.0	3.5		2.0	3.5	
Lane Grp Cap (vph)		333	275	265	278	238	101	1110		319	1580	
v/s Ratio Prot		c0.16		0.13	c0.14		0.03	c0.26		c0.16	0.21	
v/s Ratio Perm			0.05			0.03						
v/c Ratio		0.88	0.28	0.81	0.87	0.18	0.59	0.78		0.90	0.46	
Uniform Delay, d1		49.1	43.5	50.0	50.5	44.9	56.6	37.3		49.3	23.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		21.7	0.2	17.4	24.0	0.4	6.1	5.4		26.7	1.0	
Delay (s)		70.8	43.7	67.4	74.5	45.3	62.7	42.7		76.0	24.3	
Level of Service		E	D	E	E	D	E	D		E	C	
Approach Delay (s)		64.0			61.5			44.0			38.9	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	49.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



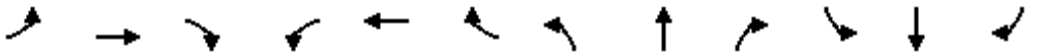
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	70	35	220	90	380	40	555	275	325	455	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99		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		1.00	1.00	
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1560		1799	1583	1770	3323		1770	3518	
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1560		1799	1583	1770	3323		1770	3518	
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)	22	76	38	239	98	413	43	603	299	353	495	16
RTOR Reduction (vph)	0	0	35	0	0	335	0	57	0	0	2	0
Lane Group Flow (vph)	22	76	3	0	337	78	43	845	0	353	509	0
Confl. Peds. (#/hr)	7		2	2		7			5			8
Confl. Bikes (#/hr)						2			4			8
Turn Type	Split		Perm	Split		Over	Prot			Prot		
Protected Phases	4	4		8	8	1	5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.7	7.7	7.7		20.2	16.2	2.9	22.6		16.2	35.9	
Effective Green, g (s)	7.7	7.7	7.7		20.2	16.2	2.9	22.6		16.2	35.9	
Actuated g/C Ratio	0.09	0.09	0.09		0.24	0.19	0.03	0.26		0.19	0.42	
Clearance Time (s)	5.0	5.0	5.0		4.9	4.2	4.2	5.0		4.2	5.0	
Vehicle Extension (s)	3.5	3.5	3.5		3.0	2.0	2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	159	167	140		424	299	60	875		334	1472	
v/s Ratio Prot	0.01	c0.04			c0.19	0.05	0.02	c0.25		c0.20	0.14	
v/s Ratio Perm			0.00									
v/c Ratio	0.14	0.46	0.02		0.79	0.26	0.72	0.97		1.06	0.35	
Uniform Delay, d1	36.0	37.1	35.6		30.9	29.7	41.0	31.2		34.8	17.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.3	0.1		9.9	0.2	28.5	22.3		65.0	0.1	
Delay (s)	36.5	39.4	35.7		40.7	29.9	69.6	53.5		99.8	17.1	
Level of Service	D	D	D		D	C	E	D		F	B	
Approach Delay (s)		37.9			34.8			54.2			50.9	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	85.8	Sum of lost time (s)	19.1
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



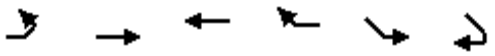
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	865	10	230	875	270	35	80	455	415	65	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3533		1770	3539	1583	1770	1863	1583	1681	1696	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3533		1770	3539	1583	1770	1863	1583	1681	1696	
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)	65	940	11	250	951	293	38	87	495	451	71	16
RTOR Reduction (vph)	0	1	0	0	0	105	0	0	217	0	2	0
Lane Group Flow (vph)	65	950	0	250	951	188	38	87	278	266	270	0
Turn Type	Prot			Prot		pm+ov	Split		Over	Split		
Protected Phases	5	2		1	6	8	4	4	1	8	8	
Permitted Phases						6						
Actuated Green, G (s)	6.8	34.6		21.4	49.2	69.2	16.0	16.0	21.4	20.0	20.0	
Effective Green, g (s)	6.8	34.6		21.4	49.2	69.2	16.0	16.0	21.4	20.0	20.0	
Actuated g/C Ratio	0.06	0.32		0.20	0.46	0.64	0.15	0.15	0.20	0.19	0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1132		351	1612	1014	262	276	314	311	314	
v/s Ratio Prot	0.04	c0.27		0.14	0.27	0.03	0.02	c0.05	c0.18	0.16	c0.16	
v/s Ratio Perm						0.08						
v/c Ratio	0.59	0.84		0.71	0.59	0.19	0.15	0.32	0.88	0.86	0.86	
Uniform Delay, d1	49.2	34.1		40.4	21.9	7.9	40.0	41.1	42.1	42.6	42.7	
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	7.7	7.5		6.7	1.6	0.4	1.2	3.0	24.2	24.8	25.3	
Delay (s)	56.9	41.7		47.1	23.5	8.3	41.2	44.1	66.3	67.4	67.9	
Level of Service	E	D		D	C	A	D	D	E	E	E	
Approach Delay (s)		42.6			24.5			61.6			67.7	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM Average Control Delay	42.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.1%	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)	795	900	40	140	1200	700	25	45	70	325	25	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3433	3517		1770	3539	1583	1770	1693		1681	1697	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3433	3517		1770	3539	1583	1770	1693		1681	1697	1583
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)	864	978	43	152	1304	761	27	49	76	353	27	163
RTOR Reduction (vph)	0	3	0	0	0	321	0	49	0	0	0	134
Lane Group Flow (vph)	864	1018	0	152	1304	440	27	76	0	191	189	29
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Actuated Green, G (s)	29.0	57.1		14.9	43.0	43.0	10.6	10.6		21.4	21.4	21.4
Effective Green, g (s)	29.0	57.1		14.9	43.0	43.0	10.6	10.6		21.4	21.4	21.4
Actuated g/C Ratio	0.24	0.48		0.12	0.36	0.36	0.09	0.09		0.18	0.18	0.18
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	830	1674		220	1268	567	156	150		300	303	282
v/s Ratio Prot	c0.25	0.29		0.09	c0.37		0.02	c0.04		c0.11	0.11	
v/s Ratio Perm						0.28						0.02
v/c Ratio	1.04	0.61		0.69	1.03	0.78	0.17	0.51		0.64	0.62	0.10
Uniform Delay, d1	45.5	23.2		50.3	38.5	34.2	50.6	52.2		45.7	45.6	41.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	42.4	0.6		9.0	32.8	6.6	0.5	2.7		9.9	9.3	0.7
Delay (s)	87.9	23.8		59.3	71.3	40.8	51.2	54.9		55.6	54.9	42.0
Level of Service	F	C		E	E	D	D	D		E	D	D
Approach Delay (s)		53.2			60.0			54.2			51.3	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	56.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

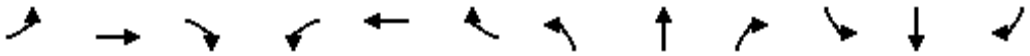


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	135	1160	1215	210	965	825
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3461		3433	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3461		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	1261	1321	228	1049	897
RTOR Reduction (vph)	0	0	16	0	0	6
Lane Group Flow (vph)	147	1261	1533	0	1049	891
Turn Type	Prot					pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases						
Actuated Green, G (s)	7.0	47.0	36.0		35.0	46.0
Effective Green, g (s)	7.0	47.0	36.0		35.0	46.0
Actuated g/C Ratio	0.08	0.52	0.40		0.39	0.51
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	138	1848	1384		1335	809
v/s Ratio Prot	0.08	0.36	c0.44		0.31	c0.56
v/s Ratio Perm						
v/c Ratio	1.07	0.68	1.11		0.79	1.10
Uniform Delay, d1	41.5	16.0	27.0		24.2	22.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	95.1	1.1	59.5		4.7	63.2
Delay (s)	136.6	17.0	86.5		28.9	85.2
Level of Service	F	B	F		C	F
Approach Delay (s)		29.5	86.5		54.8	
Approach LOS		C	F		D	

Intersection Summary			
HCM Average Control Delay	57.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

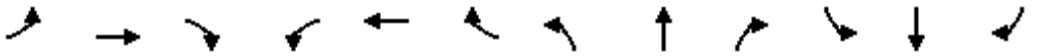
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	175	1230	275	170	845	65	240	220	120	355	185	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		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)	1770	3539	1583	1770	3539	1583	3433	3352		3433	3365	
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)	1770	3539	1583	1770	3539	1583	3433	3352		3433	3365	
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)	190	1337	299	185	918	71	261	239	130	386	201	98
RTOR Reduction (vph)	0	0	84	0	0	47	0	84	0	0	66	0
Lane Group Flow (vph)	190	1337	215	185	918	24	261	285	0	386	233	0
Turn Type	Prot		Over	Prot		Perm	Split			Split		
Protected Phases	7	4	2	3	8		6	6		2	2	
Permitted Phases						8						
Actuated Green, G (s)	12.2	33.0	16.0	9.0	29.8	29.8	13.0	13.0		16.0	16.0	
Effective Green, g (s)	12.2	33.0	16.0	9.0	29.8	29.8	13.0	13.0		16.0	16.0	
Actuated g/C Ratio	0.14	0.38	0.18	0.10	0.34	0.34	0.15	0.15		0.18	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	248	1342	291	183	1212	542	513	501		631	619	
v/s Ratio Prot	0.11	c0.38	c0.14	c0.10	0.26		0.08	c0.08		0.11	0.07	
v/s Ratio Perm						0.02						
v/c Ratio	0.77	1.00	0.74	1.01	0.76	0.04	0.51	0.57		0.61	0.38	
Uniform Delay, d1	36.0	26.9	33.5	39.0	25.4	19.1	34.1	34.4		32.6	31.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.2	23.5	15.5	69.4	2.8	0.0	0.8	1.5		4.4	1.7	
Delay (s)	49.2	50.4	49.0	108.4	28.2	19.1	34.9	35.9		37.0	32.9	
Level of Service	D	D	D	F	C	B	C	D		D	C	
Approach Delay (s)		50.1			40.3			35.5			35.2	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	42.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	87.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



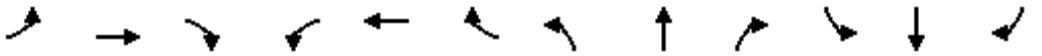
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	825	35	145	1170	580	20	35	60	550	25	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3518		1770	3539	1583		1829	1583	1681	1627	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3518		1770	3539	1583		1829	1583	1681	1627	
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)	293	897	38	158	1272	630	22	38	65	598	27	136
RTOR Reduction (vph)	0	2	0	0	0	86	0	0	57	0	14	0
Lane Group Flow (vph)	293	933	0	158	1272	544	0	60	8	389	358	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	23.0	56.5		15.5	49.0	44.0		18.0	18.0	44.0	44.0	
Effective Green, g (s)	23.0	56.5		15.5	49.0	44.0		18.0	18.0	44.0	44.0	
Actuated g/C Ratio	0.15	0.38		0.10	0.33	0.29		0.12	0.12	0.29	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	271	1325		183	1156	464		219	190	493	477	
v/s Ratio Prot	c0.17	0.27		0.09	c0.36	c0.34		c0.03		0.23	0.22	
v/s Ratio Perm									0.00			
v/c Ratio	1.08	0.70		0.86	1.10	1.17		0.27	0.04	0.79	0.75	
Uniform Delay, d1	63.5	39.7		66.2	50.5	53.0		60.1	58.4	48.7	48.0	
Progression Factor	1.00	1.00		1.04	0.88	0.96		1.00	1.00	1.00	1.00	
Incremental Delay, d2	78.0	1.7		12.9	50.1	85.2		3.1	0.4	12.1	10.4	
Delay (s)	141.5	41.4		81.7	94.4	136.2		63.1	58.8	60.8	58.4	
Level of Service	F	D		F	F	F		E	E	E	E	
Approach Delay (s)		65.3			106.2			60.9			59.6	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM Average Control Delay	84.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



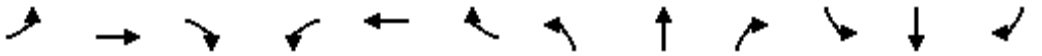
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	1215	125	35	1075	310	160	55	30	780	105	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1770	3490		1770	3539	1583	1681	1727	1583	1681	1704	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1770	3490		1770	3539	1583	1681	1727	1583	1681	1704	1583
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)	103	1321	136	38	1168	337	174	60	33	848	114	717
RTOR Reduction (vph)	0	5	0	0	0	117	0	0	30	0	0	70
Lane Group Flow (vph)	103	1452	0	38	1168	220	115	119	3	475	487	647
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	9.0	59.6		3.2	53.8	53.8	13.7	13.7	13.7	57.5	57.5	57.5
Effective Green, g (s)	9.0	59.6		3.2	53.8	53.8	13.7	13.7	13.7	57.5	57.5	57.5
Actuated g/C Ratio	0.06	0.40		0.02	0.36	0.36	0.09	0.09	0.09	0.38	0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	106	1387		38	1269	568	154	158	145	644	653	607
v/s Ratio Prot	c0.06	c0.42		0.02	0.33		0.07	c0.07		0.28	0.29	
v/s Ratio Perm						0.14			0.00			c0.41
v/c Ratio	0.97	1.05		1.00	0.92	0.39	0.75	0.75	0.02	0.74	0.75	1.07
Uniform Delay, d1	70.4	45.2		73.4	46.1	35.8	66.5	66.5	62.0	39.8	39.9	46.2
Progression Factor	1.02	0.64		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	63.5	33.6		146.0	11.0	0.4	27.7	27.8	0.3	4.4	4.6	55.2
Delay (s)	135.6	62.6		219.4	57.0	36.3	94.2	94.3	62.3	44.2	44.6	101.4
Level of Service	F	E		F	E	D	F	F	E	D	D	F
Approach Delay (s)		67.4			56.5			90.3			68.7	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM Average Control Delay	65.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



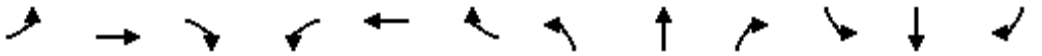
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	1510	215	135	910	30	150	175	195	150	215	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3473		1770	3522		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3473		1770	3522		1770	1863	1583	1770	1863	1583
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)	190	1641	234	147	989	33	163	190	212	163	234	152
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	157	0	0	113
Lane Group Flow (vph)	190	1866	0	147	1020	0	163	190	55	163	234	39
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	17.4	61.0		10.0	53.6		17.0	17.0	17.0	16.0	16.0	16.0
Effective Green, g (s)	17.4	61.0		10.0	53.6		17.0	17.0	17.0	16.0	16.0	16.0
Actuated g/C Ratio	0.14	0.51		0.08	0.45		0.14	0.14	0.14	0.13	0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	1765		148	1573		251	264	224	236	248	211
v/s Ratio Prot	0.11	c0.54		c0.08	0.29		0.09	c0.10		0.09	c0.13	
v/s Ratio Perm									0.03			0.02
v/c Ratio	0.74	1.06		0.99	0.65		0.65	0.72	0.25	0.69	0.94	0.19
Uniform Delay, d1	49.1	29.5		55.0	25.9		48.7	49.2	45.8	49.6	51.6	46.2
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	10.6	38.3		71.6	0.9		12.3	15.6	2.6	15.3	44.2	1.9
Delay (s)	59.7	67.8		126.6	26.8		61.0	64.8	48.4	65.0	95.8	48.2
Level of Service	E	E		F	C		E	E	D	E	F	D
Approach Delay (s)		67.1			39.3			57.5			73.5	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM Average Control Delay	59.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



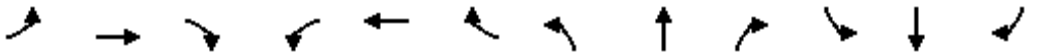
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	2895	420	165	1555	490	270	485	285	310	320	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
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)	130	3147	457	179	1690	533	293	527	310	337	348	141
RTOR Reduction (vph)	0	0	155	0	0	161	0	0	71	0	0	121
Lane Group Flow (vph)	130	3147	302	179	1690	372	293	527	239	337	348	20
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	8.7	76.0	76.0	7.0	74.3	74.3	13.0	19.0	19.0	12.0	18.0	18.0
Effective Green, g (s)	8.7	76.0	76.0	7.0	74.3	74.3	13.0	19.0	19.0	12.0	18.0	18.0
Actuated g/C Ratio	0.07	0.58	0.58	0.05	0.57	0.57	0.10	0.15	0.15	0.09	0.14	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	230	2973	925	185	2906	905	343	743	231	317	490	386
v/s Ratio Prot	0.04	c0.62		c0.05	0.33		0.09	0.10		c0.10	0.10	
v/s Ratio Perm			0.19			0.24			c0.15			0.01
v/c Ratio	0.57	1.06	0.33	0.97	0.58	0.41	0.85	0.71	1.04	1.06	0.71	0.05
Uniform Delay, d1	58.8	27.0	13.9	61.4	17.9	15.6	57.6	52.9	55.5	59.0	53.5	48.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	34.7	0.2	56.1	0.3	0.3	18.3	5.7	68.7	68.2	8.5	0.2
Delay (s)	62.0	61.7	14.1	117.5	18.2	15.9	75.8	58.5	124.2	127.2	62.0	48.8
Level of Service	E	E	B	F	B	B	E	E	F	F	E	D
Approach Delay (s)		55.8			25.1			81.0			86.3	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM Average Control Delay	53.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



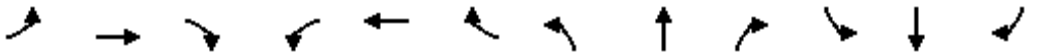
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	465	610	200	260	395	120	220	815	220	305	485	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3416		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3416		1770	3539	1583	1770	3539	1583
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)	505	663	217	283	429	130	239	886	239	332	527	304
RTOR Reduction (vph)	0	0	0	0	32	0	0	0	197	0	0	247
Lane Group Flow (vph)	505	663	217	283	527	0	239	886	42	332	527	57
Turn Type	Split		Free	Split			Split		Over	Split		Over
Protected Phases	4	4		8	8		2	2	8	6	6	4
Permitted Phases			Free									
Actuated Green, G (s)	17.0	17.0	90.0	16.0	16.0		24.0	24.0	16.0	17.0	17.0	17.0
Effective Green, g (s)	17.0	17.0	90.0	16.0	16.0		24.0	24.0	16.0	17.0	17.0	17.0
Actuated g/C Ratio	0.19	0.19	1.00	0.18	0.18		0.27	0.27	0.18	0.19	0.19	0.19
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	648	668	1583	610	607		472	944	281	334	668	299
v/s Ratio Prot	0.15	c0.19		0.08	c0.15		0.14	c0.25	0.03	c0.19	0.15	0.04
v/s Ratio Perm			0.14									
v/c Ratio	0.78	0.99	0.14	0.46	0.87		0.51	0.94	0.15	0.99	0.79	0.19
Uniform Delay, d1	34.7	36.4	0.0	33.2	36.0		28.0	32.3	31.3	36.4	34.8	30.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	32.8	0.2	0.6	12.5		3.8	17.7	0.3	47.8	9.2	0.3
Delay (s)	40.6	69.2	0.2	33.7	48.5		31.8	50.0	31.5	84.2	44.0	31.0
Level of Service	D	E	A	C	D		C	D	C	F	D	C
Approach Delay (s)		48.0			43.5			43.6			52.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



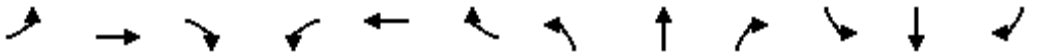
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	220	95	355	120	55	125	1105	570	55	815	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1779		3433	1863	1583	1770	3539	1583	1770	3511	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1779		3433	1863	1583	1770	3539	1583	1770	3511	
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)	54	239	103	386	130	60	136	1201	620	60	886	49
RTOR Reduction (vph)	0	22	0	0	0	42	0	0	286	0	5	0
Lane Group Flow (vph)	54	320	0	386	130	18	136	1201	334	60	930	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	3.5	16.6		8.0	21.1	21.1	7.0	27.7	27.7	3.2	23.9	
Effective Green, g (s)	3.5	16.6		8.0	21.1	21.1	7.0	27.7	27.7	3.2	23.9	
Actuated g/C Ratio	0.05	0.23		0.11	0.30	0.30	0.10	0.39	0.39	0.04	0.33	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	87	413		384	550	467	173	1371	613	79	1174	
v/s Ratio Prot	0.03	c0.18		c0.11	0.07		c0.08	c0.34		0.03	0.26	
v/s Ratio Perm						0.01			0.21			
v/c Ratio	0.62	0.77		1.01	0.24	0.04	0.79	0.88	0.54	0.76	0.79	
Uniform Delay, d1	33.3	25.7		31.8	19.1	18.0	31.5	20.3	17.0	33.8	21.5	
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	13.0	8.8		47.2	0.2	0.0	20.5	8.1	3.5	33.5	5.5	
Delay (s)	46.3	34.5		79.0	19.3	18.0	52.1	28.4	20.5	67.3	27.1	
Level of Service	D	C		E	B	B	D	C	C	E	C	
Approach Delay (s)		36.1			59.2			27.5			29.5	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	33.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	71.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



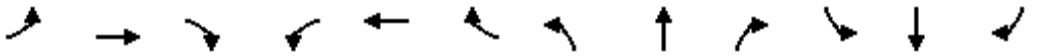
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	680	135	335	935	95	70	535	250	155	1395	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
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)	158	739	147	364	1016	103	76	582	272	168	1516	408
RTOR Reduction (vph)	0	0	81	0	0	85	0	0	140	0	0	0
Lane Group Flow (vph)	158	739	66	364	1016	18	76	582	132	168	1516	408
Turn Type	Prot		Perm	Prot		Over	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4						2			Free
Actuated Green, G (s)	5.0	21.0	21.0	10.0	26.0	7.8	3.2	35.8	35.8	7.8	40.4	90.6
Effective Green, g (s)	5.0	21.0	21.0	10.0	26.0	7.8	3.2	35.8	35.8	7.8	40.4	90.6
Actuated g/C Ratio	0.06	0.23	0.23	0.11	0.29	0.09	0.04	0.40	0.40	0.09	0.45	1.00
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	189	820	367	379	1016	136	121	2009	626	296	1578	1583
v/s Ratio Prot	0.05	0.21		c0.11	c0.29	0.01	0.02	0.11		c0.05	c0.43	
v/s Ratio Perm			0.04						0.08			0.26
v/c Ratio	0.84	0.90	0.18	0.96	1.00	0.13	0.63	0.29	0.21	0.57	0.96	0.26
Uniform Delay, d1	42.4	33.8	27.9	40.1	32.3	38.3	43.1	18.7	18.1	39.8	24.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.1	13.0	0.2	35.8	28.2	0.4	9.8	0.4	0.8	2.5	15.1	0.4
Delay (s)	68.5	46.8	28.1	75.9	60.5	38.7	52.9	19.1	18.8	42.3	39.4	0.4
Level of Service	E	D	C	E	E	D	D	B	B	D	D	A
Approach Delay (s)		47.5			62.8			21.8			32.0	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



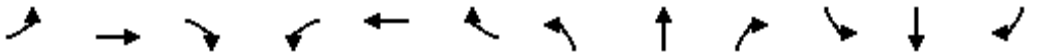
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	295	380	310	270	170	450	1665	415	170	1325	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.97		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	3539	1583	3433	3334		3433	4933		3433	5034	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3334		3433	4933		3433	5034	
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)	245	321	413	337	293	185	489	1810	451	185	1440	103
RTOR Reduction (vph)	0	0	281	0	72	0	0	28	0	0	5	0
Lane Group Flow (vph)	245	321	132	337	406	0	489	2233	0	185	1538	0
Turn Type	Prot		Over	Prot			Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.8	18.2	22.7	16.9	20.3		22.7	71.2		5.0	53.5	
Effective Green, g (s)	14.8	18.2	22.7	16.9	20.3		22.7	71.2		5.0	53.5	
Actuated g/C Ratio	0.11	0.14	0.17	0.13	0.15		0.17	0.53		0.04	0.40	
Clearance Time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Vehicle Extension (s)	3.0	2.0	1.2	2.0	2.0		1.2	5.0		0.8	5.8	
Lane Grp Cap (vph)	196	482	269	434	507		583	2629		128	2016	
v/s Ratio Prot	c0.14	0.09	0.08	0.10	c0.12		0.14	c0.45		c0.05	0.31	
v/s Ratio Perm												
v/c Ratio	1.25	0.67	0.49	0.78	0.80		0.84	0.85		1.45	0.76	
Uniform Delay, d1	59.4	54.8	50.2	56.5	54.7		53.7	26.6		64.3	34.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	147.5	2.7	0.5	7.8	8.3		9.8	3.7		238.7	2.8	
Delay (s)	206.9	57.5	50.7	64.3	63.0		63.5	30.3		303.0	37.4	
Level of Service	F	E	D	E	E		E	C		F	D	
Approach Delay (s)		92.0			63.6			36.2			65.8	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM Average Control Delay	56.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	133.6	Sum of lost time (s)	16.7
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



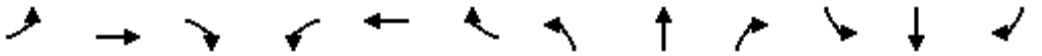
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	700	10	690	335	1840	0	0	1475	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	1.00
Frt				1.00	0.92	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1526	1504	3433	5085			5085	1583
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1526	1504	3433	5085			5085	1583
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)	0	0	0	761	11	750	364	2000	0	0	1603	587
RTOR Reduction (vph)	0	0	0	0	6	6	0	0	0	0	0	357
Lane Group Flow (vph)	0	0	0	533	503	474	364	2000	0	0	1603	230
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.0	31.0	29.9	14.6	58.0			39.2	39.2
Effective Green, g (s)				31.0	31.0	29.9	14.6	58.0			39.2	39.2
Actuated g/C Ratio				0.31	0.31	0.30	0.15	0.58			0.39	0.39
Clearance Time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				521	473	450	501	2949			1993	621
v/s Ratio Prot				0.32	c0.33		0.11	c0.39			c0.32	
v/s Ratio Perm						0.31						0.15
v/c Ratio				1.02	1.06	1.05	0.73	0.68			0.80	0.37
Uniform Delay, d1				34.5	34.5	35.0	40.8	14.5			27.0	21.6
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				45.4	59.1	57.0	5.2	1.3			3.6	1.7
Delay (s)				79.9	93.6	92.0	46.0	15.8			30.6	23.3
Level of Service				E	F	F	D	B			C	C
Approach Delay (s)		0.0			88.3			20.5			28.6	
Approach LOS		A			F			C			C	

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



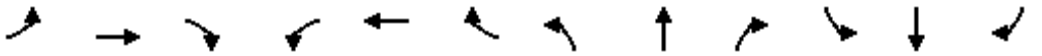
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	650	0	210	0	0	0	0	1525	785	665	1510	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Lane Util. Factor	0.97		1.00					0.91	1.00	0.97	0.91	
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)	3433		1583					5085	1583	3433	5085	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					5085	1583	3433	5085	
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)	707	0	228	0	0	0	0	1658	853	723	1641	0
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	225	0	0	0
Lane Group Flow (vph)	707	0	195	0	0	0	0	1658	628	723	1641	0
Turn Type	Prot		custom						Perm	Prot		
Protected Phases	7							2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	21.6		20.5					56.0	56.0	31.7	92.4	
Effective Green, g (s)	21.6		20.5					56.0	56.0	31.7	92.4	
Actuated g/C Ratio	0.17		0.16					0.45	0.45	0.25	0.74	
Clearance Time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	593		260					2278	709	871	3759	
v/s Ratio Prot	c0.21							0.33		c0.21	0.32	
v/s Ratio Perm			0.12						c0.40			
v/c Ratio	1.19		0.75					0.73	0.89	0.83	0.44	
Uniform Delay, d1	51.7		49.8					28.3	31.6	44.1	6.3	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	102.4		11.6					2.1	15.2	6.8	0.4	
Delay (s)	154.1		61.4					30.3	46.8	50.9	6.6	
Level of Service	F		E					C	D	D	A	
Approach Delay (s)		131.5			0.0			35.9			20.2	
Approach LOS		F			A			D			C	

Intersection Summary			
HCM Average Control Delay	44.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



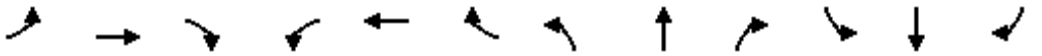
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	375	925	530	390	10	1050	180	960	5	90	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.88	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	2787	3433	1856		3433	1863	2787	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	2787	3433	1856		3433	1863	2787	1770	1863	1583
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)	65	408	1005	576	424	11	1141	196	1043	5	98	43
RTOR Reduction (vph)	0	0	702	0	1	0	0	0	886	0	0	34
Lane Group Flow (vph)	65	408	303	576	434	0	1141	196	157	5	98	9
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	4.0	15.6	28.0	14.0	25.6		28.0	46.4	14.0	0.8	19.2	19.2
Effective Green, g (s)	4.0	15.6	28.0	14.0	25.6		28.0	46.4	14.0	0.8	19.2	19.2
Actuated g/C Ratio	0.04	0.17	0.30	0.15	0.28		0.30	0.50	0.15	0.01	0.21	0.21
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	76	595	841	518	512		1036	932	420	15	385	328
v/s Ratio Prot	0.04	0.12	0.11	c0.17	c0.23		c0.33	0.11	0.06	0.00	c0.05	
v/s Ratio Perm												0.01
v/c Ratio	0.86	0.69	0.36	1.11	0.85		1.10	0.21	0.37	0.33	0.25	0.03
Uniform Delay, d1	44.1	36.3	25.4	39.4	31.8		32.4	13.0	35.5	45.7	30.8	29.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.8	3.3	0.3	73.9	12.4		60.0	0.5	0.6	12.7	1.6	0.2
Delay (s)	100.9	39.6	25.7	113.3	44.1		92.4	13.5	36.0	58.4	32.4	29.5
Level of Service	F	D	C	F	D		F	B	D	E	C	C
Approach Delay (s)		32.8			83.5			61.2			32.4	
Approach LOS		C			F			E			C	

Intersection Summary			
HCM Average Control Delay	56.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	92.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



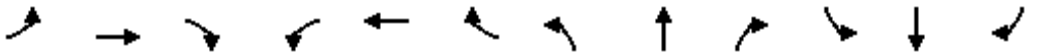
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	90	110	630	90	70	285	885	905	55	840	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.91	0.91		1.00	0.95	0.88	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1610	3209		1770	3539	2787	1770	3501	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1610	3209		1770	3539	2787	1770	3501	
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)	38	98	120	685	98	76	310	962	984	60	913	71
RTOR Reduction (vph)	0	0	109	0	12	0	0	0	705	0	6	0
Lane Group Flow (vph)	38	98	11	342	505	0	310	962	279	60	978	0
Turn Type	Split		Perm	Split			Prot		Over	Prot		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.8	7.8	7.8	24.0	24.0		12.0	29.8	24.0	7.1	24.9	
Effective Green, g (s)	7.8	7.8	7.8	24.0	24.0		12.0	29.8	24.0	7.1	24.9	
Actuated g/C Ratio	0.09	0.09	0.09	0.28	0.28		0.14	0.35	0.28	0.08	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	163	326	146	456	909		251	1245	790	148	1029	
v/s Ratio Prot	0.02	c0.03		c0.21	0.16		c0.18	0.27	0.10	0.03	c0.28	
v/s Ratio Perm			0.01									
v/c Ratio	0.23	0.30	0.08	0.75	0.56		1.24	0.77	0.35	0.41	0.95	
Uniform Delay, d1	35.7	35.9	35.2	27.6	25.8		36.4	24.4	24.2	36.8	29.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.5	0.2	6.8	0.7		135.2	4.7	0.3	1.8	18.4	
Delay (s)	36.4	36.4	35.4	34.4	26.6		171.6	29.1	24.4	38.6	47.7	
Level of Service	D	D	D	C	C		F	C	C	D	D	
Approach Delay (s)		35.9			29.7			46.7			47.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	42.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



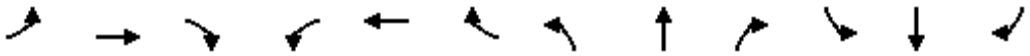
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1045	105	45	155	100	10	95	960	165	35	860	735
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		1808	1583	1770	3461		1770	3539	2787
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		1808	1583	1770	3461		1770	3539	2787
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)	1136	114	49	168	109	11	103	1043	179	38	935	799
RTOR Reduction (vph)	0	0	0	0	0	3	0	12	0	0	0	0
Lane Group Flow (vph)	1136	114	49	0	277	8	103	1210	0	38	935	799
Turn Type	Split		Free	Split		Perm	Prot			Prot		Over
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			Free			8						
Actuated Green, G (s)	35.0	35.0	110.8		17.0	17.0	8.0	39.6		3.2	34.8	35.0
Effective Green, g (s)	35.0	35.0	110.8		17.0	17.0	8.0	39.6		3.2	34.8	35.0
Actuated g/C Ratio	0.32	0.32	1.00		0.15	0.15	0.07	0.36		0.03	0.31	0.32
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1084	588	1583		277	243	128	1237		51	1112	880
v/s Ratio Prot	c0.33	0.06			c0.15		c0.06	c0.35		0.02	0.26	0.29
v/s Ratio Perm			0.03			0.01						
v/c Ratio	1.05	0.19	0.03		1.00	0.03	0.80	0.98		0.75	0.84	0.91
Uniform Delay, d1	37.9	27.6	0.0		46.9	39.9	50.6	35.2		53.4	35.4	36.4
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	40.8	0.2	0.0		54.1	0.1	29.5	20.8		44.3	7.7	12.9
Delay (s)	78.7	27.8	0.0		101.0	40.0	80.1	56.0		97.7	43.1	49.3
Level of Service	E	C	A		F	D	F	E		F	D	D
Approach Delay (s)		71.3			98.6			57.9			47.1	
Approach LOS		E			F			E			D	

Intersection Summary			
HCM Average Control Delay	60.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



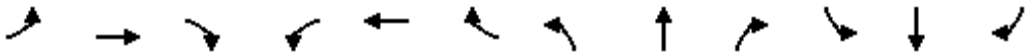
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	830	150	105	490	305	210	730	20	245	740	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.91	0.91		0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3335		1610	3372		1610	3309	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3335		1610	3372		1610	3309	
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)	261	902	163	114	533	332	228	793	22	266	804	147
RTOR Reduction (vph)	0	0	68	0	81	0	0	2	0	0	11	0
Lane Group Flow (vph)	261	902	95	114	784	0	205	837	0	239	967	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	10.0	31.0	31.0	8.0	29.0		30.0	30.0		35.0	35.0	
Effective Green, g (s)	10.0	31.0	31.0	8.0	29.0		30.0	30.0		35.0	35.0	
Actuated g/C Ratio	0.08	0.26	0.26	0.07	0.24		0.25	0.25		0.29	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	286	914	409	118	806		403	843		470	965	
v/s Ratio Prot	c0.08	c0.25		0.06	0.24		0.13	c0.25		0.15	c0.29	
v/s Ratio Perm			0.06									
v/c Ratio	0.91	0.99	0.23	0.97	0.97		0.51	0.99		0.51	1.00	
Uniform Delay, d1	54.6	44.3	35.1	55.9	45.1		38.7	44.9		35.3	42.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	31.3	26.3	0.3	71.5	24.9		4.5	29.2		3.9	29.4	
Delay (s)	85.9	70.6	35.4	127.4	70.0		43.2	74.1		39.2	71.9	
Level of Service	F	E	D	F	E		D	E		D	E	
Approach Delay (s)		69.3			76.7			68.0			65.5	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM Average Control Delay	69.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



