APPENDIX D

SUPPLEMENTAL TRANSPORTATION ANALYSIS

Kimley»Horn

Memorandum

To: Judy Malamut, LSA Associates, Inc.

From: Matt Weir, P.E., T.E., PTOE

Re: **Supplemental Traffic Analysis**
Dixon Ranch – El Dorado Hills, California

Date: May 15, 2015

I am writing to provide an overview of the supplemental analysis we recently completed for the above reference project. At the time of scoping for the project's traffic impact analysis in September 2011, El Dorado County's traffic analysis procedures dictated the consideration for Cumulative (2025) Conditions. At that time, the *General Plan* horizon year and Travel Demand Model (TDM) projections were both based on year the 2025. The project was subsequently revised and the County prepared a supplemental Scope of Work in November 2012 in which the requirement for consideration of the "same scenarios as the previous…study" was stated. Accordingly, the Draft EIR traffic study documents the traffic impact analysis results under year 2025 Cumulative Conditions.

This memorandum was prepared primarily in response to comment A5-1 received on the Draft EIR. In this comment, Caltrans expresses that the Cumulative (2025) analysis is "inadequate to accurately account for future cumulative impacts, especially given this project is not consistent with the adopted General Plan. Cumulative condition scenarios should be for year 2035 to match the latest future traffic model for El Dorado County." As a result, the following discussion presents the technical findings associated with our recent completion of a new Cumulative (2035) analysis for the proposed project.

Please note that this Cumulative (2035) analysis used the County's current TDM which is commonly referred to as the new "75-25" model in which 75 percent of the anticipated growth occurs within the Community Regions. Per the County's direction, Draft 2035 Land Use Forecast Data dated September 5, 2014, was incorporated. Also, in an effort to remain consistent with the original study[3], the Cumulative (2035) roadway network assumptions inherent to these supplemental analyses do not reflect current SACOG MTP or El Dorado County CIP projects (i.e., US-50/Silva Valley Parkway Interchange Phase 2[1] and Green Valley Road widening between Francisco Drive and El Dorado Hills Boulevard/Salmon Falls Road[2]) that are understood to be reflected in recent studies (by others). While it is acknowledged that inclusion of these future projects would likely improve operations and even eliminate one or more significant impacts, we elected to maintain more restrictive and conservative geometric assumptions without these projects, thereby ensuring consistency between these analyses and the original study.

This supplemental analysis includes the addition of US-50 freeway facilities to the previously evaluated intersection facilities[3], and documents Existing plus Approved Projects (2018 without and with the Proposed Project) and Cumulative (2035 without and with the Proposed Project) conditions. As documented in the original study[3], because at least a portion of the Existing plus Approved Projects (2018) analysis scenarios relies on Cumulative forecasts for volume development, the 2018 analysis scenarios were updated with this supplemental analysis. In addition, because it was not previously

[1] *Adopted 2014 Capital Improvement Program,* Project No. 71345, El Dorado County Community Development Agency.
[2] *Adopted 2014 Capital Improvement Program,* Project No. GP178, El Dorado County Community Development Agency.
[3] *Dixon Ranch Traffic Impact Analysis,* Kimley-Horn and Associates, Inc., June 18, 2013.

documented, this supplemental analysis also includes documentation of Existing (2014 without and with the Proposed Project) freeway facility conditions. The following is a brief discussion of the outcome of these supplemental technical analyses:

Intersections

- Existing plus Approved Projects (2018) Conditions
  - Results are consistent with the approved TIA[3]
    - Intersection #2 (Green Valley Road @ El Dorado Hills Boulevard)
    - Intersection #4 (Green Valley Road @ Loch Way)
- Cumulative (2035) Conditions
  - Results are consistent with the approved TIA[3]
    - Intersection #2 (Green Valley Road @ El Dorado Hills Boulevard)
    - Intersection #4 (Green Valley Road @ Loch Way)
  - Results eliminate impacts and mitigations at:
    - Intersection #7 (Green Valley Road @ Deer Valley Road)
    - Intersection #24 (Silva Valley Parkway @ Appian Way)

Freeway Facilities

- Existing (2014) Conditions
  - No impacts or mitigations required
- Existing plus Approved Projects (2018) Conditions
  - No impacts or mitigations required
- Cumulative (2035) Conditions
  - No impacts or mitigations required

We understand that Caltrans District 3 prefers weaving sections to be analyzed using the Leisch Method[4] rather than Highway Capacity Manual (HCM) methodology. Rather than basing LOS on the density of the freeway mainline (HCM methodology), the Leisch Method focuses on the relationship between the length of the weaving section, the total weaving volume, and the speed of the vehicles in the weaving segment. Employing the Leisch Method (see **Table 5**) reveals that the critical weave section (westbound, west of El Dorado Hills Boulevard/Latrobe Road) would operate at LOS C during the AM peak-hour with and without the addition of the proposed project.

Exhibit 1 summarizes the results for these supplemental analyses. The attached tables and figures provide a detailed summary of the analysis results and the peak-hour traffic volumes.

Exhibit 1 – Impact Summary

Scenario	# Impacts	
	Intersections	Freeway[+]
Existing (2014)	*See Approved TIA[3]*	**0**
EPAP (2018, using 2035 Cumulative)	2, 0, **0**	**0**
Cumulative (2035, 75-25 model)	2, -2, **0**	**0**
Notes: Intersection impact results are presented in #, #, **#** format (# consistent, # eliminated, **# new**) [+] # new only because facilities were not studied in approved TIA		

[4] *Procedure for Analysis and Design of Weaving Sections,* Federal Highway Administration, February 1984.

As indicated in **Exhibit 1**, the results of this new 2035 analysis determined the following:

- Three fewer intersection impacts when compared to the 2025 conditions documented in the Draft EIR.
- Although not originally studied in the Draft EIR traffic study, confirmation of no impacts to US-50 freeway facilities

Attachments to this memorandum include the worksheets for the technical analyses discussed herein.

Attachments:

Table 1 – Existing (2014) Freeway Levels of Service
Table 2 – Existing plus Approved Projects (2018) Intersection Levels of Services
Table 3 – Existing plus Approved Projects (2018) Freeway Levels of Services
Table 4 – Cumulative (2035) Intersection Levels of Service
Table 5 – Cumulative (2035) Freeway Levels of Service

Figure 1 – Existing plus Approved Projects (2018) Peak-Hour Volumes
Figure 2 – Existing plus Approved Projects (2018) plus Proposed Project Peak-Hour Volumes
Figure 3 – Cumulative (2035) Peak-Hour Volumes
Figure 4 – Cumulative (2035) plus Proposed Project Peak-Hour Volumes

Attachment A: Existing (2014) Freeway Analysis Worksheets
Attachment B: Existing plus Approved Projects (2018) Analysis Worksheets
Attachment C: Cumulative (2035) Analysis Worksheets

Table 1 – Existing (2014) Freeway Levels of Service

US-50				Existing (2014)		Existing (2014) Plus Proposed Project	
	Segment	Type	Peak Hour	Density[a]	LOS	Density[a]	LOS
Eastbound	West of Latrobe Rd SB Off Ramp	Basic	AM	12.3	B	12.3	B
			PM	21.4	C	21.4	C
	Latrobe SB Off Ramp	Diverge	AM	22.3	C	22.3	C
			PM	32.4	D	32.7	D
	Latrobe NB Off Ramp	Diverge	AM	12.0	B	12.0	B
			PM	26.6	C	26.8	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	Basic	AM	4.7	A	4.6	A
			PM	11.8	B	11.6	B
	Latrobe Rd On Ramp	Merge	AM	13.0	B	12.9	B
			PM	24.3	C	24.1	C
	East of Latrobe Rd On Ramp	Basic	AM	6.9	A	6.8	A
			PM	16.5	B	16.2	B
Westbound	East of El Dorado Hills Blvd Off Ramp	Basic	AM	30.4	D	30.4	D
			PM	15.4	B	15.4	B
	El Dorado Hills Blvd Off Ramp	Diverge	AM	36.3	E	36.3	E
			PM	22.4	C	22.4	C
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	Basic	AM	20.2	C	20.2	C
			PM	11.0	A	11.0	A
	El Dorado Hills Blvd On Ramp	Merge	AM	36.7	E	37.0	E
			PM	27.8	C	28.0	D
	West of El Dorado Hills Blvd On Ramp	Basic	AM	43.9	E	44.9	E
			PM	26.7	D	27.0	D

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)
b- **Bold** represents unacceptable operations. Shaded represents significant impact.

Table 2 – Existing plus Approved Projects (2018) Intersection Levels of Service

			2025 MODEL				2035 (75-25) MODEL			
INTERSECTION		PEAK HOUR	EPAP BASELINE DELAY (a) / LOS (b)		EPAP PLUS PROJECT DELAY (a) / LOS (b)		EPAP BASELINE DELAY (a) / LOS (b)		EPAP PLUS PROJECT DELAY (a) / LOS (b)	
1	Green Valley Rd. & Francisco Rd. *	AM	33.0	C	34.6	C	33.0	C	34.6	C
		PM	32.8	C	34.6	C	32.8	C	34.6	C
2	El Dorado Hills Blvd. & Green Valley Rd. *	AM	83.7	**F**	108.0	**F**	83.7	**F**	108.0	**F**
		PM	78.7	E	108.1	**F**	78.7	**E**	108.1	**F**
3	Silva Valley Pkwy. & Green Valley Rd. *	AM	33.6	C	46.7	D	33.6	C	46.7	D
		PM	25.8	C	42.9	D	25.8	C	42.9	D
4	Loch Way & Green Valley Rd *	AM	24.0	C	36.8	**E**	24.0	C	36.8	**E**
		PM	32.3	D	60.6	**F**	32.3	D	60.6	**F**
5	Green Valley Rd & Wilson Estates *	AM	17.7	C	24.8	C	17.7	C	24.8	C
		PM	17.6	C	26.1	D	17.6	C	26.1	D
6	Green Valley Rd & Malcom Dixon Rd *	AM	16.5	C	22.4	C	16.5	C	22.4	C
		PM	19.8	C	30.8	D	19.8	C	30.8	D
7	Deer Valley Rd. & Green Valley Rd. *	AM	20.4	C	22.7	C	20.4	C	22.7	C
		PM	25.2	D	29.0	D	25.2	D	29.0	D
8	Silver Springs Pkwy & Green Valley Rd *	AM	8.5	A	8.9	A	8.4	A	9.0	A
		PM	7.8	A	8.1	A	7.8	A	8.4	A
9	Bass Lake Rd. & Green Valley Rd. ***	AM	22.1	C	23.3	C	20.4	C	21.4	C
		PM	22.3	C	23.0	C	20.9	C	21.3	C
10	Cambridge Rd. & Green Valley Rd. ***	AM	18.6	B	19.3	B	18.3	B	19.0	B
		PM	21.0	C	22.1	C	19.5	B	20.2	C
11	Cameron Park Dr. & Green Valley Rd. ***	AM	27.6	C	30.8	C	30.3	C	33.0	C
		PM	31.7	C	34.9	C	29.6	C	32.1	C
12	El Dorado Hills Blvd. & Francisco Dr. *	AM	16.8	C	17.8	C	16.8	C	17.8	C
		PM	22.2	C	23.0	C	22.2	C	23.0	C
13	El Dorado Hills Blvd. & Harvard Way ***	AM	13.2	B	13.3	B	13.2	B	13.3	B
		PM	10.6	B	10.7	B	10.6	B	10.7	B
14	El Dorado Hills Blvd. & Serrano Pkwy. ***	AM	39.9	D	40.9	D	39.0	D	39.7	D
		PM	16.9	B	17.1	B	16.9	B	17.1	B
15	El Dorado Hills Blvd. & Saratoga Wy. (North) *	AM	31.2	C	31.3	C	31.1	C	31.2	C
		PM	25.0	C	24.7	C	25.0	C	24.7	C
16	El Dorado Hills Blvd. & Saratoga Wy. (South) ***	AM	28.1	C	29.0	C	28.2	C	27.8	C
		PM	29.9	C	30.2	C	29.9	C	29.7	C
18	Latrobe Rd. & US-50 EB Ramp ***	AM	10.5	B	10.5	B	10.5	B	10.5	B
		PM	10.4	B	10.4	B	10.4	B	10.4	B

Table 2 – Existing plus Approved Projects (2018) Intersection Levels of Service (cont.)

			2025 MODEL				2035 (75-25) MODEL			
INTERSECTION		PEAK HOUR	EPAP BASELINE DELAY (a) / LOS (b)		EPAP PLUS PROJECT DELAY (a) / LOS (b)		EPAP BASELINE DELAY (a) / LOS (b)		EPAP PLUS PROJECT DELAY (a) / LOS (b)	
19	Silva Valley Pkwy & EB US-50 Ramps **	AM	18.1	C	18.5	B	18.1	B	18.5	B
		PM	34.7	C	37.7	D	34.7	C	37.7	D
20	Silva Valley Pkwy & WB US-50 Ramps **	AM	28.7	C	29.8	C	28.7	C	29.8	C
		PM	42.5	D	41.5	D	42.5	D	41.5	D
21	Silva Valley Pkwy & Country Club Dr. **	AM	9.7	A	9.8	A	9.7	A	9.8	A
		PM	7.7	A	8.2	A	7.7	A	8.2	A
22	Silva Valley Pkwy. & Serrano Pkwy. **	AM	46.5	D	49.0	D	46.5	D	49.0	D
		PM	42.6	D	44.0	D	42.6	D	44.0	D
23	Harvard Way & Silva Valley Pkwy. ***	AM	36.0	D	39.2	D	30.1	C	32.0	C
		PM	17.3	B	17.7	B	16.3	B	15.6	B
24	Silva Valley Pkwy. & Appian Way ***	AM	19.0	C	28.9	D	13.1	B	16.5	C
		PM	22.9	C	42.5	**E**	13.5	B	18.8	C
25	Site Dwy RIRO & Green Valley Rd. *	AM	-	-	10.8	B	-	-	10.8	B
		PM	-	-	18.5	C	-	-	18.5	C
26	Site Dwy. Full/Site Dwy. & Green Valley Rd. *	AM	-	-	9.2	A	-	-	9.2	A
		PM	-	-	9.7	A	-	-	9.7	A

Notes:

* Intersection volumes based on existing counts plus manual addition of approved projects in area.