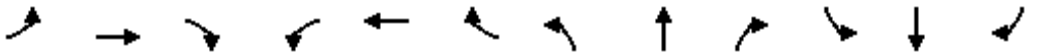
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	2545	335	195	1530	130	200	205	290	110	220	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		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)	1770	5085	1583	1770	5085	1583	3433	3228		3433	3466	
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)	1770	5085	1583	1770	5085	1583	3433	3228		3433	3466	
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)	54	2766	364	212	1663	141	217	223	315	120	239	38
RTOR Reduction (vph)	0	0	120	0	0	56	0	115	0	0	10	0
Lane Group Flow (vph)	54	2766	244	212	1663	85	217	423	0	120	267	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	65.8	65.8	14.0	72.9	72.9	8.0	20.0		5.0	17.0	
Effective Green, g (s)	6.9	65.8	65.8	14.0	72.9	72.9	8.0	20.0		5.0	17.0	
Actuated g/C Ratio	0.06	0.54	0.54	0.12	0.60	0.60	0.07	0.17		0.04	0.14	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	101	2770	862	205	3069	955	227	534		142	488	
v/s Ratio Prot	0.03	c0.54		c0.12	0.33		c0.06	c0.13		0.03	0.08	
v/s Ratio Perm			0.15			0.05						
v/c Ratio	0.53	1.00	0.28	1.03	0.54	0.09	0.96	0.79		0.85	0.55	
Uniform Delay, d1	55.4	27.5	14.8	53.4	14.1	10.0	56.2	48.4		57.5	48.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	16.6	0.2	72.1	0.2	0.0	47.0	11.4		34.4	4.4	
Delay (s)	60.7	44.1	15.0	125.5	14.3	10.1	103.2	59.8		91.9	52.7	
Level of Service	E	D	B	F	B	B	F	E		F	D	
Approach Delay (s)		41.0			25.7			72.3			64.5	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.6%	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)	260	580	80	115	330	75	115	680	355	85	465	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3475		1770	3441		1770	3357		1770	3388	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3475		1770	3441		1770	3357		1770	3388	
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)	283	630	87	125	359	82	125	739	386	92	505	201
RTOR Reduction (vph)	0	14	0	0	25	0	0	83	0	0	52	0
Lane Group Flow (vph)	283	703	0	125	416	0	125	1042	0	92	654	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.0	20.4		7.8	14.2		7.8	29.0		5.0	26.2	
Effective Green, g (s)	14.0	20.4		7.8	14.2		7.8	29.0		5.0	26.2	
Actuated g/C Ratio	0.18	0.26		0.10	0.18		0.10	0.37		0.06	0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	317	907		177	625		177	1245		113	1135	
v/s Ratio Prot	c0.16	c0.20		0.07	0.12		c0.07	c0.31		0.05	0.19	
v/s Ratio Perm												
v/c Ratio	0.89	0.78		0.71	0.67		0.71	0.84		0.81	0.58	
Uniform Delay, d1	31.4	26.8		34.1	29.8		34.1	22.4		36.1	21.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.5	4.2		12.1	2.7		12.1	6.8		34.4	2.1	
Delay (s)	56.9	31.0		46.2	32.5		46.2	29.2		70.6	23.6	
Level of Service	E	C		D	C		D	C		E	C	
Approach Delay (s)		38.3			35.5			30.9			29.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.1%	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)	270	1365	310	285	1025	195	200	690	290	165	410	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4944		3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4944		3433	5085	1583	3433	3539	1583	3433	3539	1583
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)	293	1484	337	310	1114	212	217	750	315	179	446	103
RTOR Reduction (vph)	0	37	0	0	0	195	0	0	167	0	0	90
Lane Group Flow (vph)	293	1784	0	310	1114	17	217	750	148	179	446	13
Turn Type	Prot			Prot		Over	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases									2			
Actuated Green, G (s)	12.2	38.0		11.0	36.8	7.9	10.3	27.0	27.0	7.9	24.6	12.2
Effective Green, g (s)	12.2	38.0		11.0	36.8	7.9	10.3	27.0	27.0	7.9	24.6	12.2
Actuated g/C Ratio	0.12	0.38		0.11	0.37	0.08	0.10	0.27	0.27	0.08	0.25	0.12
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	419	1881		378	1873	125	354	956	428	271	871	193
v/s Ratio Prot	0.09	c0.36		c0.09	0.22	0.01	c0.06	c0.21		0.05	0.13	0.01
v/s Ratio Perm									0.09			
v/c Ratio	0.70	0.95		0.82	0.59	0.13	0.61	0.78	0.35	0.66	0.51	0.07
Uniform Delay, d1	42.1	30.0		43.5	25.5	42.8	42.9	33.8	29.3	44.7	32.5	38.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	10.9		13.3	0.5	0.5	3.1	6.4	2.2	5.9	2.1	0.1
Delay (s)	47.1	40.9		56.8	26.0	43.3	46.0	40.2	31.5	50.6	34.6	38.9
Level of Service	D	D		E	C	D	D	D	C	D	C	D
Approach Delay (s)		41.7			34.1			39.0			39.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	99.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Oceanside Circulation Element Update

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #27 Rancho Del Oro Rd & Vista Del Oro Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.363
Loss Time (sec):	0	Average Delay (sec/veh):	130.5
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Vista Del Oro Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	40	1350	40	30	995	35	20	0	20	30	5	25
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	1.00 1.00	1.00	1.00
Initial Bse:	40	1350	40	30	995	35	20	0	20	30	5	25
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	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	0.92 0.92	0.92	0.92
PHF Volume:	43	1467	43	33	1082	38	22	0	22	33	5	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1467	43	33	1082	38	22	0	22	33	5	27
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	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	1.00 1.00	1.00	1.00
FinalVolume:	43	1467	43	33	1082	38	22	0	22	33	5	27
Saturation Flow Module:												
Adjustment:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
Lanes:	1.00	1.94	0.06	1.00	1.93	0.07	0.50	0.00	0.50	0.50	0.08	0.42
Final Sat.:	514	1077	32	513	1072	38	256	0	256	259	43	216
Capacity Analysis Module:												
Vol/Sat:	0.08	1.36	1.36	0.06	1.01	1.01	0.08	xxxx	0.08	0.13	0.13	0.13
Crit Moves:	****			****			****			****		
Delay/Veh:	10.4	193	191.5	10.2	65.6	64.4	10.6	0.0	10.6	10.9	10.9	10.9
Delay Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
AdjDel/Veh:	10.4	193	191.5	10.2	65.6	64.4	10.6	0.0	10.6	10.9	10.9	10.9
LOS by Move:	B	F	F	B	F	F	B	*	B	B	B	B
ApproachDel:	188.2			64.0			10.6			10.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	188.2			64.0			10.6			10.9		
LOS by Appr:	F			F			B			B		
AllWayAvgQ:	0.1 28.6	28.2	0.1	8.8	8.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Oceanside Circulation Element Update

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #28 Rancho Del Oro Rd & Cameo Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.472
Loss Time (sec):	0	Average Delay (sec/veh):	185.0
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Cameo Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	1 0	0	1 0
Volume Module:												
Base Vol:	20	1025	175	180	1115	10	10	10	10	85	10	115
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:	20	1025	175	180	1115	10	10	10	10	85	10	115
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:	22	1114	190	196	1212	11	11	11	11	92	11	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1114	190	196	1212	11	11	11	11	92	11	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:	22	1114	190	196	1212	11	11	11	11	92	11	125
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.71	0.29	1.00	1.98	0.02	0.34	0.33	0.33	1.00	0.08	0.92
Final Sat.:	411	757	131	430	908	8	140	140	140	381	35	399
Capacity Analysis Module:												
Vol/Sat:	0.05	1.47	1.45	0.45	1.33	1.33	0.08	0.08	0.08	0.24	0.31	0.31
Crit Moves:		****			****		****					****
Delay/Veh:	11.9	246	236.5	17.8	188	187.1	12.1	12.1	12.1	15.1	14.7	14.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.9	246	236.5	17.8	188	187.1	12.1	12.1	12.1	15.1	14.7	14.7
LOS by Move:	B	F	F	C	F	F	B	B	B	C	B	B
ApproachDel:	240.9			164.1			12.1			14.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	240.9			164.1			12.1			14.9		
LOS by Appr:	F			F			B			B		
AllWayAvgQ:	0.1	29.5	28.2	0.8	22.6	22.5	0.1	0.1	0.1	0.3	0.4	0.4

Note: Queue reported is the number of cars per lane.

Oceanside Circulation Element Update

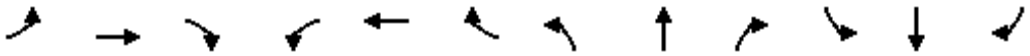
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #29 Rancho Del Oro Rd & Trieste Way & Sicily Way

Cycle (sec):	100	Critical Vol./Cap.(X):	1.437
Loss Time (sec):	0	Average Delay (sec/veh):	152.3
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Trieste Way & Sicily Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	25	1525	20	5	990	5	5	5	10	10	0	5
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:	25	1525	20	5	990	5	5	5	10	10	0	5
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:	27	1658	22	5	1076	5	5	5	11	11	0	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	1658	22	5	1076	5	5	5	11	11	0	5
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:	27	1658	22	5	1076	5	5	5	11	11	0	5
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.97	0.03	1.00	1.99	0.01	0.25	0.25	0.50	0.67	0.00	0.33
Final Sat.:	538	1153	15	530	1138	6	134	134	269	347	0	174
Capacity Analysis Module:												
Vol/Sat:	0.05	1.44	1.44	0.01	0.95	0.94	0.04	0.04	0.04	0.03	xxxx	0.03
Crit Moves:		****			****				****	****		
Delay/Veh:	9.7	224	223.3	9.6	49.9	49.7	9.9	9.9	9.9	10.1	0.0	10.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.7	224	223.3	9.6	49.9	49.7	9.9	9.9	9.9	10.1	0.0	10.1
LOS by Move:	A	F	F	A	E	E	A	A	A	B	*	B
ApproachDel:	220.8			49.7			9.9			10.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	220.8			49.7			9.9			10.1		
LOS by Appr:	F			E			A			B		
AllWayAvgQ:	0.1	35.0	34.8	0.0	6.5	6.5	0.0	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

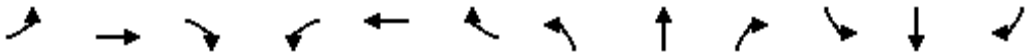


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	0	20	30	5	25	40	1350	40	30	995	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1695			1715		1770	3524		1770	3521	
Flt Permitted		0.87			0.82		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1516			1436		1770	3524		1770	3521	
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)	22	0	22	33	5	27	43	1467	43	33	1082	38
RTOR Reduction (vph)	0	20	0	0	25	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	24	0	0	40	0	43	1508	0	33	1117	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.6			4.6		1.9	35.3		1.5	34.9	
Effective Green, g (s)		4.6			4.6		1.9	35.3		1.5	34.9	
Actuated g/C Ratio		0.09			0.09		0.04	0.66		0.03	0.65	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		131			124		63	2330		50	2301	
v/s Ratio Prot							c0.02	c0.43		0.02	0.32	
v/s Ratio Perm		0.02			c0.03							
v/c Ratio		0.18			0.33		0.68	0.65		0.66	0.49	
Uniform Delay, d1		22.7			22.9		25.5	5.4		25.7	4.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			1.5		26.3	1.4		28.1	0.7	
Delay (s)		23.3			24.5		51.8	6.8		53.8	5.4	
Level of Service		C			C		D	A		D	A	
Approach Delay (s)		23.3			24.5			8.0			6.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	53.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

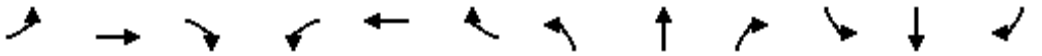
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	85	10	115	20	1025	175	180	1115	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt		0.95		1.00	0.86		1.00	0.98		1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750		1770	1606		1770	3462		1770	3534	
Flt Permitted		0.87		0.74	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1556		1370	1606		1770	3462		1770	3534	
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)	11	11	11	92	11	125	22	1114	190	196	1212	11
RTOR Reduction (vph)	0	10	0	0	108	0	0	18	0	0	1	0
Lane Group Flow (vph)	0	23	0	92	28	0	22	1286	0	196	1222	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		7.8		7.8	7.8		0.8	31.3		7.0	37.5	
Effective Green, g (s)		7.8		7.8	7.8		0.8	31.3		7.0	37.5	
Actuated g/C Ratio		0.13		0.13	0.13		0.01	0.54		0.12	0.65	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		209		184	216		24	1865		213	2281	
v/s Ratio Prot					0.02		0.01	c0.37		c0.11	0.35	
v/s Ratio Perm		0.02		c0.07								
v/c Ratio		0.11		0.50	0.13		0.92	0.69		0.92	0.54	
Uniform Delay, d1		22.1		23.3	22.2		28.6	9.8		25.3	5.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2		2.1	0.3		145.1	2.1		40.1	0.9	
Delay (s)		22.3		25.5	22.4		173.7	11.9		65.4	6.5	
Level of Service		C		C	C		F	B		E	A	
Approach Delay (s)		22.3			23.7			14.6			14.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



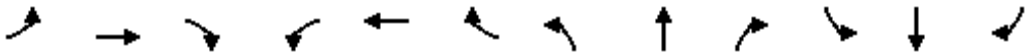
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	10	10	0	5	25	1525	20	5	990	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.96		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1711			1725		1770	3532		1770	3537	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1731			1784		1770	3532		1770	3537	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	11	11	0	5	27	1658	22	5	1076	5
RTOR Reduction (vph)	0	11	0	0	5	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	10	0	0	11	0	27	1679	0	5	1081	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		1.3			1.3		0.7	39.7		0.7	39.7	
Effective Green, g (s)		1.3			1.3		0.7	39.7		0.7	39.7	
Actuated g/C Ratio		0.02			0.02		0.01	0.74		0.01	0.74	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		42			43		23	2611		23	2615	
v/s Ratio Prot							c0.02	c0.48		0.00	0.31	
v/s Ratio Perm		0.01			c0.01							
v/c Ratio		0.24			0.26		1.17	0.64		0.22	0.41	
Uniform Delay, d1		25.7			25.7		26.5	3.5		26.2	2.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0			3.2		246.2	1.2		4.7	0.5	
Delay (s)		28.7			28.9		272.7	4.7		30.9	3.1	
Level of Service		C			C		F	A		C	A	
Approach Delay (s)		28.7			28.9			9.0			3.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	53.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



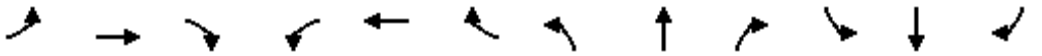
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	130	460	400	115	190	130	1285	200	20	740	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3208		1770	3468		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3208		1770	3468		1770	3539	1583
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)	76	141	500	435	125	207	141	1397	217	22	804	65
RTOR Reduction (vph)	0	0	224	0	174	0	0	11	0	0	0	57
Lane Group Flow (vph)	76	141	276	435	158	0	141	1603	0	22	804	8
Turn Type	Prot		Over	Prot			Prot			Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases												
Actuated Green, G (s)	7.6	10.3	28.0	14.0	16.7		28.0	48.0		16.0	36.0	7.6
Effective Green, g (s)	7.6	10.3	28.0	14.0	16.7		28.0	48.0		16.0	36.0	7.6
Actuated g/C Ratio	0.07	0.10	0.27	0.13	0.16		0.27	0.46		0.15	0.35	0.07
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	129	349	425	461	514		475	1596		272	1222	115
v/s Ratio Prot	0.04	c0.04	c0.17	c0.13	0.05		0.08	c0.46		0.01	0.23	0.01
v/s Ratio Perm												
v/c Ratio	0.59	0.40	0.65	0.94	0.31		0.30	1.00		0.08	0.66	0.07
Uniform Delay, d1	46.8	44.1	33.8	44.8	38.7		30.3	28.1		37.8	28.9	45.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.7	0.8	7.5	28.1	0.3		1.6	23.6		0.6	2.8	0.3
Delay (s)	53.6	44.9	41.3	72.8	39.0		31.9	51.8		38.4	31.7	45.3
Level of Service	D	D	D	E	D		C	D		D	C	D
Approach Delay (s)		43.3			58.2			50.2			32.9	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM Average Control Delay	46.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	104.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



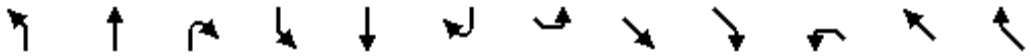
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	165	70	180	120	30	100	340	145	110	1675	595
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	0.95		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.96		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1779		3433	3432		1770	5085	1583	1770	4885	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1779		3433	3432		1770	5085	1583	1770	4885	
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)	120	179	76	196	130	33	109	370	158	120	1821	647
RTOR Reduction (vph)	0	17	0	0	24	0	0	0	81	0	70	0
Lane Group Flow (vph)	120	238	0	196	139	0	109	370	77	120	2398	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	4.7	15.5		6.0	16.8		6.0	44.0	44.0	8.9	46.9	
Effective Green, g (s)	4.7	15.5		6.0	16.8		6.0	44.0	44.0	8.9	46.9	
Actuated g/C Ratio	0.05	0.17		0.07	0.19		0.07	0.49	0.49	0.10	0.52	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	178	305		228	638		117	2475	770	174	2534	
v/s Ratio Prot	0.03	c0.13		c0.06	0.04		c0.06	0.07		0.07	c0.49	
v/s Ratio Perm									0.05			
v/c Ratio	0.67	0.78		0.86	0.22		0.93	0.15	0.10	0.69	0.95	
Uniform Delay, d1	42.1	35.8		41.8	31.2		42.0	12.8	12.5	39.4	20.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.7	11.9		26.0	0.2		61.8	0.1	0.3	10.8	9.1	
Delay (s)	51.8	47.7		67.8	31.4		103.8	13.0	12.8	50.3	29.7	
Level of Service	D	D		E	C		F	B	B	D	C	
Approach Delay (s)		49.0			51.3			28.5			30.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



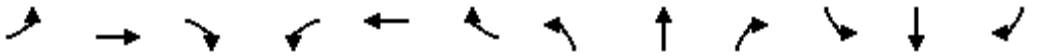
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	60	135	320	75	35	195	795	505	200	1660	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1757	1504	1770	5085	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1757	1504	1770	5085	1583	1770	3539	1583
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)	60	65	147	348	82	38	212	864	549	217	1804	60
RTOR Reduction (vph)	0	0	133	0	2	29	0	0	311	0	0	10
Lane Group Flow (vph)	60	65	14	348	84	5	212	864	238	217	1804	50
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.8	9.8	9.8	11.0	14.0	14.0	13.0	45.0	45.0	22.0	54.0	54.0
Effective Green, g (s)	6.8	9.8	9.8	11.0	14.0	14.0	13.0	45.0	45.0	22.0	54.0	54.0
Actuated g/C Ratio	0.07	0.09	0.09	0.11	0.13	0.13	0.13	0.43	0.43	0.21	0.52	0.52
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	116	176	149	364	237	203	222	2204	686	375	1841	824
v/s Ratio Prot	0.03	0.03		c0.10	c0.05		c0.12	0.17		0.12	c0.51	
v/s Ratio Perm			0.01			0.00			0.15			0.03
v/c Ratio	0.52	0.37	0.09	0.96	0.36	0.02	0.95	0.39	0.35	0.58	0.98	0.06
Uniform Delay, d1	46.9	44.1	42.9	46.2	40.8	39.0	45.1	20.1	19.6	36.7	24.4	12.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	1.3	0.3	35.4	0.9	0.0	47.4	0.5	1.4	2.2	16.7	0.1
Delay (s)	50.8	45.4	43.2	81.6	41.7	39.0	92.5	20.6	21.0	38.9	41.1	12.5
Level of Service	D	D	D	F	D	D	F	C	C	D	D	B
Approach Delay (s)		45.4			71.2			30.1			40.0	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	40.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



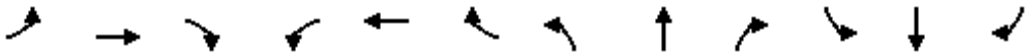
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	495	480	1735	450	10	10	10	10	595	10	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1723			1775	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.59	1.00			0.95	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1096	1723			1775	2787
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)	11	538	522	1886	489	11	11	11	11	647	11	1087
RTOR Reduction (vph)	0	0	369	0	0	5	0	10	0	0	0	251
Lane Group Flow (vph)	11	538	153	1886	489	6	11	12	0	0	658	836
Turn Type	Prot		Perm	Prot		Perm	Perm			Split		pm+ov
Protected Phases	5	2		1	6			4		8	8	1
Permitted Phases			2			6	4					8
Actuated Green, G (s)	1.5	21.1	21.1	58.6	78.2	78.2	6.8	6.8			41.1	99.7
Effective Green, g (s)	1.5	21.1	21.1	58.6	78.2	78.2	6.8	6.8			41.1	99.7
Actuated g/C Ratio	0.01	0.15	0.15	0.41	0.54	0.54	0.05	0.05			0.29	0.69
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	18	520	233	1401	1927	862	52	82			508	1935
v/s Ratio Prot	0.01	c0.15		c0.55	0.14			0.01			c0.37	0.18
v/s Ratio Perm			0.10			0.00	c0.01					0.12
v/c Ratio	0.61	1.03	0.66	1.35	0.25	0.01	0.21	0.14			1.30	0.43
Uniform Delay, d1	70.8	61.2	57.8	42.5	17.3	14.9	65.8	65.6			51.2	9.6
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	48.7	48.7	13.7	160.6	0.3	0.0	2.0	0.8			146.9	0.2
Delay (s)	119.4	109.9	71.5	203.1	17.6	15.0	67.9	66.4			198.2	9.7
Level of Service	F	F	E	F	B	B	E	E			F	A
Approach Delay (s)		91.3			164.2			66.9			80.8	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	120.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	143.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
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)	680	1440	100	230	1280	600	150	880	510	670	1100	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3345		3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3345		3433	3539	1583
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)	739	1565	109	250	1391	652	163	957	554	728	1196	620
RTOR Reduction (vph)	0	0	99	0	0	323	0	69	0	0	0	325
Lane Group Flow (vph)	739	1565	10	250	1391	329	163	1442	0	728	1196	295
Turn Type	Prot		Over	Prot		Over	Prot			Prot		Over
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases											6	
Actuated Green, G (s)	17.0	32.2	11.0	13.8	29.0	28.3	11.0	29.0		28.3	46.3	17.0
Effective Green, g (s)	17.0	32.2	11.0	13.8	29.0	28.3	11.0	29.0		28.3	46.3	17.0
Actuated g/C Ratio	0.14	0.27	0.09	0.12	0.24	0.24	0.09	0.24		0.24	0.39	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	489	1372	146	397	1236	376	317	813		814	1373	226
v/s Ratio Prot	c0.22	c0.31	0.01	0.07	0.27	0.21	0.05	c0.43		c0.21	0.34	0.19
v/s Ratio Perm												
v/c Ratio	1.51	1.14	0.07	0.63	1.13	0.87	0.51	1.77		0.89	0.87	1.31
Uniform Delay, d1	51.1	43.5	49.5	50.3	45.1	43.8	51.6	45.1		44.1	33.7	51.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	240.5	72.6	0.2	3.1	67.4	19.5	1.4	353.2		12.3	7.8	165.6
Delay (s)	291.6	116.1	49.7	53.4	112.5	63.3	53.0	398.4		56.3	41.5	216.8
Level of Service	F	F	D	D	F	E	D	F		E	D	F
Approach Delay (s)		166.9			92.1			364.7			88.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	162.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	119.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

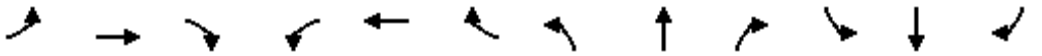


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	405	80	125	205	95	105	1150	240	120	1030	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.95		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3452		1770	3371		1770	3447		1770	3455	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3452		1770	3371		1770	3447		1770	3455	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	284	426	84	132	216	100	111	1211	253	126	1084	205
RTOR Reduction (vph)	0	12	0	0	43	0	0	13	0	0	11	0
Lane Group Flow (vph)	284	498	0	132	273	0	111	1451	0	126	1278	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	23.3	23.8		14.1	14.6		11.3	59.7		11.2	59.6	
Effective Green, g (s)	23.3	23.8		14.1	14.6		11.3	59.7		11.2	59.6	
Actuated g/C Ratio	0.18	0.18		0.11	0.11		0.09	0.46		0.09	0.46	
Clearance Time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	317	632		192	379		154	1583		152	1584	
v/s Ratio Prot	c0.16	c0.14		0.07	0.08		0.06	c0.42		c0.07	0.37	
v/s Ratio Perm												
v/c Ratio	0.90	0.79		0.69	0.72		0.72	0.92		0.83	0.81	
Uniform Delay, d1	52.2	50.7		55.8	55.7		57.8	32.8		58.5	30.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.9	6.4		9.8	6.6		15.3	9.9		29.5	4.5	
Delay (s)	78.1	57.1		65.6	62.4		73.1	42.7		88.0	34.8	
Level of Service	E	E		E	E		E	D		F	C	
Approach Delay (s)		64.6			63.3			44.9			39.5	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	48.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

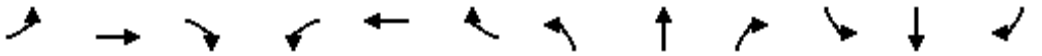
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	140	340	150	290	515	255	80	455	130	270	860	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.95		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3377		1770	3364		3433	3422		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3377		1770	3364		3433	3422		3433	3539	1583
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)	152	370	163	315	560	277	87	495	141	293	935	234
RTOR Reduction (vph)	0	58	0	0	69	0	0	28	0	0	0	154
Lane Group Flow (vph)	152	475	0	315	768	0	87	608	0	293	935	80
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases												2
Actuated Green, G (s)	11.3	21.5		13.1	23.3		6.3	24.1		11.7	29.5	29.5
Effective Green, g (s)	11.3	21.5		13.1	23.3		6.3	24.1		11.7	29.5	29.5
Actuated g/C Ratio	0.13	0.25		0.15	0.27		0.07	0.28		0.14	0.34	0.34
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	231	840		268	907		250	955		465	1208	540
v/s Ratio Prot	0.09	0.14		c0.18	c0.23		0.03	0.18		c0.09	c0.26	
v/s Ratio Perm												0.05
v/c Ratio	0.66	0.57		1.18	0.85		0.35	0.64		0.63	0.77	0.15
Uniform Delay, d1	35.7	28.4		36.7	29.9		38.1	27.3		35.3	25.5	19.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.6	0.9		110.9	7.4		0.8	3.2		2.8	4.9	0.6
Delay (s)	42.3	29.2		147.6	37.3		38.9	30.5		38.1	30.3	20.3
Level of Service	D	C		F	D		D	C		D	C	C
Approach Delay (s)		32.1			67.4			31.6			30.3	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	86.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



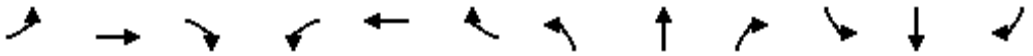
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	190	265	105	110	45	295	1440	200	60	1060	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3474		1770	3515	
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)	1770	1863	1583	1770	1863	1583	3433	3474		1770	3515	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	200	279	111	116	47	311	1516	211	63	1116	53
RTOR Reduction (vph)	0	0	186	0	0	42	0	8	0	0	3	0
Lane Group Flow (vph)	84	200	93	111	116	5	311	1719	0	63	1166	0
Turn Type	Prot		Over	Prot		Perm	Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	15.4	16.4	16.2	11.3	13.3	13.3	16.2	71.7		5.6	61.1	
Effective Green, g (s)	15.4	16.4	16.2	11.3	13.3	13.3	16.2	71.7		5.6	61.1	
Actuated g/C Ratio	0.12	0.13	0.12	0.09	0.10	0.10	0.12	0.55		0.04	0.47	
Clearance Time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	210	235	197	154	191	162	428	1916		76	1652	
v/s Ratio Prot	0.05	c0.11	0.06	c0.06	0.06		0.09	c0.49		c0.04	0.33	
v/s Ratio Perm						0.00						
v/c Ratio	0.40	0.85	0.47	0.72	0.61	0.03	0.73	0.90		0.83	0.71	
Uniform Delay, d1	53.0	55.6	52.9	57.8	55.9	52.5	54.8	25.9		61.7	27.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	24.4	1.8	15.3	5.4	0.1	6.1	7.1		49.7	2.6	
Delay (s)	54.3	80.0	54.7	73.1	61.2	52.6	60.8	33.0		111.4	29.9	
Level of Service	D	E	D	E	E	D	E	C		F	C	
Approach Delay (s)		63.6			64.6			37.2			34.1	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM Average Control Delay	41.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



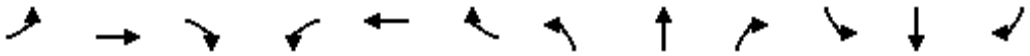
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	960	695	330	650	265	490	1300	280	240	940	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0		5.0	7.0	7.0	6.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	4864		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	4864		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	305	1011	732	347	684	279	516	1368	295	253	989	132
RTOR Reduction (vph)	0	0	3	0	73	0	0	0	188	0	0	104
Lane Group Flow (vph)	305	1011	729	347	890	0	516	1368	107	253	989	28
Turn Type	Prot		pt+ov	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4	4 5	3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	13.0	30.0	45.0	10.0	27.0		15.0	27.0	27.0	8.0	21.0	21.0
Effective Green, g (s)	13.0	30.0	45.0	10.0	27.0		15.0	27.0	27.0	8.0	21.0	21.0
Actuated g/C Ratio	0.13	0.30	0.45	0.10	0.27		0.15	0.27	0.27	0.08	0.21	0.21
Clearance Time (s)	5.0	7.0		5.0	7.0		5.0	7.0	7.0	6.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	446	1526	712	343	1313		515	1373	427	275	1068	332
v/s Ratio Prot	0.09	0.20	c0.46	c0.10	0.18		0.15	c0.27		0.07	c0.19	
v/s Ratio Perm									0.07			0.02
v/c Ratio	0.68	0.66	1.02	1.01	0.68		1.00	1.00	0.25	0.92	0.93	0.08
Uniform Delay, d1	41.5	30.6	27.5	45.0	32.6		42.5	36.5	28.6	45.7	38.7	31.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	1.1	40.0	51.6	1.4		40.1	23.4	1.4	33.8	14.7	0.5
Delay (s)	45.8	31.7	67.5	96.6	34.0		82.6	59.9	30.0	79.5	53.4	32.3
Level of Service	D	C	E	F	C		F	E	C	E	D	C
Approach Delay (s)		46.6			50.6			61.2			56.2	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	53.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



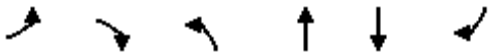
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	5	10	105	5	695	10	1490	155	750	1280	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	4.0	5.5	
Lane Util. Factor		1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85	1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1794	1583	1770	1508	1504	1770	3539	1583	3433	3533	
Flt Permitted		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1794	1583	1770	1508	1504	1770	3539	1583	3433	3533	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	5	11	111	5	732	11	1568	163	789	1347	16
RTOR Reduction (vph)	0	0	11	0	320	148	0	0	54	0	1	0
Lane Group Flow (vph)	0	21	0	111	51	218	11	1568	109	789	1362	0
Turn Type	Split		Perm	Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)		4.8	4.8	16.2	16.2	46.4	0.8	61.3	61.3	30.2	90.7	
Effective Green, g (s)		4.8	4.8	16.2	16.2	46.4	0.8	61.3	61.3	30.2	90.7	
Actuated g/C Ratio		0.04	0.04	0.12	0.12	0.36	0.01	0.47	0.47	0.23	0.70	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0	5.5	5.5	4.0	5.5	
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	58	221	188	537	11	1669	746	798	2465	
v/s Ratio Prot		c0.01		c0.06	0.03	0.14	0.01	c0.44		c0.23	0.39	
v/s Ratio Perm			0.00						0.07			
v/c Ratio		0.32	0.01	0.50	0.27	0.41	1.00	0.94	0.15	0.99	0.55	
Uniform Delay, d1		61.0	60.3	53.1	51.5	31.4	64.6	32.6	19.5	49.7	9.7	
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		2.8	0.0	1.8	0.8	0.5	271.4	11.7	0.4	28.7	0.9	
Delay (s)		63.8	60.4	54.9	52.3	31.9	336.0	44.3	19.9	78.5	10.6	
Level of Service		E	E	D	D	C	F	D	B	E	B	
Approach Delay (s)		62.6			43.9			43.9			35.5	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	40.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



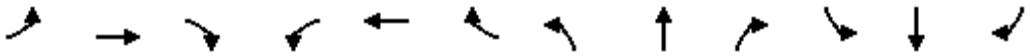
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	120	310	440	275	415	250	1360	660	40	1125	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5023	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5023	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	126	326	463	289	437	263	1432	695	42	1184	105
RTOR Reduction (vph)	0	0	7	0	0	66	0	0	126	0	8	0
Lane Group Flow (vph)	121	126	319	463	289	371	263	1432	569	42	1281	0
Turn Type	Prot		pt+ov	Prot		Perm	Prot		pt+ov	Prot		
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	
Permitted Phases						8						
Actuated Green, G (s)	6.0	15.5	29.8	17.4	26.9	26.9	14.3	50.8	73.8	2.5	39.0	
Effective Green, g (s)	6.0	15.5	29.8	17.4	26.9	26.9	14.3	50.8	68.2	2.5	39.0	
Actuated g/C Ratio	0.05	0.14	0.27	0.16	0.24	0.24	0.13	0.46	0.62	0.02	0.35	
Clearance Time (s)	5.6	6.3		5.6	6.3	6.3	5.6	6.3		5.6	6.3	
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)	187	499	429	543	865	387	446	2348	981	78	1781	
v/s Ratio Prot	0.04	0.04	c0.20	0.13	0.08		0.08	0.28	0.36	0.01	c0.25	
v/s Ratio Perm						c0.23						
v/c Ratio	0.65	0.25	0.74	0.85	0.33	0.96	0.59	0.61	0.58	0.54	0.72	
Uniform Delay, d1	51.0	42.1	36.6	45.1	34.2	41.0	45.1	22.2	12.4	53.2	30.8	
Progression Factor	1.00	1.00	1.00	0.77	0.73	0.67	0.67	1.23	1.67	1.00	1.00	
Incremental Delay, d2	7.5	0.3	6.8	11.0	0.2	31.8	1.7	1.0	0.7	7.0	2.5	
Delay (s)	58.4	42.4	43.4	45.5	25.2	59.3	31.7	28.2	21.5	60.2	33.3	
Level of Service	E	D	D	D	C	E	C	C	C	E	C	
Approach Delay (s)		46.4			45.6			26.7			34.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



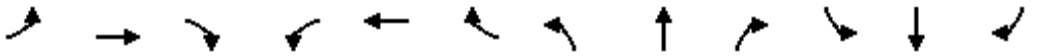
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	345	595	0	1925	1515	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00		0.86	0.81	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		6408	7544	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		6408	7544	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	363	626	0	2026	1595	0
RTOR Reduction (vph)	0	6	0	0	0	0
Lane Group Flow (vph)	363	620	0	2026	1595	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	46.8	46.8		55.2	55.2	
Effective Green, g (s)	46.8	46.8		55.2	55.2	
Actuated g/C Ratio	0.43	0.43		0.50	0.50	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1461	673		3216	3786	
v/s Ratio Prot	0.11			c0.32	0.21	
v/s Ratio Perm		c0.39				
v/c Ratio	0.25	0.92		0.63	0.42	
Uniform Delay, d1	20.3	29.8		20.0	17.3	
Progression Factor	1.00	1.00		0.94	0.92	
Incremental Delay, d2	0.1	18.0		0.4	0.2	
Delay (s)	20.4	47.9		19.0	16.1	
Level of Service	C	D		B	B	
Approach Delay (s)	37.8			19.0	16.1	
Approach LOS	D			B	B	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



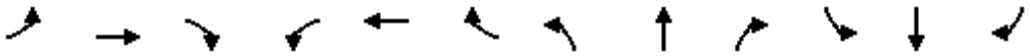
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	165	120	15	200	20	470	25	1290	380	615	1415	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1831		1770	1863	1583	1770	5085	1583	3433	5045	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1831		1770	1863	1583	1770	5085	1583	3433	5045	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	126	16	211	21	495	26	1358	400	647	1489	84
RTOR Reduction (vph)	0	4	0	0	0	46	0	0	256	0	5	0
Lane Group Flow (vph)	174	138	0	211	21	449	26	1358	144	647	1568	0
Turn Type	Split			Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	14.4	14.4		16.8	16.8	44.0	3.0	39.6	39.6	23.2	59.8	
Effective Green, g (s)	14.4	14.4		16.8	16.8	44.0	3.0	39.6	39.6	23.2	59.8	
Actuated g/C Ratio	0.13	0.13		0.15	0.15	0.40	0.03	0.36	0.36	0.21	0.54	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	232	240		270	285	633	48	1831	570	724	2743	
v/s Ratio Prot	c0.10	0.08		c0.12	0.01	0.28	0.01	c0.27		c0.19	0.31	
v/s Ratio Perm									0.09			
v/c Ratio	0.75	0.57		0.78	0.07	0.71	0.54	0.74	0.25	0.89	0.57	
Uniform Delay, d1	46.1	44.9		44.8	39.9	27.7	52.8	30.7	24.8	42.2	16.6	
Progression Factor	1.00	1.00		0.68	0.69	0.27	1.00	1.00	1.00	0.71	0.60	
Incremental Delay, d2	12.8	3.3		9.8	0.1	2.6	11.9	2.8	1.1	13.7	0.7	
Delay (s)	58.8	48.2		40.3	27.6	10.1	64.7	33.5	25.8	43.6	10.7	
Level of Service	E	D		D	C	B	E	C	C	D	B	
Approach Delay (s)		54.0			19.3			32.2			20.3	
Approach LOS		D			B			C			C	

Intersection Summary			
HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



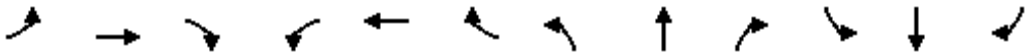
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	515	230	270	255	160	295	295	1210	585	425	795	605
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
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)	560	250	293	277	174	321	321	1315	636	462	864	658
RTOR Reduction (vph)	0	0	258	0	0	222	0	0	298	0	0	337
Lane Group Flow (vph)	560	250	35	277	174	99	321	1315	338	462	864	321
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	18.5	15.5	11.8	19.0	16.0	13.0	11.8	36.0	19.0	13.0	37.2	37.2
Effective Green, g (s)	18.5	15.5	11.8	19.0	16.0	13.0	11.8	36.0	19.0	13.0	37.2	37.2
Actuated g/C Ratio	0.19	0.16	0.12	0.19	0.16	0.13	0.12	0.36	0.19	0.13	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	638	290	188	338	300	207	407	1280	302	449	1323	592
v/s Ratio Prot	0.16	c0.13	0.02	0.16	0.09	0.06	0.09	c0.37	c0.21	c0.13	0.24	
v/s Ratio Perm												0.20
v/c Ratio	0.88	0.86	0.18	0.82	0.58	0.48	0.79	1.03	1.12	1.03	0.65	0.54
Uniform Delay, d1	39.4	41.0	39.5	38.6	38.6	40.1	42.6	31.8	40.2	43.2	25.8	24.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.0	22.2	0.5	14.3	2.7	1.8	9.8	32.4	88.1	50.1	2.5	3.5
Delay (s)	52.4	63.1	40.0	52.9	41.4	41.9	52.4	64.1	128.4	93.3	28.3	28.0
Level of Service	D	E	D	D	D	D	D	E	F	F	C	C
Approach Delay (s)		51.5			45.7			80.5			43.4	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM Average Control Delay	58.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	99.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.1%	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)	85	520	305	350	450	25	635	35	85	60	55	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	3433	3512		1681	1694	1583		3328	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (perm)	1770	3539	1583	3433	3512		1681	1694	1583		3328	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	547	321	368	474	26	668	37	89	63	58	47
RTOR Reduction (vph)	0	0	124	0	4	0	0	0	53	0	40	0
Lane Group Flow (vph)	89	547	197	368	496	0	354	351	36	0	128	0
Turn Type	Prot		pt+ov	Prot			Split		Perm	Split		
Protected Phases	7	4	4 2	3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	9.5	23.2	67.6	16.9	30.6		44.4	44.4	44.4		9.5	
Effective Green, g (s)	9.5	23.2	67.6	16.9	30.6		44.4	44.4	44.4		9.5	
Actuated g/C Ratio	0.09	0.21	0.61	0.15	0.28		0.40	0.40	0.40		0.09	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	153	746	973	527	977		679	684	639		287	
v/s Ratio Prot	0.05	c0.15	0.12	c0.11	0.14		c0.21	0.21			c0.04	
v/s Ratio Perm									0.02			
v/c Ratio	0.58	0.73	0.20	0.70	0.51		0.52	0.51	0.06		0.45	
Uniform Delay, d1	48.3	40.5	9.3	44.1	33.4		24.8	24.7	20.0		47.7	
Progression Factor	0.73	0.85	2.17	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	5.0	3.4	0.1	4.0	0.4		2.8	2.7	0.2		1.1	
Delay (s)	40.1	37.8	20.3	48.2	33.8		27.6	27.4	20.2		48.8	
Level of Service	D	D	C	D	C		C	C	C		D	
Approach Delay (s)		32.2			39.9			26.7			48.8	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

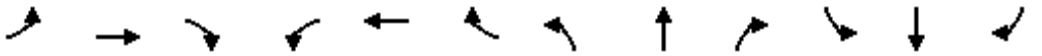


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	345	80	115	485	135	165	50	15	170	65	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3439		1770	3424		1681	1723	1583	1770	1756	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3439		1770	3424		1681	1723	1583	1770	1756	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	779	363	84	121	511	142	174	53	16	179	68	42
RTOR Reduction (vph)	0	16	0	0	24	0	0	0	14	0	21	0
Lane Group Flow (vph)	779	431	0	121	629	0	113	114	2	179	89	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	42.8	52.8		13.7	23.7		12.3	12.3	12.3	15.2	15.2	
Effective Green, g (s)	42.8	52.8		13.7	23.7		12.3	12.3	12.3	15.2	15.2	
Actuated g/C Ratio	0.39	0.48		0.12	0.22		0.11	0.11	0.11	0.14	0.14	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1336	1651		220	738		188	193	177	245	243	
v/s Ratio Prot	c0.23	0.13		0.07	c0.18		c0.07	0.07		c0.10	0.05	
v/s Ratio Perm									0.00			
v/c Ratio	0.58	0.26		0.55	0.85		0.60	0.59	0.01	0.73	0.37	
Uniform Delay, d1	26.6	17.0		45.3	41.5		46.5	46.5	43.4	45.4	43.0	
Progression Factor	0.77	0.72		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.2		3.0	9.4		5.3	4.8	0.0	10.7	0.9	
Delay (s)	21.5	12.4		48.2	50.9		51.8	51.2	43.5	56.1	44.0	
Level of Service	C	B		D	D		D	D	D	E	D	
Approach Delay (s)		18.1			50.5			51.0			51.5	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

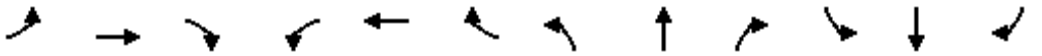
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	610	80	190	650	140	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	663	87	207	707	152	250
RTOR Reduction (vph)	0	56	0	0	0	211
Lane Group Flow (vph)	663	31	207	707	152	39
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	17.6	21.3	9.3	30.9	21.3	9.3
Effective Green, g (s)	17.6	21.3	9.3	30.9	21.3	9.3
Actuated g/C Ratio	0.29	0.35	0.15	0.51	0.35	0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1035	560	530	1817	1215	245
v/s Ratio Prot	c0.19	0.02	0.06	c0.20	c0.04	0.02
v/s Ratio Perm						
v/c Ratio	0.64	0.05	0.39	0.39	0.13	0.16
Uniform Delay, d1	18.5	12.8	22.9	8.9	13.2	22.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.2	0.5	0.1	0.2	0.3
Delay (s)	19.9	13.0	23.4	9.0	13.4	22.4
Level of Service	B	B	C	A	B	C
Approach Delay (s)	19.1			12.3	19.0	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	60.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



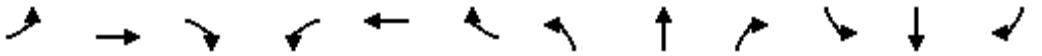
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	1500	300	450	1300	30	400	200	500	20	50	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
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)	163	1630	326	489	1413	33	435	217	543	22	54	54
RTOR Reduction (vph)	0	0	135	0	0	17	0	0	188	0	0	3
Lane Group Flow (vph)	163	1630	191	489	1413	16	435	217	355	22	54	51
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	14.3	45.7	64.5	13.1	44.5	54.6	18.8	17.2	30.3	10.1	8.5	22.8
Effective Green, g (s)	14.3	45.7	64.5	13.1	44.5	54.6	18.8	17.2	30.3	10.1	8.5	22.8
Actuated g/C Ratio	0.13	0.42	0.59	0.12	0.40	0.50	0.17	0.16	0.28	0.09	0.08	0.21
Clearance Time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	230	2115	929	409	2059	786	587	554	436	163	274	328
v/s Ratio Prot	0.09	c0.32	0.04	c0.14	0.28	0.00	c0.13	0.06	c0.10	0.01	0.02	0.02
v/s Ratio Perm			0.09			0.01			0.13			0.01
v/c Ratio	0.71	0.77	0.21	1.20	0.69	0.02	0.74	0.39	0.82	0.13	0.20	0.15
Uniform Delay, d1	45.8	27.6	10.7	48.4	26.9	14.1	43.2	41.6	37.2	45.9	47.5	35.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	2.8	0.1	109.6	1.9	0.0	5.0	0.5	11.2	0.4	0.4	0.2
Delay (s)	55.4	30.4	10.8	158.0	28.8	14.1	48.3	42.1	48.4	46.3	47.9	35.9
Level of Service	E	C	B	F	C	B	D	D	D	D	D	D
Approach Delay (s)		29.3			61.2			47.2			42.6	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM Average Control Delay	45.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	109.9	Sum of lost time (s)	15.6
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



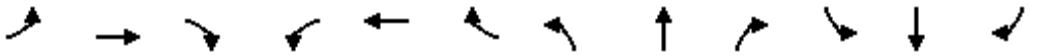
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	400	300	150	200	200	350	850	250	140	370	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3274		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3274		3433	5085	1583	1770	5085	1583
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)	109	435	326	163	217	217	380	924	272	152	402	152
RTOR Reduction (vph)	0	0	257	0	167	0	0	0	232	0	0	111
Lane Group Flow (vph)	109	435	69	163	267	0	380	924	40	152	402	41
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	8.4	15.6	18.1	12.5	19.7		18.1	29.2	12.5	12.0	23.1	23.1
Effective Green, g (s)	8.4	15.6	18.1	12.5	19.7		18.1	29.2	12.5	12.0	23.1	23.1
Actuated g/C Ratio	0.10	0.18	0.21	0.15	0.23		0.21	0.34	0.15	0.14	0.27	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	174	647	336	259	756		728	1741	232	249	1377	429
v/s Ratio Prot	0.06	c0.12	0.04	c0.09	0.08		c0.11	c0.18	0.03	c0.09	0.08	
v/s Ratio Perm												0.03
v/c Ratio	0.63	0.67	0.21	0.63	0.35		0.52	0.53	0.17	0.61	0.29	0.10
Uniform Delay, d1	36.9	32.5	27.7	34.2	27.5		29.8	22.5	31.9	34.5	24.6	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9	2.8	1.4	4.7	0.3		2.7	1.2	0.4	4.4	0.5	0.4
Delay (s)	43.8	35.2	29.1	38.9	27.8		32.4	23.7	32.2	38.8	25.2	23.7
Level of Service	D	D	C	D	C		C	C	C	D	C	C
Approach Delay (s)		34.0			30.8			27.3			27.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	85.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.9%	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)	425	1080	395	350	580	100	370	1355	625	100	910	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3461		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3461		3433	5085	1583	1770	5085	1583
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)	462	1174	429	380	630	109	402	1473	679	109	989	196
RTOR Reduction (vph)	0	0	160	0	14	0	0	0	202	0	0	78
Lane Group Flow (vph)	462	1174	269	380	725	0	402	1473	477	109	989	118
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	15.7	34.0	34.0	12.0	30.3		13.8	31.0	31.0	7.0	24.2	24.2
Effective Green, g (s)	15.7	34.0	34.0	12.0	30.3		13.8	31.0	31.0	7.0	24.2	24.2
Actuated g/C Ratio	0.16	0.34	0.34	0.12	0.30		0.14	0.31	0.31	0.07	0.24	0.24
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	539	1203	538	412	1049		474	1576	491	124	1231	383
v/s Ratio Prot	c0.13	c0.33		0.11	0.21		c0.12	0.29		0.06	0.19	
v/s Ratio Perm			0.17						c0.30			0.07
v/c Ratio	0.86	0.98	0.50	0.92	0.69		0.85	0.93	0.97	0.88	0.80	0.31
Uniform Delay, d1	41.1	32.6	26.2	43.5	30.7		42.1	33.5	34.1	46.1	35.7	31.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.7	20.2	0.7	26.0	2.0		13.2	11.7	34.1	45.5	5.6	2.1
Delay (s)	53.8	52.8	27.0	69.5	32.7		55.3	45.2	68.1	91.6	41.3	33.1
Level of Service	D	D	C	E	C		E	D	E	F	D	C
Approach Delay (s)		47.6			45.2			52.9			44.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	48.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

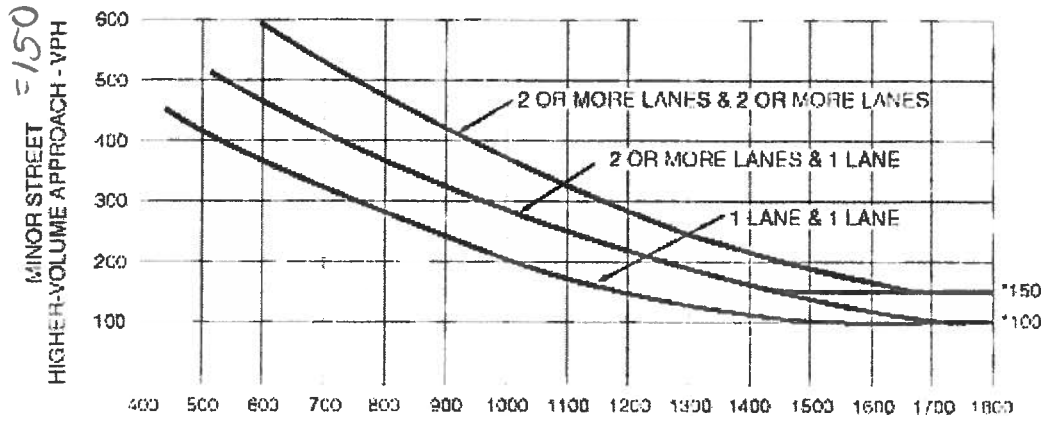


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	415	95	575	95	215	95	775	1780	95	95	1000	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	3433	3539	1583	3433	5047		3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	3433	3539	1583	3433	5047		3433	5085	1583
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)	451	103	625	103	234	103	842	1935	103	103	1087	467
RTOR Reduction (vph)	0	0	360	0	0	78	0	6	0	0	0	204
Lane Group Flow (vph)	451	103	265	103	234	25	842	2032	0	103	1087	263
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	12.0	21.7	21.7	3.1	12.8	12.8	23.4	43.1		3.1	22.8	22.8
Effective Green, g (s)	12.0	21.7	21.7	3.1	12.8	12.8	23.4	43.1		3.1	22.8	22.8
Actuated g/C Ratio	0.14	0.25	0.25	0.04	0.15	0.15	0.27	0.50		0.04	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	474	465	395	122	521	233	923	2500		122	1333	415
v/s Ratio Prot	c0.13	0.06		0.03	0.07		c0.25	c0.40		0.03	0.21	
v/s Ratio Perm			c0.17			0.02						0.17
v/c Ratio	0.95	0.22	0.67	0.84	0.45	0.11	0.91	0.81		0.84	0.82	0.63
Uniform Delay, d1	37.2	25.9	29.4	41.7	33.9	32.2	30.8	18.5		41.7	30.1	28.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	29.3	0.2	4.4	38.4	0.6	0.2	13.0	3.0		38.4	5.6	7.2
Delay (s)	66.5	26.2	33.8	80.1	34.5	32.4	43.8	21.6		80.1	35.7	35.6
Level of Service	E	C	C	F	C	C	D	C		F	D	D
Approach Delay (s)		45.7			44.7			28.1			38.5	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	35.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	87.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Figure 4C-3. Warrant 3, Peak Hour

RDO | Vista del Oro



=150

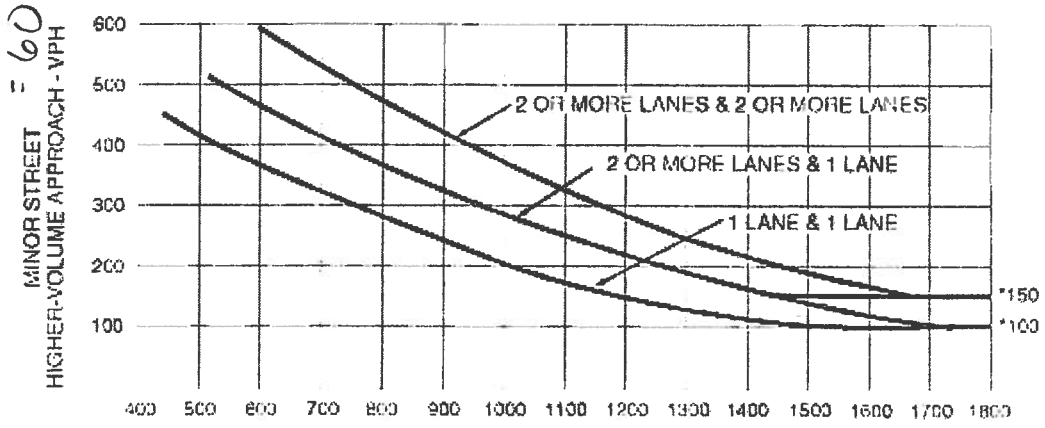
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) =2420

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Alternative 1 AM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Vista del Oro



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2490

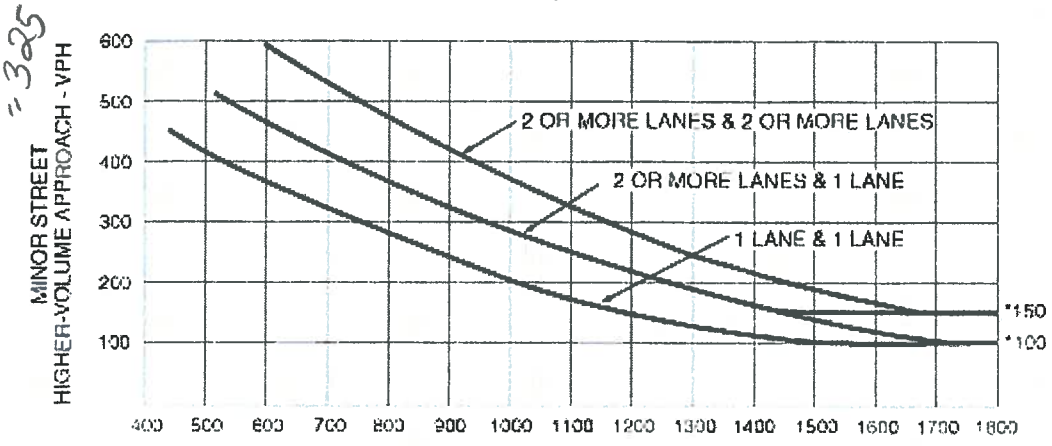
= 60

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

Alternative 1 PM

Figure 4C-3. Warrant 3, Peak Hour

RDO/Cameo Dr



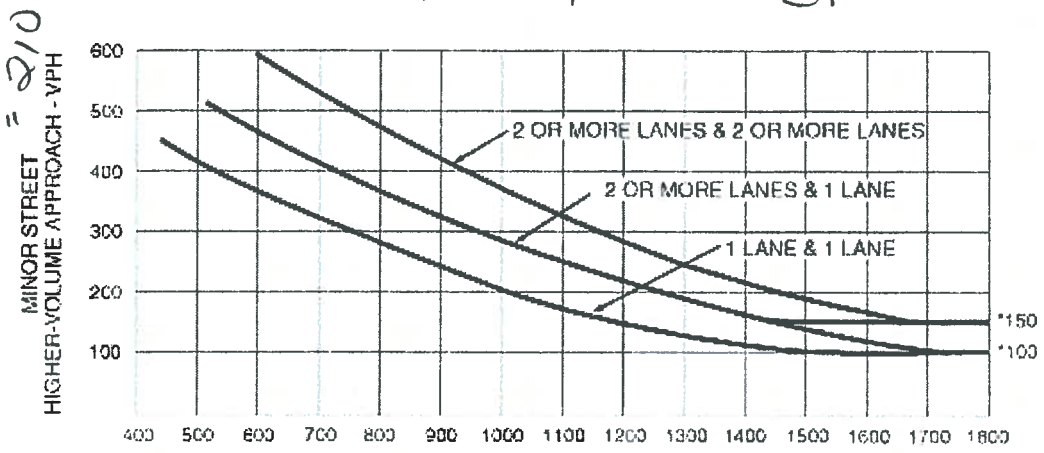
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2245

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Alternative 1 AM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Caneo Dr



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2525

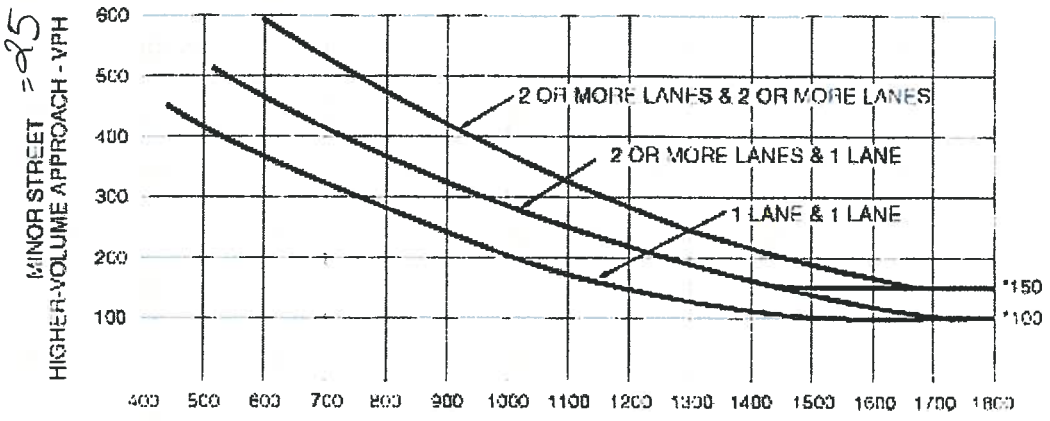
= 210

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

Alternative 1 PM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Trieste / Sicily



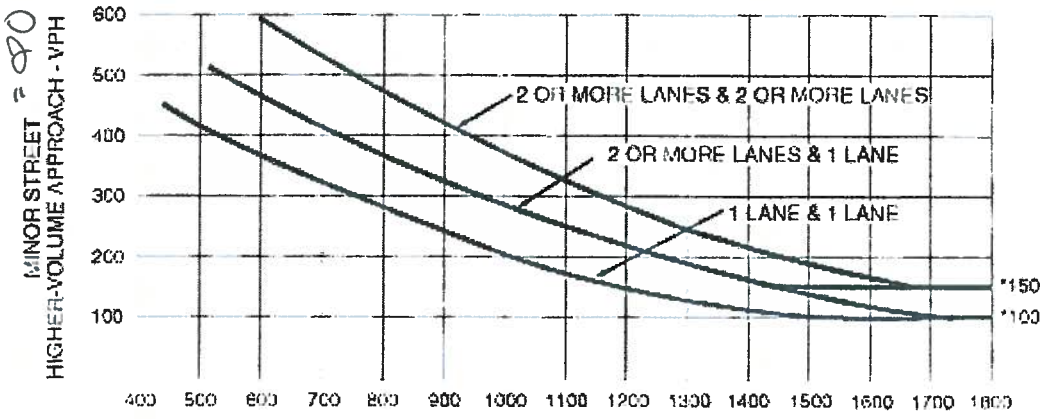
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2265

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Alternative 1 AM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Trieste / Sicily



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2570

= 80

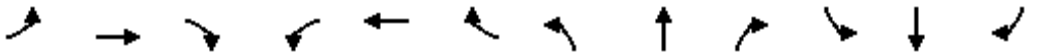
*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

Alternative 1 PM

Appendix G

Alternative 2 Scenario Intersection Calculation Sheets, Roundabout Analysis Calculation Sheets & Peak Hour Warrant 3 Sheets

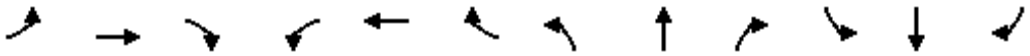
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	5	530	0	170	0	130	335	70	95	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.6	4.6	4.0		4.6	4.0	4.6	4.6	
Lane Util. Factor			1.00	0.95	0.95	1.00		1.00	1.00	1.00	1.00	
Frt			0.86	1.00	1.00	0.85		1.00	0.85	1.00	0.99	
Flt Protected			1.00	0.95	0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1611	1681	1681	1583		1863	1583	1770	1850	
Flt Permitted			1.00	0.95	0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1611	1681	1681	1583		1863	1583	1770	1850	
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)	0	0	5	576	0	185	0	141	364	76	103	5
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	288	288	185	0	141	364	76	106	0
Turn Type			custom	Split		Free	Split		Free	Split		
Protected Phases				8	8		2	2		6	6	
Permitted Phases			4			Free			Free			
Actuated Green, G (s)			1.0	17.0	17.0	72.8		18.9	72.8	18.1	18.1	
Effective Green, g (s)			1.0	17.0	17.0	72.8		18.9	72.8	18.1	18.1	
Actuated g/C Ratio			0.01	0.23	0.23	1.00		0.26	1.00	0.25	0.25	
Clearance Time (s)			4.0	4.6	4.6			4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)			22	393	393	1583		484	1583	440	460	
v/s Ratio Prot				c0.17	0.17			c0.08		0.04	0.06	
v/s Ratio Perm			0.00			0.12			c0.23			
v/c Ratio			0.00	0.73	0.73	0.12		0.29	0.23	0.17	0.23	
Uniform Delay, d1			35.4	25.8	25.8	0.0		21.6	0.0	21.5	21.8	
Progression Factor			1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2			0.1	6.9	6.9	0.2		1.5	0.3	0.9	1.2	
Delay (s)			35.5	32.7	32.7	0.2		23.1	0.3	22.3	23.0	
Level of Service			D	C	C	A		C	A	C	C	
Approach Delay (s)		35.5			24.8			6.7			22.7	
Approach LOS		D			C			A			C	

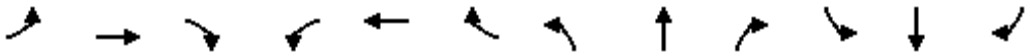
Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	9.2
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		
Description: SR-76 & Coast Hwy			

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	15	35	10	15	25	20	295	15	15	385	30
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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frt		1.00	0.85		0.93			0.99			0.99	
Flt Protected		0.96	1.00		0.99			1.00			1.00	
Satd. Flow (prot)		1785	1583		1719			1846			1842	
Flt Permitted		0.82	1.00		0.89			0.96			0.98	
Satd. Flow (perm)		1520	1583		1554			1772			1810	
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)	114	16	38	11	16	27	22	321	16	16	418	33
RTOR Reduction (vph)	0	0	31	0	22	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	130	7	0	32	0	0	356	0	0	462	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		4.6	4.6		4.6			10.8			10.8	
Effective Green, g (s)		4.6	4.6		4.6			10.8			10.8	
Actuated g/C Ratio		0.19	0.19		0.19			0.45			0.45	
Clearance Time (s)		4.2	4.2		4.2			4.2			4.2	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		294	306		300			804			821	
v/s Ratio Prot												
v/s Ratio Perm		c0.09	0.00		0.02			0.20			c0.26	
v/c Ratio		0.44	0.02		0.11			0.44			0.56	
Uniform Delay, d1		8.5	7.8		7.9			4.4			4.8	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		1.1	0.0		0.2			0.4			0.9	
Delay (s)		9.5	7.8		8.1			4.8			5.7	
Level of Service		A	A		A			A			A	
Approach Delay (s)		9.1			8.1			4.8			5.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	6.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	23.8	Sum of lost time (s)	8.4
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

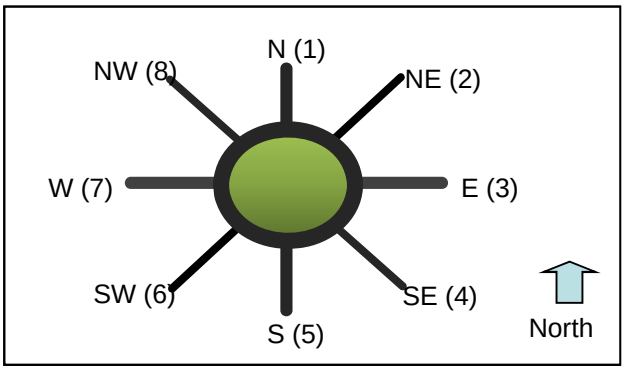


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	130	25	200	185	90	0	220	125	0	310	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0			5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.96		0.99			0.99			1.00	
Flpb, ped/bikes		1.00	1.00		0.99			1.00			1.00	
Frt		1.00	0.85		0.97			0.95			0.99	
Flt Protected		0.99	1.00		0.98			1.00			1.00	
Satd. Flow (prot)		3519	1527		3329			1757			1836	
Flt Permitted		0.90	1.00		0.77			1.00			1.00	
Satd. Flow (perm)		3185	1527		2605			1757			1836	
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)	16	141	27	217	201	98	0	239	136	0	337	33
RTOR Reduction (vph)	0	0	14	0	29	0	0	42	0	0	7	0
Lane Group Flow (vph)	0	157	13	0	487	0	0	333	0	0	363	0
Confl. Peds. (#/hr)	10		11	11		10			11			16
Confl. Bikes (#/hr)			1						2			2
Turn Type	Perm		Perm	Perm								
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		23.2	23.2		23.2			15.8			15.8	
Effective Green, g (s)		23.2	23.2		23.2			15.8			15.8	
Actuated g/C Ratio		0.47	0.47		0.47			0.32			0.32	
Clearance Time (s)		5.0	5.0		5.0			5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0			4.0			4.0	
Lane Grp Cap (vph)		1508	723		1233			567			592	
v/s Ratio Prot								0.19			c0.20	
v/s Ratio Perm		0.05	0.01		c0.19							
v/c Ratio		0.10	0.02		0.40			0.59			0.61	
Uniform Delay, d1		7.1	6.8		8.4			13.9			14.0	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		0.1	0.0		0.9			1.8			2.2	
Delay (s)		7.3	6.9		9.3			15.7			16.2	
Level of Service		A	A		A			B			B	
Approach Delay (s)		7.2			9.3			15.7			16.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	49.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

General & Site Information

Analyst:	
Agency/Company:	
Date:	
Project Name or PI#:	Preferred Alternative 2
Year, Peak Hour:	Year 2030, AM
County/District:	Oceanside
Intersection:	Coast Hwy and Oceanside Ave



Volumes

		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph	0	0	**175**	0	**255**	0	**15**	0
Exit	NE (2), vph	0	0	0	0	0	0	0	0
Legs	E (3), vph	**140**	0	0	0	**105**	0	**125**	0
(TO)	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	**255**	0	**195**	0	0	0	**65**	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	**25**	0	**135**	0	**30**	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	420	0	505	0	390	0	205	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% SU/ Bus	**2%**	0%	**2%**	0%	**2%**	0%	**2%**	0%
% Trucks/ Combin.	0%	0%	0%	0%	0%	0%	0%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
F_{HV}	0.990	1.000	0.990	1.000	0.990	1.000	0.990	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	192	0	280	0	16	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	154	0	0	0	115	0	137	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	280	0	214	0	0	0	71	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	27	0	148	0	33	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	461	0	554	0	428	0	225	0
Conflicting flow, pcu/h	395	0	329	0	307	0	648	0

Roundabout Type	Urban Compact=1 Standard Single Lane =2
Enter type here…	1

Results: Approach Measures of Effectiveness								
NCHRP-572 Model	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Entry Capacity, pcu/h	761	1130	813	1130	831	1130	591	1130
V/C ratio	**0.61**	**0.00**	**0.68**	**0.00**	**0.52**	**0.00**	**0.38**	**0.00**
Control Delay, sec/pcu	**12**	**3**	**13**	**3**	**9**	**3**	**10**	**3**
LOS	B	A	B	A	A	A	A	A
95th % Queue (ft)	**105**	**0**	**139**	**0**	**76**	**0**	**45**	**0**
UK Model	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Entry Capacity, pcu/h	926	1218	974	1218	991	1218	739	1218
V/C ratio	**0.50**	**0.00**	**0.57**	**0.00**	**0.43**	**0.00**	**0.30**	**0.00**
Control Delay, sec/pcu	**8**	**3**	**8**	**3**	**6**	**3**	**7**	**3**
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	**72**	**0**	**93**	**0**	**56**	**0**	**33**	**0**

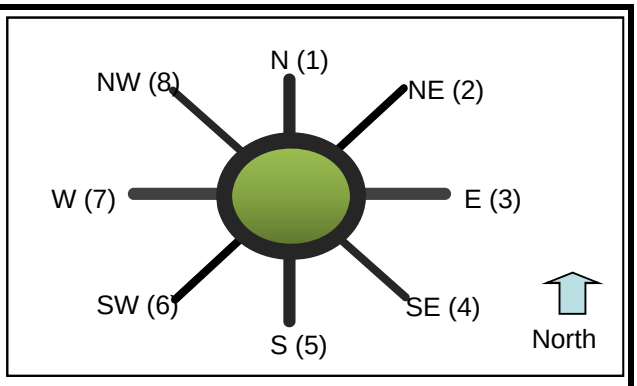
Notes:

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	**Bypass #1**	**Bypass #2**	**Bypass #3**	**Bypass #4**	**Bypass #5**	**Bypass #6**
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F_{HV}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Flow						
Bypass Lane Results (NCHRP-572 Model)						
Entry Capacity at bypass mergepoint, pcu/hr						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information

Analyst:	
Agency/Company:	
Date:	
Project Name or PI#:	Preferred Alternative 2
Year, Peak Hour:	Year 2030, AM
County/District:	Oceanside
Intersection:	Coast Hwy and Vista Way



Volumes

		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph	0	0	**180**	0	**205**	0	**5**	0
Exit	NE (2), vph	0	0	0	0	0	0	0	0
Legs	E (3), vph	**140**	0	0	0	**75**	0	**75**	0
(TO)	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	**255**	0	**230**	0	0	0	**25**	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	**10**	0	**40**	0	**10**	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	405	0	450	0	290	0	105	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% SU/ Bus	**2%**	0%	**2%**	0%	**2%**	0%	**2%**	0%
% Trucks/ Combin.	0%	0%	0%	0%	0%	0%	0%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
F_{HV}	0.990	1.000	0.990	1.000	0.990	1.000	0.990	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	198	0	225	0	5	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	154	0	0	0	82	0	82	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	280	0	253	0	0	0	27	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	11	0	44	0	11	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	445	0	494	0	318	0	115	0
Conflicting flow, pcu/h	307	0	242	0	242	0	686	0

Roundabout Type	Urban Compact=1 Standard Single Lane =2
Enter type here…	1

Results: Approach Measures of Effectiveness

NCHRP-572 Model	N	NE	E	SE	S	SW	W	NW
Entry Capacity, pcu/h	831	1130	888	1130	888	1130	569	1130
V/C ratio	**0.54**	**0.00**	**0.56**	**0.00**	**0.36**	**0.00**	**0.20**	**0.00**
Control Delay, sec/pcu	**9**	**3**	**9**	**3**	**6**	**3**	**8**	**3**
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	**82**	**0**	**89**	**0**	**41**	**0**	**19**	**0**

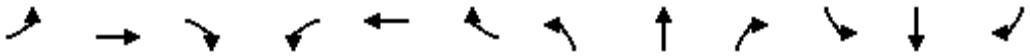
UK Model	N	NE	E	SE	S	SW	W	NW
Entry Capacity, pcu/h	991	1218	1039	1218	1039	1218	710	1218
V/C ratio	**0.45**	**0.00**	**0.48**	**0.00**	**0.31**	**0.00**	**0.16**	**0.00**
Control Delay, sec/pcu	**7**	**3**	**7**	**3**	**5**	**3**	**6**	**3**
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	**60**	**0**	**66**	**0**	**33**	**0**	**15**	**0**

Notes:

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

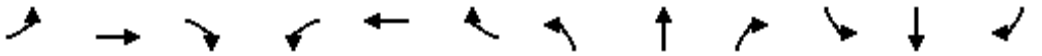
Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F_{HV}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Flow						
Bypass Lane Results (NCHRP-572 Model)						
Entry Capacity at bypass mergepoint, pcu/hr						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						



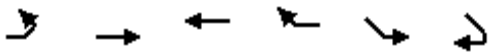
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	345	5	100	685	270	10	30	260	150	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	3532		1770	3539	1583	1770	1863	1583	1681	1682	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	
Satd. Flow (perm)	1770	3532		1770	3539	1583	1770	1863	1583	1681	1682	
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)	11	375	5	109	745	293	11	33	283	163	43	22
RTOR Reduction (vph)	0	1	0	0	0	200	0	0	130	0	12	0
Lane Group Flow (vph)	11	379	0	109	745	93	11	33	153	114	102	0
Turn Type	Prot			Prot		Perm	Split		custom	Split		
Protected Phases	5	2		1	6		4	4	4	8	8	
Permitted Phases						6			2 6			
Actuated Green, G (s)	0.8	18.8		4.7	22.7	22.7	16.0	16.0	38.7	16.0	16.0	
Effective Green, g (s)	0.8	18.8		4.7	22.7	22.7	16.0	16.0	38.7	16.0	16.0	
Actuated g/C Ratio	0.01	0.26		0.07	0.32	0.32	0.22	0.22	0.54	0.22	0.22	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	20	929		116	1124	503	396	417	945	376	376	
v/s Ratio Prot	0.01	0.11		c0.06	c0.21		0.01	0.02	c0.04	c0.07	0.06	
v/s Ratio Perm						0.06			0.06			
v/c Ratio	0.55	0.41		0.94	0.66	0.18	0.03	0.08	0.16	0.30	0.27	
Uniform Delay, d1	35.2	21.8		33.3	21.1	17.7	21.7	21.9	8.2	23.1	22.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	28.9	1.3		64.0	3.1	0.8	0.1	0.4	0.4	2.1	1.8	
Delay (s)	64.1	23.1		97.2	24.2	18.5	21.8	22.3	8.6	25.2	24.7	
Level of Service	E	C		F	C	B	C	C	A	C	C	
Approach Delay (s)		24.2			29.7			10.4			24.9	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	71.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.7%	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)	340	395	20	265	935	830	5	145	150	85	95	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.92		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)	3433	3513		1770	3539	1583	1770	1721		1681	1763	1583
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)	3433	3513		1770	3539	1583	1770	1721		1681	1763	1583
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)	370	429	22	288	1016	902	5	158	163	92	103	125
RTOR Reduction (vph)	0	4	0	0	0	368	0	41	0	0	0	101
Lane Group Flow (vph)	370	447	0	288	1016	534	5	280	0	83	112	24
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Actuated Green, G (s)	10.0	23.8		17.2	31.0	31.0	15.9	15.9		17.1	17.1	17.1
Effective Green, g (s)	10.0	23.8		17.2	31.0	31.0	15.9	15.9		17.1	17.1	17.1
Actuated g/C Ratio	0.11	0.26		0.19	0.34	0.34	0.18	0.18		0.19	0.19	0.19
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	381	929		338	1219	545	313	304		319	335	301
v/s Ratio Prot	0.11	0.13		c0.16	0.29		0.00	c0.16		0.05	c0.06	
v/s Ratio Perm						c0.34						0.02
v/c Ratio	0.97	0.48		0.85	0.83	0.98	0.02	0.92		0.26	0.33	0.08
Uniform Delay, d1	39.9	27.9		35.2	27.1	29.2	30.6	36.4		31.1	31.5	30.0
Progression Factor	1.00	1.00		0.98	1.29	1.86	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	38.3	0.4		2.0	0.5	7.4	0.0	31.7		2.0	2.7	0.5
Delay (s)	78.2	28.3		36.5	35.6	61.7	30.6	68.1		33.0	34.2	30.5
Level of Service	E	C		D	D	E	C	E		C	C	C
Approach Delay (s)		50.8			46.4			67.6			32.4	
Approach LOS		D			D			E			C	