** Intersection volumes based on Silva Valley Interchange Traffic Operations Study.

*** Intersection volumes based on model run outputs.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8

Table 3 – Existing plus Approved Projects (2018) Freeway Levels of Service

US-50				Existing plus Approved Projects		Existing Plus Approved Projects plus Proposed Project	
	Segment	Type	Peak Hour	Density[a]	LOS	Density[a]	LOS
Eastbound	West of El Dorado Hills Blvd	Basic	AM	11.5	B	11.6	B
			PM	21.9	C	22.4	C
	Latrobe Rd SB Off Ramp	Diverge	AM	24.0	C	24.1	C
			PM	34.2	D	34.6	D
	Latrobe Rd NB Off Ramp	Diverge	AM	12.3	B	12.6	B
			PM	26.3	C	26.9	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	Basic	AM	4.6	A	4.6	A
			PM	11.7	B	11.9	B
	Latrobe Rd On Ramp to Silva Valley Pkwy Off Ramp	Weave	AM	7.0	A	7.1	A
			PM	15.7	B	15.9	B
	Silva Valley Pkwy Off Ramp to Silva Valley Pkwy SB On Ramp	Basic	AM	6.0	A	6.0	A
			PM	13.5	B	13.5	B
	Silva Valley Pkwy SB On Ramp	Merge	AM	19.0	B	19.2	B
			PM	29.9	D	30.1	D
	East of Silva Valley Pkwy	Basic	AM	10.1	A	10.2	A
			PM	20.1	C	20.1	C
Westbound	East of Silva Valley Pkwy	Basic	AM	29.1	D	29.2	D
			PM	14.7	B	14.8	B
	Silva Valley Off Ramp	Diverge	AM	24.8	C	24.8	C
			PM	15.2	B	15.4	B
	Silva Valley Off Ramp to Silva Valley NB On Ramp	Basic	AM	21.1	C	21.1	C
			PM	7.7	A	7.7	A
	Silva Valley NB On Ramp to El Dorado Hills Blvd Off Ramp	Weave	AM	26.0	C	26.3	C
			PM	10.1	B	10.2	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	Basic	AM	20.3	C	20.5	C
			PM	8.1	A	8.2	A
	El Dorado Hills Blvd On Ramp	Merge	AM	36.0	E	36.6	E
			PM	21.6	C	22.0	C
	West of El Dorado Hills Blvd	Basic	AM	35.5	E	36.5	E
			PM	15.8	B	16.0	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

Table 4 – Cumulative (2035) Intersection Levels of Service

			2025 MODEL				2035 (75-25) MODEL			
INTERSECTION		PEAK HOUR	CUMUL BASELINE DELAY (a) / LOS (b)		CUMUL PLUS PROJECT DELAY (a) / LOS (b)		CUMUL BASELINE DELAY (a) / LOS (b)		CUMUL PLUS PROJECT DELAY (a) / LOS (b)	
1	Green Valley Rd. & Francisco Rd. ***	AM	35.9	D	37.9	D	38.2	D	41.0	D
		PM	37.7	D	40.5	D	44.4	D	46.1	D
2	El Dorado Hills Blvd. & Green Valley Rd. ***	AM	120.5	**F**	145.4	**F**	50.4	D	62.0	E
		PM	90.6	**F**	120.9	**F**	77.9	E	101.2	**F**
3	Silva Valley Pkwy. & Green Valley Rd. ***	AM	45.9	D	65.8	E	29.5	C	37.1	D
		PM	35.6	D	53.4	D	21.5	C	32.0	C
4	Loch Way & Green Valley Rd ***	AM	26.5	D	42.3	E	23.8	C	51.1	**F**
		PM	35.4	E	70.3	**F**	62.1	**F**	275.0	**F**
5	Green Valley Rd & Wilson Estates ***	AM	19.2	C	27.4	D	14.6	B	19.6	C
		PM	19.0	C	28.8	D	14.2	B	19.6	C
6*	Green Valley Rd & Malcom Dixon Rd ***	AM	17.2	C	23.7	C	13.7	B	18.0	C
		PM	20.6	C	32.7	D	15.4	C	22.5	C
7*	Deer Valley Rd. & Green Valley Rd. ***	AM	21.1	C	23.6	C	19.3	C	21.9	C
		PM	37.2	**E**	46.1	**E**	24.4	C	29.1	D
8*	Silver Springs Pkwy & Green Valley Rd ***	AM	10.3	B	11.0	B	8.0	A	8.4	A
		PM	9.3	A	10.4	B	7.5	A	7.9	A
9	Bass Lake Rd. & Green Valley Rd. ***	AM	26.8	C	28.7	C	37.8	D	42.2	D
		PM	25.8	C	26.5	C	30.6	C	32.0	C
10	Cambridge Rd. & Green Valley Rd. ***	AM	21.7	C	22.2	C	37.5	D	41.9	D
		PM	25.3	C	27.9	C	58.0	E	63.6	E
11	Cameron Park Dr. & Green Valley Rd. ***	AM	32.1	C	35.6	D	38.2	D	42.6	D
		PM	38.4	D	43.0	D	43.2	D	47.2	D
12	El Dorado Hills Blvd. & Francisco Dr. ***	AM	17.3	C	18.5	C	39.3	E	45.5	E
		PM	22.5	C	23.3	C	34.8	D	39.4	E
13	El Dorado Hills Blvd. & Harvard Way ***	AM	16.1	B	16.2	B	31.2	C	31.7	C
		PM	10.4	B	10.5	B	14.3	B	14.5	B
14	El Dorado Hills Blvd. & Serrano Pkwy. ***	AM	51.3	D	54.1	D	77.3	E	79.0	E
		PM	19.9	B	20.3	C	52.3	D	51.7	D
15	El Dorado Hills Blvd. & Saratoga Wy. (North) ***	AM	32.4	C	34.2	C	27.7	C	28.7	C
		PM	51.8	D	51.5	D	52.6	D	51.7	D
16	El Dorado Hills Blvd. & Saratoga Wy. (South) ***	AM	33.9	C	33.5	C	33.9	C	33.7	C
		PM	43.9	D	43.9	D	25.6	C	25.7	C
18	Latrobe Rd. & US-50 EB Ramp **	AM	17.0	B	17.0	B	17.0	B	17.0	B
		PM	24.4	C	24.3	C	17.9	B	17.9	B

Table 4 – Cumulative (2035) Intersection Levels of Service (cont.)

			2025 MODEL				2035 (75-25) MODEL			
INTERSECTION		PEAK HOUR	CUMUL BASELINE DELAY (a) / LOS (b)		CUMUL PLUS PROJECT DELAY (a) / LOS (b)		CUMUL BASELINE DELAY (a) / LOS (b)		CUMUL PLUS PROJECT DELAY (a) / LOS (b)	
19	Silva Valley Pkwy & EB US-50 Ramps **	AM	28.4	C	28.9	C	28.4	C	28.9	C
		PM	53.2	D	70.5	E	30.9	C	47.4	D
20	Silva Valley Pkwy & WB US-50 Ramps **	AM	56.4	E	59.8	E	56.4	E	59.8	E
		PM	70.6	E	74.6	E	42.2	D	44.9	D
21	Silva Valley Pkwy & Country Club Dr. **	AM	16.1	B	15.4	B	16.1	B	15.4	B
		PM	16.2	B	17.5	B	8.5	A	9.4	A
22	Silva Valley Pkwy. & Serrano Pkwy. **	AM	53.8	D	57.4	E	53.8	D	56.4	E
		PM	60.1	E	63.0	E	42.6	D	44.2	D
23	Harvard Way & Silva Valley Pkwy. ***	AM	69.9	E	77.1	E	36.4	D	39.8	D
		PM	24.1	C	25.5	C	17.8	B	18.1	B
24	Silva Valley Pkwy. & Appian Way ***	AM	35.6	E	62.4	**F**	15.6	C	21.3	C
		PM	54.3	**F**	95.1	**F**	17.7	C	29.7	D
25	Site Dwy RIRO & Green Valley Rd. ***	AM	-	-	11.0	B	-	-	10.3	B
		PM	-	-	19.2	C	-	-	15.5	C
26	Site Dwy. Full/Site Dwy. & Green Valley Rd. ***	AM	-	-	10.9	B	-	-	9.2	A
		PM	-	-	12.6	B	-	-	9.6	A

Notes:

* Intersections 6, 7, and 8 are located outside Community Regions. LOS D is the minimum acceptable LOS for these intersections.

** Intersection volumes based on Silva Valley Interchange Traffic Operations Study.

*** Intersection volumes based on model run outputs.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

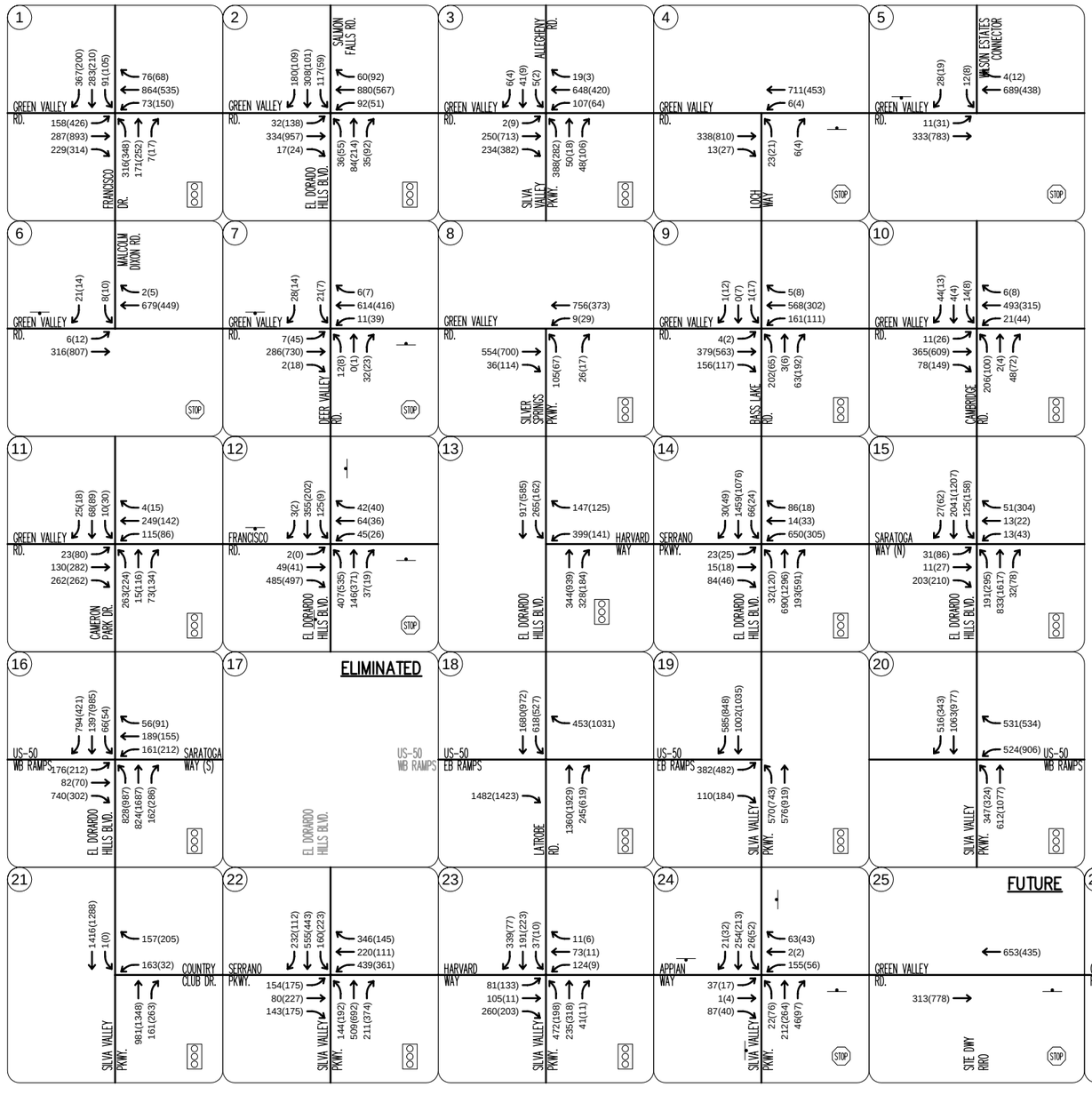
(b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8

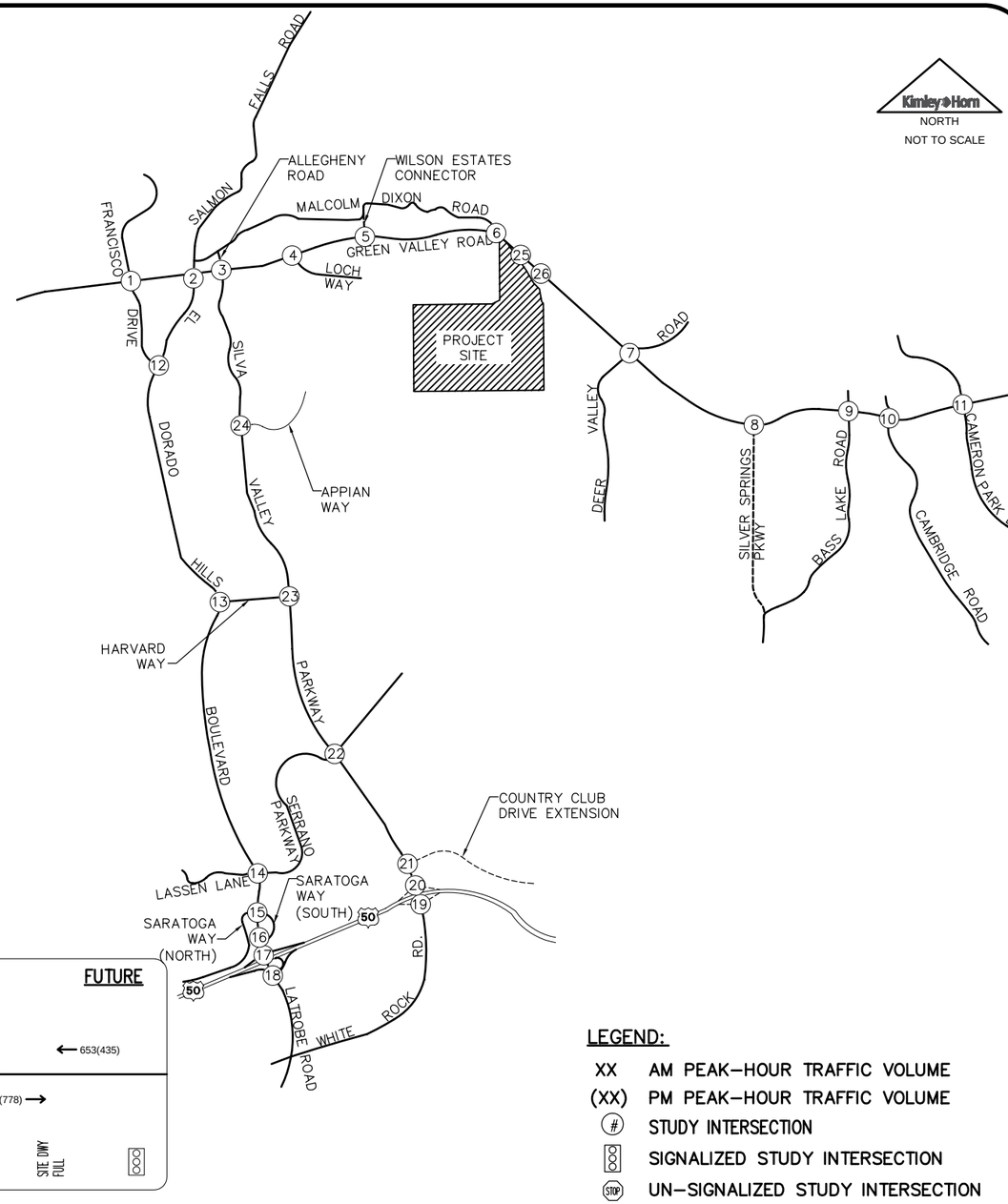
Table 5 – Cumulative (2035) Freeway Levels of Service