Intersection Summary			
HCM Average Control Delay	48.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

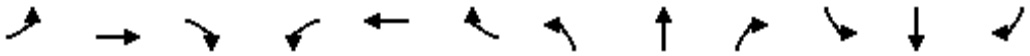


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	120	510	1470	255	700	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3461		3433	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3461		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	554	1598	277	761	609
RTOR Reduction (vph)	0	0	16	0	0	9
Lane Group Flow (vph)	130	554	1859	0	761	600
Turn Type	Prot					pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases						
Actuated Green, G (s)	7.0	57.0	46.0		25.0	36.0
Effective Green, g (s)	7.0	57.0	46.0		25.0	36.0
Actuated g/C Ratio	0.08	0.63	0.51		0.28	0.40
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	138	2241	1769		954	633
v/s Ratio Prot	0.07	0.16	c0.54		0.22	c0.38
v/s Ratio Perm						
v/c Ratio	0.94	0.25	1.05		0.80	0.95
Uniform Delay, d1	41.3	7.2	22.0		30.2	26.1
Progression Factor	0.97	0.86	1.00		1.00	1.00
Incremental Delay, d2	52.9	0.0	36.3		6.9	23.4
Delay (s)	92.9	6.2	58.3		37.1	49.5
Level of Service	F	A	E		D	D
Approach Delay (s)		22.7	58.3		42.6	
Approach LOS		C	E		D	

Intersection Summary			
HCM Average Control Delay	46.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

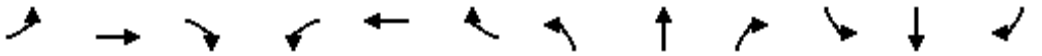
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	100	615	165	125	1045	110	155	125	100	95	80	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3303		3433	3131	
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)	1770	3539	1583	1770	3539	1583	3433	3303		3433	3131	
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)	109	668	179	136	1136	120	168	136	109	103	87	288
RTOR Reduction (vph)	0	0	111	0	0	71	0	95	0	0	219	0
Lane Group Flow (vph)	109	668	68	136	1136	49	168	150	0	103	156	0
Turn Type	Prot		Over	Prot		Perm	Split			Split		
Protected Phases	7	4	2	3	8		6	6		2	2	
Permitted Phases						8						
Actuated Green, G (s)	5.0	22.4	17.0	8.6	26.0	26.0	9.5	9.5		17.0	17.0	
Effective Green, g (s)	5.0	22.4	17.0	8.6	26.0	26.0	9.5	9.5		17.0	17.0	
Actuated g/C Ratio	0.07	0.30	0.23	0.12	0.35	0.35	0.13	0.13		0.23	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	120	1079	366	207	1252	560	444	427		794	724	
v/s Ratio Prot	c0.06	0.19	0.04	0.08	c0.32		c0.05	0.05		0.03	c0.05	
v/s Ratio Perm						0.03						
v/c Ratio	0.91	0.62	0.18	0.66	0.91	0.09	0.38	0.35		0.13	0.22	
Uniform Delay, d1	34.0	21.9	22.7	31.0	22.6	15.8	29.3	29.2		22.4	22.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	54.0	1.1	1.1	7.3	9.6	0.1	0.5	0.5		0.3	0.7	
Delay (s)	88.1	23.0	23.8	38.4	32.2	15.9	29.8	29.7		22.7	23.5	
Level of Service	F	C	C	D	C	B	C	C		C	C	
Approach Delay (s)		30.5			31.4			29.8			23.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



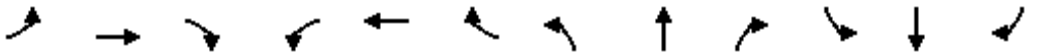
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	265	445	10	10	710	755	15	40	35	250	5	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3527		1770	3539	1583		1838	1583	1681	1645	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3527		1770	3539	1583		1838	1583	1681	1645	
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)	288	484	11	11	772	821	16	43	38	272	5	38
RTOR Reduction (vph)	0	1	0	0	0	277	0	0	33	0	12	0
Lane Group Flow (vph)	288	494	0	11	772	544	0	59	5	160	143	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	16.0	39.4		0.8	24.2	31.0		12.8	12.8	31.0	31.0	
Effective Green, g (s)	16.0	39.4		0.8	24.2	31.0		12.8	12.8	31.0	31.0	
Actuated g/C Ratio	0.16	0.39		0.01	0.24	0.31		0.13	0.13	0.31	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	283	1390		14	856	491		235	203	521	510	
v/s Ratio Prot	c0.16	0.14		0.01	c0.22	c0.34		c0.03		0.10	0.09	
v/s Ratio Perm									0.00			
v/c Ratio	1.02	0.36		0.79	0.90	1.11		0.25	0.02	0.31	0.28	
Uniform Delay, d1	42.0	21.4		49.5	36.7	34.5		39.3	38.1	26.3	26.1	
Progression Factor	1.00	1.00		1.14	0.85	1.92		1.00	1.00	1.00	1.00	
Incremental Delay, d2	58.1	0.2		96.1	8.5	66.1		2.5	0.2	1.5	1.4	
Delay (s)	100.1	21.5		152.5	39.8	132.4		41.8	38.4	27.8	27.4	
Level of Service	F	C		F	D	F		D	D	C	C	
Approach Delay (s)		50.4			88.0			40.5			27.6	
Approach LOS		D			F			D			C	

Intersection Summary			
HCM Average Control Delay	69.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



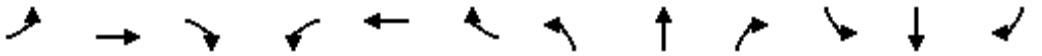
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	530	95	40	1085	370	100	65	20	305	130	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1770	3459		1770	3539	1583	1681	1750	1583	1681	1734	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (perm)	1770	3459		1770	3539	1583	1681	1750	1583	1681	1734	1583
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)	114	576	103	43	1179	402	109	71	22	332	141	315
RTOR Reduction (vph)	0	13	0	0	0	202	0	0	19	0	0	202
Lane Group Flow (vph)	114	666	0	43	1179	200	88	92	3	232	241	113
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	9.9	46.2		4.0	40.3	40.3	14.2	14.2	14.2	19.6	19.6	19.6
Effective Green, g (s)	9.9	46.2		4.0	40.3	40.3	14.2	14.2	14.2	19.6	19.6	19.6
Actuated g/C Ratio	0.10	0.46		0.04	0.40	0.40	0.14	0.14	0.14	0.20	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	175	1598		71	1426	638	239	249	225	329	340	310
v/s Ratio Prot	c0.06	0.19		0.02	c0.33		0.05	c0.05		0.14	c0.14	
v/s Ratio Perm						0.13			0.00			0.07
v/c Ratio	0.65	0.42		0.61	0.83	0.31	0.37	0.37	0.01	0.71	0.71	0.37
Uniform Delay, d1	43.4	17.9		47.2	26.7	20.4	38.8	38.8	36.9	37.5	37.5	34.8
Progression Factor	1.01	0.73		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.1	0.2		13.7	4.1	0.3	4.3	4.2	0.1	6.7	6.6	0.7
Delay (s)	51.8	13.3		61.0	30.8	20.7	43.2	43.0	37.0	44.2	44.2	35.5
Level of Service	D	B		E	C	C	D	D	D	D	D	D
Approach Delay (s)		18.8			29.1			42.4			40.7	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



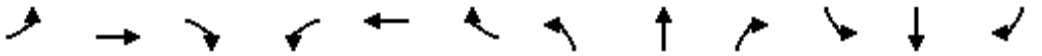
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	605	110	65	1100	25	120	70	90	110	120	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3457		1770	3527		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3457		1770	3527		1770	1863	1583	1770	1863	1583
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)	87	658	120	71	1196	27	130	76	98	120	130	152
RTOR Reduction (vph)	0	19	0	0	2	0	0	0	78	0	0	121
Lane Group Flow (vph)	87	759	0	71	1221	0	130	76	20	120	130	31
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.9	24.3		6.7	27.1		16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	3.9	24.3		6.7	27.1		16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.05	0.31		0.08	0.34		0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	87	1063		150	1210		358	377	321	358	377	321
v/s Ratio Prot	c0.05	0.22		0.04	c0.35		c0.07	0.04		0.07	c0.07	
v/s Ratio Perm									0.01			0.02
v/c Ratio	1.00	0.71		0.47	1.01		0.36	0.20	0.06	0.34	0.34	0.10
Uniform Delay, d1	37.5	24.3		34.5	25.9		27.1	26.2	25.4	26.9	27.0	25.6
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	96.5	2.3		2.3	28.1		2.8	1.2	0.4	2.5	2.5	0.6
Delay (s)	134.0	26.6		36.8	54.1		30.0	27.4	25.8	29.5	29.5	26.2
Level of Service	F	C		D	D		C	C	C	C	C	C
Approach Delay (s)		37.4			53.1			28.0			28.2	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	42.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



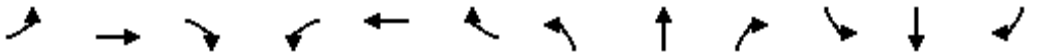
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1300	165	355	3175	130	350	235	150	370	470	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
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)	76	1413	179	386	3451	141	380	255	163	402	511	147
RTOR Reduction (vph)	0	0	91	0	0	55	0	0	143	0	0	74
Lane Group Flow (vph)	76	1413	88	386	3451	86	380	255	20	402	511	73
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	4.0	64.1	64.1	18.9	79.0	79.0	14.0	16.0	16.0	15.0	17.0	17.0
Effective Green, g (s)	4.0	64.1	64.1	18.9	79.0	79.0	14.0	16.0	16.0	15.0	17.0	17.0
Actuated g/C Ratio	0.03	0.49	0.49	0.15	0.61	0.61	0.11	0.12	0.12	0.12	0.13	0.13
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	106	2507	781	499	3090	962	370	626	195	396	463	364
v/s Ratio Prot	0.02	0.28		c0.11	c0.68		0.11	0.05		c0.12	c0.14	
v/s Ratio Perm			0.06			0.05			0.01			0.03
v/c Ratio	0.72	0.56	0.11	0.77	1.12	0.09	1.03	0.41	0.10	1.02	1.10	0.20
Uniform Delay, d1	62.4	23.1	17.7	53.5	25.5	10.6	58.0	52.6	50.6	57.5	56.5	50.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.5	0.3	0.1	7.3	57.7	0.0	53.9	2.0	1.1	49.1	73.1	1.2
Delay (s)	83.0	23.4	17.8	60.8	83.2	10.6	111.9	54.6	51.7	106.6	129.6	51.7
Level of Service	F	C	B	E	F	B	F	D	D	F	F	D
Approach Delay (s)		25.5			78.4			81.3			110.1	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	71.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



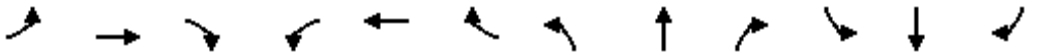
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	245	340	115	110	465	210	130	345	140	165	885	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3374		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3374		1770	3539	1583	1770	3539	1583
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)	266	370	125	120	505	228	141	375	152	179	962	511
RTOR Reduction (vph)	0	0	0	0	57	0	0	0	121	0	0	285
Lane Group Flow (vph)	266	370	125	120	676	0	141	375	31	179	962	226
Turn Type	Split		Free	Split			Split		Over	Split		Over
Protected Phases	4	4		8	8		2	2	8	6	6	4
Permitted Phases			Free									
Actuated Green, G (s)	15.3	15.3	89.3	18.0	18.0		16.0	16.0	18.0	24.0	24.0	15.3
Effective Green, g (s)	15.3	15.3	89.3	18.0	18.0		16.0	16.0	18.0	24.0	24.0	15.3
Actuated g/C Ratio	0.17	0.17	1.00	0.20	0.20		0.18	0.18	0.20	0.27	0.27	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	588	606	1583	692	680		317	634	319	476	951	271
v/s Ratio Prot	0.08	0.10		0.03	c0.20		0.08	c0.11	0.02	0.10	c0.27	c0.14
v/s Ratio Perm			0.08									
v/c Ratio	0.45	0.61	0.08	0.17	0.99		0.44	0.59	0.10	0.38	1.01	0.83
Uniform Delay, d1	33.2	34.2	0.0	29.5	35.6		32.7	33.6	29.0	26.6	32.6	35.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.8	0.1	0.1	32.7		4.5	4.0	0.1	2.3	32.1	19.3
Delay (s)	33.8	36.1	0.1	29.6	68.3		37.2	37.7	29.2	28.8	64.7	55.0
Level of Service	C	D	A	C	E		D	D	C	C	E	E
Approach Delay (s)		29.4			62.8			35.6			57.8	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM Average Control Delay	49.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



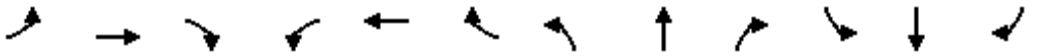
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	145	140	715	200	70	70	445	200	45	1145	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1726		3433	1863	1583	1770	3539	1583	1770	3528	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1726		3433	1863	1583	1770	3539	1583	1770	3528	
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)	33	158	152	777	217	76	76	484	217	49	1245	27
RTOR Reduction (vph)	0	38	0	0	0	47	0	0	138	0	2	0
Lane Group Flow (vph)	33	272	0	777	217	29	76	484	79	49	1270	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	2.9	17.1		21.1	35.3	35.3	3.9	33.3	33.3	3.5	32.9	
Effective Green, g (s)	2.9	17.1		21.1	35.3	35.3	3.9	33.3	33.3	3.5	32.9	
Actuated g/C Ratio	0.03	0.19		0.23	0.39	0.39	0.04	0.37	0.37	0.04	0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	56	324		796	723	614	76	1295	579	68	1276	
v/s Ratio Prot	0.02	c0.16		c0.23	0.12		c0.04	0.14		0.03	c0.36	
v/s Ratio Perm						0.02			0.05			
v/c Ratio	0.59	0.84		0.98	0.30	0.05	1.00	0.37	0.14	0.72	1.00	
Uniform Delay, d1	43.5	35.6		34.7	19.3	17.4	43.5	21.2	19.3	43.3	29.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.9	17.1		25.8	0.2	0.0	103.2	0.8	0.5	31.1	24.1	
Delay (s)	58.3	52.7		60.5	19.5	17.4	146.8	22.0	19.8	74.4	53.1	
Level of Service	E	D		E	B	B	F	C	B	E	D	
Approach Delay (s)		53.2			49.2			33.6			53.9	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	91.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



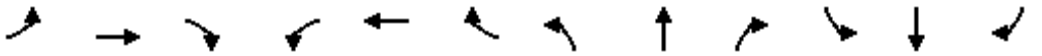
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	400	1150	135	500	1085	195	185	1610	525	170	990	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
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)	435	1250	147	543	1179	212	201	1750	571	185	1076	239
RTOR Reduction (vph)	0	0	44	0	0	104	0	0	185	0	0	0
Lane Group Flow (vph)	435	1250	104	543	1179	108	201	1750	386	185	1076	239
Turn Type	Prot		Perm	Prot		Over	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4						2			Free
Actuated Green, G (s)	17.0	43.0	43.0	19.0	45.0	8.0	8.0	44.0	44.0	8.0	44.0	130.0
Effective Green, g (s)	17.0	43.0	43.0	19.0	45.0	8.0	8.0	44.0	44.0	8.0	44.0	130.0
Actuated g/C Ratio	0.13	0.33	0.33	0.15	0.35	0.06	0.06	0.34	0.34	0.06	0.34	1.00
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	449	1171	524	502	1225	97	211	1721	536	211	1198	1583
v/s Ratio Prot	0.13	c0.35		c0.16	0.33	c0.07	0.06	c0.34		0.05	0.30	
v/s Ratio Perm			0.07						0.24			c0.15
v/c Ratio	0.97	1.07	0.20	1.08	0.96	1.11	0.95	1.02	0.72	0.88	0.90	0.15
Uniform Delay, d1	56.2	43.5	31.1	55.5	41.7	61.0	60.8	43.0	37.6	60.5	40.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	34.0	46.3	0.2	64.0	17.4	124.7	48.3	26.0	8.1	30.9	10.7	0.2
Delay (s)	90.3	89.8	31.3	119.5	59.0	185.7	109.1	69.0	45.8	91.4	51.6	0.2
Level of Service	F	F	C	F	E	F	F	E	D	F	D	A
Approach Delay (s)		85.2			89.9			66.9			48.3	
Approach LOS		F			F			E			D	

Intersection Summary			
HCM Average Control Delay	73.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



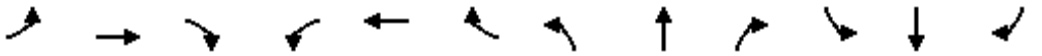
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	85	100	615	185	125	185	1090	485	210	1880	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		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	3539	1583	3433	3325		3433	4850		3433	5071	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3325		3433	4850		3433	5071	
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)	38	92	109	668	201	136	201	1185	527	228	2043	38
RTOR Reduction (vph)	0	0	100	0	95	0	0	48	0	0	1	0
Lane Group Flow (vph)	38	92	9	668	242	0	201	1664	0	228	2080	0
Turn Type	Prot		Over	Prot			Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.2	8.9	11.5	19.8	21.5		11.5	77.6		5.0	71.1	
Effective Green, g (s)	7.2	8.9	11.5	19.8	21.5		11.5	77.6		5.0	71.1	
Actuated g/C Ratio	0.05	0.07	0.09	0.15	0.16		0.09	0.58		0.04	0.53	
Clearance Time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Vehicle Extension (s)	3.0	2.0	1.2	2.0	2.0		1.2	5.0		0.8	5.8	
Lane Grp Cap (vph)	95	236	136	509	535		296	2817		128	2699	
v/s Ratio Prot	0.02	0.03	0.01	c0.19	c0.07		c0.06	0.34		c0.07	c0.41	
v/s Ratio Perm												
v/c Ratio	0.40	0.39	0.07	1.31	0.45		0.68	0.59		1.78	0.77	
Uniform Delay, d1	61.1	59.7	56.1	56.9	50.7		59.3	17.9		64.3	24.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	0.4	0.1	154.1	0.2		4.8	0.9		381.1	2.2	
Delay (s)	63.9	60.1	56.2	211.0	50.9		64.1	18.8		445.4	27.0	
Level of Service	E	E	E	F	D		E	B		F	C	
Approach Delay (s)		58.9			157.3			23.5			68.3	
Approach LOS		E			F			C			E	

Intersection Summary			
HCM Average Control Delay	68.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	133.6	Sum of lost time (s)	16.7
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



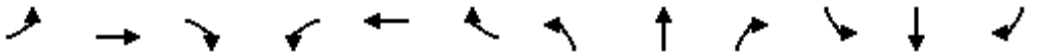
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	650	5	575	180	1185	0	0	2025	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	1.00
Frt				1.00	0.93	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)				1681	1538	1504	3433	5085			5085	1583
Flt Permitted				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1538	1504	3433	5085			5085	1583
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)	0	0	0	707	5	625	196	1288	0	0	2201	620
RTOR Reduction (vph)	0	0	0	0	30	39	0	0	0	0	0	281
Lane Group Flow (vph)	0	0	0	467	421	380	196	1288	0	0	2201	339
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.0	31.0	29.9	11.0	58.0			42.8	42.8
Effective Green, g (s)				31.0	31.0	29.9	11.0	58.0			42.8	42.8
Actuated g/C Ratio				0.31	0.31	0.30	0.11	0.58			0.43	0.43
Clearance Time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				521	477	450	378	2949			2176	678
v/s Ratio Prot				c0.28	0.27		c0.06	0.25			c0.43	
v/s Ratio Perm						0.25						0.21
v/c Ratio				0.90	0.88	0.84	0.52	0.44			1.01	0.50
Uniform Delay, d1				33.0	32.8	32.9	42.0	11.8			28.6	20.8
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				17.8	17.3	13.5	1.2	0.5			22.2	2.6
Delay (s)				50.8	50.1	46.4	43.2	12.3			50.8	23.4
Level of Service				D	D	D	D	B			D	C
Approach Delay (s)		0.0			49.2			16.4			44.8	
Approach LOS		A			D			B			D	

Intersection Summary			
HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



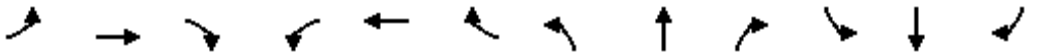
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	0	215	0	0	0	0	875	465	650	2025	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Lane Util. Factor	0.97		1.00					0.91	1.00	0.97	0.91	
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)	3433		1583					5085	1583	3433	5085	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					5085	1583	3433	5085	
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)	533	0	234	0	0	0	0	951	505	707	2201	0
RTOR Reduction (vph)	0	0	10	0	0	0	0	0	237	0	0	0
Lane Group Flow (vph)	533	0	224	0	0	0	0	951	268	707	2201	0
Turn Type	Prot		custom						Perm	Prot		
Protected Phases	7							2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	23.7		22.6					54.4	54.4	31.2	90.3	
Effective Green, g (s)	23.7		22.6					54.4	54.4	31.2	90.3	
Actuated g/C Ratio	0.19		0.18					0.44	0.44	0.25	0.72	
Clearance Time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	651		286					2213	689	857	3673	
v/s Ratio Prot	c0.16							0.19		c0.21	c0.43	
v/s Ratio Perm			0.14						0.17			
v/c Ratio	0.82		0.78					0.43	0.39	0.82	0.60	
Uniform Delay, d1	48.6		48.9					24.5	24.0	44.3	8.5	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.9		13.1					0.6	1.7	6.5	0.7	
Delay (s)	56.5		62.0					25.1	25.6	50.8	9.2	
Level of Service	E		E					C	C	D	A	
Approach Delay (s)		58.2			0.0			25.3			19.3	
Approach LOS		E			A			C			B	

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	81.8%	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)	10	130	540	225	125	5	560	35	265	10	110	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.88	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	2787	3433	1853		3433	1863	2787	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	2787	3433	1853		3433	1863	2787	1770	1863	1583
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)	11	141	587	245	136	5	609	38	288	11	120	27
RTOR Reduction (vph)	0	0	472	0	2	0	0	0	263	0	0	18
Lane Group Flow (vph)	11	141	115	245	139	0	609	38	25	11	120	9
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	0.7	9.0	12.1	5.3	13.6		12.1	30.9	5.3	0.7	19.5	19.5
Effective Green, g (s)	0.7	9.0	12.1	5.3	13.6		12.1	30.9	5.3	0.7	19.5	19.5
Actuated g/C Ratio	0.01	0.15	0.20	0.09	0.22		0.20	0.50	0.09	0.01	0.32	0.32
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	20	515	545	294	407		671	930	239	20	587	499
v/s Ratio Prot	0.01	0.04	0.04	c0.07	c0.07		c0.18	0.02	0.01	0.01	c0.06	
v/s Ratio Perm												0.01
v/c Ratio	0.55	0.27	0.21	0.83	0.34		0.91	0.04	0.10	0.55	0.20	0.02
Uniform Delay, d1	30.4	23.5	20.9	27.9	20.4		24.4	7.9	26.1	30.4	15.5	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.9	0.3	0.2	18.0	0.5		16.0	0.1	0.2	28.9	0.8	0.1
Delay (s)	59.3	23.8	21.1	45.8	20.9		40.3	8.0	26.3	59.3	16.3	14.7
Level of Service	E	C	C	D	C		D	A	C	E	B	B
Approach Delay (s)		22.2			36.7			34.7			19.0	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	61.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

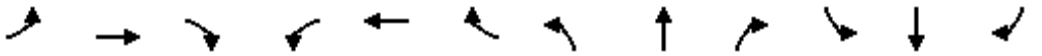


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	80	255	830	30	30	135	590	430	70	1025	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.91	0.91		1.00	0.95	0.88	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1610	3217		1770	3539	2787	1770	3534	
Flt Permitted	0.95	1.00	1.00	0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1610	3217		1770	3539	2787	1770	3534	
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)	54	87	277	902	33	33	147	641	467	76	1114	11
RTOR Reduction (vph)	0	0	194	0	4	0	0	0	337	0	1	0
Lane Group Flow (vph)	54	87	83	451	513	0	147	641	130	76	1124	0
Turn Type	Split		Perm	Split			Prot		Over	Prot		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases			4									
Actuated Green, G (s)	10.6	10.6	10.6	24.1	24.1		10.9	28.4	24.1	7.6	25.1	
Effective Green, g (s)	10.6	10.6	10.6	24.1	24.1		10.9	28.4	24.1	7.6	25.1	
Actuated g/C Ratio	0.12	0.12	0.12	0.28	0.28		0.13	0.33	0.28	0.09	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	216	433	194	448	894		223	1159	775	155	1023	
v/s Ratio Prot	0.03	0.02		c0.28	0.16		c0.08	c0.18	0.05	0.04	c0.32	
v/s Ratio Perm			c0.05									
v/c Ratio	0.25	0.20	0.43	1.01	0.95dl		0.66	0.55	0.17	0.49	1.10	
Uniform Delay, d1	34.5	34.2	35.2	31.3	26.9		36.1	23.9	23.7	37.7	30.8	
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	0.6	0.2	1.5	44.2	0.9		6.9	1.9	0.1	2.4	59.2	
Delay (s)	35.1	34.5	36.8	75.5	27.8		43.0	25.8	23.8	40.1	90.0	
Level of Service	D	C	D	E	C		D	C	C	D	F	
Approach Delay (s)		36.1			50.0			27.1			86.9	
Approach LOS		D			D			C			F	

Intersection Summary			
HCM Average Control Delay	52.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	86.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

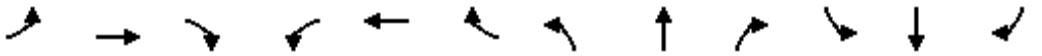
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



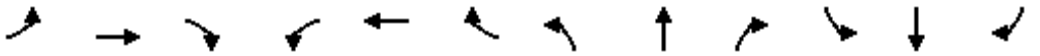
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	360	5	80	90	60	15	90	700	55	5	1560	1155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		1808	1583	1770	3500		1770	3539	2787
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		1808	1583	1770	3500		1770	3539	2787
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)	391	5	87	98	65	16	98	761	60	5	1696	1255
RTOR Reduction (vph)	0	0	0	0	0	5	0	3	0	0	0	0
Lane Group Flow (vph)	391	5	87	0	163	11	98	818	0	5	1696	1255
Turn Type	Split		Free	Split		Perm	Prot			Prot		Over
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			Free			8						
Actuated Green, G (s)	54.0	54.0	152.7		15.5	15.5	6.0	66.4		0.8	61.2	54.0
Effective Green, g (s)	54.0	54.0	152.7		15.5	15.5	6.0	66.4		0.8	61.2	54.0
Actuated g/C Ratio	0.35	0.35	1.00		0.10	0.10	0.04	0.43		0.01	0.40	0.35
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1214	659	1583		184	161	70	1522		9	1418	986
v/s Ratio Prot	0.11	0.00			c0.09		c0.06	0.23		0.00	c0.48	c0.45
v/s Ratio Perm			0.05			0.01						
v/c Ratio	0.32	0.01	0.05		0.89	0.07	1.40	0.54		0.56	1.20	1.27
Uniform Delay, d1	36.0	32.0	0.0		67.7	62.1	73.3	31.8		75.8	45.7	49.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.1		36.0	0.2	245.9	1.4		58.1	95.4	130.8
Delay (s)	36.2	32.0	0.1		103.8	62.2	319.2	33.2		133.9	141.1	180.1
Level of Service	D	C	A		F	E	F	C		F	F	F
Approach Delay (s)		29.6			100.1			63.7			157.7	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM Average Control Delay	122.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	152.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



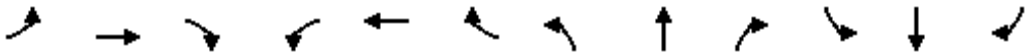
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	335	140	45	545	270	190	610	30	790	1110	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.91	0.91		0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.99	
Satd. Flow (prot)	3433	3539	1583	1770	3363		1610	3362		1610	3337	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	0.99	
Satd. Flow (perm)	3433	3539	1583	1770	3363		1610	3362		1610	3337	
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)	60	364	152	49	592	293	207	663	33	859	1207	103
RTOR Reduction (vph)	0	0	120	0	50	0	0	2	0	0	5	0
Lane Group Flow (vph)	60	364	32	49	835	0	186	715	0	704	1460	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	3.2	25.0	25.0	6.2	28.0		21.0	21.0		51.0	51.0	
Effective Green, g (s)	3.2	25.0	25.0	6.2	28.0		21.0	21.0		51.0	51.0	
Actuated g/C Ratio	0.03	0.21	0.21	0.05	0.23		0.18	0.18		0.43	0.43	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	92	742	332	92	790		284	592		689	1428	
v/s Ratio Prot	0.02	0.10		c0.03	c0.25		0.12	c0.21		0.44	c0.44	
v/s Ratio Perm			0.02									
v/c Ratio	0.65	0.49	0.10	0.53	1.06		0.65	1.21		1.02	1.02	
Uniform Delay, d1	57.4	41.5	38.0	55.1	45.6		45.7	49.1		34.1	34.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.4	0.5	0.1	5.8	47.9		11.2	108.4		39.9	29.7	
Delay (s)	72.8	42.0	38.1	60.9	93.5		56.9	157.5		74.0	63.8	
Level of Service	E	D	D	E	F		E	F		E	E	
Approach Delay (s)		44.2			91.8			136.8			67.1	
Approach LOS		D			F			F			E	

Intersection Summary			
HCM Average Control Delay	83.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	119.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



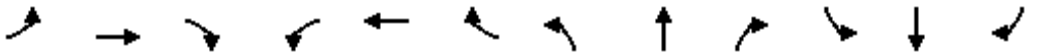
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	1115	390	340	2350	130	325	275	345	45	385	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		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)	1770	5085	1583	1770	5085	1583	3433	3244		3433	3473	
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)	1770	5085	1583	1770	5085	1583	3433	3244		3433	3473	
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)	16	1212	424	370	2554	141	353	299	375	49	418	60
RTOR Reduction (vph)	0	0	193	0	0	62	0	188	0	0	9	0
Lane Group Flow (vph)	16	1212	231	370	2554	79	353	486	0	49	469	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)	1.6	41.8	41.8	27.4	67.6	67.6	14.5	31.5		3.9	20.9	
Effective Green, g (s)	1.6	41.8	41.8	27.4	67.6	67.6	14.5	31.5		3.9	20.9	
Actuated g/C Ratio	0.01	0.35	0.35	0.23	0.56	0.56	0.12	0.26		0.03	0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	23	1762	549	402	2850	887	413	847		111	602	
v/s Ratio Prot	0.01	0.24		c0.21	c0.50		c0.10	0.15		0.01	c0.14	
v/s Ratio Perm			0.15			0.05						
v/c Ratio	0.70	0.69	0.42	0.92	0.90	0.09	0.85	0.57		0.44	0.78	
Uniform Delay, d1	59.3	33.8	30.1	45.5	23.4	12.3	52.0	38.7		57.3	47.6	
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	63.9	1.1	0.5	26.1	4.1	0.0	15.7	2.8		2.8	9.6	
Delay (s)	123.2	34.9	30.7	71.6	27.5	12.3	67.7	41.5		60.1	57.2	
Level of Service	F	C	C	E	C	B	E	D		E	E	
Approach Delay (s)		34.7			32.2			50.5			57.5	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	38.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.1%	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)	265	150	90	310	565	275	65	555	135	235	715	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.95		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3340		1770	3365		1770	3435		1770	3352	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3340		1770	3365		1770	3435		1770	3352	
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)	288	163	98	337	614	299	71	603	147	255	777	424
RTOR Reduction (vph)	0	79	0	0	66	0	0	23	0	0	82	0
Lane Group Flow (vph)	288	182	0	337	847	0	71	727	0	255	1119	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.0	17.2		19.8	22.0		4.0	24.0		13.0	33.0	
Effective Green, g (s)	15.0	17.2		19.8	22.0		4.0	24.0		13.0	33.0	
Actuated g/C Ratio	0.17	0.19		0.22	0.24		0.04	0.27		0.14	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	638		389	823		79	916		256	1229	
v/s Ratio Prot	c0.16	0.05		c0.19	c0.25		0.04	0.21		c0.14	c0.33	
v/s Ratio Perm												
v/c Ratio	0.98	0.28		0.87	1.03		0.90	0.79		1.00	0.91	
Uniform Delay, d1	37.3	31.1		33.8	34.0		42.8	30.7		38.5	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	45.5	0.2		17.9	39.1		67.3	7.0		54.8	11.6	
Delay (s)	82.8	31.4		51.8	73.1		110.1	37.7		93.3	38.7	
Level of Service	F	C		D	E		F	D		F	D	
Approach Delay (s)		58.3			67.4			44.0			48.3	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.3%	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)	175	835	175	170	1145	125	160	435	130	235	670	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4953		3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4953		3433	5085	1583	3433	3539	1583	3433	3539	1583
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)	190	908	190	185	1245	136	174	473	141	255	728	190
RTOR Reduction (vph)	0	41	0	0	0	118	0	0	104	0	0	170
Lane Group Flow (vph)	190	1057	0	185	1245	18	174	473	37	255	728	20
Turn Type	Prot			Prot		Over	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases									2			
Actuated Green, G (s)	8.5	24.4		7.8	23.7	10.2	6.0	20.8	20.8	10.2	25.0	8.5
Effective Green, g (s)	8.5	24.4		7.8	23.7	10.2	6.0	20.8	20.8	10.2	25.0	8.5
Actuated g/C Ratio	0.11	0.31		0.10	0.30	0.13	0.08	0.26	0.26	0.13	0.32	0.11
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	368	1526		338	1522	204	260	929	416	442	1117	170
v/s Ratio Prot	c0.06	0.21		0.05	c0.24	0.01	0.05	0.13		c0.07	c0.21	0.01
v/s Ratio Perm									0.02			
v/c Ratio	0.52	0.69		0.55	0.82	0.09	0.67	0.51	0.09	0.58	0.65	0.12
Uniform Delay, d1	33.4	24.1		34.0	25.7	30.4	35.6	24.9	22.0	32.5	23.3	32.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.4		1.8	3.5	0.2	6.4	2.0	0.4	1.8	3.0	0.3
Delay (s)	34.6	25.5		35.8	29.3	30.6	42.0	26.8	22.5	34.3	26.3	32.3
Level of Service	C	C		D	C	C	D	C	C	C	C	C
Approach Delay (s)		26.8			30.2			29.4			29.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	28.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #27 Rancho Del Oro Rd & Vista Del Oro Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.193
Loss Time (sec):	0	Average Delay (sec/veh):	78.2
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Vista Del Oro Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	10	720	60	95	1150	20	35	15	55	75	5	65
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:	10	720	60	95	1150	20	35	15	55	75	5	65
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:	11	783	65	103	1250	22	38	16	60	82	5	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	783	65	103	1250	22	38	16	60	82	5	71
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:	11	783	65	103	1250	22	38	16	60	82	5	71
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.97	0.03	0.33	0.14	0.53	0.52	0.03	0.45
Final Sat.:	473	942	79	491	1048	18	160	69	251	254	17	220
Capacity Analysis Module:												
Vol/Sat:	0.02	0.83	0.82	0.21	1.19	1.19	0.24	0.24	0.24	0.32	0.32	0.32
Crit Moves:		****			****			****			****	
Delay/Veh:	10.5	35.5	34.5	11.9	127	125.7	12.4	12.4	12.4	13.4	13.4	13.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.5	35.5	34.5	11.9	127	125.7	12.4	12.4	12.4	13.4	13.4	13.4
LOS by Move:	B	E	D	B	F	F	B	B	B	B	B	B
ApproachDel:		35.1			117.9			12.4			13.4	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		35.1			117.9			12.4			13.4	
LOS by Appr:		E			F			B			B	
AllWayAvgQ:	0.0	3.7	3.5	0.3	17.4	17.2	0.3	0.3	0.3	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #28 Rancho Del Oro Rd & Cameo Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.277
Loss Time (sec):	0	Average Delay (sec/veh):	107.4
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Cameo Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	1 0	0	1 0
Volume Module:												
Base Vol:	10	910	50	95	815	10	35	10	35	140	10	185
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:	10	910	50	95	815	10	35	10	35	140	10	185
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:	11	989	54	103	886	11	38	11	38	152	11	201
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	989	54	103	886	11	38	11	38	152	11	201
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:	11	989	54	103	886	11	38	11	38	152	11	201
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.90	0.10	1.00	1.98	0.02	0.44	0.12	0.44	1.00	0.05	0.95
Final Sat.:	382	774	43	394	827	10	175	50	175	376	22	405
Capacity Analysis Module:												
Vol/Sat:	0.03	1.28	1.27	0.26	1.07	1.07	0.22	0.22	0.22	0.40	0.50	0.50
Crit Moves:		****			****			****				****
Delay/Veh:	12.3	169	166.3	15.0	93.1	92.7	14.3	14.3	14.3	18.6	19.0	19.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.3	169	166.3	15.0	93.1	92.7	14.3	14.3	14.3	18.6	19.0	19.0
LOS by Move:	B	F	F	B	F	F	B	B	B	C	C	C
ApproachDel:	166.9			85.0			14.3			18.8		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	166.9			85.0			14.3			18.8		
LOS by Appr:	F			F			B			C		
AllWayAvgQ:	0.0	18.0	17.6	0.3	9.5	9.5	0.3	0.3	0.3	0.7	0.9	0.9

Note: Queue reported is the number of cars per lane.

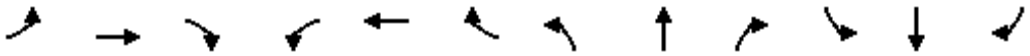
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #29 Rancho Del Oro Rd & Trieste Way & Sicily Way

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	0	Average Delay (sec/veh):	20.4
Optimal Cycle:	0	Level Of Service:	C

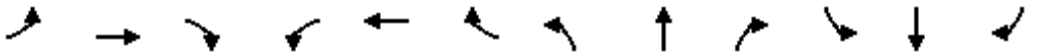
Street Name:	Rancho Del Oro Rd						Trieste Way & Sicily Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	5	585	5	5	955	5	5	0	15	15	0	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 1.00	1.00	1.00	1.00
Initial Bse:	5	585	5	5	955	5	5	0	15	15	0	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 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 0.92	0.92	0.92	0.92
PHF Volume:	5	636	5	5	1038	5	5	0	16	16	0	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	636	5	5	1038	5	5	0	16	16	0	11
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 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 1.00	1.00	1.00	1.00
FinalVolume:	5	636	5	5	1038	5	5	0	16	16	0	11
Saturation Flow Module:												
Adjustment:	1.00 1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00
Lanes:	1.00 1.98		0.02 1.00	1.99		0.01 0.25	0.00		0.75 0.60	0.00		0.40
Final Sat.:	547 1193		10 604	1322		7 139	0		416 320	0		214
Capacity Analysis Module:												
Vol/Sat:	0.01 0.53	0.53	0.01 0.79	0.78		0.04 xxxx	0.04		0.05 xxxx	0.05		
Crit Moves:	****		****			****			****			
Delay/Veh:	9.1 14.7	14.7	8.6 24.4	24.4		9.5 0.0	9.5		9.8 0.0	9.8		
Delay Adj:	1.00 1.00	1.00	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		
AdjDel/Veh:	9.1 14.7	14.7	8.6 24.4	24.4		9.5 0.0	9.5		9.8 0.0	9.8		
LOS by Move:	A	B	B	A	C	C	A	*	A	A	*	A
ApproachDel:	14.7		24.3			9.5			9.8			
Delay Adj:	1.00		1.00			1.00			1.00			
ApprAdjDel:	14.7		24.3			9.5			9.8			
LOS by Appr:	B		C			A			A			
AllWayAvgQ:	0.0 1.0	1.0	0.0 3.0	3.0		0.0 0.0	0.0		0.0 0.0	0.0		

Note: Queue reported is the number of cars per lane.



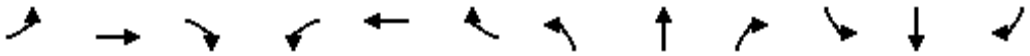
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	15	55	75	5	65	10	720	60	95	1150	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.94		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1702			1705		1770	3499		1770	3530	
Flt Permitted		0.86			0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1496			1492		1770	3499		1770	3530	
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)	38	16	60	82	5	71	11	783	65	103	1250	22
RTOR Reduction (vph)	0	51	0	0	57	0	0	9	0	0	2	0
Lane Group Flow (vph)	0	63	0	0	101	0	11	839	0	103	1270	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		6.9			6.9		0.6	22.5		4.2	26.1	
Effective Green, g (s)		6.9			6.9		0.6	22.5		4.2	26.1	
Actuated g/C Ratio		0.15			0.15		0.01	0.49		0.09	0.57	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		226			226		23	1726		163	2020	
v/s Ratio Prot							0.01	0.24		c0.06	c0.36	
v/s Ratio Perm		0.04			c0.07							
v/c Ratio		0.28			0.45		0.48	0.49		0.63	0.63	
Uniform Delay, d1		17.1			17.6		22.3	7.7		20.0	6.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			1.4		14.8	0.2		7.8	0.6	
Delay (s)		17.8			19.0		37.2	7.9		27.7	7.1	
Level of Service		B			B		D	A		C	A	
Approach Delay (s)		17.8			19.0			8.3			8.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	45.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



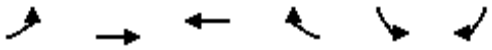
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	10	35	140	10	185	10	910	50	95	815	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt		0.94		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715		1770	1598		1770	3512		1770	3533	
Flt Permitted		0.76		0.78	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1332		1460	1598		1770	3512		1770	3533	
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)	38	11	38	152	11	201	11	989	54	103	886	11
RTOR Reduction (vph)	0	31	0	0	154	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	56	0	152	58	0	11	1037	0	103	896	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		11.2		11.2	11.2		0.8	31.8		4.8	35.8	
Effective Green, g (s)		11.2		11.2	11.2		0.8	31.8		4.8	35.8	
Actuated g/C Ratio		0.19		0.19	0.19		0.01	0.53		0.08	0.60	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		249		273	299		24	1868		142	2115	
v/s Ratio Prot					0.04		0.01	c0.30		c0.06	c0.25	
v/s Ratio Perm		0.04		c0.10								
v/c Ratio		0.23		0.56	0.19		0.46	0.56		0.73	0.42	
Uniform Delay, d1		20.6		22.0	20.5		29.3	9.3		26.9	6.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5		2.5	0.3		13.2	1.2		16.7	0.6	
Delay (s)		21.1		24.5	20.8		42.5	10.5		43.6	7.1	
Level of Service		C		C	C		D	B		D	A	
Approach Delay (s)		21.1			22.3			10.8			10.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	59.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



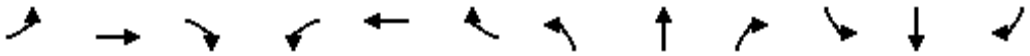
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	0	15	15	0	10	5	585	5	5	955	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.90			0.94		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1651			1710		1770	3535		1770	3537	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1671			1760		1770	3535		1770	3537	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	0	16	16	0	11	5	636	5	5	1038	5
RTOR Reduction (vph)	0	16	0	0	11	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	5	0	0	16	0	5	640	0	5	1043	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		1.4			1.4		0.7	40.2		0.7	40.2	
Effective Green, g (s)		1.4			1.4		0.7	40.2		0.7	40.2	
Actuated g/C Ratio		0.03			0.03		0.01	0.74		0.01	0.74	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		43			45		23	2617		23	2619	
v/s Ratio Prot							c0.00	0.18		0.00	c0.29	
v/s Ratio Perm		0.00			c0.01							
v/c Ratio		0.13			0.36		0.22	0.24		0.22	0.40	
Uniform Delay, d1		25.9			26.0		26.5	2.2		26.5	2.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			4.9		4.7	0.2		4.7	0.5	
Delay (s)		27.2			30.9		31.2	2.5		31.2	3.0	
Level of Service		C			C		C	A		C	A	
Approach Delay (s)		27.2			30.9			2.7			3.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	3.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



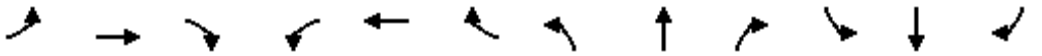
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	195	175	285	145	370	515
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3360		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3360		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	190	310	158	402	560
RTOR Reduction (vph)	0	0	117	0	0	85
Lane Group Flow (vph)	212	190	351	0	402	475
Turn Type	Prot					pt+ov
Protected Phases	7	4	8		1	1 7
Permitted Phases						
Actuated Green, G (s)	10.5	25.4	10.9		20.2	34.7
Effective Green, g (s)	10.5	25.4	10.9		20.2	34.7
Actuated g/C Ratio	0.20	0.47	0.20		0.38	0.65
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	347	1677	683		667	1025
v/s Ratio Prot	c0.12	0.05	c0.10		c0.23	0.30
v/s Ratio Perm						
v/c Ratio	0.61	0.11	0.51		0.60	0.46
Uniform Delay, d1	19.7	7.8	19.0		13.5	4.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.2	0.0	0.7		4.0	0.3
Delay (s)	22.9	7.9	19.6		17.5	5.1
Level of Service	C	A	B		B	A
Approach Delay (s)		15.8	19.6		10.3	
Approach LOS		B	B		B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



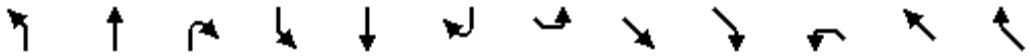
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	585	55	55	170	175	55	40	1290	85	30	260	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	0.95		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.93		1.00	0.96		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1723		3433	3412		1770	5085	1583	1770	4914	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1723		3433	3412		1770	5085	1583	1770	4914	
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)	636	60	60	185	190	60	43	1402	92	33	283	82
RTOR Reduction (vph)	0	43	0	0	47	0	0	0	60	0	55	0
Lane Group Flow (vph)	636	77	0	185	203	0	43	1402	32	33	310	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	13.9	17.5		6.1	9.7		2.8	21.7	21.7	1.5	20.4	
Effective Green, g (s)	13.9	17.5		6.1	9.7		2.8	21.7	21.7	1.5	20.4	
Actuated g/C Ratio	0.22	0.28		0.10	0.15		0.04	0.35	0.35	0.02	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	760	480		333	527		79	1757	547	42	1596	
v/s Ratio Prot	c0.19	0.04		0.05	c0.06		c0.02	c0.28		0.02	0.06	
v/s Ratio Perm									0.02			
v/c Ratio	0.84	0.16		0.56	0.38		0.54	0.80	0.06	0.79	0.19	
Uniform Delay, d1	23.4	17.1		27.1	23.9		29.4	18.6	13.7	30.5	15.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.0	0.2		2.0	0.5		7.5	3.9	0.2	62.3	0.3	
Delay (s)	31.3	17.3		29.1	24.3		36.8	22.4	13.9	92.7	15.5	
Level of Service	C	B		C	C		D	C	B	F	B	
Approach Delay (s)		29.1			26.3			22.3			21.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



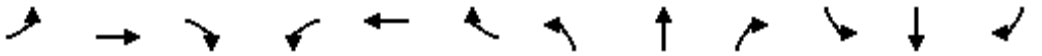
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	25	80	365	30	190	75	1115	115	25	660	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.89	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1576	1504	1770	5085	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1576	1504	1770	5085	1583	1770	3539	1583
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)	60	27	87	397	33	207	82	1212	125	27	717	33
RTOR Reduction (vph)	0	0	77	0	72	96	0	0	71	0	0	22
Lane Group Flow (vph)	60	27	10	397	50	22	82	1212	54	27	717	11
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	3.3	5.9	5.9	7.2	9.8	9.8	5.3	22.5	22.5	0.7	17.9	17.9
Effective Green, g (s)	3.3	5.9	5.9	7.2	9.8	9.8	5.3	22.5	22.5	0.7	17.9	17.9
Actuated g/C Ratio	0.06	0.11	0.11	0.14	0.19	0.19	0.10	0.43	0.43	0.01	0.34	0.34
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	112	210	179	473	295	282	179	2188	681	24	1211	542
v/s Ratio Prot	0.03	0.01		c0.12	c0.03		c0.05	c0.24		0.02	0.20	
v/s Ratio Perm			0.01			0.01			0.03			0.01
v/c Ratio	0.54	0.13	0.05	0.84	0.17	0.08	0.46	0.55	0.08	1.12	0.59	0.02
Uniform Delay, d1	23.8	20.9	20.7	22.0	17.8	17.5	22.1	11.1	8.8	25.8	14.2	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.3	0.1	12.4	0.3	0.1	1.9	1.0	0.2	225.0	2.1	0.1
Delay (s)	28.6	21.2	20.8	34.3	18.1	17.6	24.0	12.2	9.0	250.8	16.3	11.5
Level of Service	C	C	C	C	B	B	C	B	A	F	B	B
Approach Delay (s)		23.6			28.1			12.6			24.3	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	52.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



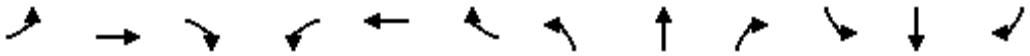
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	180	380	880	335	10	10	10	10	255	10	1165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1723			1777	2787
Flt Permitted	0.52	1.00	1.00	0.95	1.00	1.00	0.68	1.00			0.95	1.00
Satd. Flow (perm)	967	3539	1583	3433	3539	1583	1263	1723			1777	2787
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)	11	196	413	957	364	11	11	11	11	277	11	1266
RTOR Reduction (vph)	0	0	326	0	0	4	0	10	0	0	0	419
Lane Group Flow (vph)	11	196	87	957	364	7	11	12	0	0	288	847
Turn Type	Perm		Perm	Prot		Perm	Perm			Split		pm+ov
Protected Phases		2		1	6			4		8	8	1
Permitted Phases	2		2			6	4					8
Actuated Green, G (s)	22.3	22.3	22.3	40.6	66.9	66.9	5.9	5.9			21.1	61.7
Effective Green, g (s)	22.3	22.3	22.3	40.6	66.9	66.9	5.9	5.9			21.1	61.7
Actuated g/C Ratio	0.21	0.21	0.21	0.38	0.63	0.63	0.06	0.06			0.20	0.58
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	204	745	333	1316	2236	1000	70	96			354	1624
v/s Ratio Prot		c0.06		c0.28	0.10			0.01			c0.16	0.20
v/s Ratio Perm	0.01		0.05			0.00	c0.01					0.10
v/c Ratio	0.05	0.26	0.26	0.73	0.16	0.01	0.16	0.12			0.81	0.52
Uniform Delay, d1	33.4	34.9	34.9	27.9	8.0	7.2	47.6	47.5			40.5	13.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.9	1.9	2.0	0.2	0.0	1.1	0.6			13.3	0.3
Delay (s)	33.9	35.8	36.8	30.0	8.2	7.2	48.7	48.1			53.8	13.6
Level of Service	C	D	D	C	A	A	D	D			D	B
Approach Delay (s)		36.4			23.8			48.3			21.0	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	105.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.0%	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)	430	940	40	410	1570	570	60	640	180	520	840	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3423		3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3423		3433	3539	1583
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)	467	1022	43	446	1707	620	65	696	196	565	913	652
RTOR Reduction (vph)	0	0	41	0	0	339	0	21	0	0	0	446
Lane Group Flow (vph)	467	1022	2	446	1707	281	65	871	0	565	913	206
Turn Type	Prot		Over	Prot		Over	Prot			Prot		Over
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases											6	
Actuated Green, G (s)	17.0	29.2	6.4	16.9	29.1	25.5	6.4	29.9		25.5	49.0	17.0
Effective Green, g (s)	17.0	29.2	6.4	16.9	29.1	25.5	6.4	29.9		25.5	49.0	17.0
Actuated g/C Ratio	0.14	0.25	0.05	0.14	0.25	0.22	0.05	0.25		0.22	0.42	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	497	1264	86	494	1259	344	187	871		745	1476	229
v/s Ratio Prot	c0.14	0.20	0.00	0.13	c0.34	c0.18	0.02	c0.25		0.16	0.26	0.13
v/s Ratio Perm												
v/c Ratio	0.94	0.81	0.03	0.90	1.36	0.82	0.35	1.00		0.76	0.62	0.90
Uniform Delay, d1	49.7	41.5	52.6	49.5	44.2	43.8	53.5	43.8		43.1	26.9	49.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	25.7	3.9	0.1	19.6	165.4	13.9	1.1	30.5		4.4	2.0	34.1
Delay (s)	75.5	45.4	52.7	69.1	209.6	57.7	54.7	74.3		47.6	28.9	83.5
Level of Service	E	D	D	E	F	E	D	E		D	C	F
Approach Delay (s)		54.8			153.0			73.0			50.6	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM Average Control Delay	92.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	117.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

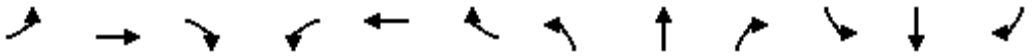


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	195	80	245	330	50	110	710	125	70	1135	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3385		1770	3469		1770	3459		1770	3406	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3385		1770	3469		1770	3459		1770	3406	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	200	205	84	258	347	53	116	747	132	74	1195	400
RTOR Reduction (vph)	0	41	0	0	11	0	0	13	0	0	30	0
Lane Group Flow (vph)	200	248	0	258	389	0	116	866	0	74	1565	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.6	13.0		18.9	16.3		8.3	49.8		7.1	48.6	
Effective Green, g (s)	15.6	13.0		18.9	16.3		8.3	49.8		7.1	48.6	
Actuated g/C Ratio	0.14	0.12		0.17	0.15		0.08	0.45		0.06	0.44	
Clearance Time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	251	400		304	514		134	1566		114	1505	
v/s Ratio Prot	c0.11	0.07		c0.15	0.11		c0.07	0.25		0.04	c0.46	
v/s Ratio Perm												
v/c Ratio	0.80	0.62		0.85	0.76		0.87	0.55		0.65	1.04	
Uniform Delay, d1	45.7	46.1		44.2	44.9		50.3	22.0		50.2	30.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.9	2.8		19.3	6.3		40.3	1.4		12.0	34.4	
Delay (s)	61.6	49.0		63.4	51.2		90.6	23.4		62.3	65.1	
Level of Service	E	D		E	D		F	C		E	E	
Approach Delay (s)		54.2			56.0			31.2			64.9	
Approach LOS		D			E			C			E	

Intersection Summary			
HCM Average Control Delay	53.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

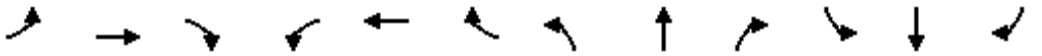
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	55	410	80	100	165	65	175	510	100	220	255	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.98		1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3453		1770	3388		3433	3452		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3453		1770	3388		3433	3452		3433	3539	1583
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)	60	446	87	109	179	71	190	554	109	239	277	92
RTOR Reduction (vph)	0	19	0	0	47	0	0	16	0	0	0	62
Lane Group Flow (vph)	60	514	0	109	203	0	190	647	0	239	277	30
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases												2
Actuated Green, G (s)	5.1	17.7		8.1	20.7		9.7	23.8		10.5	24.6	24.6
Effective Green, g (s)	5.1	17.7		8.1	20.7		9.7	23.8		10.5	24.6	24.6
Actuated g/C Ratio	0.07	0.23		0.11	0.27		0.13	0.31		0.14	0.32	0.32
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	119	803		188	922		438	1080		474	1144	512
v/s Ratio Prot	0.03	c0.15		c0.06	c0.06		0.06	c0.19		c0.07	0.08	
v/s Ratio Perm												0.02
v/c Ratio	0.50	0.64		0.58	0.22		0.43	0.60		0.50	0.24	0.06
Uniform Delay, d1	34.3	26.3		32.4	21.5		30.7	22.1		30.4	18.9	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	3.3	1.7		4.3	0.1		0.7	2.5		0.8	0.5	0.2
Delay (s)	37.6	28.0		36.7	21.6		31.4	24.6		31.2	19.4	18.0
Level of Service	D	C		D	C		C	C		C	B	B
Approach Delay (s)		29.0			26.2			26.1			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	20.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



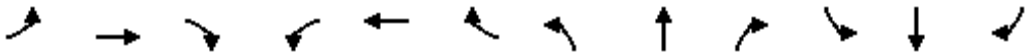
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	90	405	200	165	55	175	820	85	30	1350	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	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	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3490		1770	3506	
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)	1770	1863	1583	1770	1863	1583	3433	3490		1770	3506	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	95	426	211	174	58	184	863	89	32	1421	95
RTOR Reduction (vph)	0	0	258	0	0	44	0	7	0	0	5	0
Lane Group Flow (vph)	16	95	168	211	174	14	184	945	0	32	1511	0
Turn Type	Prot		Over	Prot		Perm	Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	1.6	13.9	9.0	14.0	27.3	27.3	9.0	52.5		4.6	48.1	
Effective Green, g (s)	1.6	13.9	9.0	14.0	27.3	27.3	9.0	52.5		4.6	48.1	
Actuated g/C Ratio	0.01	0.13	0.08	0.13	0.25	0.25	0.08	0.48		0.04	0.44	
Clearance Time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	26	235	130	225	462	393	281	1666		74	1533	
v/s Ratio Prot	0.01	0.05	c0.11	c0.12	c0.09		0.05	0.27		0.02	c0.43	
v/s Ratio Perm						0.01						
v/c Ratio	0.62	0.40	1.29	0.94	0.38	0.04	0.65	0.57		0.43	0.99	
Uniform Delay, d1	53.9	44.2	50.5	47.6	34.3	31.4	49.0	20.6		51.4	30.6	
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	36.3	1.1	177.0	42.5	0.5	0.0	5.4	1.4		4.0	19.9	
Delay (s)	90.2	45.4	227.5	90.1	34.8	31.4	54.4	22.0		55.4	50.5	
Level of Service	F	D	F	F	C	C	D	C		E	D	
Approach Delay (s)		191.2			60.7			27.3			50.6	
Approach LOS		F			E			C			D	

Intersection Summary			
HCM Average Control Delay	65.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



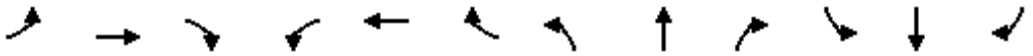
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	420	460	400	835	140	635	925	180	155	1540	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0		5.0	7.0	7.0	6.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	4976		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	4976		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	442	484	421	879	147	668	974	189	163	1621	126
RTOR Reduction (vph)	0	0	1	0	21	0	0	0	108	0	0	63
Lane Group Flow (vph)	121	442	483	421	1005	0	668	974	81	163	1621	63
Turn Type	Prot		pt+ov	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4	4 5	3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	5.0	16.0	37.0	13.0	24.0		21.0	47.0	47.0	9.0	36.0	36.0
Effective Green, g (s)	5.0	16.0	37.0	13.0	24.0		21.0	47.0	47.0	9.0	36.0	36.0
Actuated g/C Ratio	0.05	0.15	0.34	0.12	0.22		0.19	0.43	0.43	0.08	0.33	0.33
Clearance Time (s)	5.0	7.0		5.0	7.0		5.0	7.0	7.0	6.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	156	740	532	406	1086		655	2173	676	281	1664	518
v/s Ratio Prot	0.04	0.09	0.30	c0.12	c0.20		c0.19	0.19		0.05	c0.32	
v/s Ratio Perm									0.05			0.04
v/c Ratio	0.78	0.60	0.91	1.04	0.93		1.02	0.45	0.12	0.58	0.97	0.12
Uniform Delay, d1	51.9	44.0	34.9	48.5	42.1		44.5	22.3	19.0	48.7	36.5	25.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.1	1.3	19.1	54.6	12.9		40.3	0.7	0.4	3.0	16.7	0.5
Delay (s)	73.0	45.3	53.9	103.1	55.1		84.8	23.0	19.4	51.7	53.3	26.4
Level of Service	E	D	D	F	E		F	C	B	D	D	C
Approach Delay (s)		52.5			69.0			45.1			51.4	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	53.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



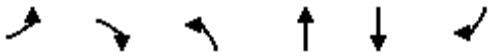
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	5	20	150	5	630	5	1020	90	705	1760	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	4.0	5.5	
Lane Util. Factor		1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85	1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1801	1583	1770	1508	1504	1770	3539	1583	3433	3536	
Flt Permitted		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1801	1583	1770	1508	1504	1770	3539	1583	3433	3536	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	5	21	158	5	663	5	1074	95	742	1853	11
RTOR Reduction (vph)	0	0	20	0	281	170	0	0	56	0	0	0
Lane Group Flow (vph)	0	16	1	158	56	161	5	1074	39	742	1864	0
Turn Type	Split		Perm	Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)		4.3	4.3	16.9	16.9	49.7	0.8	42.5	42.5	28.8	70.5	
Effective Green, g (s)		4.3	4.3	16.9	16.9	49.7	0.8	42.5	42.5	28.8	70.5	
Actuated g/C Ratio		0.04	0.04	0.15	0.15	0.45	0.01	0.39	0.39	0.26	0.64	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0	5.5	5.5	4.0	5.5	
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)		70	62	272	232	680	13	1367	612	899	2266	
v/s Ratio Prot		c0.01		c0.09	0.04	0.11	0.00	0.30		c0.22	c0.53	
v/s Ratio Perm			0.00						0.02			
v/c Ratio		0.23	0.01	0.58	0.24	0.24	0.38	0.79	0.06	0.83	0.82	
Uniform Delay, d1		51.2	50.8	43.3	40.9	18.5	54.4	29.7	21.2	38.2	15.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.7	0.1	3.1	0.5	0.2	17.9	4.6	0.2	6.2	3.5	
Delay (s)		52.9	50.9	46.4	41.5	18.7	72.2	34.3	21.4	44.5	18.5	
Level of Service		D	D	D	D	B	E	C	C	D	B	
Approach Delay (s)		51.8			33.3			33.5			25.9	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



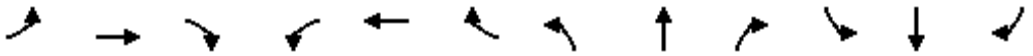
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	130	405	525	115	425	135	905	935	60	1840	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5063	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5063	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	137	426	553	121	447	142	953	984	63	1937	58
RTOR Reduction (vph)	0	0	3	0	0	102	0	0	124	0	3	0
Lane Group Flow (vph)	53	137	423	553	121	345	142	953	860	63	1992	0
Turn Type	Prot		pt+ov	Prot		Perm	Prot		pt+ov	Prot		
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	
Permitted Phases						8						
Actuated Green, G (s)	4.0	17.9	30.2	19.5	33.4	33.4	6.7	45.6	70.7	3.2	42.1	
Effective Green, g (s)	4.0	17.9	24.6	19.5	33.4	33.4	6.7	45.6	65.1	3.2	42.1	
Actuated g/C Ratio	0.04	0.16	0.22	0.18	0.30	0.30	0.06	0.41	0.59	0.03	0.38	
Clearance Time (s)	5.6	6.3		5.6	6.3	6.3	5.6	6.3		5.6	6.3	
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)	125	576	354	609	1075	481	209	2108	937	100	1938	
v/s Ratio Prot	0.02	0.04	c0.27	0.16	0.03		0.04	0.19	c0.54	0.02	c0.39	
v/s Ratio Perm						0.22						
v/c Ratio	0.42	0.24	1.19	0.91	0.11	0.72	0.68	0.45	0.92	0.63	1.03	
Uniform Delay, d1	51.9	40.1	42.7	44.4	27.6	34.1	50.6	23.2	20.1	52.8	34.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	0.2	112.0	17.3	0.0	5.0	8.5	0.7	13.5	12.2	27.9	
Delay (s)	54.2	40.3	154.7	61.7	27.7	39.1	59.1	23.9	33.5	65.0	61.9	
Level of Service	D	D	F	E	C	D	E	C	C	E	E	
Approach Delay (s)		120.6			49.0			30.9			62.0	
Approach LOS		F			D			C			E	

Intersection Summary			
HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



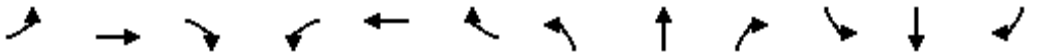
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	825	280	0	1250	2280	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00		0.86	0.86	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		6408	6408	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		6408	6408	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	868	295	0	1316	2400	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	868	294	0	1316	2400	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	32.5	32.5		59.5	59.5	
Effective Green, g (s)	32.5	32.5		59.5	59.5	
Actuated g/C Ratio	0.32	0.32		0.60	0.60	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1116	514		3813	3813	
v/s Ratio Prot	c0.25			0.21	c0.37	
v/s Ratio Perm		0.19				
v/c Ratio	0.78	0.57		0.35	0.63	
Uniform Delay, d1	30.5	28.0		10.3	13.1	
Progression Factor	1.00	1.00		1.00	0.44	
Incremental Delay, d2	3.5	1.5		0.2	0.1	
Delay (s)	34.0	29.5		10.6	5.9	
Level of Service	C	C		B	A	
Approach Delay (s)	32.8			10.6	5.9	
Approach LOS	C			B	A	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



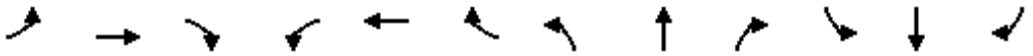
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	55	5	145	30	275	30	865	315	850	1555	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1841		1770	1863	1583	1770	5085	1583	3433	5016	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1841		1770	1863	1583	1770	5085	1583	3433	5016	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	58	5	153	32	289	32	911	332	895	1637	163
RTOR Reduction (vph)	0	4	0	0	0	126	0	0	235	0	11	0
Lane Group Flow (vph)	116	59	0	153	32	163	32	911	97	895	1789	0
Turn Type	Split			Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	11.2	11.2		12.9	12.9	36.5	2.4	26.3	26.3	23.6	47.5	
Effective Green, g (s)	11.2	11.2		12.9	12.9	36.5	2.4	26.3	26.3	23.6	47.5	
Actuated g/C Ratio	0.12	0.12		0.14	0.14	0.41	0.03	0.29	0.29	0.26	0.53	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	220	229		254	267	642	47	1486	463	900	2647	
v/s Ratio Prot	c0.07	0.03		c0.09	0.02	0.10	0.02	0.18		c0.26	c0.36	
v/s Ratio Perm									0.06			
v/c Ratio	0.53	0.26		0.60	0.12	0.25	0.68	0.61	0.21	0.99	0.68	
Uniform Delay, d1	36.9	35.6		36.1	33.6	17.7	43.4	27.5	24.0	33.1	15.6	
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	2.3	0.6		4.0	0.2	0.2	33.6	1.9	1.0	28.5	1.4	
Delay (s)	39.2	36.3		40.1	33.8	17.9	77.1	29.4	25.0	61.6	17.0	
Level of Service	D	D		D	C	B	E	C	C	E	B	
Approach Delay (s)		38.2			26.2			29.4			31.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



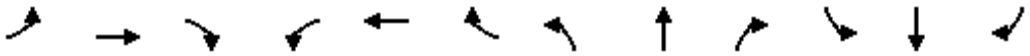
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	30	115	390	70	345	85	730	110	220	1270	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
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)	163	33	125	424	76	375	92	793	120	239	1380	234
RTOR Reduction (vph)	0	0	119	0	0	326	0	0	89	0	0	129
Lane Group Flow (vph)	163	33	6	424	76	49	92	793	31	239	1380	105
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	10.6	4.4	4.0	20.1	13.9	10.3	4.0	28.0	20.1	10.3	34.3	34.3
Effective Green, g (s)	10.6	4.4	4.0	20.1	13.9	10.3	4.0	28.0	20.1	10.3	34.3	34.3
Actuated g/C Ratio	0.13	0.06	0.05	0.26	0.18	0.13	0.05	0.36	0.26	0.13	0.44	0.44
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	462	104	80	451	329	207	174	1258	404	449	1540	689
v/s Ratio Prot	0.05	0.02	0.00	c0.24	c0.04	0.03	0.03	0.22	0.02	c0.07	c0.39	
v/s Ratio Perm												0.07
v/c Ratio	0.35	0.32	0.08	0.94	0.23	0.24	0.53	0.63	0.08	0.53	0.90	0.15
Uniform Delay, d1	31.0	35.8	35.6	28.8	27.9	30.7	36.5	21.1	22.3	32.0	20.6	13.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.8	0.4	27.9	0.4	0.6	2.9	2.4	0.1	1.2	8.5	0.5
Delay (s)	31.4	37.5	36.1	56.6	28.2	31.3	39.4	23.5	22.4	33.2	29.1	13.9
Level of Service	C	D	D	E	C	C	D	C	C	C	C	B
Approach Delay (s)		33.9			43.3			24.8			27.7	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.7%	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)	115	595	415	270	325	50	680	85	220	60	110	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1583	3433	3468		1681	1703	1583		3357	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1770	3539	1583	3433	3468		1681	1703	1583		3357	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	626	437	284	342	53	716	89	232	63	116	63
RTOR Reduction (vph)	0	0	104	0	13	0	0	0	149	0	37	0
Lane Group Flow (vph)	121	626	333	284	382	0	401	404	83	0	205	0
Turn Type	Prot		pt+ov	Prot			Split		Perm	Split		
Protected Phases	7	4	4 2	3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	10.9	24.6	60.5	12.2	25.9		35.9	35.9	35.9		11.3	
Effective Green, g (s)	10.9	24.6	60.5	12.2	25.9		35.9	35.9	35.9		11.3	
Actuated g/C Ratio	0.11	0.25	0.60	0.12	0.26		0.36	0.36	0.36		0.11	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	193	871	958	419	898		603	611	568		379	
v/s Ratio Prot	0.07	c0.18	0.21	c0.08	0.11		c0.24	0.24			c0.06	
v/s Ratio Perm									0.05			
v/c Ratio	0.63	0.72	0.35	0.68	0.43		0.67	0.66	0.15		0.54	
Uniform Delay, d1	42.6	34.5	9.9	42.0	30.8		27.0	26.9	21.7		41.9	
Progression Factor	0.95	0.81	1.25	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.8	1.7	0.1	4.3	0.3		5.7	5.5	0.5		1.6	
Delay (s)	44.1	29.8	12.5	46.3	31.2		32.7	32.5	22.2		43.5	
Level of Service	D	C	B	D	C		C	C	C		D	
Approach Delay (s)		24.9			37.5			30.3			43.5	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



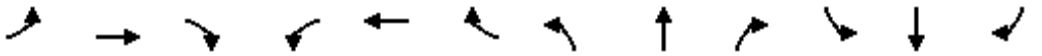
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	920	280	30	40	440	50	30	5	10	115	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3487		1770	3485		1681	1707	1583	1770	1631	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3487		1770	3485		1681	1707	1583	1770	1631	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	968	295	32	42	463	53	32	5	11	121	11	53
RTOR Reduction (vph)	0	6	0	0	8	0	0	0	11	0	47	0
Lane Group Flow (vph)	968	321	0	42	508	0	18	19	0	121	17	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	48.9	62.0		5.4	18.5		4.5	4.5	4.5	12.1	12.1	
Effective Green, g (s)	48.9	62.0		5.4	18.5		4.5	4.5	4.5	12.1	12.1	
Actuated g/C Ratio	0.49	0.62		0.05	0.18		0.04	0.04	0.04	0.12	0.12	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1679	2162		96	645		76	77	71	214	197	
v/s Ratio Prot	c0.28	0.09		0.02	c0.15		0.01	c0.01		c0.07	0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.58	0.15		0.44	0.79		0.24	0.25	0.01	0.57	0.09	
Uniform Delay, d1	18.2	8.0		45.8	38.9		46.1	46.1	45.6	41.5	39.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.1		3.2	6.3		1.6	1.7	0.0	3.4	0.2	
Delay (s)	19.6	8.1		49.0	45.2		47.7	47.8	45.7	44.9	39.2	
Level of Service	B	A		D	D		D	D	D	D	D	
Approach Delay (s)		16.7			45.5			47.3			42.9	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



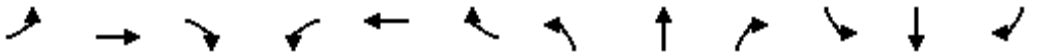
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	660	70	290	730	90	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	717	76	315	793	98	326
RTOR Reduction (vph)	0	48	0	0	0	272
Lane Group Flow (vph)	717	28	315	793	98	54
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	20.6	26.3	11.8	36.4	26.3	11.8
Effective Green, g (s)	20.6	26.3	11.8	36.4	26.3	11.8
Actuated g/C Ratio	0.29	0.37	0.17	0.51	0.37	0.17
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1031	589	573	1822	1277	264
v/s Ratio Prot	c0.20	0.02	c0.09	0.22	c0.03	0.03
v/s Ratio Perm						
v/c Ratio	0.70	0.05	0.55	0.44	0.08	0.21
Uniform Delay, d1	22.3	14.2	27.0	10.7	14.4	25.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.2	1.1	0.2	0.1	0.4
Delay (s)	24.3	14.3	28.1	10.9	14.5	25.8
Level of Service	C	B	C	B	B	C
Approach Delay (s)	23.4			15.8	23.2	
Approach LOS	C			B	C	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	70.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