	US- 50			Cumulative		Cumulative plus Proposed Project	
	Segment	Type	Peak Hour	Density[a]	LOS	Density[a]	LOS
Eastbound	West of El Dorado Hills Blvd	Basic	AM	13.7	B	13.9	B
			PM	25.6	C	26.1	D
	Latrobe Rd SB Off Ramp	Diverge	AM	27.2	C	27.3	C
			PM	37.1	E	37.4	E
	Latrobe Rd NB Off Ramp	Diverge	AM	14.4	B	14.6	B
			PM	29.1	D	29.8	D
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	Basic	AM	6.3	A	6.4	A
			PM	14.3	B	14.4	B
	Latrobe Rd On Ramp to Silva Valley Pkwy Off Ramp	Weave	AM	9.2	A	9.2	A
			PM	18.5	B	18.7	B
	Silva Valley Pkwy Off Ramp to Silva Valley Pkwy SB On Ramp	Basic	AM	7.6	A	7.6	A
			PM	16.1	B	16.1	B
	Silva Valley Pkwy SB On Ramp	Merge	AM	15.9	B	16.2	B
			PM	26.2	C	26.4	C
	Silva Valley Pkwy NB On Ramp	Merge	AM	14.6	B	14.7	B
			PM	23.3	C	23.4	C
	East of Silva Valley Pkwy	Basic	AM	12.5	B	12.6	B
			PM	23.4	C	23.5	C
Westbound	East of Silva Valley Pkwy	Basic	AM	27.4	D	27.5	D
			PM	15.9	B	16.0	B
	Silva Valley Off Ramp to Silva Valley NB On Ramp	Basic	AM	30.9	D	30.9	D
			PM	14.0	B	14.0	B
	Silva Valley NB On Ramp to El Dorado Hills Blvd Off Ramp	Weave	AM	28.4	D	28.7	D
			PM	13.5	B	13.6	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	Basic	AM	31.5	D	31.9	D
			PM	14.4	B	14.5	B
	West of El Dorado Hills Blvd	Weave	AM (HCM)	-	F	-	F
			AM (Leisch)	-	C	-	C
			PM	18.9	B	18.9	B

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)





LEGEND:

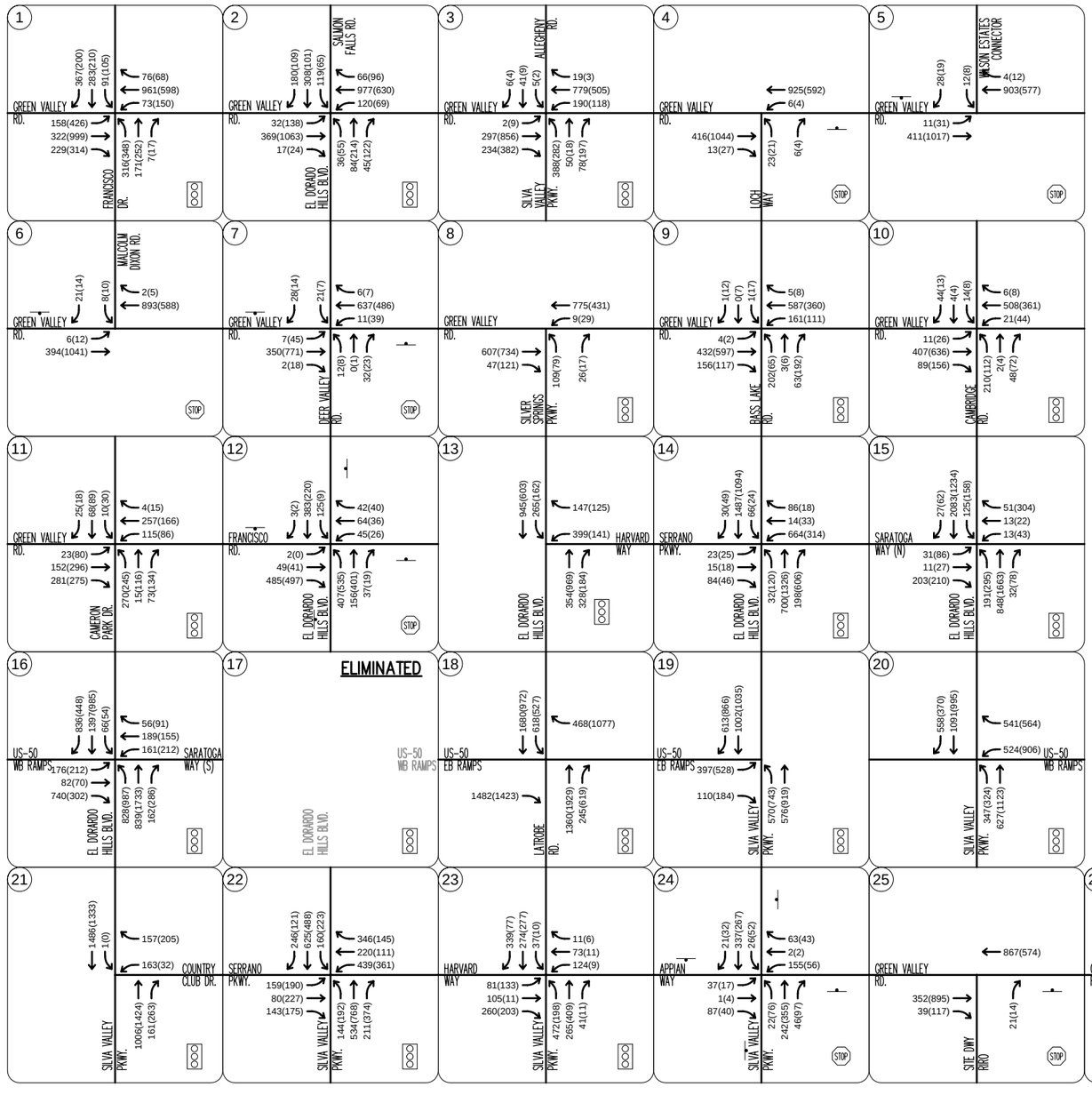
XX	AM PEAK-HOUR TRAFFIC VOLUME
(XX)	PM PEAK-HOUR TRAFFIC VOLUME
(#)	STUDY INTERSECTION
	SIGNALIZED STUDY INTERSECTION
STOP	UN-SIGNALIZED STUDY INTERSECTION
	STOP SIGN