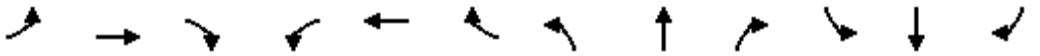
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1050	280	140	1950	50	500	50	200	50	50	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
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)	109	1141	304	152	2120	54	543	54	217	54	54	163
RTOR Reduction (vph)	0	0	129	0	0	27	0	0	126	0	0	0
Lane Group Flow (vph)	109	1141	175	152	2120	27	543	54	91	54	54	163
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.8	44.4	61.8	13.1	43.7	53.8	17.4	15.8	28.9	10.1	8.5	22.3
Effective Green, g (s)	13.8	44.4	61.8	13.1	43.7	53.8	17.4	15.8	28.9	10.1	8.5	22.3
Actuated g/C Ratio	0.13	0.41	0.58	0.12	0.41	0.50	0.16	0.15	0.27	0.09	0.08	0.21
Clearance Time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	228	2106	913	420	2073	794	557	522	427	167	281	329
v/s Ratio Prot	0.06	0.22	0.03	0.04	c0.42	0.00	c0.16	0.02	0.03	0.03	0.02	c0.06
v/s Ratio Perm			0.08			0.01			0.03			0.04
v/c Ratio	0.48	0.54	0.19	0.36	1.02	0.03	0.97	0.10	0.21	0.32	0.19	0.50
Uniform Delay, d1	43.4	23.7	10.8	43.2	31.8	13.5	44.7	39.6	30.3	45.4	46.1	37.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	1.0	0.1	0.5	25.7	0.0	31.5	0.1	0.3	1.1	0.3	1.2
Delay (s)	44.9	24.7	10.9	43.7	57.5	13.5	76.2	39.7	30.6	46.5	46.5	38.7
Level of Service	D	C	B	D	E	B	E	D	C	D	D	D
Approach Delay (s)		23.4			55.6			61.6			41.8	
Approach LOS		C			E			E			D	

Intersection Summary			
HCM Average Control Delay	45.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	107.2	Sum of lost time (s)	23.1
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



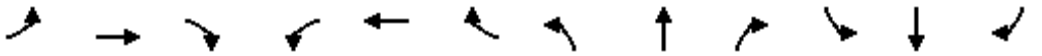
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	610	500	330	600	0	250	0	230	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0			
Lane Util. Factor		0.95	1.00	1.00	0.95		0.97		1.00			
Frt		1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3539	1583	1770	3539		3433		1583			
Flt Permitted		1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)		3539	1583	1770	3539		3433		1583			
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)	0	663	543	359	652	0	272	0	250	0	0	0
RTOR Reduction (vph)	0	0	363	0	0	0	0	0	185	0	0	0
Lane Group Flow (vph)	0	663	180	359	652	0	272	0	65	0	0	0
Turn Type			Over	Prot			Prot		Over			custom
Protected Phases		4	2	3	8		2		3			
Permitted Phases												6
Actuated Green, G (s)		17.9	24.3	19.1	41.0		24.3		19.1			
Effective Green, g (s)		17.9	24.3	19.1	41.0		24.3		19.1			
Actuated g/C Ratio		0.24	0.33	0.26	0.56		0.33		0.26			
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0			
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		864	525	461	1980		1138		412			
v/s Ratio Prot		c0.19	c0.11	c0.20	0.18		0.08		0.04			
v/s Ratio Perm												
v/c Ratio		0.77	0.34	0.78	0.33		0.24		0.16			
Uniform Delay, d1		25.8	18.5	25.1	8.7		17.8		20.9			
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2		4.1	1.8	8.1	0.1		0.5		0.2			
Delay (s)		29.9	20.3	33.2	8.8		18.3		21.1			
Level of Service		C	C	C	A		B		C			
Approach Delay (s)		25.6			17.5			19.6			0.0	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



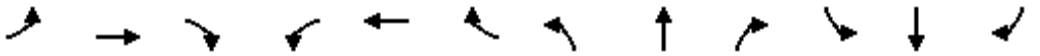
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	345	285	520	615	55	160	340	155	60	965	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3495		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3495		3433	5085	1583	1770	5085	1583
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)	163	375	310	565	668	60	174	370	168	65	1049	326
RTOR Reduction (vph)	0	0	140	0	9	0	0	0	114	0	0	147
Lane Group Flow (vph)	163	375	170	565	719	0	174	370	54	65	1049	179
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	7.7	14.1	14.1	16.2	22.6		6.0	24.6	24.6	5.4	24.0	24.0
Effective Green, g (s)	7.7	14.1	14.1	16.2	22.6		6.0	24.6	24.6	5.4	24.0	24.0
Actuated g/C Ratio	0.10	0.18	0.18	0.21	0.30		0.08	0.32	0.32	0.07	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	346	654	293	729	1035		270	1639	510	125	1599	498
v/s Ratio Prot	0.05	0.11		c0.16	c0.21		c0.05	0.07		0.04	c0.21	
v/s Ratio Perm			0.11						0.03			0.11
v/c Ratio	0.47	0.57	0.58	0.78	0.69		0.64	0.23	0.11	0.52	0.66	0.36
Uniform Delay, d1	32.4	28.4	28.4	28.3	23.8		34.1	18.9	18.1	34.2	22.6	20.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.2	2.8	5.2	2.0		5.2	0.3	0.4	3.9	2.1	2.0
Delay (s)	33.4	29.6	31.2	33.5	25.8		39.3	19.2	18.6	38.1	24.7	22.2
Level of Service	C	C	C	C	C		D	B	B	D	C	C
Approach Delay (s)		30.9			29.2			24.0			24.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	76.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.1%	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)	350	725	530	30	60	60	310	885	155	435	1390	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	3433	3539	1583	3433	4972		3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	3433	3539	1583	3433	4972		3433	5085	1583
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)	380	788	576	33	65	65	337	962	168	473	1511	234
RTOR Reduction (vph)	0	0	199	0	0	52	0	27	0	0	0	165
Lane Group Flow (vph)	380	788	377	33	65	13	337	1103	0	473	1511	69
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	19.2	35.1	35.1	2.3	18.2	18.2	9.0	22.1		13.0	26.1	26.1
Effective Green, g (s)	19.2	35.1	35.1	2.3	18.2	18.2	9.0	22.1		13.0	26.1	26.1
Actuated g/C Ratio	0.22	0.40	0.40	0.03	0.21	0.21	0.10	0.25		0.15	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	745	739	628	89	728	326	349	1242		504	1500	467
v/s Ratio Prot	c0.11	c0.42		0.01	0.02		0.10	0.22		c0.14	c0.30	
v/s Ratio Perm			0.24			0.01						0.04
v/c Ratio	0.51	1.07	0.60	0.37	0.09	0.04	0.97	0.89		0.94	1.01	0.15
Uniform Delay, d1	30.5	26.7	21.2	42.4	28.4	28.2	39.6	32.0		37.4	31.2	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	52.2	1.6	2.6	0.1	0.1	38.7	9.7		25.3	25.0	0.7
Delay (s)	31.1	78.9	22.8	45.0	28.5	28.2	78.3	41.7		62.6	56.2	23.7
Level of Service	C	E	C	D	C	C	E	D		E	E	C
Approach Delay (s)		50.0			31.7			50.1			54.2	
Approach LOS		D			C			D			D	

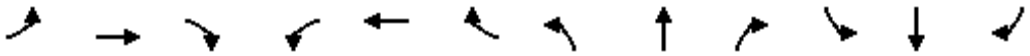
Intersection Summary			
HCM Average Control Delay	51.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	5	560	0	110	10	235	610	275	380	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.6	4.6	4.0		4.6	4.0	4.6	4.6	
Lane Util. Factor			1.00	0.95	0.95	1.00		1.00	1.00	1.00	1.00	
Frt			0.86	1.00	1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected			1.00	0.95	0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			1611	1681	1681	1583		1859	1583	1770	1863	
Flt Permitted			1.00	0.95	0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			1611	1681	1681	1583		1859	1583	1770	1863	
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)	0	0	5	609	0	120	11	255	663	299	413	0
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	304	305	120	0	266	663	299	413	0
Turn Type			custom	Split		Free	Split		Free	Split		
Protected Phases				8	8		2	2		6	6	
Permitted Phases			4			Free			Free			
Actuated Green, G (s)			1.0	16.4	16.4	75.1		18.8	75.1	21.1	21.1	
Effective Green, g (s)			1.0	16.4	16.4	75.1		18.8	75.1	21.1	21.1	
Actuated g/C Ratio			0.01	0.22	0.22	1.00		0.25	1.00	0.28	0.28	
Clearance Time (s)			4.0	4.6	4.6			4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)			21	367	367	1583		465	1583	497	523	
v/s Ratio Prot				0.18	c0.18			c0.14		0.17	c0.22	
v/s Ratio Perm			0.00			0.08			c0.42			
v/c Ratio			0.00	0.83	0.83	0.08		0.57	0.42	0.60	0.79	
Uniform Delay, d1			36.6	28.0	28.0	0.0		24.6	0.0	23.4	24.9	
Progression Factor			1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2			0.1	14.2	14.7	0.1		5.0	0.8	5.3	11.5	
Delay (s)			36.6	42.2	42.7	0.1		29.7	0.8	28.7	36.5	
Level of Service			D	D	D	A		C	A	C	D	
Approach Delay (s)		36.6			35.5			9.1			33.2	
Approach LOS		D			D			A			C	

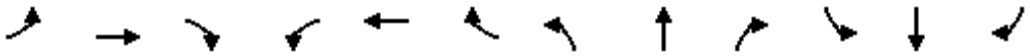
Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	13.8
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
Description: SR-76 & Coast Hwy			

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	40	65	20	25	50	35	670	20	20	695	110
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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frt		1.00	0.85		0.93			1.00			0.98	
Flt Protected		0.96	1.00		0.99			1.00			1.00	
Satd. Flow (prot)		1793	1583		1713			1851			1827	
Flt Permitted		0.80	1.00		0.90			0.94			0.98	
Satd. Flow (perm)		1482	1583		1561			1747			1788	
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)	152	43	71	22	27	54	38	728	22	22	755	120
RTOR Reduction (vph)	0	0	57	0	43	0	0	2	0	0	8	0
Lane Group Flow (vph)	0	195	14	0	60	0	0	786	0	0	889	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		9.5	9.5		9.5			28.7			28.7	
Effective Green, g (s)		9.5	9.5		9.5			28.7			28.7	
Actuated g/C Ratio		0.20	0.20		0.20			0.62			0.62	
Clearance Time (s)		4.2	4.2		4.2			4.2			4.2	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		302	323		318			1076			1101	
v/s Ratio Prot												
v/s Ratio Perm		c0.13	0.01		0.04			0.45			c0.50	
v/c Ratio		0.65	0.04		0.19			0.73			0.81	
Uniform Delay, d1		17.0	14.9		15.4			6.3			6.8	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		4.7	0.1		0.3			2.6			4.4	
Delay (s)		21.7	15.0		15.6			8.8			11.3	
Level of Service		C	B		B			A			B	
Approach Delay (s)		19.9			15.6			8.8			11.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	8.4
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

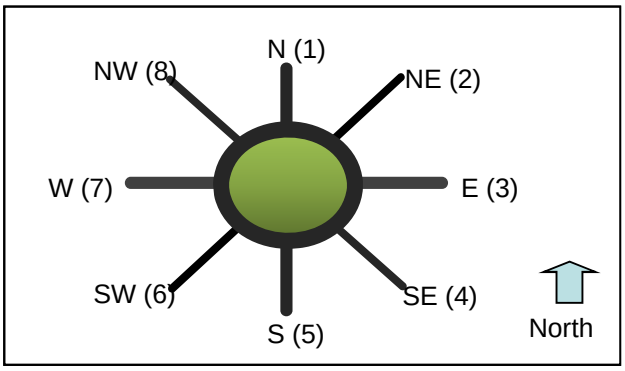


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	335	65	200	285	140	0	525	330	0	495	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0			5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.89		0.98			0.98			0.99	
Flpb, ped/bikes		1.00	1.00		0.98			1.00			1.00	
Frt		1.00	0.85		0.97			0.95			0.99	
Flt Protected		0.99	1.00		0.98			1.00			1.00	
Satd. Flow (prot)		3502	1404		3251			1728			1823	
Flt Permitted		0.71	1.00		0.68			1.00			1.00	
Satd. Flow (perm)		2514	1404		2244			1728			1823	
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)	65	364	71	217	310	152	0	571	359	0	538	60
RTOR Reduction (vph)	0	0	48	0	35	0	0	31	0	0	5	0
Lane Group Flow (vph)	0	429	23	0	644	0	0	899	0	0	593	0
Confl. Peds. (#/hr)	32		45	45		32	56		34	34		56
Confl. Bikes (#/hr)			2			1			5			2
Turn Type	Perm		Perm	Perm								
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		24.0	24.0		24.0			40.2			40.2	
Effective Green, g (s)		24.0	24.0		24.0			40.2			40.2	
Actuated g/C Ratio		0.32	0.32		0.32			0.54			0.54	
Clearance Time (s)		5.0	5.0		5.0			5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0			4.0			4.0	
Lane Grp Cap (vph)		813	454		726			936			988	
v/s Ratio Prot								c0.52			0.33	
v/s Ratio Perm		0.17	0.02		c0.29							
v/c Ratio		0.53	0.05		0.89			0.96			0.60	
Uniform Delay, d1		20.5	17.3		23.8			16.2			11.5	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		2.4	0.2		15.0			20.5			1.2	
Delay (s)		22.9	17.5		38.8			36.8			12.7	
Level of Service		C	B		D			D			B	
Approach Delay (s)		22.1			38.8			36.8			12.7	
Approach LOS		C			D			D			B	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

General & Site Information

Analyst:	
Agency/Company:	
Date:	
Project Name or PI#:	Preferred Alternative 2
Year, Peak Hour:	Year 2030, PM
County/District:	Oceanside
Intersection:	Coast Hwy and Oceanside Ave



Volumes

		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph	0	0	**230**	0	**625**	0	**45**	0
Exit	NE (2), vph	0	0	0	0	0	0	0	0
Legs	E (3), vph	**245**	0	0	0	**255**	0	**235**	0
(TO)	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	**640**	0	**265**	0	0	0	**105**	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	**30**	0	**215**	0	**65**	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	915	0	710	0	945	0	385	0

Volume Characteristics

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% SU/ Bus	**2%**	0%	**2%**	0%	**2%**	0%	**2%**	0%
% Trucks/ Combin.	0%	0%	0%	0%	0%	0%	0%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
F_{HV}	0.990	1.000	0.990	1.000	0.990	1.000	0.990	1.000

Entry/Conflicting Flows

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	253	0	686	0	49	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	269	0	0	0	280	0	258	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	703	0	291	0	0	0	115	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	33	0	236	0	71	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	1005	0	779	0	1037	0	423	0
Conflicting flow, pcu/h	598	0	807	0	576	0	1263	0

Roundabout Type	Urban Compact=1 Standard Single Lane =2
Enter type here…	1

Results: Approach Measures of Effectiveness

NCHRP-572 Model	N	NE	E	SE	S	SW	W	NW
Entry Capacity, pcu/h	621	1130	504	1130	635	1130	320	1130
V/C ratio	**1.62**	**0.00**	**1.55**	**0.00**	**1.63**	**0.00**	**1.32**	**0.00**
Control Delay, sec/pcu	**297.9**	**3.2**	**271.5**	**3.2**	**304.8**	**3.2**	**193.0**	**3.2**
LOS	F	A	F	A	F	A	F	A
95th % Queue (ft)	**1383**	**0**	**1047**	**0**	**1442**	**0**	**519**	**0**

UK Model	N	NE	E	SE	S	SW	W	NW
Entry Capacity, pcu/h	775	1218	621	1218	791	1218	284	1218
V/C ratio	**1.30**	**0.00**	**1.26**	**0.00**	**1.31**	**0.00**	**1.49**	**0.00**
Control Delay, sec/pcu	**156**	**3**	**144**	**3**	**161**	**3**	**266**	**3**
LOS	F	A	F	A	F	A	F	A
95th % Queue (ft)	**971**	**0**	**749**	**0**	**1020**	**0**	**605**	**0**

Notes:

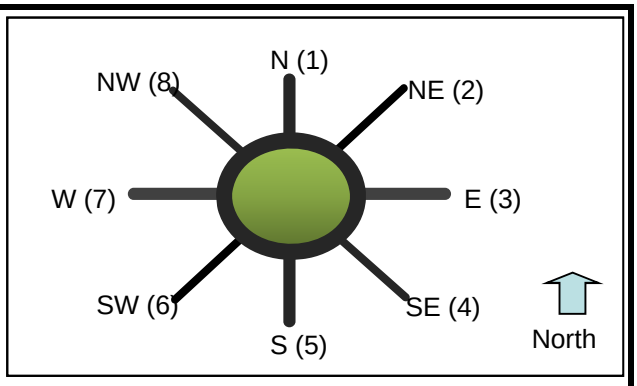
Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F_{HV}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Flow						
Bypass Lane Results (NCHRP-572 Model)						
Entry Capacity at bypass mergepoint, pcu/hr						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information

Analyst:	
Agency/Company:	
Date:	
Project Name or PI#:	Preferred Alternative 2
Year, Peak Hour:	Year 2030, PM
County/District:	Oceanside
Intersection:	Coast Hwy and Vista Way



Volumes

		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
	N (1), vph	0	0	**325**	0	**540**	0	**20**	0
Exit	NE (2), vph	0	0	0	0	0	0	0	0
Legs	E (3), vph	**285**	0	0	0	**245**	0	**70**	0
(TO)	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	**440**	0	**195**	0	0	0	**40**	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	**15**	0	**85**	0	**45**	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	740	0	605	0	830	0	130	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	98%	100%	98%	100%
% SU/ Bus	**2%**	0%	**2%**	0%	**2%**	0%	**2%**	0%
% Trucks/ Combin.	0%	0%	0%	0%	0%	0%	0%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
F_{HV}	0.990	1.000	0.990	1.000	0.990	1.000	0.990	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	357	0	593	0	22	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	313	0	0	0	269	0	77	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	483	0	214	0	0	0	44	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	16	0	93	0	49	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	812	0	664	0	911	0	143	0
Conflicting flow, pcu/h	357	0	664	0	412	0	1010	0

Roundabout Type	Urban Compact=1 Standard Single Lane =2
Enter type here…	1

Results: Approach Measures of Effectiveness

NCHRP-572 Model	N	NE	E	SE	S	SW	W	NW
Entry Capacity, pcu/h	791	1130	582	1130	749	1130	412	1130
V/C ratio	**1.03**	**0.00**	**1.14**	**0.00**	**1.22**	**0.00**	**0.35**	**0.00**
Control Delay, sec/pcu	**56.9**	**3.2**	**103.0**	**3.2**	**124.5**	**3.2**	**13.3**	**3.2**
LOS	F	A	F	A	F	A	B	A
95th % Queue (ft)	**476**	**0**	**550**	**0**	**789**	**0**	**38**	**0**

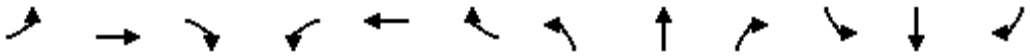
UK Model	N	NE	E	SE	S	SW	W	NW
Entry Capacity, pcu/h	954	1218	727	1218	913	1218	471	1218
V/C ratio	**0.85**	**0.00**	**0.91**	**0.00**	**1.00**	**0.00**	**0.30**	**0.00**
Control Delay, sec/pcu	**21**	**3**	**35**	**3**	**45**	**3**	**11**	**3**
LOS	C	A	D	A	E	A	B	A
95th % Queue (ft)	**271**	**0**	**312**	**0**	**463**	**0**	**32**	**0**

Notes:

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

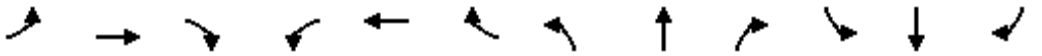
Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F_{HV}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Flow						
Bypass Lane Results (NCHRP-572 Model)						
Entry Capacity at bypass mergepoint, pcu/hr						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						



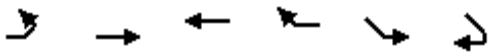
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	750	10	195	845	295	20	90	295	425	75	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3532		1770	3539	1583	1770	1863	1583	1681	1695	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3532		1770	3539	1583	1770	1863	1583	1681	1695	
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)	71	815	11	212	918	321	22	98	321	462	82	22
RTOR Reduction (vph)	0	1	0	0	0	207	0	0	277	0	4	0
Lane Group Flow (vph)	71	825	0	212	918	114	22	98	44	282	280	0
Turn Type	Prot			Prot		Perm	Split		Over	Split		
Protected Phases	5	2		1	6		4	4	1	8	8	
Permitted Phases						6						
Actuated Green, G (s)	4.0	21.8		11.0	28.8	28.8	16.0	16.0	11.0	16.0	16.0	
Effective Green, g (s)	4.0	21.8		11.0	28.8	28.8	16.0	16.0	11.0	16.0	16.0	
Actuated g/C Ratio	0.05	0.27		0.14	0.36	0.36	0.20	0.20	0.14	0.20	0.20	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	88	953		241	1261	564	350	369	216	333	336	
v/s Ratio Prot	0.04	c0.23		c0.12	0.26		0.01	c0.05	0.03	c0.17	0.17	
v/s Ratio Perm						0.07						
v/c Ratio	0.81	0.87		0.88	0.73	0.20	0.06	0.27	0.20	0.85	0.83	
Uniform Delay, d1	38.0	28.1		34.3	22.6	18.0	26.3	27.4	31.0	31.2	31.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	39.8	10.4		28.4	3.7	0.8	0.3	1.8	0.5	22.5	20.9	
Delay (s)	77.9	38.5		62.6	26.3	18.8	26.7	29.2	31.5	53.7	52.1	
Level of Service	E	D		E	C	B	C	C	C	D	D	
Approach Delay (s)		41.6			30.0			30.7			52.9	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	37.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	80.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.7%	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)	795	635	40	150	1160	705	25	70	85	330	25	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	3433	3508		1770	3539	1583	1770	1710		1681	1697	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	3433	3508		1770	3539	1583	1770	1710		1681	1697	1583
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)	864	690	43	163	1261	766	27	76	92	359	27	163
RTOR Reduction (vph)	0	4	0	0	0	344	0	41	0	0	0	133
Lane Group Flow (vph)	864	729	0	163	1261	422	27	127	0	194	192	30
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Actuated Green, G (s)	25.0	46.3		14.7	36.0	36.0	12.6	12.6		20.4	20.4	20.4
Effective Green, g (s)	25.0	46.3		14.7	36.0	36.0	12.6	12.6		20.4	20.4	20.4
Actuated g/C Ratio	0.23	0.42		0.13	0.33	0.33	0.11	0.11		0.19	0.19	0.19
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	780	1477		237	1158	518	203	196		312	315	294
v/s Ratio Prot	c0.25	0.21		0.09	c0.36		0.02	c0.07		c0.12	0.11	
v/s Ratio Perm						0.27						0.02
v/c Ratio	1.11	0.49		0.69	1.09	0.82	0.13	0.65		0.62	0.61	0.10
Uniform Delay, d1	42.5	23.3		45.5	37.0	33.9	43.8	46.6		41.2	41.1	37.2
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	65.9	0.3		8.0	54.1	9.6	0.3	7.2		9.0	8.5	0.7
Delay (s)	108.4	23.5		53.5	91.1	43.5	44.1	53.8		50.3	49.7	37.9
Level of Service	F	C		D	F	D	D	D		D	D	D
Approach Delay (s)		69.5			71.7			52.5			46.4	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	67.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

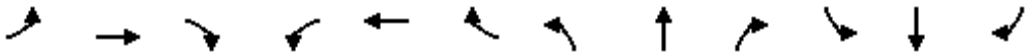


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	135	915	1185	210	975	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3459		3433	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3459		3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	995	1288	228	1060	902
RTOR Reduction (vph)	0	0	16	0	0	21
Lane Group Flow (vph)	147	995	1500	0	1060	881
Turn Type	Prot					pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases						
Actuated Green, G (s)	7.0	56.1	45.1		25.9	36.9
Effective Green, g (s)	7.0	56.1	45.1		25.9	36.9
Actuated g/C Ratio	0.08	0.62	0.50		0.29	0.41
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	138	2206	1733		988	649
v/s Ratio Prot	0.08	0.28	c0.43		0.31	c0.56
v/s Ratio Perm						
v/c Ratio	1.07	0.45	0.87		1.07	1.36
Uniform Delay, d1	41.5	8.9	19.8		32.0	26.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	95.1	0.1	4.8		50.3	170.6
Delay (s)	136.6	9.0	24.6		82.3	197.2
Level of Service	F	A	C		F	F
Approach Delay (s)		25.4	24.6		135.1	
Approach LOS		C	C		F	

Intersection Summary			
HCM Average Control Delay	71.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

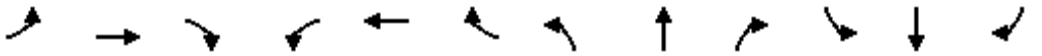
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	180	1260	265	170	865	70	250	220	125	345	185	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		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)	1770	3539	1583	1770	3539	1583	3433	3347		3433	3365	
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)	1770	3539	1583	1770	3539	1583	3433	3347		3433	3365	
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)	196	1370	288	185	940	76	272	239	136	375	201	98
RTOR Reduction (vph)	0	0	79	0	0	49	0	92	0	0	66	0
Lane Group Flow (vph)	196	1370	209	185	940	27	272	283	0	375	233	0
Turn Type	Prot		Over	Prot		Perm	Split			Split		
Protected Phases	7	4	2	3	8		6	6		2	2	
Permitted Phases						8						
Actuated Green, G (s)	12.3	33.0	16.0	9.0	29.7	29.7	13.2	13.2		16.0	16.0	
Effective Green, g (s)	12.3	33.0	16.0	9.0	29.7	29.7	13.2	13.2		16.0	16.0	
Actuated g/C Ratio	0.14	0.38	0.18	0.10	0.34	0.34	0.15	0.15		0.18	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	250	1339	290	183	1205	539	520	507		630	617	
v/s Ratio Prot	0.11	c0.39	c0.13	c0.10	0.27		0.08	c0.08		0.11	0.07	
v/s Ratio Perm						0.02						
v/c Ratio	0.78	1.02	0.72	1.01	0.78	0.05	0.52	0.56		0.60	0.38	
Uniform Delay, d1	36.2	27.1	33.5	39.1	25.8	19.3	34.1	34.3		32.6	31.2	
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	14.8	30.6	14.3	69.4	3.3	0.0	1.0	1.3		4.1	1.8	
Delay (s)	51.0	57.7	47.8	108.5	29.2	19.3	35.1	35.6		36.7	33.0	
Level of Service	D	E	D	F	C	B	D	D		D	C	
Approach Delay (s)		55.5			40.8			35.4			35.1	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	87.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



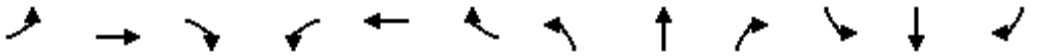
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	1050	20	100	1305	630	15	25	40	610	15	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	0.95	0.95	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (prot)	1770	3529		1770	3539	1583		1829	1583	1681	1628	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	0.97	
Satd. Flow (perm)	1770	3529		1770	3539	1583		1829	1583	1681	1628	
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)	293	1141	22	109	1418	685	16	27	43	663	16	136
RTOR Reduction (vph)	0	1	0	0	0	84	0	0	38	0	13	0
Lane Group Flow (vph)	293	1162	0	109	1418	601	0	43	5	418	384	0
Turn Type	Prot			Prot		Over	Split		Perm	Split		
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	20.0	57.8		12.2	50.0	45.0		19.0	19.0	45.0	45.0	
Effective Green, g (s)	20.0	57.8		12.2	50.0	45.0		19.0	19.0	45.0	45.0	
Actuated g/C Ratio	0.13	0.39		0.08	0.33	0.30		0.13	0.13	0.30	0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	236	1360		144	1180	475		232	201	504	488	
v/s Ratio Prot	c0.17	0.33		0.06	c0.40	c0.38		c0.02		0.25	0.24	
v/s Ratio Perm									0.00			
v/c Ratio	1.24	0.85		0.76	1.20	1.27		0.19	0.03	0.83	0.79	
Uniform Delay, d1	65.0	42.3		67.4	50.0	52.5		58.6	57.4	48.9	48.1	
Progression Factor	1.00	1.00		1.02	0.89	0.98		1.00	1.00	1.00	1.00	
Incremental Delay, d2	139.3	5.5		2.1	91.6	121.0		1.8	0.2	14.6	12.1	
Delay (s)	204.3	47.7		71.0	136.1	172.5		60.3	57.6	63.5	60.3	
Level of Service	F	D		E	F	F		E	E	E	E	
Approach Delay (s)		79.2			144.2			59.0			61.9	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM Average Control Delay	107.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



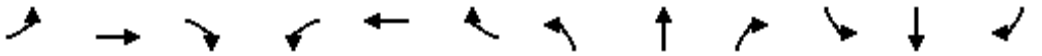
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	1465	130	35	1140	315	165	55	30	805	105	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1770	3496		1770	3539	1583	1681	1726	1583	1681	1704	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1770	3496		1770	3539	1583	1681	1726	1583	1681	1704	1583
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)	114	1592	141	38	1239	342	179	60	33	875	114	793
RTOR Reduction (vph)	0	4	0	0	0	112	0	0	30	0	0	80
Lane Group Flow (vph)	114	1729	0	38	1239	230	118	121	3	490	499	713
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	10.0	61.6		3.2	54.8	54.8	14.2	14.2	14.2	55.0	55.0	55.0
Effective Green, g (s)	10.0	61.6		3.2	54.8	54.8	14.2	14.2	14.2	55.0	55.0	55.0
Actuated g/C Ratio	0.07	0.41		0.02	0.37	0.37	0.09	0.09	0.09	0.37	0.37	0.37
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	118	1436		38	1293	578	159	163	150	616	625	580
v/s Ratio Prot	c0.06	c0.49		0.02	0.35		c0.07	0.07		0.29	0.29	
v/s Ratio Perm						0.15			0.00			c0.45
v/c Ratio	0.97	1.20		1.00	0.96	0.40	0.74	0.74	0.02	0.80	0.80	1.23
Uniform Delay, d1	69.8	44.2		73.4	46.5	35.3	66.1	66.1	61.6	42.5	42.5	47.5
Progression Factor	1.01	0.70		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	50.5	95.6		146.0	15.9	0.5	26.5	26.0	0.3	7.0	7.0	117.9
Delay (s)	121.3	126.7		219.4	62.4	35.8	92.6	92.1	61.8	49.5	49.6	165.4
Level of Service	F	F		F	E	D	F	F	E	D	D	F
Approach Delay (s)		126.4			60.5			88.7			101.1	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	97.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



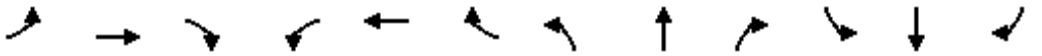
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	1640	225	140	985	30	150	175	200	155	220	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3475		1770	3523		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3475		1770	3523		1770	1863	1583	1770	1863	1583
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)	196	1783	245	152	1071	33	163	190	217	168	239	158
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	153	0	0	115
Lane Group Flow (vph)	196	2019	0	152	1102	0	163	190	64	168	239	43
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	17.9	62.0		10.0	54.1		16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	17.9	62.0		10.0	54.1		16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.15	0.52		0.08	0.45		0.13	0.13	0.13	0.13	0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	264	1795		148	1588		236	248	211	236	248	211
v/s Ratio Prot	0.11	c0.58		c0.09	0.31		0.09	c0.10		0.09	c0.13	
v/s Ratio Perm									0.04			0.03
v/c Ratio	0.74	1.12		1.03	0.69		0.69	0.77	0.31	0.71	0.96	0.20
Uniform Delay, d1	48.8	29.0		55.0	26.3		49.6	50.2	47.0	49.8	51.7	46.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.7	64.1		81.3	1.3		15.3	20.0	3.7	16.7	48.5	2.2
Delay (s)	59.6	93.1		136.3	27.7		65.0	70.2	50.7	66.5	100.2	48.5
Level of Service	E	F		F	C		E	E	D	E	F	D
Approach Delay (s)		90.2			40.8			61.3			75.7	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM Average Control Delay	71.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



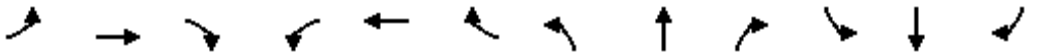
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	3055	420	165	1630	440	270	445	285	280	295	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	3539	2787
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)	120	3321	457	179	1772	478	293	484	310	304	321	125
RTOR Reduction (vph)	0	0	148	0	0	152	0	0	71	0	0	110
Lane Group Flow (vph)	120	3321	309	179	1772	326	293	484	239	304	321	15
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.8	78.0	78.0	7.0	77.2	77.2	13.0	18.0	18.0	11.0	16.0	16.0
Effective Green, g (s)	7.8	78.0	78.0	7.0	77.2	77.2	13.0	18.0	18.0	11.0	16.0	16.0
Actuated g/C Ratio	0.06	0.60	0.60	0.05	0.59	0.59	0.10	0.14	0.14	0.08	0.12	0.12
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	206	3051	950	185	3020	940	343	704	219	290	436	343
v/s Ratio Prot	0.03	c0.65		c0.05	0.35		0.09	0.10		c0.09	0.09	
v/s Ratio Perm			0.20			0.21			c0.15			0.01
v/c Ratio	0.58	1.09	0.33	0.97	0.59	0.35	0.85	0.69	1.09	1.05	0.74	0.04
Uniform Delay, d1	59.5	26.0	12.9	61.4	16.5	13.5	57.6	53.3	56.0	59.5	55.0	50.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	46.1	0.2	56.1	0.3	0.2	18.3	5.4	87.8	66.1	10.6	0.2
Delay (s)	63.7	72.1	13.1	117.5	16.8	13.7	75.8	58.7	143.8	125.6	65.5	50.5
Level of Service	E	E	B	F	B	B	E	E	F	F	E	D
Approach Delay (s)		64.9			23.6			87.6			87.4	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM Average Control Delay	57.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



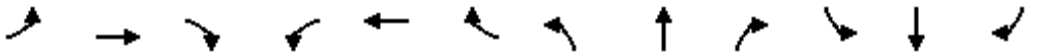
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	625	210	255	405	125	230	835	220	310	495	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3414		1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3414		1770	3539	1583	1770	3539	1583
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)	543	679	228	277	440	136	250	908	239	337	538	326
RTOR Reduction (vph)	0	0	0	0	33	0	0	0	197	0	0	264
Lane Group Flow (vph)	543	679	228	277	543	0	250	908	42	337	538	62
Turn Type	Split		Free	Split			Split		Over	Split		Over
Protected Phases	4	4		8	8		2	2	8	6	6	4
Permitted Phases			Free									
Actuated Green, G (s)	17.0	17.0	90.0	16.0	16.0		24.0	24.0	16.0	17.0	17.0	17.0
Effective Green, g (s)	17.0	17.0	90.0	16.0	16.0		24.0	24.0	16.0	17.0	17.0	17.0
Actuated g/C Ratio	0.19	0.19	1.00	0.18	0.18		0.27	0.27	0.18	0.19	0.19	0.19
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	648	668	1583	610	607		472	944	281	334	668	299
v/s Ratio Prot	0.16	c0.19		0.08	c0.16		0.14	c0.26	0.03	c0.19	0.15	0.04
v/s Ratio Perm			0.14									
v/c Ratio	0.84	1.02	0.14	0.45	0.89		0.53	0.96	0.15	1.01	0.81	0.21
Uniform Delay, d1	35.2	36.5	0.0	33.1	36.2		28.2	32.5	31.3	36.5	34.9	30.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	39.0	0.2	0.5	15.6		4.2	21.4	0.3	51.5	10.0	0.3
Delay (s)	44.5	75.5	0.2	33.6	51.8		32.4	54.0	31.5	88.0	44.9	31.1
Level of Service	D	E	A	C	D		C	D	C	F	D	C
Approach Delay (s)		52.0			45.9			46.3			53.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



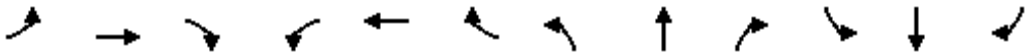
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	230	105	380	125	55	140	1170	610	55	865	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1775		3433	1863	1583	1770	3539	1583	1770	3510	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1775		3433	1863	1583	1770	3539	1583	1770	3510	
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)	60	250	114	413	136	60	152	1272	663	60	940	54
RTOR Reduction (vph)	0	20	0	0	0	42	0	0	261	0	5	0
Lane Group Flow (vph)	60	344	0	413	136	18	152	1272	402	60	989	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	4.2	18.4		10.0	24.2	24.2	9.5	34.2	34.2	3.2	27.9	
Effective Green, g (s)	4.2	18.4		10.0	24.2	24.2	9.5	34.2	34.2	3.2	27.9	
Actuated g/C Ratio	0.05	0.22		0.12	0.30	0.30	0.12	0.42	0.42	0.04	0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	91	399		420	551	468	206	1480	662	69	1197	
v/s Ratio Prot	0.03	c0.19		c0.12	0.07		c0.09	c0.36		0.03	0.28	
v/s Ratio Perm						0.01			0.25			
v/c Ratio	0.66	0.86		0.98	0.25	0.04	0.74	0.86	0.61	0.87	0.83	
Uniform Delay, d1	38.1	30.5		35.8	21.9	20.5	34.9	21.6	18.6	39.1	24.7	
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	16.0	17.1		39.3	0.2	0.0	12.9	6.7	4.1	64.4	6.6	
Delay (s)	54.0	47.6		75.1	22.1	20.5	47.8	28.3	22.7	103.5	31.3	
Level of Service	D	D		E	C	C	D	C	C	F	C	
Approach Delay (s)		48.5			57.9			28.0			35.4	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	36.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