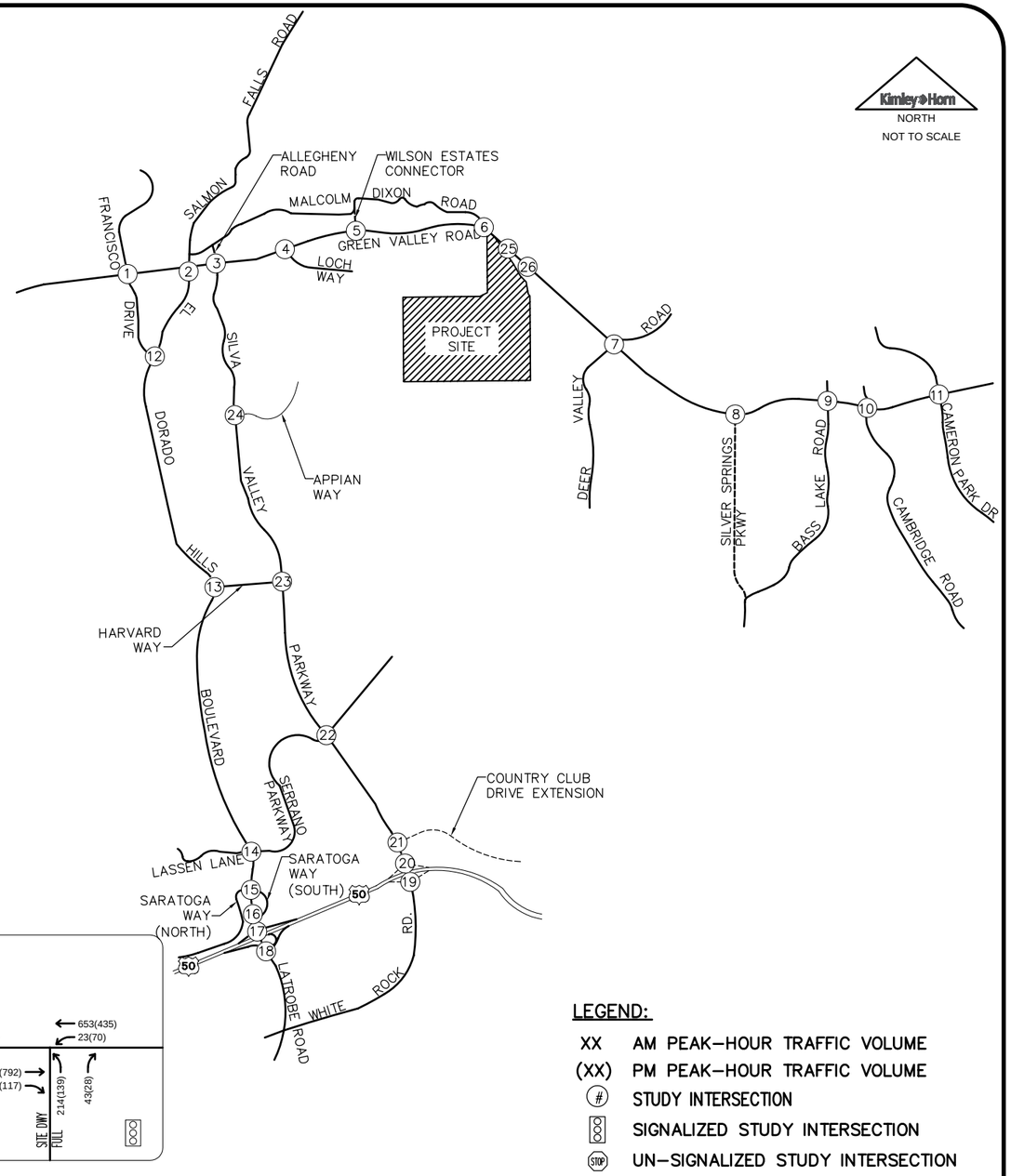
Kimley»Horn

FIGURE 1

EXISTING PLUS APPROVED PROJECTS (2018) PEAK-HOUR VOLUMES

DIXON RANCH
EL DORADO HILLS, CA



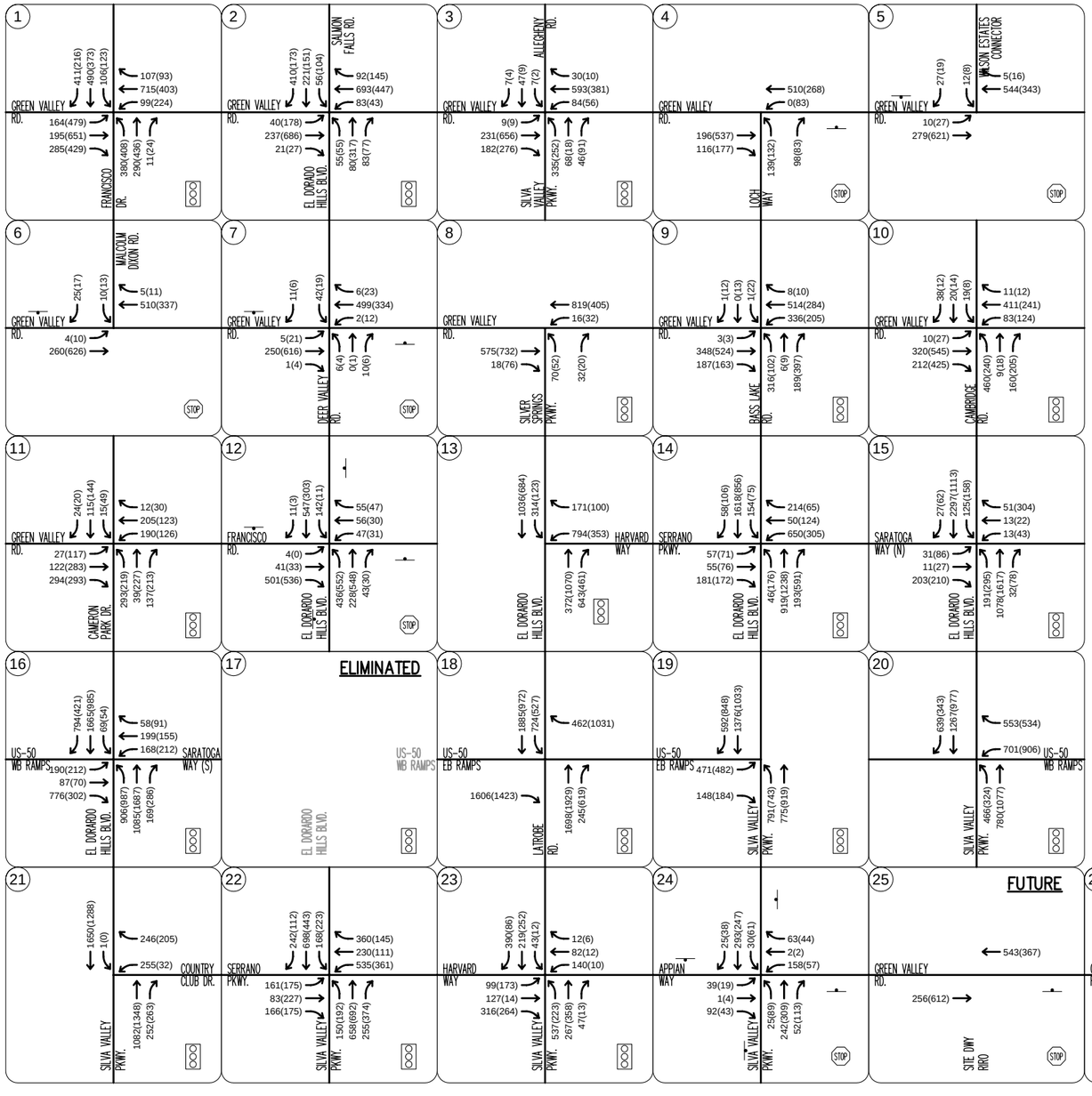


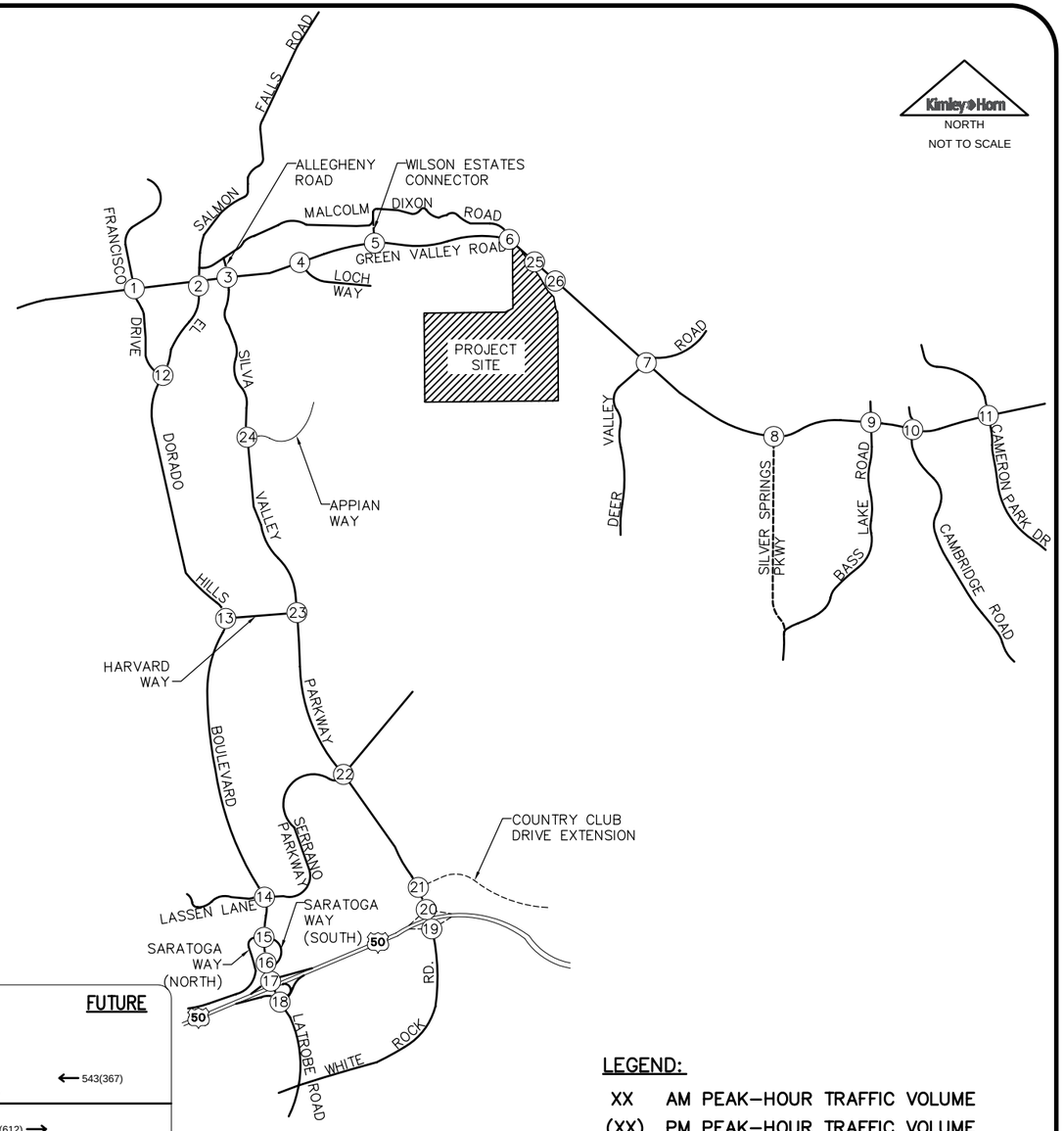
Kimley»Horn

FIGURE 2

EXISTING PLUS APPROVED PROJECTS (2018) PLUS PROPOSED PROJECT PEAK-HOUR VOLUMES

DIXON RANCH
EL DORADO HILLS, CA





LEGEND:

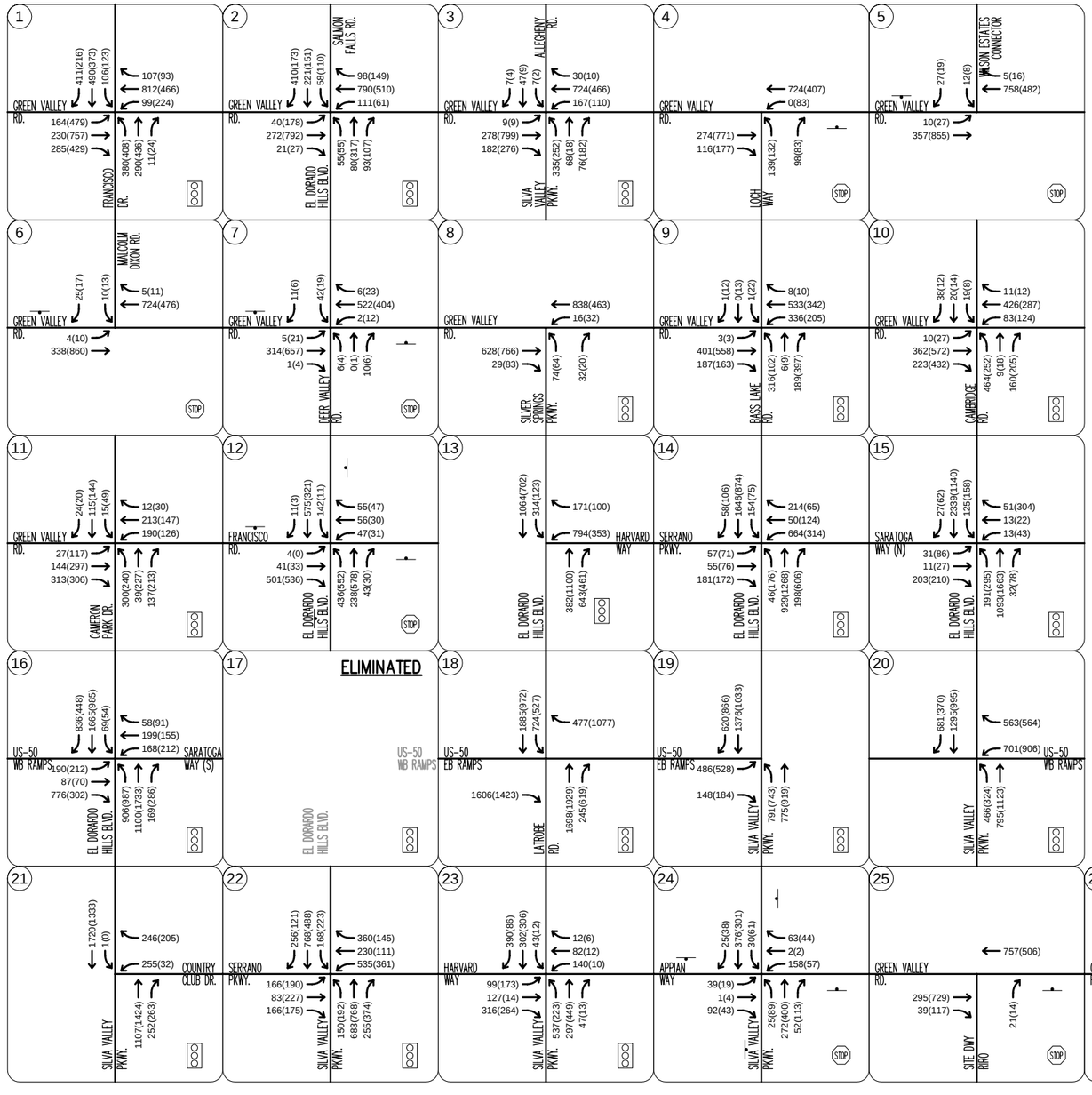
XX	AM PEAK-HOUR TRAFFIC VOLUME
(XX)	PM PEAK-HOUR TRAFFIC VOLUME
(#)	STUDY INTERSECTION
	SIGNALIZED STUDY INTERSECTION
(STOP)	UN-SIGNALIZED STUDY INTERSECTION
	STOP SIGN

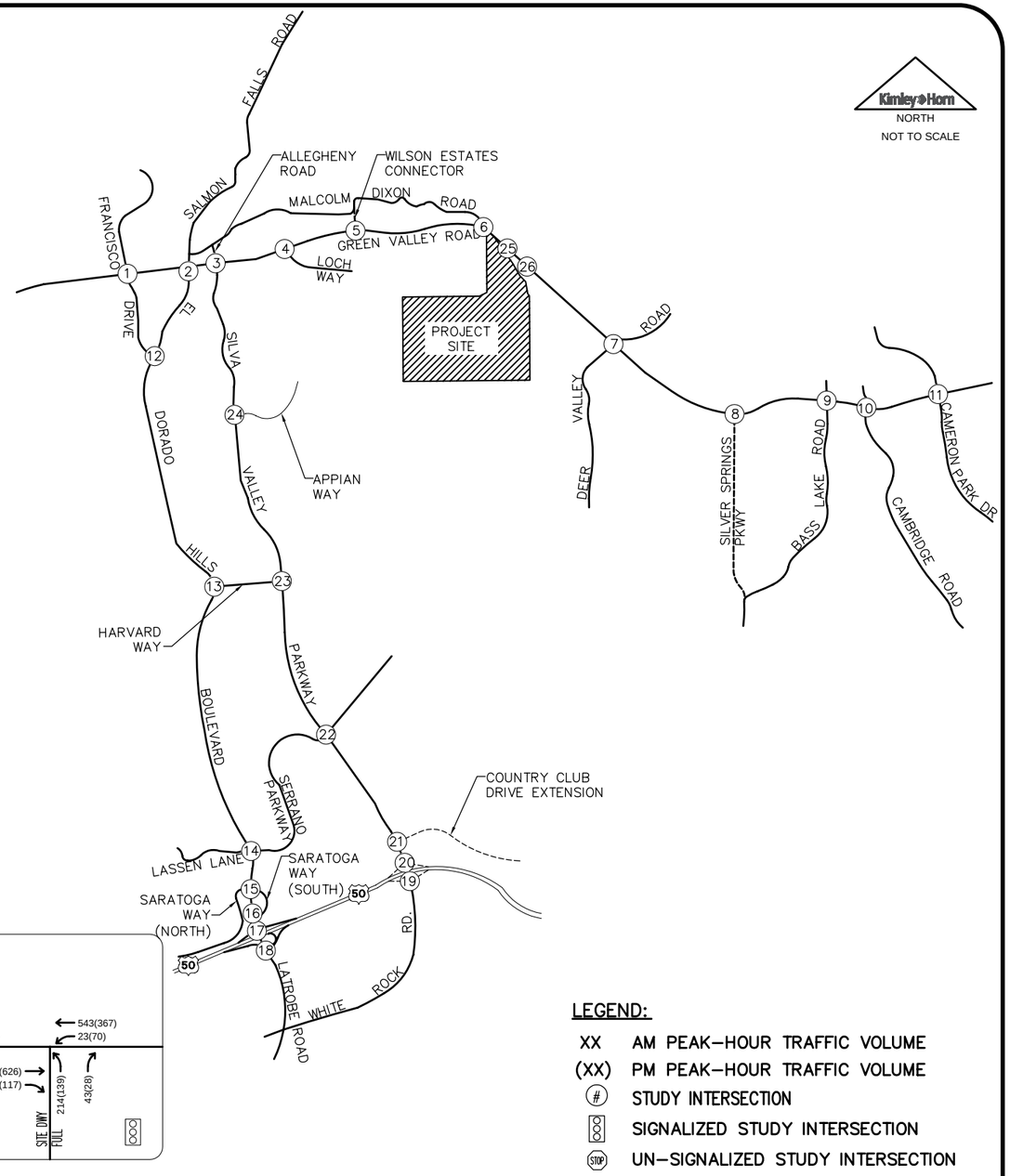
Kimley»Horn

FIGURE 3

CUMULATIVE (2035) PEAK-HOUR VOLUMES

DIXON RANCH
EL DORADO HILLS, CA





LEGEND:

XX	AM PEAK-HOUR TRAFFIC VOLUME
(XX)	PM PEAK-HOUR TRAFFIC VOLUME
(#)	STUDY INTERSECTION
	SIGNALIZED STUDY INTERSECTION
(STOP)	UN-SIGNALIZED STUDY INTERSECTION
	STOP SIGN

Kimley»Horn

FIGURE 4

CUMULATIVE (2035) PLUS PROPOSED PROJECT PEAK-HOUR VOLUMES

DIXON RANCH
EL DORADO HILLS, CA

Attachment A

Existing (2014) Freeway Analysis Worksheets

Segment Inputs					Existing Conditions													
					Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures					
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Westbou Eastbour	West of Latrobe Rd SB Off Ramp	6690	3	0.33	2,467	4,120	920.656	74.12	75	74.9303	12.287	B	1537.536	74.12	75	71.8014	21.4	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1990	3	0.50	883	2,376	329.525	73.6	75	70.0236	4.7059	A	886.6957	73.6	75	74.8579	11.845	B
	East of Latrobe Rd On Ramp	7515	3	0.50	1,333	3,287	497.46	73.6	75	72.2043	6.8896	A	1226.67	73.6	75	74.4312	16.481	B
	East of El Dorado Hills Blvd Off Ramp	7270	2	0.50	3,511	2,060	1965.4	73.6	75	64.6829	30.385	D	1153.152	73.6	75	74.7403	15.429	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3565	2	0.50	2,624	1,466	1468.87	73.6	75	72.5664	20.242	C	820.6413	73.6	75	74.6439	10.994	A
	West of El Dorado Hills Blvd On Ramp	5890	2	0.33	4,240	3,233	2373.48	74.12	75	54.1171	43.858	E	1809.777	74.12	75	67.741	26.716	D

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

Merge

Existing C

	Segment Inputs			AM Flow Inputs			AM LOS Performance Measures												
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
	(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
WB Latrobe Rd On Ramp	3	1	110	1333	883	450	1492	989	504	28	0.5806	573.95	7200	207	430	574	0.2073	12.96	B
WB El Dorado Hills Blvd On Ramp	2	1	795	4240	2624	1616	4747	2938	1809	84	1	2937.7	4800	0	2203	2938	0.9889	36.684	E

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Merge

	Segment Inputs			:onditions PM Flow Inputs			PM LOS Performance Measures												
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
	(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
WEB Latrobe Rd On Ramp	3	1	110	3287	2376	911	3680	2660	1020	76	0.5806	1544.4	7200	558	1158	1544	0.5111	24.318	C
WEB El Dorado Hills Blvd On Ramp	2	1	795	3233	1466	1767	3620	1641	1978	47	1	1641.3	4800	0	1231	1641	0.7541	27.813	C

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Diverge

Existing Co

		Segment Inputs				AM Flow Inputs													
		Number of Lanes	Number of Ramp Lanes	L_{EQ}	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	3	1	2088	140	1191	2467	1276	344.826	2762	1428.6	0.6094	2241.1	7200	260	1681	2241	0.3836	22.266	C
	Latrobe NB Off Ramp	3	1	-	140	883	1191	308	-	1333.4	344.83	0.7108	1047.5	7200	286	786	1048	0.1852	12.001	B
WB	El Dorado Hills Blvd Off Ramp	2	1	-	190	2624	3511	887	-	3930.8	993.05	1	3930.8	4800	0	2948	3931	0.8189	36.347	E

Univeral Inputs:

Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
F_{HV}	0.970873786	

Diverge

onditions

		Segment Inputs				PM Flow Inputs			PM LOS Performance Measures											
		Number of Lanes	Number of Ramp Lanes	L_{EQ}	Length of Deceleration Lane (L_D)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	3	1	2088	140	3373	4120	747	1116.21	4612.6	836.32	0.6855	3424.9	7200	594	2569	3425	0.6406	32.446	D
	Latrobe NB Off Ramp	3	1	-	140	2376	3373	997	-	3776.3	1116.2	0.6142	2750.2	7200	1026	2063	2750	0.5245	26.643	C
W	El Dorado Hills Blvd Off Ramp	2	1	-	190	1466	2060	594	-	2306.3	665.02	1	2306.3	4800	0	1730	2306	0.4805	22.376	C

Univeral Inputs:

Lengt	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

	Segment Inputs				Existing Plus Project Conditions												
					Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures				
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Westbou Eastbour	West of Latrobe Rd SB Off Ramp	6690	3	0.33	2,467	4,120	920.656	74.12	75	74.9303	12.287	B	1537.536	74.12	75	71.8014	21.4	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1990	3	0.50	868	2,330	323.928	73.6	75	69.9402	4.6315	A	869.529	73.6	75	74.8116	11.623	B
	East of Latrobe Rd On Ramp	7515	3	0.50	1,318	3,241	491.862	73.6	75	72.1417	6.818	A	1209.504	73.6	75	74.5141	16.232	B
	East of El Dorado Hills Blvd Off Ramp	7270	2	0.50	3,511	2,060	1965.4	73.6	75	64.6829	30.385	D	1153.152	73.6	75	74.7403	15.429	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3565	2	0.50	2,624	1,466	1468.87	73.6	75	72.5664	20.242	C	820.6413	73.6	75	74.6439	10.994	A
	West of El Dorado Hills Blvd On Ramp	5890	2	0.33	4,282	3,260	2396.99	74.12	75	53.396	44.891	E	1824.891	74.12	75	67.4675	27.048	D

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

Merge

Existing Plus Pro

	Segment Inputs				AM Flow Inputs			AM LOS Performance Measures												
		Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
WB	Latrobe Rd On Ramp	3	1	110	1318	868	450	1476	972	504	28	0.5806	564.2	7200	204	423	564	0.2049	12.884	B
WB	El Dorado Hills Blvd On Ramp	2	1	795	4282	2624	1658	4794	2938	1856	84	1	2937.7	4800	0	2203	2938	0.9987	37.03	E

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Merge

ject Conditions

PM Flow Inputs			PM LOS Performance Measures												
Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
3241	2330	911	3629	2609	1020	75	0.5806	1514.5	7200	547	1136	1514	0.504	24.085	C
3260	1466	1794	3650	1641	2009	47	1	1641.3	4800	0	1231	1641	0.7604	28.035	D

Diverge

Existing Plus Proj

		Segment Inputs				AM Flow Inputs			AM LOS Performance Measures											
		Number of Lanes	Number of Ramp Lanes	L_{EQ}	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	3	1	2185	140	1191	2467	1276	361.62	2762	1428.6	0.6119	2244.5	7200	259	1683	2244	0.3836	22.294	C
	Latrobe NB Off Ramp	3	1	-	140	868	1191	323	-	1333.4	361.62	0.71	1051.6	7200	282	789	1052	0.1852	12.036	B
W	El Dorado Hills Blvd Off Ramp	2	1	-	190	2624	3511	887	-	3930.8	993.05	1	3930.8	4800	0	2948	3931	0.8189	36.347	E

Univeral Inputs:

Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Diverge

ect Conditions

PM Flow Inputs			PM LOS Performance Measures											
Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
3373	4120	747	1167.71	4612.6	836.32	0.6932	3453.9	7200	579	2590	3454	0.6406	32.696	D
2330	3373	1043	-	3776.3	1167.7	0.6119	2763.8	7200	1012	2073	2764	0.5245	26.761	C
1466	2060	594	-	2306.3	665.02	1	2306.3	4800	0	1730	2306	0.4805	22.376	C

Attachment B

Existing plus Approved Projects (2018) Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	158	287	229	73	864	76	316	171	7	91	283	367
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	1.00	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	3539	1583	1770	3539	1583	3433	3517		1770	1863	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	3539	1583	1770	3539	1583	3433	3517		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)	172	312	249	79	939	83	343	186	8	99	308	399
RTOR Reduction (vph)	0	0	164	0	0	56	0	4	0	0	0	127
Lane Group Flow (vph)	172	312	85	79	939	27	343	190	0	99	308	272
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	5.0	26.3	26.3	3.8	25.1	25.1	9.9	23.7		4.6	18.4	18.4
Effective Green, g (s)	5.0	26.3	26.3	3.8	25.1	25.1	9.9	23.7		4.6	18.4	18.4
Actuated g/C Ratio	0.07	0.34	0.34	0.05	0.33	0.33	0.13	0.31		0.06	0.24	0.24
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	224	1215	543	87	1159	518	443	1088		106	447	380
v/s Ratio Prot	c0.05	0.09		0.04	c0.27		c0.10	0.05		0.06	0.17	
v/s Ratio Perm			0.05			0.02						c0.17
v/c Ratio	0.77	0.26	0.16	0.91	0.81	0.05	0.77	0.17		0.93	0.69	0.72
Uniform Delay, d1	35.2	18.1	17.5	36.2	23.6	17.6	32.3	19.3		35.8	26.5	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	14.6	0.1	0.1	66.1	4.4	0.0	8.2	0.1		66.1	4.4	6.3
Delay (s)	49.8	18.2	17.6	102.3	28.0	17.7	40.5	19.4		102.0	30.9	33.0
Level of Service	D	B	B	F	C	B	D	B		F	C	C
Approach Delay (s)		25.4			32.5			32.9			40.7	
Approach LOS		C			C			C			D	

Intersection Summary				
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	18.2	
Intersection Capacity Utilization	67.5%	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)	32	334	17	92	880	60	36	84	35	117	308	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	1850		1770	1845		1770	1780			1837	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	1770	1850		1770	1845		1770	1780			1837	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)	35	363	18	100	957	65	39	91	38	127	335	196
RTOR Reduction (vph)	0	1	0	0	2	0	0	11	0	0	0	115
Lane Group Flow (vph)	35	380	0	100	1020	0	39	118	0	0	462	81
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	3.5	62.8		11.3	70.6		14.7	14.7			34.1	34.1
Effective Green, g (s)	3.5	62.8		11.3	70.6		14.7	14.7			34.1	34.1
Actuated g/C Ratio	0.02	0.44		0.08	0.50		0.10	0.10			0.24	0.24
Clearance Time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	43	818		140	917		183	184			441	380
v/s Ratio Prot	0.02	0.21		c0.06	c0.55		0.02	c0.07			c0.25	
v/s Ratio Perm												0.05
v/c Ratio	0.81	0.46		0.71	1.11		0.21	0.64			1.05	0.21
Uniform Delay, d1	68.9	27.8		63.7	35.7		58.3	61.1			53.9	43.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	68.4	0.9		14.9	65.7		1.0	9.1			55.9	0.5
Delay (s)	137.2	28.6		78.6	101.4		59.3	70.2			109.8	43.7
Level of Service	F	C		E	F		E	E			F	D
Approach Delay (s)		37.8			99.4			67.7			90.1	
Approach LOS		D			F			E			F	

Intersection Summary				
HCM 2000 Control Delay	83.7	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	141.9	Sum of lost time (s)	19.0	
Intersection Capacity Utilization	95.5%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

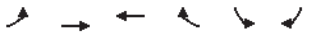
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	250	234	107	648	19	388	50	48	5	41	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.93			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1855		1770	1726			1824	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1855		1770	1726			1824	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	272	254	116	704	21	422	54	52	5	45	7
RTOR Reduction (vph)	0	0	163	0	1	0	0	27	0	0	5	0
Lane Group Flow (vph)	2	272	91	116	724	0	422	79	0	0	52	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	0.7	35.7	35.7	10.7	45.7		28.7	28.7			6.5	
Effective Green, g (s)	0.7	35.7	35.7	10.7	45.7		28.7	28.7			6.5	
Actuated g/C Ratio	0.01	0.36	0.36	0.11	0.46		0.29	0.29			0.07	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	12	665	565	189	848		508	495			118	
v/s Ratio Prot	0.00	0.15		c0.07	c0.39		c0.24	0.05			c0.03	
v/s Ratio Perm			0.06									
v/c Ratio	0.17	0.41	0.16	0.61	0.85		0.83	0.16			0.44	
Uniform Delay, d1	49.3	24.2	21.9	42.6	24.1		33.3	26.6			45.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	4.7	0.4	0.1	5.0	8.4		10.9	0.1			1.9	
Delay (s)	54.1	24.6	22.0	47.6	32.5		44.2	26.7			46.9	
Level of Service	D	C	C	D	C		D	C			D	
Approach Delay (s)		23.5			34.6			40.7			46.9	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	99.9	Sum of lost time (s)	18.3	
Intersection Capacity Utilization	78.7%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	338	13	6	711	23	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	367	14	7	773	25	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			382		1160	374
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			382		1160	374
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		88	99
cM capacity (veh/h)			1177		215	672

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	382	779	25	7
Volume Left	0	7	25	0
Volume Right	14	0	0	7
cSH	1700	1177	215	672
Volume to Capacity	0.22	0.01	0.12	0.01
Queue Length 95th (ft)	0	0	10	1
Control Delay (s)	0.0	0.1	24.0	10.4
Lane LOS		A	C	B
Approach Delay (s)	0.0	0.1	21.1	
Approach LOS			C	

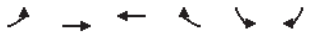
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	52.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	11	333	689	4	12	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	362	749	4	13	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	753				1137	751
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	753				1137	751
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	93
cM capacity (veh/h)	857				220	411

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	374	753	43
Volume Left	12	0	13
Volume Right	0	4	30
cSH	857	1700	326
Volume to Capacity	0.01	0.44	0.13
Queue Length 95th (ft)	1	0	11
Control Delay (s)	0.5	0.0	17.7
Lane LOS	A		C
Approach Delay (s)	0.5	0.0	17.7
Approach LOS			C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	6	316	679	2	8	21
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	343	738	2	9	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	740				1096	739
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	740				1096	739
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	95
cM capacity (veh/h)	866				234	417

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	350	740	32
Volume Left	7	0	9
Volume Right	0	2	23
cSH	866	1700	343
Volume to Capacity	0.01	0.44	0.09
Queue Length 95th (ft)	1	0	8
Control Delay (s)	0.3	0.0	16.5
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	16.5
Approach LOS			C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	286	2	11	614	6	12	0	32	21	0	28
Sign Control		Free			Free			Stop			Stop	
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	0.92	0.92
Hourly flow rate (vph)	8	311	2	12	667	7	13	0	35	23	0	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	674			313			1049	1025	312	1055	1023	671
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	674			313			1049	1025	312	1055	1023	671
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			93	100	95	88	100	93
cM capacity (veh/h)	917			1247			189	231	728	191	231	457

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	8	313	12	674	48	53
Volume Left	8	0	12	0	13	23
Volume Right	0	2	0	7	35	30
cSH	917	1700	1247	1700	410	286
Volume to Capacity	0.01	0.18	0.01	0.40	0.12	0.19
Queue Length 95th (ft)	1	0	1	0	10	17
Control Delay (s)	9.0	0.0	7.9	0.0	14.9	20.4
Lane LOS	A		A		B	C
Approach Delay (s)	0.2		0.1		14.9	20.4
Approach LOS					B	C