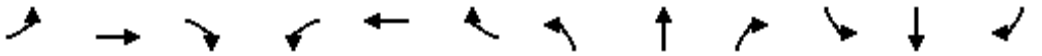
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	155	745	140	360	1020	105	75	555	270	170	1450	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	3539	1583
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)	168	810	152	391	1109	114	82	603	293	185	1576	435
RTOR Reduction (vph)	0	0	80	0	0	86	0	0	138	0	0	0
Lane Group Flow (vph)	168	810	72	391	1109	28	82	603	155	185	1576	435
Turn Type	Prot		Perm	Prot		Over	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4						2			Free
Actuated Green, G (s)	5.0	21.0	21.0	10.0	26.0	8.7	3.2	34.8	34.8	8.7	40.3	90.5
Effective Green, g (s)	5.0	21.0	21.0	10.0	26.0	8.7	3.2	34.8	34.8	8.7	40.3	90.5
Actuated g/C Ratio	0.06	0.23	0.23	0.11	0.29	0.10	0.04	0.38	0.38	0.10	0.45	1.00
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	190	821	367	379	1017	152	121	1955	609	330	1576	1583
v/s Ratio Prot	0.05	0.23		c0.11	c0.31	0.02	0.02	0.12		c0.05	c0.45	
v/s Ratio Perm			0.05						0.10			0.27
v/c Ratio	0.88	0.99	0.20	1.03	1.09	0.19	0.68	0.31	0.25	0.56	1.00	0.27
Uniform Delay, d1	42.5	34.6	28.0	40.2	32.2	37.6	43.1	19.4	19.0	39.1	25.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	35.0	27.8	0.3	54.6	56.2	0.6	14.0	0.4	1.0	2.2	22.7	0.4
Delay (s)	77.4	62.4	28.2	94.9	88.4	38.2	57.2	19.9	20.0	41.2	47.8	0.4
Level of Service	E	E	C	F	F	D	E	B	B	D	D	A
Approach Delay (s)		60.1			86.4			23.0			37.8	
Approach LOS		E			F			C			D	

Intersection Summary			
HCM Average Control Delay	52.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



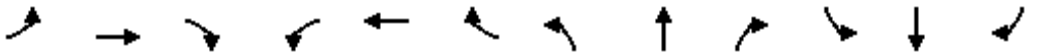
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	360	405	510	330	230	480	2010	680	235	1595	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		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	3539	1583	3433	3321		3433	4893		3433	5043	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3321		3433	4893		3433	5043	
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)	250	391	440	554	359	250	522	2185	739	255	1734	103
RTOR Reduction (vph)	0	0	278	0	66	0	0	42	0	0	4	0
Lane Group Flow (vph)	250	391	162	554	543	0	522	2882	0	255	1833	0
Turn Type	Prot		Over	Prot			Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.8	19.4	24.1	19.8	24.4		24.1	68.1		5.0	49.0	
Effective Green, g (s)	14.8	19.4	24.1	19.8	24.4		24.1	68.1		5.0	49.0	
Actuated g/C Ratio	0.11	0.14	0.18	0.15	0.18		0.18	0.51		0.04	0.36	
Clearance Time (s)	5.2	5.6	5.2	5.2	5.6		5.2	6.3		5.2	6.3	
Vehicle Extension (s)	3.0	2.0	1.2	2.0	2.0		1.2	5.0		0.8	5.8	
Lane Grp Cap (vph)	195	510	283	505	602		615	2476		128	1836	
v/s Ratio Prot	0.14	0.11	0.10	c0.16	c0.16		0.15	c0.59		c0.07	0.36	
v/s Ratio Perm												
v/c Ratio	1.28	0.77	0.57	1.10	0.90		0.85	1.16		1.99	1.00	
Uniform Delay, d1	59.9	55.4	50.5	57.4	53.9		53.5	33.2		64.8	42.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	160.2	6.1	1.7	69.1	16.4		10.2	78.5		473.1	20.6	
Delay (s)	220.1	61.6	52.3	126.5	70.3		63.7	111.8		537.9	63.3	
Level of Service	F	E	D	F	E		E	F		F	E	
Approach Delay (s)		94.4			97.1			104.5			121.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	106.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	134.6	Sum of lost time (s)	22.3
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



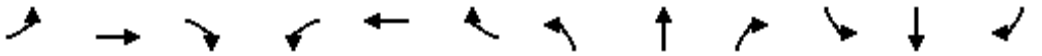
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	740	10	730	435	2440	0	0	1800	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Lane Util. Factor				0.95	0.91	0.95	0.97	0.91			0.91	1.00
Frt				1.00	0.92	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1526	1504	3433	5085			5085	1583
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1526	1504	3433	5085			5085	1583
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)	0	0	0	804	11	793	473	2652	0	0	1957	772
RTOR Reduction (vph)	0	0	0	0	1	1	0	0	0	0	0	425
Lane Group Flow (vph)	0	0	0	563	536	507	473	2652	0	0	1957	347
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.0	31.0	29.9	15.7	58.0			38.1	38.1
Effective Green, g (s)				31.0	31.0	29.9	15.7	58.0			38.1	38.1
Actuated g/C Ratio				0.31	0.31	0.30	0.16	0.58			0.38	0.38
Clearance Time (s)				4.0	5.1	5.1	4.2	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				521	473	450	539	2949			1937	603
v/s Ratio Prot				0.33	c0.35		0.14	c0.52			c0.38	
v/s Ratio Perm						0.34						0.22
v/c Ratio				1.08	1.13	1.13	0.88	0.90			1.01	0.58
Uniform Delay, d1				34.5	34.5	35.0	41.2	18.4			30.9	24.5
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				63.0	83.0	81.5	14.9	4.9			23.0	4.0
Delay (s)				97.5	117.5	116.5	56.1	23.4			54.0	28.5
Level of Service				F	F	F	E	C			D	C
Approach Delay (s)		0.0			110.2			28.3			46.8	
Approach LOS		A			F			C			D	

Intersection Summary			
HCM Average Control Delay	52.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



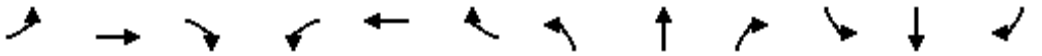
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	820	0	260	0	0	0	0	2055	815	700	1840	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Lane Util. Factor	0.97		1.00					0.91	1.00	0.97	0.91	
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)	3433		1583					5085	1583	3433	5085	
Flt Permitted	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433		1583					5085	1583	3433	5085	
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)	891	0	283	0	0	0	0	2234	886	761	2000	0
RTOR Reduction (vph)	0	0	14	0	0	0	0	0	189	0	0	0
Lane Group Flow (vph)	891	0	269	0	0	0	0	2234	697	761	2000	0
Turn Type	Prot		custom						Perm	Prot		
Protected Phases	7							2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	26.4		25.3					49.9	49.9	33.0	87.6	
Effective Green, g (s)	26.4		25.3					49.9	49.9	33.0	87.6	
Actuated g/C Ratio	0.21		0.20					0.40	0.40	0.26	0.70	
Clearance Time (s)	4.0		5.1					7.0	7.0	4.7	7.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	725		320					2030	632	906	3564	
v/s Ratio Prot	c0.26							0.44		c0.22	0.39	
v/s Ratio Perm			0.17						c0.44			
v/c Ratio	1.23		0.84					1.10	1.10	0.84	0.56	
Uniform Delay, d1	49.3		47.9					37.5	37.5	43.5	9.2	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	115.0		17.3					53.4	67.5	6.9	0.6	
Delay (s)	164.3		65.2					91.0	105.0	50.4	9.9	
Level of Service	F		E					F	F	D	A	
Approach Delay (s)		140.4			0.0			95.0			21.0	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM Average Control Delay	73.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



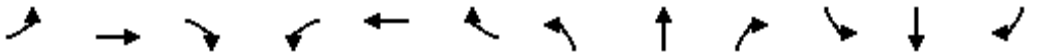
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	395	945	570	410	10	1075	180	1030	5	90	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.88	0.97	1.00		0.97	1.00	0.88	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	2787	3433	1856		3433	1863	2787	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	2787	3433	1856		3433	1863	2787	1770	1863	1583
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)	65	429	1027	620	446	11	1168	196	1120	5	98	43
RTOR Reduction (vph)	0	0	729	0	1	0	0	0	939	0	0	34
Lane Group Flow (vph)	65	429	298	620	456	0	1168	196	181	5	98	9
Turn Type	Prot		Over	Prot			Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	4.0	15.7	27.0	15.0	26.7		27.0	45.4	15.0	0.8	19.2	19.2
Effective Green, g (s)	4.0	15.7	27.0	15.0	26.7		27.0	45.4	15.0	0.8	19.2	19.2
Actuated g/C Ratio	0.04	0.17	0.29	0.16	0.29		0.29	0.49	0.16	0.01	0.21	0.21
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	76	598	810	554	533		998	910	450	15	385	327
v/s Ratio Prot	0.04	0.12	0.11	c0.18	c0.25		c0.34	0.11	0.06	0.00	c0.05	
v/s Ratio Perm												0.01
v/c Ratio	0.86	0.72	0.37	1.12	0.86		1.17	0.22	0.40	0.33	0.25	0.03
Uniform Delay, d1	44.2	36.5	26.2	39.0	31.3		33.0	13.6	34.9	45.8	30.9	29.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.8	4.1	0.3	75.3	12.8		87.5	0.5	0.6	12.7	1.6	0.2
Delay (s)	101.0	40.6	26.5	114.3	44.0		120.5	14.1	35.5	58.5	32.4	29.6
Level of Service	F	D	C	F	D		F	B	D	E	C	C
Approach Delay (s)		33.6			84.5			73.8			32.5	
Approach LOS		C			F			E			C	

Intersection Summary			
HCM Average Control Delay	63.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	92.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



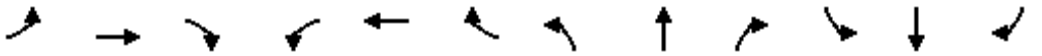
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	90	110	630	90	70	285	885	910	55	835	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.91	0.91		1.00	0.95	0.88	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1610	3209		1770	3539	2787	1770	3501	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1610	3209		1770	3539	2787	1770	3501	
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)	38	98	120	685	98	76	310	962	989	60	908	71
RTOR Reduction (vph)	0	0	109	0	12	0	0	0	709	0	6	0
Lane Group Flow (vph)	38	98	11	342	505	0	310	962	280	60	973	0
Turn Type	Split		Perm	Split			Prot		Over	Prot		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases			4									
Actuated Green, G (s)	7.8	7.8	7.8	24.0	24.0		12.0	29.8	24.0	7.1	24.9	
Effective Green, g (s)	7.8	7.8	7.8	24.0	24.0		12.0	29.8	24.0	7.1	24.9	
Actuated g/C Ratio	0.09	0.09	0.09	0.28	0.28		0.14	0.35	0.28	0.08	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	163	326	146	456	909		251	1245	790	148	1029	
v/s Ratio Prot	0.02	c0.03		c0.21	0.16		c0.18	0.27	0.10	0.03	c0.28	
v/s Ratio Perm			0.01									
v/c Ratio	0.23	0.30	0.08	0.75	0.56		1.24	0.77	0.35	0.41	0.95	
Uniform Delay, d1	35.7	35.9	35.2	27.6	25.8		36.4	24.4	24.2	36.8	29.2	
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	0.7	0.5	0.2	6.8	0.7		135.2	4.7	0.3	1.8	17.7	
Delay (s)	36.4	36.4	35.4	34.4	26.6		171.6	29.1	24.5	38.6	47.0	
Level of Service	D	D	D	C	C		F	C	C	D	D	
Approach Delay (s)		35.9			29.7			46.6			46.5	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	42.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	84.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



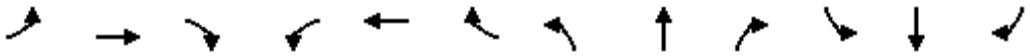
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1125	110	50	160	105	15	100	1115	170	35	940	795
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		1808	1583	1770	3469		1770	3539	2787
Flt Permitted	0.95	1.00	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		1808	1583	1770	3469		1770	3539	2787
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)	1223	120	54	174	114	16	109	1212	185	38	1022	864
RTOR Reduction (vph)	0	0	35	0	0	3	0	9	0	0	0	0
Lane Group Flow (vph)	1223	120	19	0	288	13	109	1388	0	38	1022	864
Turn Type	Split		Perm	Split		Perm	Prot			Prot		Over
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4			8						
Actuated Green, G (s)	45.0	45.0	45.0		20.0	20.0	9.0	46.6		3.2	40.8	45.0
Effective Green, g (s)	45.0	45.0	45.0		20.0	20.0	9.0	46.6		3.2	40.8	45.0
Actuated g/C Ratio	0.34	0.34	0.34		0.15	0.15	0.07	0.36		0.02	0.31	0.34
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1181	641	545		276	242	122	1236		43	1104	959
v/s Ratio Prot	c0.36	0.06			c0.16		c0.06	c0.40		0.02	0.29	0.31
v/s Ratio Perm			0.01			0.01						
v/c Ratio	1.04	0.19	0.03		1.04	0.05	0.89	1.12		0.88	0.93	0.90
Uniform Delay, d1	42.9	30.1	28.5		55.4	47.3	60.4	42.1		63.6	43.5	40.8
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	35.8	0.1	0.0		66.0	0.1	49.9	66.4		92.7	14.2	11.4
Delay (s)	78.7	30.2	28.5		121.4	47.4	110.4	108.5		156.3	57.8	52.2
Level of Service	E	C	C		F	D	F	F		F	E	D
Approach Delay (s)		72.6			117.5			108.6			57.2	
Approach LOS		E			F			F			E	

Intersection Summary			
HCM Average Control Delay	80.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	130.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



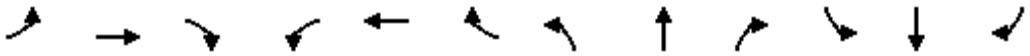
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	835	155	110	490	310	215	885	25	250	815	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.91	0.91		0.91	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3334		1610	3373		1610	3315	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3334		1610	3373		1610	3315	
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)	261	908	168	120	533	337	234	962	27	272	886	147
RTOR Reduction (vph)	0	0	70	0	83	0	0	1	0	0	10	0
Lane Group Flow (vph)	261	908	98	120	787	0	211	1011	0	245	1050	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	9.0	30.0	30.0	8.0	29.0		32.0	32.0		34.0	34.0	
Effective Green, g (s)	9.0	30.0	30.0	8.0	29.0		32.0	32.0		34.0	34.0	
Actuated g/C Ratio	0.08	0.25	0.25	0.07	0.24		0.27	0.27		0.28	0.28	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	257	885	396	118	806		429	899		456	939	
v/s Ratio Prot	c0.08	c0.26		0.07	0.24		0.13	c0.30		0.15	c0.32	
v/s Ratio Perm			0.06									
v/c Ratio	1.02	1.03	0.25	1.02	0.98		0.49	1.12		0.54	1.12	
Uniform Delay, d1	55.5	45.0	36.0	56.0	45.2		37.1	44.0		36.4	43.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	60.2	37.0	0.3	87.5	25.6		4.0	70.2		4.5	67.5	
Delay (s)	115.7	82.0	36.3	143.5	70.8		41.1	114.2		40.8	110.5	
Level of Service	F	F	D	F	E		D	F		D	F	
Approach Delay (s)		82.9			79.6			101.6			97.4	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	90.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



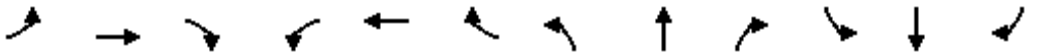
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	2635	335	195	1585	135	200	205	295	110	220	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		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)	1770	5085	1583	1770	5085	1583	3433	3226		3433	3466	
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)	1770	5085	1583	1770	5085	1583	3433	3226		3433	3466	
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)	54	2864	364	212	1723	147	217	223	321	120	239	38
RTOR Reduction (vph)	0	0	116	0	0	57	0	115	0	0	10	0
Lane Group Flow (vph)	54	2864	248	212	1723	90	217	429	0	120	267	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	66.8	66.8	14.0	73.9	73.9	8.0	19.0		5.0	16.0	
Effective Green, g (s)	6.9	66.8	66.8	14.0	73.9	73.9	8.0	19.0		5.0	16.0	
Actuated g/C Ratio	0.06	0.55	0.55	0.12	0.61	0.61	0.07	0.16		0.04	0.13	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	101	2812	875	205	3111	968	227	507		142	459	
v/s Ratio Prot	0.03	c0.56		c0.12	0.34		c0.06	c0.13		0.03	0.08	
v/s Ratio Perm			0.16			0.06						
v/c Ratio	0.53	1.02	0.28	1.03	0.55	0.09	0.96	0.85		0.85	0.58	
Uniform Delay, d1	55.4	27.0	14.3	53.4	13.8	9.7	56.2	49.5		57.5	49.2	
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	5.4	21.8	0.2	72.1	0.2	0.0	47.0	15.8		34.4	5.3	
Delay (s)	60.7	48.8	14.5	125.5	14.0	9.7	103.2	65.3		91.9	54.5	
Level of Service	E	D	B	F	B	A	F	E		F	D	
Approach Delay (s)		45.2			25.0			76.1			65.8	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.5%	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)	275	610	80	120	350	75	120	695	360	90	475	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.97		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3478		1770	3445		1770	3358		1770	3385	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3478		1770	3445		1770	3358		1770	3385	
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)	299	663	87	130	380	82	130	755	391	98	516	212
RTOR Reduction (vph)	0	11	0	0	22	0	0	66	0	0	47	0
Lane Group Flow (vph)	299	739	0	130	440	0	130	1080	0	98	681	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.0	19.7		11.5	16.2		4.0	29.5		8.4	33.9	
Effective Green, g (s)	15.0	19.7		11.5	16.2		4.0	29.5		8.4	33.9	
Actuated g/C Ratio	0.18	0.23		0.14	0.19		0.05	0.35		0.10	0.40	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	312	805		239	656		83	1164		175	1348	
v/s Ratio Prot	c0.17	c0.21		0.07	0.13		c0.07	c0.32		c0.06	0.20	
v/s Ratio Perm												
v/c Ratio	0.96	0.92		0.54	0.67		1.57	0.93		0.56	0.51	
Uniform Delay, d1	34.7	31.9		34.4	32.0		40.5	26.8		36.6	19.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	39.4	15.2		2.5	2.7		304.9	13.9		4.1	1.4	
Delay (s)	74.1	47.1		36.9	34.7		345.5	40.7		40.6	20.6	
Level of Service	E	D		D	C		F	D		D	C	
Approach Delay (s)		54.8			35.2			71.7			23.0	
Approach LOS		D			D			E			C	

Intersection Summary			
HCM Average Control Delay	50.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	85.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.4%	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)	260	1405	275	250	1055	185	175	600	255	160	360	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4960		3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4960		3433	5085	1583	3433	3539	1583	3433	3539	1583
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)	283	1527	299	272	1147	201	190	652	277	174	391	98
RTOR Reduction (vph)	0	29	0	0	0	185	0	0	156	0	0	86
Lane Group Flow (vph)	283	1797	0	272	1147	16	190	652	121	174	391	12
Turn Type	Prot			Prot		Over	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases									2			
Actuated Green, G (s)	12.2	40.0		10.0	37.8	7.9	9.5	26.0	26.0	7.9	24.4	12.2
Effective Green, g (s)	12.2	40.0		10.0	37.8	7.9	9.5	26.0	26.0	7.9	24.4	12.2
Actuated g/C Ratio	0.12	0.40		0.10	0.38	0.08	0.10	0.26	0.26	0.08	0.24	0.12
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	419	1986		344	1924	125	326	921	412	271	864	193
v/s Ratio Prot	0.08	c0.36		c0.08	0.23	0.01	c0.06	c0.18		0.05	0.11	0.01
v/s Ratio Perm									0.08			
v/c Ratio	0.68	0.90		0.79	0.60	0.13	0.58	0.71	0.29	0.64	0.45	0.06
Uniform Delay, d1	42.0	28.2		43.9	24.9	42.8	43.3	33.5	29.6	44.6	32.1	38.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	6.3		11.7	0.5	0.5	2.6	4.6	1.8	5.1	1.7	0.1
Delay (s)	46.2	34.5		55.6	25.4	43.3	45.9	38.1	31.4	49.8	33.8	38.9
Level of Service	D	C		E	C	D	D	D	C	D	C	D
Approach Delay (s)		36.1			32.7			37.8			38.7	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	35.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	99.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #27 Rancho Del Oro Rd & Vista Del Oro Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.101
Loss Time (sec):	0	Average Delay (sec/veh):	63.4
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Vista Del Oro Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	40	1135	40	30	835	35	20	0	20	30	5	25
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:	40	1135	40	30	835	35	20	0	20	30	5	25
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:	43	1234	43	33	908	38	22	0	22	33	5	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1234	43	33	908	38	22	0	22	33	5	27
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:	43	1234	43	33	908	38	22	0	22	33	5	27
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.93	0.07	1.00	1.92	0.08	0.50	0.00	0.50	0.50	0.08	0.42
Final Sat.:	531	1120	40	514	1066	45	256	0	256	259	43	216
Capacity Analysis Module:												
Vol/Sat:	0.08	1.10	1.10	0.06	0.85	0.85	0.08	xxxx	0.08	0.13	0.13	0.13
Crit Moves:		****			****		****				****	
Delay/Veh:	10.0	91.6	90.0	10.2	35.8	35.2	10.5	0.0	10.5	10.8	10.8	10.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.0	91.6	90.0	10.2	35.8	35.2	10.5	0.0	10.5	10.8	10.8	10.8
LOS by Move:	B	F	F	B	E	E	B	*	B	B	B	B
ApproachDel:		88.9			34.9			10.5			10.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		88.9			34.9			10.5			10.8	
LOS by Appr:		F			D			B			B	
AllWayAvgQ:	0.1	13.5	13.1	0.1	4.2	4.0	0.1	0.1	0.1	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #28 Rancho Del Oro Rd & Cameo Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.263
Loss Time (sec):	0	Average Delay (sec/veh):	111.1
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Rancho Del Oro Rd						Cameo Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	1 0	0	1 0
Volume Module:												
Base Vol:	20	850	175	180	925	10	10	10	10	90	10	120
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:	20	850	175	180	925	10	10	10	10	90	10	120
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:	22	924	190	196	1005	11	11	11	11	98	11	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	924	190	196	1005	11	11	11	11	98	11	130
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:	22	924	190	196	1005	11	11	11	11	98	11	130
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.66	0.34	1.00	1.98	0.02	0.34	0.33	0.33	1.00	0.08	0.92
Final Sat.:	409	731	153	428	902	10	139	139	139	381	33	400
Capacity Analysis Module:												
Vol/Sat:	0.05	1.26	1.24	0.46	1.11	1.11	0.08	0.08	0.08	0.26	0.33	0.33
Crit Moves:		****			****		****					****
Delay/Veh:	12.0	161	151.2	18.0	104	104.0	12.1	12.1	12.1	15.3	14.9	14.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.0	161	151.2	18.0	104	104.0	12.1	12.1	12.1	15.3	14.9	14.9
LOS by Move:	B	F	F	C	F	F	B	B	B	C	B	B
ApproachDel:	156.2			90.4			12.1			15.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	156.2			90.4			12.1			15.1		
LOS by Appr:	F			F			B			C		
AllWayAvgQ:	0.1	18.9	17.5	0.8	11.9	11.8	0.1	0.1	0.1	0.3	0.5	0.5

Note: Queue reported is the number of cars per lane.

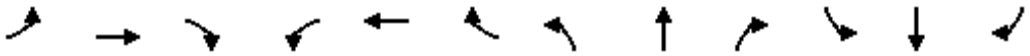
Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #29 Rancho Del Oro Rd & Trieste Way & Sicily Way

Cycle (sec):	100	Critical Vol./Cap.(X):	0.888
Loss Time (sec):	0	Average Delay (sec/veh):	28.1
Optimal Cycle:	0	Level Of Service:	D

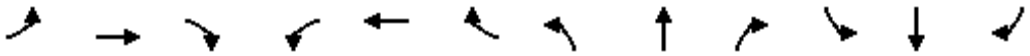
Street Name:	Rancho Del Oro Rd						Trieste Way & Sicily Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	20	1045	20	5	680	5	5	5	10	5	0	5
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:	20	1045	20	5	680	5	5	5	10	5	0	5
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:	22	1136	22	5	739	5	5	5	11	5	0	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1136	22	5	739	5	5	5	11	5	0	5
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:	22	1136	22	5	739	5	5	5	11	5	0	5
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.96	0.04	1.00	1.99	0.01	0.25	0.25	0.50	0.50	0.00	0.50
Final Sat.:	594	1280	25	533	1163	9	136	136	272	268	0	268
Capacity Analysis Module:												
Vol/Sat:	0.04	0.89	0.89	0.01	0.64	0.63	0.04	0.04	0.04	0.02	xxxx	0.02
Crit Moves:		****			****			****			****	
Delay/Veh:	8.9	35.5	35.1	9.3	18.1	18.1	9.7	9.7	9.7	9.7	0.0	9.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.9	35.5	35.1	9.3	18.1	18.1	9.7	9.7	9.7	9.7	0.0	9.7
LOS by Move:	A	E	E	A	C	C	A	A	A	A	*	A
ApproachDel:		35.0			18.0			9.7			9.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		35.0			18.0			9.7			9.7	
LOS by Appr:		D			C			A			A	
AllWayAvgQ:	0.0	5.0	4.9	0.0	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.



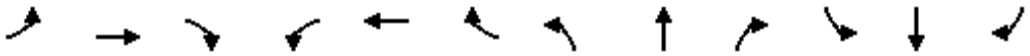
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	0	20	30	5	25	40	1135	40	30	835	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.94		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1695			1715		1770	3521		1770	3518	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1737			1758		1770	3521		1770	3518	
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)	22	0	22	33	5	27	43	1234	43	33	908	38
RTOR Reduction (vph)	0	21	0	0	25	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	23	0	0	40	0	43	1274	0	33	942	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		2.3			2.3		1.1	23.9		1.0	23.8	
Effective Green, g (s)		2.3			2.3		1.1	23.9		1.0	23.8	
Actuated g/C Ratio		0.06			0.06		0.03	0.61		0.03	0.61	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		102			103		50	2147		45	2136	
v/s Ratio Prot							c0.02	c0.36		0.02	0.27	
v/s Ratio Perm		0.01			c0.02							
v/c Ratio		0.23			0.38		0.86	0.59		0.73	0.44	
Uniform Delay, d1		17.6			17.8		19.0	4.7		19.0	4.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			2.4		76.1	0.4		46.2	0.1	
Delay (s)		18.7			20.1		95.1	5.1		65.2	4.3	
Level of Service		B			C		F	A		E	A	
Approach Delay (s)		18.7			20.1			8.1			6.3	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	39.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



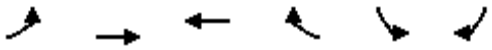
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	10	10	90	10	120	20	850	175	180	925	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt		0.95		1.00	0.86		1.00	0.97		1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750		1770	1605		1770	3449		1770	3533	
Flt Permitted		0.88		0.74	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1559		1370	1605		1770	3449		1770	3533	
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)	11	11	11	98	11	130	22	924	190	196	1005	11
RTOR Reduction (vph)	0	9	0	0	112	0	0	23	0	0	1	0
Lane Group Flow (vph)	0	24	0	98	29	0	22	1091	0	196	1015	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		8.1		8.1	8.1		0.8	32.3		6.0	37.5	
Effective Green, g (s)		8.1		8.1	8.1		0.8	32.3		6.0	37.5	
Actuated g/C Ratio		0.14		0.14	0.14		0.01	0.55		0.10	0.64	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		216		190	223		24	1908		182	2269	
v/s Ratio Prot					0.02		0.01	c0.32		c0.11	0.29	
v/s Ratio Perm		0.02		c0.07								
v/c Ratio		0.11		0.52	0.13		0.92	0.57		1.08	0.45	
Uniform Delay, d1		22.0		23.3	22.1		28.8	8.5		26.2	5.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2		2.4	0.3		145.1	1.3		88.7	0.6	
Delay (s)		22.2		25.7	22.3		173.8	9.8		114.9	5.9	
Level of Service		C		C	C		F	A		F	A	
Approach Delay (s)		22.2			23.7			13.0			23.5	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



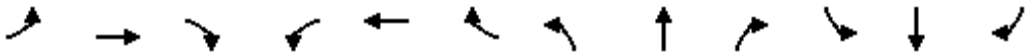
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	10	5	0	5	20	1045	20	5	680	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.93		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1711			1695		1770	3529		1770	3536	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1731			1737		1770	3529		1770	3536	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	11	5	0	5	22	1136	22	5	739	5
RTOR Reduction (vph)	0	11	0	0	5	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	10	0	0	5	0	22	1157	0	5	744	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		1.3			1.3		0.7	40.1		0.7	40.1	
Effective Green, g (s)		1.3			1.3		0.7	40.1		0.7	40.1	
Actuated g/C Ratio		0.02			0.02		0.01	0.74		0.01	0.74	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		42			42		23	2616		23	2621	
v/s Ratio Prot							c0.01	c0.33		0.00	0.21	
v/s Ratio Perm		c0.01			0.00							
v/c Ratio		0.24			0.12		0.96	0.44		0.22	0.28	
Uniform Delay, d1		25.9			25.8		26.7	2.7		26.4	2.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0			1.3		166.5	0.5		4.7	0.3	
Delay (s)		28.9			27.1		193.2	3.2		31.1	2.6	
Level of Service		C			C		F	A		C	A	
Approach Delay (s)		28.9			27.1			6.8			2.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	5.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



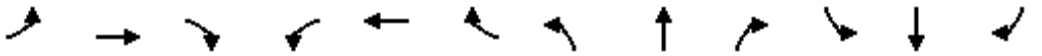
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	545	530	480	405	215	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.93		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3296		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3296		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	592	576	522	440	234	310
RTOR Reduction (vph)	0	0	202	0	0	21
Lane Group Flow (vph)	592	576	760	0	234	289
Turn Type	Prot					pt+ov
Protected Phases	7	4	8		1	1 7
Permitted Phases						
Actuated Green, G (s)	26.7	48.7	18.0		17.0	47.7
Effective Green, g (s)	26.7	48.7	18.0		17.0	47.7
Actuated g/C Ratio	0.36	0.66	0.24		0.23	0.65
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	641	2339	805		408	1025
v/s Ratio Prot	c0.33	0.16	c0.23		c0.13	0.18
v/s Ratio Perm						
v/c Ratio	0.92	0.25	0.94		0.57	0.28
Uniform Delay, d1	22.5	5.1	27.4		25.1	5.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	19.0	0.1	19.4		5.8	0.2
Delay (s)	41.6	5.1	46.7		30.9	5.8
Level of Service	D	A	D		C	A
Approach Delay (s)		23.6	46.7		16.6	
Approach LOS		C	D		B	

Intersection Summary			
HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	73.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.4%	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)	110	140	70	155	105	25	100	340	120	95	1675	595
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	1.00		0.97	0.95		1.00	0.91	1.00	1.00	0.91	
Frt	1.00	0.95		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1770		3433	3438		1770	5085	1583	1770	4885	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1770		3433	3438		1770	5085	1583	1770	4885	
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)	120	152	76	168	114	27	109	370	130	103	1821	647
RTOR Reduction (vph)	0	20	0	0	23	0	0	0	63	0	69	0
Lane Group Flow (vph)	120	208	0	168	118	0	109	370	67	103	2399	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	5.0	14.0		5.0	14.0		6.0	45.8	45.8	8.1	47.9	
Effective Green, g (s)	5.0	14.0		5.0	14.0		6.0	45.8	45.8	8.1	47.9	
Actuated g/C Ratio	0.06	0.16		0.06	0.16		0.07	0.52	0.52	0.09	0.54	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	193	279		193	541		119	2620	816	161	2632	
v/s Ratio Prot	0.03	c0.12		c0.05	0.03		c0.06	0.07		0.06	c0.49	
v/s Ratio Perm									0.04			
v/c Ratio	0.62	0.74		0.87	0.22		0.92	0.14	0.08	0.64	0.91	
Uniform Delay, d1	41.0	35.7		41.6	32.7		41.2	11.3	10.9	39.0	18.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.1	10.3		32.0	0.2		56.6	0.1	0.2	8.1	6.1	
Delay (s)	47.1	46.0		73.7	32.9		97.8	11.4	11.1	47.1	24.7	
Level of Service	D	D		E	C		F	B	B	D	C	
Approach Delay (s)		46.4			55.1			26.8			25.6	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

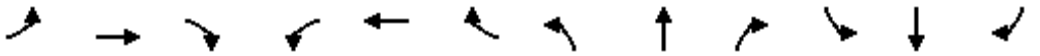


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	60	135	345	75	40	195	790	550	220	1650	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.91	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1757	1504	1770	5085	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1757	1504	1770	5085	1583	1770	3539	1583
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)	60	65	147	375	82	43	212	859	598	239	1793	60
RTOR Reduction (vph)	0	0	133	0	2	33	0	0	329	0	0	10
Lane Group Flow (vph)	60	65	14	375	84	6	212	859	269	239	1793	50
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	6.8	9.8	9.8	12.0	15.0	15.0	13.0	42.0	42.0	24.0	53.0	53.0
Effective Green, g (s)	6.8	9.8	9.8	12.0	15.0	15.0	13.0	42.0	42.0	24.0	53.0	53.0
Actuated g/C Ratio	0.07	0.09	0.09	0.12	0.14	0.14	0.13	0.40	0.40	0.23	0.51	0.51
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	116	176	149	397	254	217	222	2058	641	409	1807	808
v/s Ratio Prot	0.03	0.03		c0.11	c0.05		c0.12	0.17		0.14	c0.51	
v/s Ratio Perm			0.01			0.00			0.17			0.03
v/c Ratio	0.52	0.37	0.09	0.94	0.33	0.03	0.95	0.42	0.42	0.58	0.99	0.06
Uniform Delay, d1	46.9	44.1	42.9	45.6	39.9	38.1	45.1	22.1	22.2	35.5	25.2	12.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	1.3	0.3	31.1	0.8	0.0	47.4	0.6	2.0	2.1	19.4	0.1
Delay (s)	50.8	45.4	43.2	76.7	40.7	38.2	92.5	22.8	24.2	37.6	44.6	13.0
Level of Service	D	D	D	E	D	D	F	C	C	D	D	B
Approach Delay (s)		45.4			67.5			32.1			42.9	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	41.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

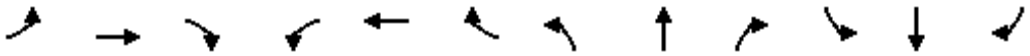
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	10	495	485	1735	450	10	10	10	10	600	10	1185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00			1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1723			1775	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.59	1.00			0.95	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1096	1723			1775	2787
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)	11	538	527	1886	489	11	11	11	11	652	11	1288
RTOR Reduction (vph)	0	0	373	0	0	5	0	10	0	0	0	251
Lane Group Flow (vph)	11	538	154	1886	489	6	11	12	0	0	663	1037
Turn Type	Prot		Perm	Prot		Perm	Perm			Split		pm+ov
Protected Phases	5	2		1	6			4		8	8	1
Permitted Phases			2			6	4					8
Actuated Green, G (s)	1.5	21.1	21.1	58.6	78.2	78.2	6.8	6.8			41.1	99.7
Effective Green, g (s)	1.5	21.1	21.1	58.6	78.2	78.2	6.8	6.8			41.1	99.7
Actuated g/C Ratio	0.01	0.15	0.15	0.41	0.54	0.54	0.05	0.05			0.29	0.69
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	18	520	233	1401	1927	862	52	82			508	1935
v/s Ratio Prot	0.01	c0.15		c0.55	0.14			0.01			c0.37	0.22
v/s Ratio Perm			0.10			0.00	c0.01					0.15
v/c Ratio	0.61	1.03	0.66	1.35	0.25	0.01	0.21	0.14			1.31	0.54
Uniform Delay, d1	70.8	61.2	57.9	42.5	17.3	14.9	65.8	65.6			51.2	10.7
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	48.7	48.7	13.9	160.6	0.3	0.0	2.0	0.8			151.1	0.3
Delay (s)	119.4	109.9	71.7	203.1	17.6	15.0	67.9	66.4			202.3	11.0
Level of Service	F	F	E	F	B	B	E	E			F	B
Approach Delay (s)		91.3			164.2			66.9			76.0	
Approach LOS		F			F			E			E	

Intersection Summary			
HCM Average Control Delay	117.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	143.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
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	1520	100	250	1350	620	150	900	540	690	1130	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95		0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3340		3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3340		3433	3539	1583
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)	750	1652	109	272	1467	674	163	978	587	750	1228	630
RTOR Reduction (vph)	0	0	99	0	0	322	0	74	0	0	0	322
Lane Group Flow (vph)	750	1652	10	272	1467	352	163	1491	0	750	1228	308
Turn Type	Prot		Over	Prot		Over	Prot			Prot		Over
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases											6	
Actuated Green, G (s)	17.0	31.7	11.0	14.3	29.0	28.6	11.0	29.0		28.6	46.6	17.0
Effective Green, g (s)	17.0	31.7	11.0	14.3	29.0	28.6	11.0	29.0		28.6	46.6	17.0
Actuated g/C Ratio	0.14	0.27	0.09	0.12	0.24	0.24	0.09	0.24		0.24	0.39	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	488	1348	146	410	1233	379	316	810		821	1379	225
v/s Ratio Prot	c0.22	c0.32	0.01	0.08	0.29	c0.22	0.05	c0.45		0.22	0.35	0.19
v/s Ratio Perm												
v/c Ratio	1.54	1.23	0.07	0.66	1.19	0.93	0.52	1.84		0.91	0.89	1.37
Uniform Delay, d1	51.3	43.9	49.6	50.3	45.3	44.5	51.8	45.3		44.3	34.1	51.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	251.7	108.3	0.2	4.0	93.7	28.6	1.4	383.0		14.5	9.0	192.3
Delay (s)	303.0	152.2	49.8	54.4	139.0	73.1	53.2	428.3		58.8	43.1	243.6
Level of Service	F	F	D	D	F	E	D	F		E	D	F
Approach Delay (s)		192.8			111.1			392.9			96.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	181.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	119.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	121.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