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	554	36	9	756	105	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	1847			1862	1743	
Flt Permitted	1.00			0.99	0.96	
Satd. Flow (perm)	1847			1850	1743	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	602	39	10	822	114	28
RTOR Reduction (vph)	4	0	0	0	16	0
Lane Group Flow (vph)	637	0	0	832	126	0
Turn Type	NA		Perm	NA	NA	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	24.4			24.4	8.8	
Effective Green, g (s)	24.4			24.4	8.8	
Actuated g/C Ratio	0.59			0.59	0.21	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1093			1095	372	
v/s Ratio Prot	0.34				c0.07	
v/s Ratio Perm				c0.45		
v/c Ratio	0.58			0.76	0.34	
Uniform Delay, d1	5.2			6.2	13.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.8			3.1	0.5	
Delay (s)	6.0			9.3	14.3	
Level of Service	A			A	B	
Approach Delay (s)	6.0			9.3	14.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	41.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.0%	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)	4	379	156	161	568	5	202	3	63	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	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			1.00	1.00		1.00	
Frt	1.00	0.96		1.00	1.00			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1770	1781		1770	1860			1775	1583		1695	
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	1770	1781		1770	1860			1775	1583		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)	4	412	170	175	617	5	220	3	68	1	0	1
RTOR Reduction (vph)	0	14	0	0	0	0	0	0	55	0	2	0
Lane Group Flow (vph)	4	568	0	175	622	0	0	223	13	0	0	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	31.0		10.2	40.5			13.1	13.1		0.9	
Effective Green, g (s)	0.7	31.0		10.2	40.5			13.1	13.1		0.9	
Actuated g/C Ratio	0.01	0.44		0.14	0.57			0.18	0.18		0.01	
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)	17	775		253	1058			326	291		21	
v/s Ratio Prot	0.00	c0.32		c0.10	0.33			c0.13			c0.00	
v/s Ratio Perm									0.01			
v/c Ratio	0.24	0.73		0.69	0.59			0.68	0.04		0.00	
Uniform Delay, d1	35.0	16.7		29.0	9.9			27.1	23.9		34.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	7.0	3.6		7.9	0.8			5.8	0.1		0.0	
Delay (s)	42.0	20.3		36.9	10.8			33.0	24.0		34.7	
Level of Service	D	C		D	B			C	C		C	
Approach Delay (s)		20.4			16.5			30.8			34.7	
Approach LOS		C			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	71.2	Sum of lost time (s)	16.0	
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)	11	365	78	21	493	6	206	2	48	14	4	44
Ideal Flow (vphpl)	1900	1900	1900	1900	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		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.86			0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1813		1770	1859		1770	1594			1664	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1813		1770	1859		1770	1594			1664	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	397	85	23	536	7	224	2	52	15	4	48
RTOR Reduction (vph)	0	9	0	0	1	0	0	41	0	0	45	0
Lane Group Flow (vph)	12	473	0	23	542	0	224	13	0	0	22	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.6	22.2		1.2	22.8		11.9	11.9			3.7	
Effective Green, g (s)	0.6	22.2		1.2	22.8		11.9	11.9			3.7	
Actuated g/C Ratio	0.01	0.40		0.02	0.41		0.22	0.22			0.07	
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)	19	731		38	770		382	344			111	
v/s Ratio Prot	0.01	0.26		c0.01	c0.29		c0.13	0.01			c0.01	
v/s Ratio Perm												
v/c Ratio	0.63	0.65		0.61	0.70		0.59	0.04			0.20	
Uniform Delay, d1	27.1	13.2		26.7	13.3		19.3	17.0			24.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	52.7	2.0		24.3	2.9		2.3	0.0			0.9	
Delay (s)	79.8	15.2		50.9	16.3		21.6	17.1			25.1	
Level of Service	E	B		D	B		C	B			C	
Approach Delay (s)		16.8			17.7			20.8			25.1	
Approach LOS		B			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	51.1%	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)	23	130	262	115	249	4	263	15	73	10	68	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	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00		1.00	0.88		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	1676		1770	1859		1770	1630		1770	1788	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1676		1770	1859		1770	1630		1770	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)	25	141	285	125	271	4	286	16	79	11	74	27
RTOR Reduction (vph)	0	105	0	0	1	0	0	53	0	0	23	0
Lane Group Flow (vph)	25	321	0	125	274	0	286	42	0	11	78	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.7	17.2		5.2	21.7		11.8	19.7		0.7	8.6	
Effective Green, g (s)	0.7	17.2		5.2	21.7		11.8	19.7		0.7	8.6	
Actuated g/C Ratio	0.01	0.29		0.09	0.37		0.20	0.34		0.01	0.15	
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)	21	490		156	686		355	546		21	261	
v/s Ratio Prot	0.01	c0.19		c0.07	0.15		c0.16	0.03		0.01	c0.04	
v/s Ratio Perm												
v/c Ratio	1.19	0.65		0.80	0.40		0.81	0.08		0.52	0.30	
Uniform Delay, d1	29.0	18.2		26.3	13.7		22.4	13.3		28.9	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	261.4	3.1		24.8	0.4		12.5	0.1		21.6	0.6	
Delay (s)	290.4	21.3		51.1	14.1		34.9	13.4		50.5	23.1	
Level of Service	F	C		D	B		C	B		D	C	
Approach Delay (s)		36.3			25.7			29.5			25.7	
Approach LOS		D			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	58.8	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	49	485	45	64	42	407	146	37	125	355	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	53	527	49	70	46	442	159	40	136	386	3

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	55	527	164	442	199	136	389
Volume Left (vph)	2	0	49	442	0	136	0
Volume Right (vph)	0	527	46	0	40	0	3
Hadj (s)	0.04	-0.57	-0.07	0.53	-0.11	0.53	0.03
Departure Headway (s)	7.2	3.2	6.6	6.6	5.9	6.7	6.2
Degree Utilization, x	0.11	0.47	0.30	0.81	0.33	0.25	0.67
Capacity (veh/h)	452	1116	507	537	591	515	557
Control Delay (s)	11.0	9.0	12.5	30.4	10.6	10.8	19.9
Approach Delay (s)	9.2		12.5	24.3		17.6	
Approach LOS	A		B	C		C	

Intersection Summary					
Delay	16.8				
Level of Service	C				
Intersection Capacity Utilization	67.3%	ICU Level of Service		C	
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	399	147	344	328	265	917
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	1.00	0.95		0.97	0.95
Frt	1.00	0.85	0.93		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3280		3433	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3280		3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	160	374	357	288	997
RTOR Reduction (vph)	0	108	263	0	0	0
Lane Group Flow (vph)	434	52	468	0	288	997
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	14.2	14.2	11.6		6.1	21.7
Effective Green, g (s)	14.2	14.2	11.6		6.1	21.7
Actuated g/C Ratio	0.32	0.32	0.26		0.14	0.49
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	572	512	866		477	1749
v/s Ratio Prot	c0.25		0.14		0.08	c0.28
v/s Ratio Perm		0.03				
v/c Ratio	0.76	0.10	0.54		0.60	0.57
Uniform Delay, d1	13.3	10.4	13.9		17.8	7.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.7	0.1	0.7		2.2	0.5
Delay (s)	19.0	10.5	14.6		19.9	8.3
Level of Service	B	B	B		B	A
Approach Delay (s)	16.7		14.6			10.9
Approach LOS	B		B			B

Intersection Summary				
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	43.9	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	59.7%	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)	23	15	84	650	14	86	32	690	193	66	1459	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	5.2	4.0	3.0	5.2	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.87		1.00	0.97		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1625		1681	1648		1770	3539	1583	1770	3528	
Flt Permitted	0.95	1.00		0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1625		1681	1648		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)	25	16	91	707	15	93	35	750	210	72	1586	33
RTOR Reduction (vph)	0	31	0	0	8	0	0	0	0	0	1	0
Lane Group Flow (vph)	25	76	0	410	397	0	35	750	210	72	1618	0
Turn Type	Split	NA		Split	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	6.7	6.7		33.3	33.3		3.6	68.9	130.0	6.9	72.2	
Effective Green, g (s)	6.7	6.7		33.3	33.3		3.6	68.9	130.0	6.9	72.2	
Actuated g/C Ratio	0.05	0.05		0.26	0.26		0.03	0.53	1.00	0.05	0.56	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	5.2		3.0	5.2	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	91	83		430	422		49	1875	1583	93	1959	
v/s Ratio Prot	0.01	c0.05		c0.24	0.24		c0.02	0.21		0.04	c0.46	
v/s Ratio Perm									0.13			
v/c Ratio	0.27	0.91		0.95	0.94		0.71	0.40	0.13	0.77	0.83	
Uniform Delay, d1	59.3	61.4		47.6	47.4		62.7	18.2	0.0	60.8	23.7	
Progression Factor	1.00	1.00		1.00	1.00		0.76	0.60	1.00	1.00	1.00	
Incremental Delay, d2	0.6	68.8		31.3	28.9		32.9	0.6	0.2	29.8	4.1	
Delay (s)	59.9	130.2		78.9	76.3		80.4	11.5	0.2	90.5	27.9	
Level of Service	E	F		E	E		F	B	A	F	C	
Approach Delay (s)		116.9			77.6			11.6			30.6	
Approach LOS		F			E			B			C	

Intersection Summary				
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.2	
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)	31	11	203	13	13	51	191	833	32	125	2041	27
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	1.00	1.00		1.00	0.91		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	0.99		1.00	1.00	
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1728	1583	1770	1640		1770	5057		1770	3532	
Flt Permitted	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1728	1583	1770	1640		1770	5057		1770	3532	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	12	221	14	14	55	208	905	35	136	2218	29
RTOR Reduction (vph)	0	0	209	0	53	0	0	2	0	0	0	0
Lane Group Flow (vph)	23	23	12	14	16	0	208	938	0	136	2247	0
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	7	7	7	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	6.8	6.8	6.8	4.8	4.8		10.0	82.7		18.0	90.7	
Effective Green, g (s)	6.8	6.8	6.8	4.8	4.8		10.0	84.4		18.0	92.4	
Actuated g/C Ratio	0.05	0.05	0.05	0.04	0.04		0.08	0.65		0.14	0.71	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	4.2		0.2	4.2	
Lane Grp Cap (vph)	87	90	82	65	60		136	3283		245	2510	
v/s Ratio Prot	c0.01	0.01	0.01	0.01	c0.01		c0.12	0.19		0.08	c0.64	
v/s Ratio Perm												
v/c Ratio	0.26	0.26	0.14	0.22	0.27		1.53	0.29		0.56	0.90	
Uniform Delay, d1	59.2	59.2	58.8	60.8	60.9		60.0	9.8		52.3	14.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.85	0.54		0.85	0.45	
Incremental Delay, d2	0.6	0.5	0.3	0.6	0.9		269.3	0.2		0.8	3.0	
Delay (s)	59.8	59.7	59.1	61.4	61.8		320.4	5.5		45.4	9.7	
Level of Service	E	E	E	E	E		F	A		D	A	
Approach Delay (s)		59.2			61.7			62.6			11.8	
Approach LOS		E			E			E			B	

Intersection Summary				
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
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)	176	82	740	161	189	56	828	824	162	66	1397	794
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91		1.00	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	0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1737	1583	1681	1762	1583	3433	4960		1770	5085	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1737	1583	1681	1762	1583	3433	4960		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)	191	89	804	175	205	61	900	896	176	72	1518	863
RTOR Reduction (vph)	0	0	0	0	0	51	0	20	0	0	0	0
Lane Group Flow (vph)	138	142	804	157	223	10	900	1052	0	72	1518	863
Turn Type	Split	NA	Free	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			8						Free
Actuated Green, G (s)	14.4	14.4	130.0	20.6	20.6	20.6	38.1	69.6		9.4	40.9	130.0
Effective Green, g (s)	14.4	14.4	130.0	20.6	20.6	20.6	38.1	69.6		9.4	40.9	130.0
Actuated g/C Ratio	0.11	0.11	1.00	0.16	0.16	0.16	0.29	0.54		0.07	0.31	1.00
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		2.2	2.2	2.2	3.0	3.5		2.0	2.5	
Lane Grp Cap (vph)	186	192	1583	266	279	250	1006	2655		127	1599	1583
v/s Ratio Prot	c0.08	0.08		0.09	c0.13		c0.26	0.21		0.04	c0.30	
v/s Ratio Perm			0.51			0.01						0.55
v/c Ratio	0.74	0.74	0.51	0.59	0.80	0.04	0.89	0.40		0.57	0.95	0.55
Uniform Delay, d1	56.0	56.0	0.0	50.8	52.7	46.3	44.0	17.8		58.3	43.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.95		0.72	0.67	1.00
Incremental Delay, d2	14.7	13.9	1.2	2.6	14.0	0.0	8.6	0.4		1.7	7.8	0.7
Delay (s)	70.7	69.8	1.2	53.3	66.7	46.3	47.5	17.3		43.4	36.9	0.7
Level of Service	E	E	A	D	E	D	D	B		D	D	A
Approach Delay (s)		19.0			59.1			31.1			24.4	
Approach LOS		B			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
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)	0	0	1482	0	0	453	0	1360	245	618	1680	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			0.88			1.00		0.91	1.00	1.00	0.86	
Frt			0.85			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			2787			1611		5085	1583	1770	6408	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			2787			1611		5085	1583	1770	6408	
Peak-hour factor, PHF	0.92	0.92	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	1611	0	0	492	0	1478	266	672	1826	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	110	0	0	0
Lane Group Flow (vph)	0	0	1611	0	0	492	0	1478	156	672	1826	0
Turn Type			custom			Free		NA	Perm	Prot	NA	
Protected Phases			5					2		1	6	
Permitted Phases			1			Free			2			
Actuated Green, G (s)			50.2			65.0		27.8	27.8	29.2	36.0	
Effective Green, g (s)			50.2			65.0		27.8	27.8	29.2	36.0	
Actuated g/C Ratio			0.77			1.00		0.43	0.43	0.45	0.55	
Clearance Time (s)			4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)			3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)			2323			1611		2174	677	795	3549	
v/s Ratio Prot			0.22					c0.29		c0.38	0.28	
v/s Ratio Perm			0.35			0.31			0.10			
v/c Ratio			0.69			0.31		0.68	0.23	0.85	0.51	
Uniform Delay, d1			3.6			0.0		15.0	11.8	15.9	9.0	
Progression Factor			1.00			1.00		1.00	1.00	1.09	0.91	
Incremental Delay, d2			0.9			0.5		1.7	0.8	5.3	0.3	
Delay (s)			4.5			0.5		16.7	12.6	22.6	8.5	
Level of Service			A			A		B	B	C	A	
Approach Delay (s)		4.5			0.5			16.1			12.3	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	82.9%	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)	382	0	110	0	0	0	570	576	0	0	1002	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
Lane Util. Factor	0.95	0.91	0.95				0.97	0.95			0.95	1.00
Frt	1.00	0.99	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1605	1504				3433	3539			3539	1583
Flt Permitted	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1605	1504				3433	3539			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)	415	0	120	0	0	0	620	626	0	0	1089	636
RTOR Reduction (vph)	0	56	89	0	0	0	0	0	0	0	0	292
Lane Group Flow (vph)	216	155	19	0	0	0	620	626	0	0	1089	344
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4					5	2			6	
Permitted Phases			4									6
Actuated Green, G (s)	14.2	14.2	14.2				19.0	57.8			34.8	34.8
Effective Green, g (s)	14.2	14.2	14.2				19.0	57.8			34.8	34.8
Actuated g/C Ratio	0.18	0.18	0.18				0.24	0.72			0.43	0.43
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)	298	284	266				815	2556			1539	688
v/s Ratio Prot	c0.13	0.10					c0.18	0.18			c0.31	
v/s Ratio Perm			0.01									0.22
v/c Ratio	0.72	0.55	0.07				0.76	0.24			0.71	0.50
Uniform Delay, d1	31.1	30.0	27.4				28.4	3.7			18.4	16.3
Progression Factor	1.00	1.00	1.00				1.00	1.00			0.55	0.92
Incremental Delay, d2	8.5	2.1	0.1				4.2	0.2			1.1	1.1
Delay (s)	39.5	32.1	27.5				32.6	4.0			11.4	16.1
Level of Service	D	C	C				C	A			B	B
Approach Delay (s)		34.2			0.0			18.2			13.1	
Approach LOS		C			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0	
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)	0	0	0	524	0	531	347	612	0	0	1063	516
Ideal Flow (vphpl)	1900	1900	1900	1900	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				0.95	0.91	0.95	1.00	0.95			0.95	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	1520	1504	1770	3539			3539	1583
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1520	1504	1770	3539			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)	0	0	0	570	0	577	377	665	0	0	1155	561
RTOR Reduction (vph)	0	0	0	0	56	208	0	0	0	0	0	361
Lane Group Flow (vph)	0	0	0	399	328	156	377	665	0	0	1155	200
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				20.9	20.9	20.9	18.6	51.1			28.5	28.5
Effective Green, g (s)				20.9	20.9	20.9	18.6	51.1			28.5	28.5
Actuated g/C Ratio				0.26	0.26	0.26	0.23	0.64			0.36	0.36
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)				439	397	392	411	2260			1260	563
v/s Ratio Prot				c0.24	0.22		c0.21	0.19			c0.33	
v/s Ratio Perm						0.10						0.13
v/c Ratio				0.91	0.83	0.40	0.92	0.29			0.92	0.35
Uniform Delay, d1				28.6	27.8	24.4	29.9	6.4			24.6	19.0
Progression Factor				1.00	1.00	1.00	1.20	0.97			0.83	0.37
Incremental Delay, d2				22.3	13.1	0.7	23.8	0.3			10.2	1.4
Delay (s)				50.9	40.9	25.0	59.7	6.6			30.6	8.4
Level of Service				D	D	C	E	A			C	A
Approach Delay (s)		0.0			39.4			25.8			23.4	
Approach LOS		A			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	80.0	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	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	163	157	981	161	1	1416
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	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3464		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3464		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	171	1066	175	1	1539
RTOR Reduction (vph)	0	143	13	0	0	0
Lane Group Flow (vph)	177	28	1228	0	1	1539
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	13.2	13.2	54.0		0.8	58.8
Effective Green, g (s)	13.2	13.2	54.0		0.8	58.8
Actuated g/C Ratio	0.16	0.16	0.68		0.01	0.73
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	292	261	2338		17	2601
v/s Ratio Prot	c0.10		0.35		0.00	c0.43
v/s Ratio Perm		0.02				
v/c Ratio	0.61	0.11	0.53		0.06	0.59
Uniform Delay, d1	31.0	28.4	6.5		39.2	5.0
Progression Factor	1.00	1.00	1.14		1.00	1.00
Incremental Delay, d2	3.5	0.2	0.8		1.5	1.0
Delay (s)	34.5	28.6	8.2		40.7	6.0
Level of Service	C	C	A		D	A
Approach Delay (s)	31.6		8.2			6.0
Approach LOS	C		A			A

Intersection Summary				
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	54.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

22: Silva Valley Pkwy. & Serrano Pkwy.

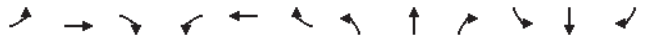
Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	80	143	439	220	346	144	509	211	160	555	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.90		1.00	0.91		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)	1770	3199		1770	3215		1770	3539	1583	1770	3383	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3199		1770	3215		1770	3539	1583	1770	3383	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	167	87	155	477	239	376	157	553	229	174	603	252
RTOR Reduction (vph)	0	133	0	0	217	0	0	0	163	0	45	0
Lane Group Flow (vph)	167	109	0	477	398	0	157	553	66	174	810	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	12.9	11.9		22.1	21.1		7.0	24.4	24.4	8.0	25.4	
Effective Green, g (s)	12.9	11.9		22.1	21.1		7.0	24.4	24.4	8.0	25.4	
Actuated g/C Ratio	0.15	0.14		0.26	0.25		0.08	0.29	0.29	0.09	0.30	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
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)	268	447		460	798		145	1015	454	166	1010	
v/s Ratio Prot	0.09	0.03		c0.27	c0.12		0.09	0.16		c0.10	c0.24	
v/s Ratio Perm									0.04			
v/c Ratio	0.62	0.24		1.04	0.50		1.08	0.54	0.14	1.05	0.80	
Uniform Delay, d1	33.8	32.5		31.4	27.4		39.0	25.6	22.5	38.5	27.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.5	0.3		51.8	0.5		98.6	0.6	0.1	83.2	4.7	
Delay (s)	38.2	32.8		83.3	27.9		137.6	26.2	22.7	121.7	32.1	
Level of Service	D	C		F	C		F	C	C	F	C	
Approach Delay (s)		35.0			52.1			44.0			47.3	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	78.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

23: Harvard Way & Silva Valley Pkwy.

Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	105	260	124	73	11	472	235	41	37	191	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		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	1863	1583	1770	1826		1770	1821		1770	1863	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	1770	1826		1770	1821		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)	88	114	283	135	79	12	513	255	45	40	208	368
RTOR Reduction (vph)	0	0	241	0	6	0	0	7	0	0	0	293
Lane Group Flow (vph)	88	114	42	135	85	0	513	293	0	40	208	75
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	5.3	11.3	11.3	7.3	13.3		25.7	37.9		3.2	15.4	15.4
Effective Green, g (s)	5.3	11.3	11.3	7.3	13.3		25.7	37.9		3.2	15.4	15.4
Actuated g/C Ratio	0.07	0.15	0.15	0.10	0.18		0.34	0.50		0.04	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)	123	278	236	170	320		600	911		74	378	322
v/s Ratio Prot	0.05	c0.06		c0.08	0.05		c0.29	0.16		0.02	c0.11	
v/s Ratio Perm			0.03									0.05
v/c Ratio	0.72	0.41	0.18	0.79	0.27		0.85	0.32		0.54	0.55	0.23
Uniform Delay, d1	34.5	29.2	28.1	33.5	27.0		23.3	11.2		35.5	27.0	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	17.9	1.0	0.4	22.0	0.4		11.4	0.2		7.8	1.7	0.4
Delay (s)	52.3	30.2	28.5	55.4	27.4		34.7	11.5		43.4	28.8	25.6
Level of Service	D	C	C	E	C		C	B		D	C	C
Approach Delay (s)		33.2			44.2			26.1			27.8	
Approach LOS		C			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	61.6%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

24: Silva Valley Pkwy. & Appian Way

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	37	1	87	155	2	63	22	212	46	26	254	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	40	1	95	168	2	68	24	230	50	28	276	23

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	136	239	304	327
Volume Left (vph)	40	168	24	28
Volume Right (vph)	95	68	50	23
Hadj (s)	-0.32	0.00	-0.05	0.01
Departure Headway (s)	5.9	5.9	5.6	5.6
Degree Utilization, x	0.22	0.40	0.47	0.51
Capacity (veh/h)	516	546	599	605
Control Delay (s)	10.5	12.8	13.4	14.2
Approach Delay (s)	10.5	12.8	13.4	14.2
Approach LOS	B	B	B	B

Intersection Summary			
Delay	13.1		
Level of Service	B		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

25: Site Dwy RIRO & Green Valley Rd.

Timing Plan: AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	313	0	0	653	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	340	0	0	710	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)				766		
pX, platoon unblocked						
vC, conflicting volume			340		1050	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			340		1050	340
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1219		252	702

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	340	710	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.20	0.42	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	313	0	0	653	0	0	0	0	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							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1863			1863							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1863			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	340	0	0	710	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	340	0	0	710	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm		Perm	Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		15.7			15.7							
Effective Green, g (s)		15.7			15.7							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		4.0			4.0							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1863			1863							
v/s Ratio Prot		0.18			c0.38							
v/s Ratio Perm												
v/c Ratio		0.18			0.38							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.0			0.1							
Delay (s)		0.0			0.1							
Level of Service		A			A							
Approach Delay (s)		0.0			0.1			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	0.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	15.7	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	37.7%	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)	426	893	314	150	535	68	348	252	17	105	210	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	1.00	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	3539	1583	1770	3539	1583	3433	3506		1770	1863	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	3539	1583	1770	3539	1583	3433	3506		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)	463	971	341	163	582	74	378	274	18	114	228	217
RTOR Reduction (vph)	0	0	225	0	0	52	0	5	0	0	0	177
Lane Group Flow (vph)	463	971	116	163	582	22	378	287	0	114	228	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	13.1	28.0	28.0	9.1	24.0	24.0	11.7	19.8		7.1	15.2	15.2
Effective Green, g (s)	13.1	28.0	28.0	9.1	24.0	24.0	11.7	19.8		7.1	15.2	15.2
Actuated g/C Ratio	0.16	0.34	0.34	0.11	0.29	0.29	0.14	0.24		0.09	0.18	0.18
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	547	1205	539	195	1033	462	488	844		152	344	292
v/s Ratio Prot	c0.13	c0.27		0.09	0.16		c0.11	0.08		0.06	c0.12	
v/s Ratio Perm			0.07			0.01						0.03
v/c Ratio	0.85	0.81	0.22	0.84	0.56	0.05	0.77	0.34		0.75	0.66	0.14
Uniform Delay, d1	33.6	24.6	19.3	35.8	24.7	20.9	34.0	25.8		36.7	31.1	28.0
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	11.6	4.0	0.2	25.5	0.7	0.0	7.5	0.2		18.6	4.7	0.2
Delay (s)	45.1	28.7	19.5	61.3	25.4	20.9	41.5	26.0		55.3	35.9	28.2
Level of Service	D	C	B	E	C	C	D	C		E	D	C
Approach Delay (s)		31.2			32.1			34.8			36.9	
Approach LOS		C			C			C			D	

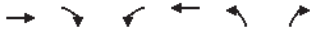
Intersection Summary				
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	18.2	
Intersection Capacity Utilization	69.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	138	957	24	51	567	92	55	214	92	59	101	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1856		1770	1824		1770	1779			1829	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	1856		1770	1824		1770	1779			1829	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)	150	1040	26	55	616	100	60	233	100	64	110	118
RTOR Reduction (vph)	0	0	0	0	4	0	0	11	0	0	0	102
Lane Group Flow (vph)	150	1066	0	55	712	0	60	322	0	0	174	16
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	77.5		4.5	68.3		22.0	22.0			18.9	18.9
Effective Green, g (s)	13.7	77.5		4.5	68.3		22.0	22.0			18.9	18.9
Actuated g/C Ratio	0.10	0.55		0.03	0.48		0.16	0.16			0.13	0.13
Clearance Time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	170	1013		56	877		274	275			243	210
v/s Ratio Prot	c0.08	c0.57		0.03	0.39		0.03	c0.18			c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.88	1.05		0.98	0.81		0.22	1.17			0.72	0.07
Uniform Delay, d1	63.3	32.2		68.7	31.3		52.4	60.0			58.9	53.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	37.4	42.9		113.3	6.5		0.7	108.7			10.9	0.3
Delay (s)	100.7	75.1		182.0	37.8		53.1	168.6			69.8	54.1
Level of Service	F	E		F	D		D	F			E	D
Approach Delay (s)		78.3			48.1			151.0			63.5	
Approach LOS		E			D			F			E	

Intersection Summary				
HCM 2000 Control Delay	78.7	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	141.9	Sum of lost time (s)	19.0	
Intersection Capacity Utilization	96.9%	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)	9	713	382	64	420	3	282	18	106	2	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.87			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1861		1770	1625			1789	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1861		1770	1625			1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	775	415	70	457	3	307	20	115	2	10	4
RTOR Reduction (vph)	0	0	132	0	0	0	0	91	0	0	4	0
Lane Group Flow (vph)	10	775	283	70	460	0	307	44	0	0	12	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	0.7	48.7	48.7	5.0	53.0		19.5	19.5			2.5	
Effective Green, g (s)	0.7	48.7	48.7	5.0	53.0		19.5	19.5			2.5	
Actuated g/C Ratio	0.01	0.52	0.52	0.05	0.56		0.21	0.21			0.03	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	13	965	820	94	1049		367	337			47	
v/s Ratio Prot	0.01	c0.42		c0.04	0.25		c0.17	0.03			c0.01	
v/s Ratio Perm			0.18									
v/c Ratio	0.77	0.80	0.35	0.74	0.44		0.84	0.13			0.26	
Uniform Delay, d1	46.6	18.7	13.3	43.9	11.9		35.7	30.3			44.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	124.9	4.9	0.3	25.7	0.3		14.9	0.1			2.1	
Delay (s)	171.5	23.6	13.5	69.6	12.2		50.6	30.5			47.0	
Level of Service	F	C	B	E	B		D	C			D	
Approach Delay (s)		21.4			19.8			44.5			47.0	
Approach LOS		C			B			D			D	

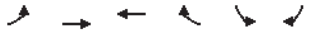
Intersection Summary				
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	18.3	
Intersection Capacity Utilization	75.3%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	810	27	4	453	21	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	880	29	4	492	23	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			910		1396	895
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			910		1396	895
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		85	99
cM capacity (veh/h)			749		155	339

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	910	497	23	4
Volume Left	0	4	23	0
Volume Right	29	0	0	4
cSH	1700	749	155	339
Volume to Capacity	0.54	0.01	0.15	0.01
Queue Length 95th (ft)	0	0	13	1
Control Delay (s)	0.0	0.2	32.3	15.7
Lane LOS		A	D	C
Approach Delay (s)	0.0	0.2	29.6	
Approach LOS			D	

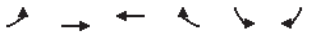
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	31	783	438	12	8	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	851	476	13	9	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	489				1401	483
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	489				1401	483
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				94	96
cM capacity (veh/h)	1074				150	584

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	885	489	29
Volume Left	34	0	9
Volume Right	0	13	21
cSH	1074	1700	314
Volume to Capacity	0.03	0.29	0.09
Queue Length 95th (ft)	2	0	8
Control Delay (s)	0.8	0.0	17.6
Lane LOS	A		C
Approach Delay (s)	0.8	0.0	17.6
Approach LOS			C

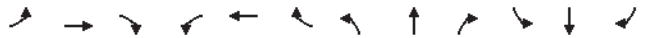
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	12	807	449	5	10	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	877	488	5	11	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	493				1394	491
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	493				1394	491
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				93	97
cM capacity (veh/h)	1070				154	578

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	890	493	26
Volume Left	13	0	11
Volume Right	0	5	15
cSH	1070	1700	269
Volume to Capacity	0.01	0.29	0.10
Queue Length 95th (ft)	1	0	8
Control Delay (s)	0.3	0.0	19.8
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	19.8
Approach LOS			C

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	62.1%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	730	18	39	416	7	8	1	23	7	0	14
Sign Control		Free			Free			Stop			Stop	
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	0.92	0.92
Hourly flow rate (vph)	49	793	20	42	452	8	9	1	25	8	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	460			813			1453	1446	803	1458	1452	456
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	460			813			1453	1446	803	1458	1452	456
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			95			91	99	93	92	100	97
cM capacity (veh/h)	1101			814			98	119	383	93	118	604