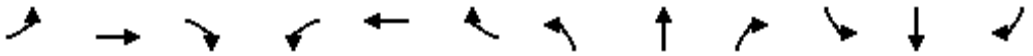


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	295	460	85	135	230	105	135	1315	325	155	1100	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.95		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3457		1770	3372		1770	3434		1770	3439	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3457		1770	3372		1770	3434		1770	3439	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	311	484	89	142	242	111	142	1384	342	163	1158	268
RTOR Reduction (vph)	0	11	0	0	41	0	0	17	0	0	15	0
Lane Group Flow (vph)	311	562	0	142	312	0	142	1709	0	163	1411	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	24.1	24.9		14.5	15.3		11.5	58.0		11.4	57.9	
Effective Green, g (s)	24.1	24.9		14.5	15.3		11.5	58.0		11.4	57.9	
Actuated g/C Ratio	0.19	0.19		0.11	0.12		0.09	0.45		0.09	0.45	
Clearance Time (s)	4.6	5.3		4.6	5.3		4.6	6.7		4.6	6.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	328	662		197	397		157	1532		155	1532	
v/s Ratio Prot	c0.18	c0.16		0.08	0.09		0.08	c0.50		c0.09	0.41	
v/s Ratio Perm												
v/c Ratio	0.95	0.85		0.72	0.78		0.90	1.12		1.05	0.92	
Uniform Delay, d1	52.3	50.7		55.8	55.7		58.7	36.0		59.3	33.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	35.8	9.9		12.2	9.8		44.7	61.7		86.6	10.6	
Delay (s)	88.1	60.6		68.0	65.5		103.4	97.7		145.9	44.5	
Level of Service	F	E		E	E		F	F		F	D	
Approach Delay (s)		70.3			66.2			98.1			54.9	
Approach LOS		E			E			F			D	

Intersection Summary			
HCM Average Control Delay	75.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

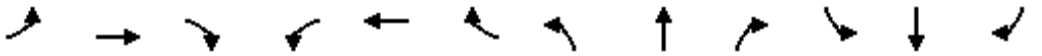
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	145	365	160	300	555	265	80	460	135	280	875	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95		0.97	0.95	1.00
Frt	1.00	0.95		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3377		1770	3368		3433	3419		3433	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3377		1770	3368		3433	3419		3433	3539	1583
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)	158	397	174	326	603	288	87	500	147	304	951	245
RTOR Reduction (vph)	0	56	0	0	64	0	0	30	0	0	0	162
Lane Group Flow (vph)	158	515	0	326	827	0	87	617	0	304	951	83
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases												2
Actuated Green, G (s)	11.5	22.7		13.0	24.2		6.3	24.0		11.8	29.5	29.5
Effective Green, g (s)	11.5	22.7		13.0	24.2		6.3	24.0		11.8	29.5	29.5
Actuated g/C Ratio	0.13	0.26		0.15	0.28		0.07	0.27		0.13	0.34	0.34
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	233	876		263	931		247	938		463	1193	534
v/s Ratio Prot	0.09	0.15		c0.18	c0.25		0.03	0.18		c0.09	c0.27	
v/s Ratio Perm												0.05
v/c Ratio	0.68	0.59		1.24	0.89		0.35	0.66		0.66	0.80	0.15
Uniform Delay, d1	36.2	28.3		37.2	30.4		38.7	28.1		35.9	26.3	20.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.6	1.0		135.9	10.3		0.9	3.6		3.3	5.6	0.6
Delay (s)	43.8	29.3		173.1	40.7		39.5	31.7		39.3	31.9	20.9
Level of Service	D	C		F	D		D	C		D	C	C
Approach Delay (s)		32.5			76.2			32.6			31.6	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM Average Control Delay	44.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	87.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



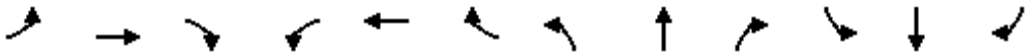
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	190	275	120	105	50	350	1515	245	70	1110	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3465		1770	3514	
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)	1770	1863	1583	1770	1863	1583	3433	3465		1770	3514	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	200	289	126	111	53	368	1595	258	74	1168	58
RTOR Reduction (vph)	0	0	200	0	0	48	0	9	0	0	3	0
Lane Group Flow (vph)	84	200	89	126	111	5	368	1844	0	74	1223	0
Turn Type	Prot		Over	Prot		Perm	Prot			Prot		
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	15.7	17.7	16.8	10.0	13.0	13.0	16.8	71.3		6.0	60.5	
Effective Green, g (s)	15.7	17.7	16.8	10.0	13.0	13.0	16.8	71.3		6.0	60.5	
Actuated g/C Ratio	0.12	0.14	0.13	0.08	0.10	0.10	0.13	0.55		0.05	0.47	
Clearance Time (s)	5.0	7.0	5.0	6.0	7.0	7.0	5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	214	254	205	136	186	158	444	1900		82	1635	
v/s Ratio Prot	0.05	c0.11	0.06	c0.07	0.06		0.11	c0.53		c0.04	0.35	
v/s Ratio Perm						0.00						
v/c Ratio	0.39	0.79	0.43	0.93	0.60	0.03	0.83	0.97		0.90	0.75	
Uniform Delay, d1	52.7	54.3	52.2	59.6	56.0	52.8	55.2	28.3		61.7	28.5	
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	1.2	14.8	1.5	54.8	5.1	0.1	12.1	14.7		67.3	3.2	
Delay (s)	53.9	69.1	53.7	114.4	61.1	52.9	67.3	43.0		129.0	31.7	
Level of Service	D	E	D	F	E	D	E	D		F	C	
Approach Delay (s)		59.1			82.7			47.1			37.2	
Approach LOS		E			F			D			D	

Intersection Summary			
HCM Average Control Delay	48.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



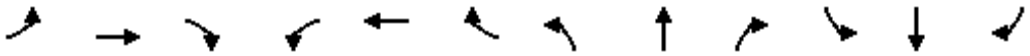
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	1030	780	355	755	285	615	1440	305	255	1020	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0		5.0	7.0	7.0	6.0	7.0	7.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	4876		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	4876		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	1084	821	374	795	300	647	1516	321	268	1074	147
RTOR Reduction (vph)	0	0	2	0	51	0	0	0	179	0	0	93
Lane Group Flow (vph)	337	1084	819	374	1044	0	647	1516	143	268	1074	54
Turn Type	Prot		pt+ov	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4	4 5	3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	16.7	41.0	65.0	14.0	38.3		24.0	39.0	39.0	11.0	27.0	27.0
Effective Green, g (s)	16.7	41.0	65.0	14.0	38.3		24.0	39.0	39.0	11.0	27.0	27.0
Actuated g/C Ratio	0.13	0.32	0.50	0.11	0.29		0.18	0.30	0.30	0.08	0.21	0.21
Clearance Time (s)	5.0	7.0		5.0	7.0		5.0	7.0	7.0	6.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	441	1604	792	370	1437		634	1526	475	290	1056	329
v/s Ratio Prot	0.10	0.21	c0.52	c0.11	0.21		0.19	c0.30		0.08	c0.21	
v/s Ratio Perm									0.09			0.03
v/c Ratio	0.76	0.68	1.03	1.01	0.73		1.02	0.99	0.30	0.92	1.02	0.16
Uniform Delay, d1	54.7	38.7	32.5	58.0	41.1		53.0	45.4	35.0	59.1	51.5	42.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.7	1.1	41.1	49.5	1.9		41.0	21.5	1.6	33.4	32.0	1.1
Delay (s)	62.4	39.9	73.6	107.5	43.0		94.0	66.9	36.6	92.4	83.5	43.3
Level of Service	E	D	E	F	D		F	E	D	F	F	D
Approach Delay (s)		55.6			59.4			70.1			81.2	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM Average Control Delay	66.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	33.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



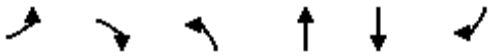
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	5	10	110	5	770	10	1640	150	770	1430	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	4.0	5.5	
Lane Util. Factor		1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frt		1.00	0.85	1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1794	1583	1770	1507	1504	1770	3539	1583	3433	3534	
Flt Permitted		0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1794	1583	1770	1507	1504	1770	3539	1583	3433	3534	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	5	11	116	5	811	11	1726	158	811	1505	16
RTOR Reduction (vph)	0	0	11	0	355	146	0	0	47	0	0	0
Lane Group Flow (vph)	0	21	0	116	56	259	11	1726	111	811	1521	0
Turn Type	Split		Perm	Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)		4.8	4.8	16.4	16.4	44.6	0.8	63.1	63.1	28.2	90.5	
Effective Green, g (s)		4.8	4.8	16.4	16.4	44.6	0.8	63.1	63.1	28.2	90.5	
Actuated g/C Ratio		0.04	0.04	0.13	0.13	0.34	0.01	0.49	0.49	0.22	0.70	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0	5.5	5.5	4.0	5.5	
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	58	223	190	516	11	1718	768	745	2460	
v/s Ratio Prot		c0.01		c0.07	0.04	0.17	0.01	c0.49		c0.24	0.43	
v/s Ratio Perm			0.00						0.07			
v/c Ratio		0.32	0.01	0.52	0.30	0.50	1.00	1.00	0.14	1.09	0.62	
Uniform Delay, d1		61.0	60.3	53.1	51.6	33.9	64.6	33.4	18.5	50.9	10.5	
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		2.8	0.0	2.2	0.9	0.8	271.4	22.8	0.4	59.7	1.2	
Delay (s)		63.8	60.4	55.3	52.4	34.7	336.0	56.3	18.9	110.6	11.7	
Level of Service		E	E	E	D	C	F	E	B	F	B	
Approach Delay (s)		62.6			45.1			54.8			46.1	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



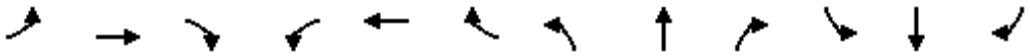
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	195	330	540	390	525	350	1820	810	50	1465	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	6.3	5.6	6.3	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5023	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5023	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	205	347	568	411	553	368	1916	853	53	1542	137
RTOR Reduction (vph)	0	0	4	0	0	56	0	0	72	0	9	0
Lane Group Flow (vph)	153	205	343	568	411	497	368	1916	781	53	1670	0
Turn Type	Prot		pt+ov	Prot		Perm	Prot		pt+ov	Prot		
Protected Phases	7	4	4 5	3	8		5	2	2 3	1	6	
Permitted Phases						8						
Actuated Green, G (s)	6.0	16.3	28.9	19.8	30.1	30.1	12.6	46.9	72.3	3.2	37.5	
Effective Green, g (s)	6.0	16.3	28.9	19.8	30.1	30.1	12.6	46.9	66.7	3.2	37.5	
Actuated g/C Ratio	0.05	0.15	0.26	0.18	0.27	0.27	0.11	0.43	0.61	0.03	0.34	
Clearance Time (s)	5.6	6.3		5.6	6.3	6.3	5.6	6.3		5.6	6.3	
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)	187	524	416	618	968	433	393	2168	960	100	1712	
v/s Ratio Prot	0.04	0.06	c0.22	0.17	0.12		0.11	c0.38	0.49	0.02	c0.33	
v/s Ratio Perm						c0.31						
v/c Ratio	0.82	0.39	0.82	0.92	0.42	1.15	0.94	0.88	0.81	0.53	0.98	
Uniform Delay, d1	51.5	42.4	38.2	44.3	32.8	40.0	48.3	29.0	16.8	52.7	35.8	
Progression Factor	1.00	1.00	1.00	0.73	0.68	0.64	1.01	1.19	1.49	1.00	1.00	
Incremental Delay, d2	23.4	0.5	12.4	14.5	0.2	84.7	25.8	4.7	4.4	5.3	16.6	
Delay (s)	74.9	42.8	50.6	46.8	22.6	110.4	74.8	39.2	29.5	58.0	52.4	
Level of Service	E	D	D	D	C	F	E	D	C	E	D	
Approach Delay (s)		53.6			63.3			40.7			52.6	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	49.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



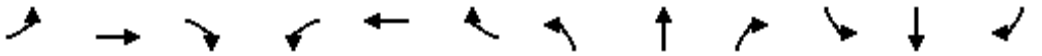
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	850	455	0	2100	2125	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00		0.86	0.81	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		6408	7544	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		6408	7544	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	895	479	0	2211	2237	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	895	478	0	2211	2237	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	40.8	40.8		61.2	61.2	
Effective Green, g (s)	40.8	40.8		61.2	61.2	
Actuated g/C Ratio	0.37	0.37		0.56	0.56	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1273	587		3565	4197	
v/s Ratio Prot	0.26			c0.35	0.30	
v/s Ratio Perm		c0.30				
v/c Ratio	0.70	0.81		0.62	0.53	
Uniform Delay, d1	29.4	31.2		16.5	15.4	
Progression Factor	1.00	1.00		1.00	0.80	
Incremental Delay, d2	1.8	8.5		0.8	0.0	
Delay (s)	31.2	39.7		17.3	12.3	
Level of Service	C	D		B	B	
Approach Delay (s)	34.2			17.3	12.3	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	127.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



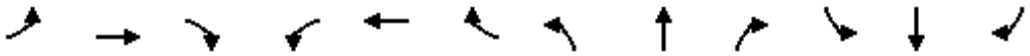
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	115	25	270	20	525	15	1405	445	870	1600	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91	1.00	0.97	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1813		1770	1863	1583	1770	5085	1583	3433	5036	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1813		1770	1863	1583	1770	5085	1583	3433	5036	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	121	26	284	21	553	16	1479	468	916	1684	116
RTOR Reduction (vph)	0	5	0	0	0	18	0	0	222	0	5	0
Lane Group Flow (vph)	179	142	0	284	21	535	16	1479	246	916	1795	0
Turn Type	Split			Split		pt+ov	Prot		Perm	Prot		
Protected Phases	4	4		8	8	8 1	5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	16.0	16.0		24.0	24.0	65.6	2.0	56.4	56.4	37.6	92.0	
Effective Green, g (s)	16.0	16.0		24.0	24.0	65.6	2.0	56.4	56.4	37.6	92.0	
Actuated g/C Ratio	0.11	0.11		0.16	0.16	0.44	0.01	0.38	0.38	0.25	0.61	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	189	193		283	298	692	24	1912	595	861	3089	
v/s Ratio Prot	c0.10	0.08		c0.16	0.01	0.34	0.01	c0.29		c0.27	0.36	
v/s Ratio Perm									0.16			
v/c Ratio	0.95	0.73		1.00	0.07	0.77	0.67	0.77	0.41	1.06	0.58	
Uniform Delay, d1	66.6	64.9		63.0	53.5	35.9	73.7	41.2	34.6	56.2	17.4	
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	49.8	13.5		54.4	0.1	5.4	52.8	3.1	2.1	49.1	0.8	
Delay (s)	116.4	78.4		117.4	53.6	41.2	126.5	44.3	36.7	105.3	18.2	
Level of Service	F	E		F	D	D	F	D	D	F	B	
Approach Delay (s)		99.3			66.8			43.2			47.6	
Approach LOS		F			E			D			D	

Intersection Summary			
HCM Average Control Delay	51.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



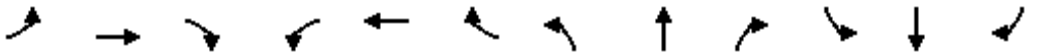
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	550	235	280	250	160	305	300	1275	580	440	840	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
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)	598	255	304	272	174	332	326	1386	630	478	913	707
RTOR Reduction (vph)	0	0	261	0	0	200	0	0	254	0	0	331
Lane Group Flow (vph)	598	255	43	272	174	132	326	1386	376	478	913	376
Turn Type	Prot		Over	Prot		Over	Prot		Over	Prot		Perm
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	
Permitted Phases												6
Actuated Green, G (s)	20.8	16.0	12.8	22.0	17.2	14.0	12.8	42.0	22.0	14.0	43.2	43.2
Effective Green, g (s)	20.8	16.0	12.8	22.0	17.2	14.0	12.8	42.0	22.0	14.0	43.2	43.2
Actuated g/C Ratio	0.19	0.15	0.12	0.20	0.16	0.13	0.12	0.38	0.20	0.13	0.39	0.39
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	649	271	184	354	291	201	399	1351	317	437	1390	622
v/s Ratio Prot	0.17	c0.14	0.03	0.15	0.09	0.08	0.09	c0.39	c0.24	c0.14	0.26	
v/s Ratio Perm												0.24
v/c Ratio	0.92	0.94	0.24	0.77	0.60	0.66	0.82	1.03	1.18	1.09	0.66	0.60
Uniform Delay, d1	43.8	46.5	44.2	41.6	43.2	45.7	47.5	34.0	44.0	48.0	27.3	26.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.6	38.9	0.7	9.6	3.3	7.5	12.2	31.3	110.6	70.8	2.4	4.3
Delay (s)	62.4	85.4	44.8	51.2	46.5	53.3	59.7	65.3	154.6	118.8	29.8	30.9
Level of Service	E	F	D	D	D	D	E	E	F	F	C	C
Approach Delay (s)		62.8			51.0			88.5			50.5	
Approach LOS		E			D			F			D	

Intersection Summary			
HCM Average Control Delay	66.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.3%	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)	145	510	400	350	495	40	880	60	85	100	90	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	3433	3500		1681	1696	1583		3321	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (perm)	1770	3539	1583	3433	3500		1681	1696	1583		3321	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	537	421	368	521	42	926	63	89	105	95	84
RTOR Reduction (vph)	0	0	102	0	5	0	0	0	54	0	43	0
Lane Group Flow (vph)	153	537	319	368	558	0	491	498	35	0	241	0
Turn Type	Prot		pt+ov	Prot			Split		Perm	Split		
Protected Phases	7	4	4 2	3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	12.7	22.5	65.4	15.7	25.5		42.9	42.9	42.9		12.9	
Effective Green, g (s)	12.7	22.5	65.4	15.7	25.5		42.9	42.9	42.9		12.9	
Actuated g/C Ratio	0.12	0.20	0.59	0.14	0.23		0.39	0.39	0.39		0.12	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	204	724	941	490	811		656	661	617		389	
v/s Ratio Prot	0.09	c0.15	0.20	0.11	c0.16		0.29	c0.29			c0.07	
v/s Ratio Perm									0.02			
v/c Ratio	0.75	0.74	0.34	0.75	0.69		0.75	0.75	0.06		0.62	
Uniform Delay, d1	47.1	41.0	11.3	45.3	38.6		28.9	29.0	20.9		46.2	
Progression Factor	0.90	0.91	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	10.8	3.0	0.2	6.4	2.4		7.6	7.8	0.2		2.9	
Delay (s)	53.3	40.3	11.5	51.7	41.0		36.6	36.8	21.1		49.1	
Level of Service	D	D	B	D	D		D	D	C		D	
Approach Delay (s)		31.2			45.2			35.4			49.1	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



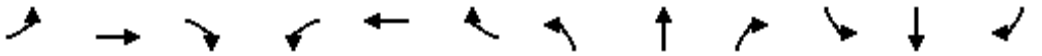
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	880	435	95	135	615	165	210	65	15	220	75	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3444		1770	3427		1681	1724	1583	1770	1759	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3444		1770	3427		1681	1724	1583	1770	1759	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	926	458	100	142	647	174	221	68	16	232	79	47
RTOR Reduction (vph)	0	16	0	0	22	0	0	0	14	0	19	0
Lane Group Flow (vph)	926	542	0	142	799	0	144	145	2	232	107	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	37.6	47.6		16.0	26.0		13.6	13.6	13.6	16.8	16.8	
Effective Green, g (s)	37.6	47.6		16.0	26.0		13.6	13.6	13.6	16.8	16.8	
Actuated g/C Ratio	0.34	0.43		0.15	0.24		0.12	0.12	0.12	0.15	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1173	1490		257	810		208	213	196	270	269	
v/s Ratio Prot	c0.27	0.16		0.08	c0.23		c0.09	0.08		c0.13	0.06	
v/s Ratio Perm									0.00			
v/c Ratio	0.79	0.36		0.55	0.99		0.69	0.68	0.01	0.86	0.40	
Uniform Delay, d1	32.6	21.0		43.7	41.8		46.2	46.1	42.3	45.4	42.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.4	0.7		2.6	28.0		9.5	8.6	0.0	22.8	1.0	
Delay (s)	38.1	21.7		46.2	69.8		55.7	54.8	42.3	68.2	43.0	
Level of Service	D	C		D	E		E	D	D	E	D	
Approach Delay (s)		31.9			66.3			54.6			59.3	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



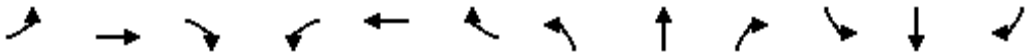
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	810	100	230	850	170	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	880	109	250	924	185	304
RTOR Reduction (vph)	0	66	0	0	0	259
Lane Group Flow (vph)	880	43	250	924	185	45
Turn Type		Over	Prot			Over
Protected Phases	4	2	3	8	2	3
Permitted Phases						
Actuated Green, G (s)	23.6	26.2	10.8	38.4	26.2	10.8
Effective Green, g (s)	23.6	26.2	10.8	38.4	26.2	10.8
Actuated g/C Ratio	0.33	0.36	0.15	0.53	0.36	0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1150	571	511	1872	1239	235
v/s Ratio Prot	c0.25	0.03	0.07	c0.26	c0.05	0.03
v/s Ratio Perm						
v/c Ratio	0.77	0.07	0.49	0.49	0.15	0.19
Uniform Delay, d1	22.0	15.2	28.4	10.9	15.7	27.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.3	0.7	0.2	0.3	0.4
Delay (s)	25.1	15.5	29.1	11.1	15.9	27.5
Level of Service	C	B	C	B	B	C
Approach Delay (s)	24.0			14.9	23.1	
Approach LOS	C			B	C	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	72.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



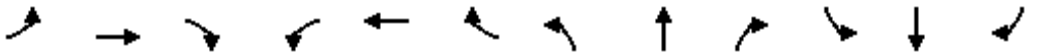
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	1510	360	120	1650	20	370	50	110	20	30	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	3539	1583	1770	3539	1583
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)	163	1641	391	130	1793	22	402	54	120	22	33	130
RTOR Reduction (vph)	0	0	158	0	0	11	0	0	87	0	0	3
Lane Group Flow (vph)	163	1641	233	130	1793	11	402	54	33	22	33	127
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	14.3	45.9	63.4	13.1	44.7	51.9	17.5	16.4	29.5	7.2	6.1	20.4
Effective Green, g (s)	14.3	45.9	63.4	13.1	44.7	51.9	17.5	16.4	29.5	7.2	6.1	20.4
Actuated g/C Ratio	0.13	0.43	0.60	0.12	0.42	0.49	0.16	0.15	0.28	0.07	0.06	0.19
Clearance Time (s)	5.2	7.5	5.2	5.2	7.5	5.2	5.2	5.9	5.2	5.2	5.9	5.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	238	2194	943	423	2136	772	565	545	439	120	203	304
v/s Ratio Prot	c0.09	0.32	0.04	0.04	c0.35	0.00	c0.12	0.02	0.01	0.01	0.01	c0.06
v/s Ratio Perm			0.11			0.01			0.01			0.02
v/c Ratio	0.68	0.75	0.25	0.31	0.84	0.01	0.71	0.10	0.08	0.18	0.16	0.42
Uniform Delay, d1	43.9	25.4	10.2	42.5	27.6	14.1	42.1	38.7	28.4	46.8	47.7	37.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.9	2.4	0.1	0.4	4.2	0.0	4.2	0.1	0.1	0.7	0.4	0.9
Delay (s)	51.8	27.8	10.3	42.9	31.8	14.1	46.3	38.7	28.5	47.6	48.1	38.7
Level of Service	D	C	B	D	C	B	D	D	C	D	D	D
Approach Delay (s)		26.5			32.3			41.9			41.4	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	106.4	Sum of lost time (s)	23.1
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



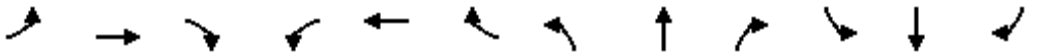
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	540	330	140	500	0	380	0	340	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0			
Lane Util. Factor		0.95	1.00	1.00	0.95		0.97		1.00			
Frt		1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3539	1583	1770	3539		3433		1583			
Flt Permitted		1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)		3539	1583	1770	3539		3433		1583			
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)	0	587	359	152	543	0	413	0	370	0	0	0
RTOR Reduction (vph)	0	0	217	0	0	0	0	0	307	0	0	0
Lane Group Flow (vph)	0	587	142	152	543	0	413	0	63	0	0	0
Turn Type			custom	Prot			Prot		Over			
Protected Phases		4	2	3	8		5	2	3			
Permitted Phases												
Actuated Green, G (s)		17.1	26.4	11.3	32.4		26.4		11.3			
Effective Green, g (s)		17.1	26.4	11.3	32.4		26.4		11.3			
Actuated g/C Ratio		0.26	0.40	0.17	0.49		0.40		0.17			
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0			
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		906	626	299	1717		1357		268			
v/s Ratio Prot		c0.17	0.09	c0.09	0.15		c0.12		0.04			
v/s Ratio Perm												
v/c Ratio		0.65	0.23	0.51	0.32		0.30		0.23			
Uniform Delay, d1		22.2	13.4	25.2	10.5		13.9		24.0			
Progression Factor		1.00	1.00	1.00	1.00		1.00		1.00			
Incremental Delay, d2		1.6	0.8	1.4	0.1		0.6		0.4			
Delay (s)		23.8	14.3	26.6	10.6		14.5		24.5			
Level of Service		C	B	C	B		B		C			
Approach Delay (s)		20.2			14.1			19.2			0.0	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.5%	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 (vph)	355	1140	370	355	610	90	345	1060	630	90	710	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3471		3433	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3471		3433	5085	1583	1770	5085	1583
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)	386	1239	402	386	663	98	375	1152	685	98	772	163
RTOR Reduction (vph)	0	0	148	0	11	0	0	0	198	0	0	83
Lane Group Flow (vph)	386	1239	254	386	750	0	375	1152	487	98	772	80
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	15.4	36.0	36.0	12.0	32.6		12.9	30.0	30.0	6.0	23.1	23.1
Effective Green, g (s)	15.4	36.0	36.0	12.0	32.6		12.9	30.0	30.0	6.0	23.1	23.1
Actuated g/C Ratio	0.15	0.36	0.36	0.12	0.33		0.13	0.30	0.30	0.06	0.23	0.23
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	529	1274	570	412	1132		443	1526	475	106	1175	366
v/s Ratio Prot	0.11	c0.35		c0.11	0.22		c0.11	0.23		0.06	0.15	
v/s Ratio Perm			0.16						c0.31			0.05
v/c Ratio	0.73	0.97	0.44	0.94	0.66		0.85	0.75	1.03	0.92	0.66	0.22
Uniform Delay, d1	40.3	31.5	24.4	43.6	29.0		42.6	31.7	35.0	46.8	34.9	31.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	18.9	0.6	28.7	1.5		13.9	3.5	47.8	63.3	2.9	1.4
Delay (s)	45.3	50.4	24.9	72.3	30.4		56.5	35.2	82.8	110.1	37.7	32.5
Level of Service	D	D	C	E	C		E	D	F	F	D	C
Approach Delay (s)		44.4			44.5			53.5			43.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	47.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

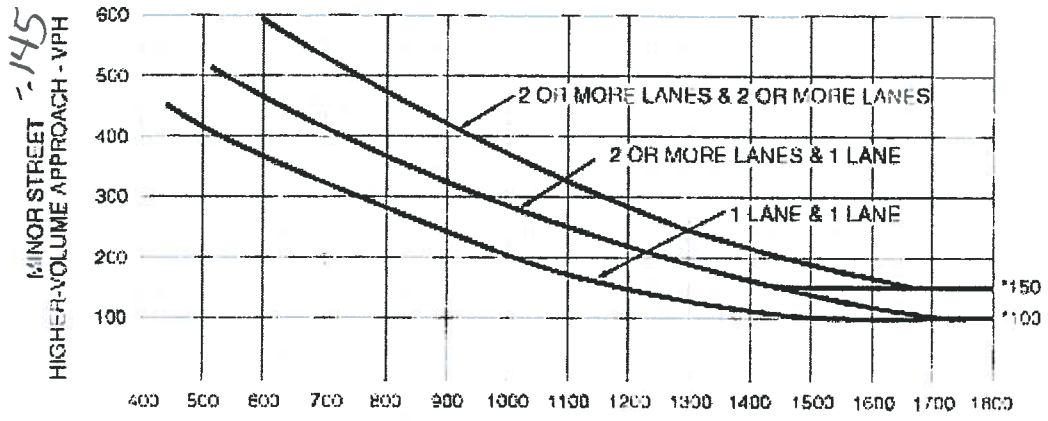


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	410	90	560	95	210	95	760	1750	95	95	980	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	3433	3539	1583	3433	5046		3433	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	3433	3539	1583	3433	5046		3433	5085	1583
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)	446	98	609	103	228	103	826	1902	103	103	1065	457
RTOR Reduction (vph)	0	0	343	0	0	79	0	6	0	0	0	206
Lane Group Flow (vph)	446	98	266	103	228	24	826	1999	0	103	1065	251
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	12.0	21.7	21.7	3.1	12.8	12.8	22.6	43.4		3.1	23.9	23.9
Effective Green, g (s)	12.0	21.7	21.7	3.1	12.8	12.8	22.6	43.4		3.1	23.9	23.9
Actuated g/C Ratio	0.14	0.25	0.25	0.04	0.15	0.15	0.26	0.50		0.04	0.27	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	472	463	393	122	519	232	889	2509		122	1392	433
v/s Ratio Prot	c0.13	0.05		0.03	0.06		c0.24	c0.40		0.03	0.21	
v/s Ratio Perm			c0.17			0.02						0.16
v/c Ratio	0.94	0.21	0.68	0.84	0.44	0.11	0.93	0.80		0.84	0.77	0.58
Uniform Delay, d1	37.3	26.0	29.6	41.9	34.0	32.3	31.6	18.3		41.9	29.1	27.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.8	0.2	4.6	38.4	0.6	0.2	15.6	2.7		38.4	4.1	5.6
Delay (s)	65.2	26.2	34.2	80.3	34.6	32.5	47.1	21.0		80.3	33.2	32.9
Level of Service	E	C	C	F	C	C	D	C		F	C	C
Approach Delay (s)		45.5			44.9			28.6			36.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	87.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Figure 4C-3. Warrant 3, Peak Hour

RDO / Vista del Oro



= 145

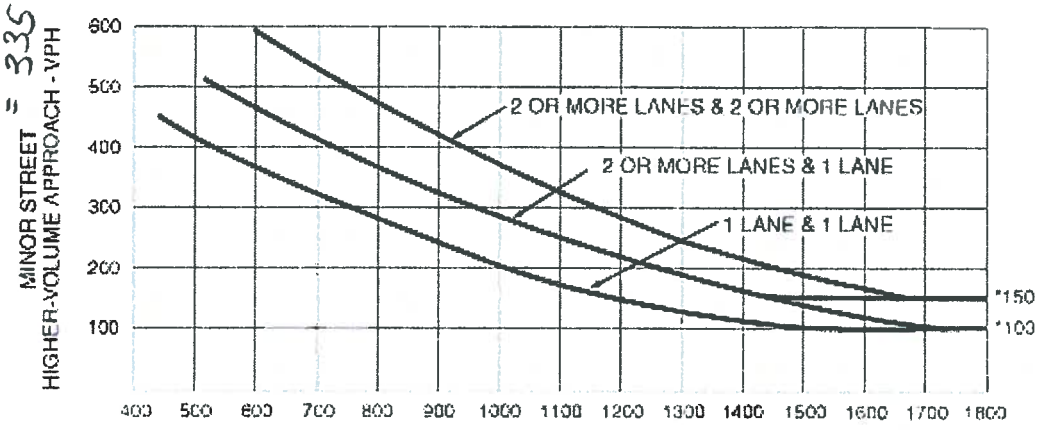
= 2055

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Alternative 2 AM

Figure 4C-3. Warrant 3, Peak Hour

RD01 Caneo Dr



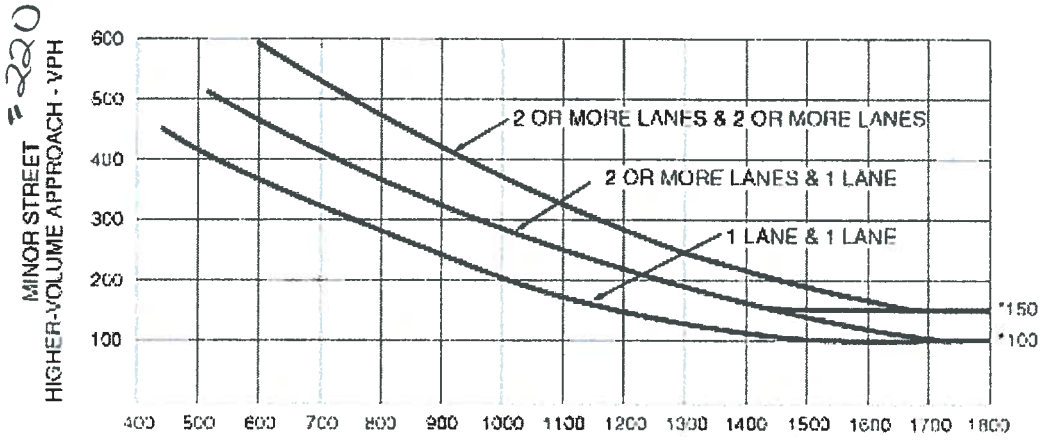
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 1890

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

Alternative 2 AM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Cameo Dr.



= 220

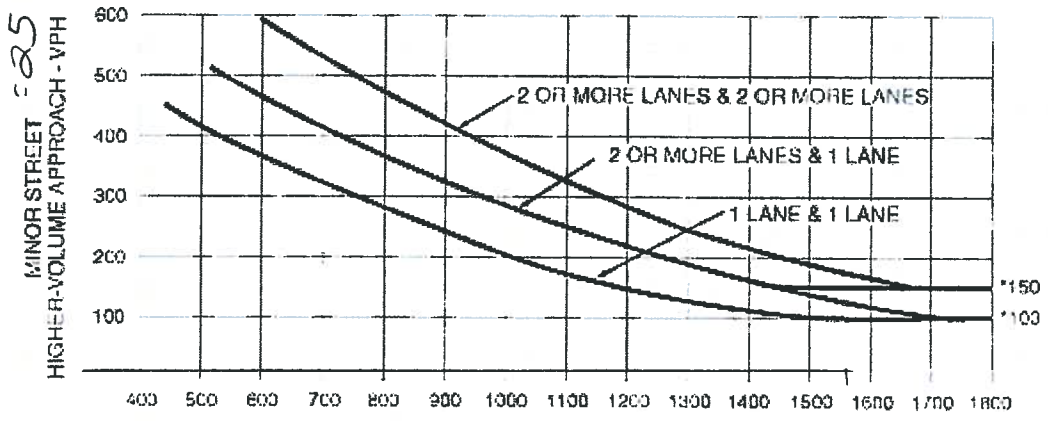
MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 2160

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Alternative 2 PM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Trieste / Sicily



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 1560

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

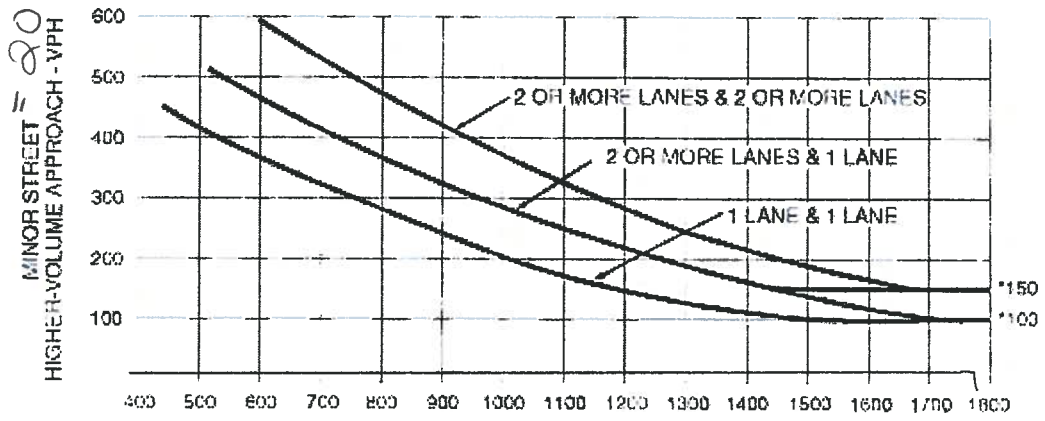
= 85

Does not meet warrants.

Alternative 2 AM

Figure 4C-3. Warrant 3, Peak Hour

RDO / Trieste / Sicily



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH) = 1775

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Does not meet warrant.

Alternative 2 PM