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	49	813	42	460	35	23
Volume Left	49	0	42	0	9	8
Volume Right	0	20	0	8	25	15
cSH	1101	1700	814	1700	213	213
Volume to Capacity	0.04	0.48	0.05	0.27	0.16	0.11
Queue Length 95th (ft)	3	0	4	0	14	9
Control Delay (s)	8.4	0.0	9.7	0.0	25.2	24.0
Lane LOS	A		A		D	C
Approach Delay (s)	0.5		0.8		25.2	24.0
Approach LOS					D	C

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	49.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	700	114	29	373	67	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.98			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	1828			1856	1743	
Flt Permitted	1.00			0.92	0.96	
Satd. Flow (perm)	1828			1720	1743	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	761	124	32	405	73	18
RTOR Reduction (vph)	9	0	0	0	15	0
Lane Group Flow (vph)	876	0	0	437	76	0
Turn Type	NA		Perm	NA	NA	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	25.9			25.9	7.7	
Effective Green, g (s)	25.9			25.9	7.7	
Actuated g/C Ratio	0.62			0.62	0.19	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1138			1070	322	
v/s Ratio Prot	c0.48				c0.04	
v/s Ratio Perm				0.25		
v/c Ratio	0.77			0.41	0.24	
Uniform Delay, d1	5.7			4.0	14.4	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	3.2			0.3	0.4	
Delay (s)	8.9			4.2	14.8	
Level of Service	A			A	B	
Approach Delay (s)	8.9			4.2	14.8	
Approach LOS	A			A	B	

Intersection Summary				
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	41.6	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	55.2%	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)	2	563	117	111	302	8	65	6	192	17	7	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	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1770	1815		1770	1855			1782	1583		1739	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (perm)	1770	1815		1770	1855			1782	1583		1739	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	612	127	121	328	9	71	7	209	18	8	13
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	185	0	12	0
Lane Group Flow (vph)	2	732	0	121	336	0	0	78	24	0	27	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	38.8		7.1	45.2			8.4	8.4		4.2	
Effective Green, g (s)	0.7	38.8		7.1	45.2			8.4	8.4		4.2	
Actuated g/C Ratio	0.01	0.52		0.10	0.61			0.11	0.11		0.06	
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)	16	945		168	1125			200	178		98	
v/s Ratio Prot	0.00	c0.40		c0.07	0.18			c0.04			c0.02	
v/s Ratio Perm									0.01			
v/c Ratio	0.12	0.77		0.72	0.30			0.39	0.13		0.27	
Uniform Delay, d1	36.6	14.3		32.7	7.0			30.7	29.8		33.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	3.5	4.0		14.1	0.1			1.3	0.3		1.5	
Delay (s)	40.1	18.4		46.8	7.2			31.9	30.1		35.2	
Level of Service	D	B		D	A			C	C		D	
Approach Delay (s)		18.4			17.7			30.6			35.2	
Approach LOS		B			B			C			D	

Intersection Summary				
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	74.5	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)	26	609	149	44	315	8	100	4	72	8	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	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		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.86			0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1808		1770	1856		1770	1597			1704	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	1770	1808		1770	1856		1770	1597			1704	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	662	162	48	342	9	109	4	78	9	4	14
RTOR Reduction (vph)	0	7	0	0	1	0	0	69	0	0	14	0
Lane Group Flow (vph)	28	817	0	48	350	0	109	13	0	0	13	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	1.6	40.9		2.1	41.4		7.8	7.8			2.4	
Effective Green, g (s)	1.6	40.9		2.1	41.4		7.8	7.8			2.4	
Actuated g/C Ratio	0.02	0.59		0.03	0.60		0.11	0.11			0.03	
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)	40	1068		53	1110		199	180			59	
v/s Ratio Prot	0.02	c0.45		c0.03	0.19		c0.06	0.01			c0.01	
v/s Ratio Perm												
v/c Ratio	0.70	0.77		0.91	0.32		0.55	0.07			0.23	
Uniform Delay, d1	33.6	10.6		33.5	6.9		29.0	27.5			32.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	42.0	3.3		88.7	0.2		3.1	0.2			2.0	
Delay (s)	75.5	13.9		122.1	7.0		32.1	27.6			34.5	
Level of Service	E	B		F	A		C	C			C	
Approach Delay (s)		15.9			20.9			30.2			34.5	
Approach LOS		B			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	60.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	282	262	86	142	15	224	116	134	30	89	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.92		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	1728		1770	1836		1770	1713		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1728		1770	1836		1770	1713		1770	1815	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	307	285	93	154	16	243	126	146	33	97	20
RTOR Reduction (vph)	0	41	0	0	4	0	0	54	0	0	10	0
Lane Group Flow (vph)	87	551	0	93	166	0	243	218	0	33	107	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.3	26.6		5.2	25.5		12.6	20.0		1.8	9.2	
Effective Green, g (s)	6.3	26.6		5.2	25.5		12.6	20.0		1.8	9.2	
Actuated g/C Ratio	0.09	0.38		0.07	0.37		0.18	0.29		0.03	0.13	
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)	160	660		132	672		320	492		45	239	
v/s Ratio Prot	0.05	c0.32		c0.05	0.09		c0.14	c0.13		0.02	0.06	
v/s Ratio Perm												
v/c Ratio	0.54	0.84		0.70	0.25		0.76	0.44		0.73	0.45	
Uniform Delay, d1	30.3	19.5		31.4	15.4		27.1	20.2		33.7	27.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	9.0		15.7	0.2		9.9	0.6		46.2	1.3	
Delay (s)	34.0	28.5		47.2	15.6		37.0	20.9		79.9	29.2	
Level of Service	C	C		D	B		D	C		E	C	
Approach Delay (s)		29.2			26.7			28.5			40.3	
Approach LOS		C			C			C			D	

Intersection Summary				
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	67.1%	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	41	497	26	36	40	535	371	19	9	202	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	45	540	28	39	43	582	403	21	10	220	2

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	45	540	111	582	424	10	222
Volume Left (vph)	0	0	28	582	0	10	0
Volume Right (vph)	0	540	43	0	21	0	2
Hadj (s)	0.03	-0.57	-0.15	0.53	0.00	0.53	0.03
Departure Headway (s)	6.6	3.2	6.2	5.8	5.3	6.8	6.3
Degree Utilization, x	0.08	0.48	0.19	0.94	0.63	0.02	0.39
Capacity (veh/h)	519	1116	561	607	671	510	557
Control Delay (s)	10.1	9.1	10.6	46.6	15.5	8.7	12.0
Approach Delay (s)	9.2		10.6	33.5		11.9	
Approach LOS	A		B	D		B	

Intersection Summary				
Delay	22.2			
Level of Service	C			
Intersection Capacity Utilization	62.8%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	141	125	939	184	162	585
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	1.00	0.95		0.97	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3452		3433	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3452		3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	153	136	1021	200	176	636
RTOR Reduction (vph)	0	115	23	0	0	0
Lane Group Flow (vph)	153	21	1198	0	176	636
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	7.9	7.9	27.1		3.7	34.8
Effective Green, g (s)	7.9	7.9	27.1		3.7	34.8
Actuated g/C Ratio	0.16	0.16	0.53		0.07	0.69
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	275	246	1845		250	2429
v/s Ratio Prot	c0.09		c0.35		c0.05	0.18
v/s Ratio Perm		0.01				
v/c Ratio	0.56	0.09	0.65		0.70	0.26
Uniform Delay, d1	19.8	18.3	8.4		23.0	3.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.4	0.2	0.8		8.7	0.1
Delay (s)	22.2	18.5	9.2		31.6	3.1
Level of Service	C	B	A		C	A
Approach Delay (s)	20.4		9.2			9.3
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.7	Sum of lost time (s)	12.0
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)	25	18	46	305	33	18	120	1296	591	24	1076	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	5.2	4.0	3.0	5.2	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.89		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1663		1681	1682		1770	3539	1583	1770	3516	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1663		1681	1682		1770	3539	1583	1770	3516	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	20	50	332	36	20	130	1409	642	26	1170	53
RTOR Reduction (vph)	0	48	0	0	3	0	0	0	0	0	2	0
Lane Group Flow (vph)	27	22	0	196	189	0	130	1409	642	26	1221	0
Turn Type	Split	NA		Split	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	4.4	4.4		16.8	16.8		17.1	81.3	120.0	3.3	67.5	
Effective Green, g (s)	4.4	4.4		16.8	16.8		17.1	81.3	120.0	3.3	67.5	
Actuated g/C Ratio	0.04	0.04		0.14	0.14		0.14	0.68	1.00	0.03	0.56	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	5.2		3.0	5.2	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	64	60		235	235		252	2397	1583	48	1977	
v/s Ratio Prot	0.02	0.01		c0.12	0.11		0.07	c0.40		0.01	c0.35	
v/s Ratio Perm									c0.41			
v/c Ratio	0.42	0.36		0.83	0.80		0.52	0.59	0.41	0.54	0.62	
Uniform Delay, d1	56.6	56.4		50.2	50.0		47.6	10.4	0.0	57.6	17.6	
Progression Factor	1.00	1.00		1.00	1.00		0.71	0.18	1.00	1.00	1.00	
Incremental Delay, d2	1.6	1.4		20.9	16.7		0.6	0.9	0.6	6.5	1.5	
Delay (s)	58.2	57.8		71.1	66.7		34.6	2.8	0.6	64.1	19.1	
Level of Service	E	E		E	E		C	A	A	E	B	
Approach Delay (s)		57.9			69.0			4.0			20.0	
Approach LOS		E			E			A			B	

Intersection Summary				
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2	
Intersection Capacity Utilization	66.7%	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)	86	27	210	43	22	304	295	1617	78	158	1207	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	0.95	0.95	1.00	1.00	1.00		1.00	0.91		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.86		1.00	0.99		1.00	0.99	
Flt Protected	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1724	1583	1770	1602		1770	5050		1770	3513	
Flt Permitted	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1724	1583	1770	1602		1770	5050		1770	3513	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	29	228	47	24	330	321	1758	85	172	1312	67
RTOR Reduction (vph)	0	0	214	0	279	0	0	3	0	0	2	0
Lane Group Flow (vph)	60	62	14	47	75	0	321	1840	0	172	1377	0
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	7	7	7	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	7.6	7.6	7.6	9.9	9.9		22.0	72.8		12.0	62.8	
Effective Green, g (s)	7.6	7.6	7.6	9.9	9.9		22.0	74.5		12.0	64.5	
Actuated g/C Ratio	0.06	0.06	0.06	0.08	0.08		0.18	0.62		0.10	0.54	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	4.2		0.2	4.2	
Lane Grp Cap (vph)	106	109	100	146	132		324	3135		177	1888	
v/s Ratio Prot	0.04	c0.04	0.01	0.03	c0.05		c0.18	0.36		0.10	c0.39	
v/s Ratio Perm												
v/c Ratio	0.57	0.57	0.14	0.32	0.57		0.99	0.59		0.97	0.73	
Uniform Delay, d1	54.6	54.6	53.1	51.9	53.0		48.9	13.6		53.8	21.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.90	0.28		0.82	0.55	
Incremental Delay, d2	4.1	4.0	0.2	0.5	3.3		38.3	0.5		52.6	2.1	
Delay (s)	58.7	58.6	53.4	52.4	56.3		82.4	4.4		96.8	13.6	
Level of Service	E	E	D	D	E		F	A		F	B	
Approach Delay (s)		55.2			55.9			15.9			22.9	
Approach LOS		E			E			B			C	

Intersection Summary				
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	89.1%	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)	212	70	302	212	155	91	987	1687	286	54	985	421
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91		1.00	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	0.98	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1726	1583	1681	1754	1583	3433	4975		1770	5085	1583
Flt Permitted	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1726	1583	1681	1754	1583	3433	4975		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)	230	76	328	230	168	99	1073	1834	311	59	1071	458
RTOR Reduction (vph)	0	0	0	0	0	84	0	16	0	0	0	0
Lane Group Flow (vph)	152	154	328	195	203	15	1073	2129	0	59	1071	458
Turn Type	Split	NA	Free	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			8						Free
Actuated Green, G (s)	14.4	14.4	120.0	18.5	18.5	18.5	43.3	66.9		4.2	27.8	120.0
Effective Green, g (s)	14.4	14.4	120.0	18.5	18.5	18.5	43.3	66.9		4.2	27.8	120.0
Actuated g/C Ratio	0.12	0.12	1.00	0.15	0.15	0.15	0.36	0.56		0.04	0.23	1.00
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		2.2	2.2	2.2	3.0	3.5		2.0	2.5	
Lane Grp Cap (vph)	201	207	1583	259	270	244	1238	2773		61	1178	1583
v/s Ratio Prot	c0.09	0.09		c0.12	0.12		c0.31	0.43		0.03	c0.21	
v/s Ratio Perm			0.21			0.01						0.29
v/c Ratio	0.76	0.74	0.21	0.75	0.75	0.06	0.87	0.77		0.97	0.91	0.29
Uniform Delay, d1	51.1	51.0	0.0	48.6	48.6	43.3	35.7	20.5		57.8	44.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.13	0.70		0.72	0.64	1.00
Incremental Delay, d2	14.9	13.5	0.3	10.7	10.3	0.1	4.1	1.3		85.4	9.0	0.3
Delay (s)	66.0	64.5	0.3	59.3	58.8	43.4	44.6	15.5		127.3	37.9	0.3
Level of Service	E	E	A	E	E	D	D	B		F	D	A
Approach Delay (s)		31.6			55.9			25.2			30.4	
Approach LOS		C			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	78.2%	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)	0	0	1423	0	0	1031	0	1929	619	527	972	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			0.88			1.00		0.91	1.00	1.00	0.86	
Frt			0.85			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			2787			1611		5085	1583	1770	6408	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			2787			1611		5085	1583	1770	6408	
Peak-hour factor, PHF	0.92	0.92	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	1547	0	0	1121	0	2097	673	573	1057	0
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	84	0	0	0
Lane Group Flow (vph)	0	0	1522	0	0	1121	0	2097	589	573	1057	0
Turn Type			custom			Free		NA	Perm	Prot	NA	
Protected Phases			5					2		1	6	
Permitted Phases			1			Free			2			
Actuated Green, G (s)			45.3			60.0		29.7	29.7	22.3	29.0	
Effective Green, g (s)			45.3			60.0		29.7	29.7	22.3	29.0	
Actuated g/C Ratio			0.75			1.00		0.49	0.49	0.37	0.48	
Clearance Time (s)			4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)			3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)			2289			1611		2517	783	657	3097	
v/s Ratio Prot			0.25					c0.41		c0.32	0.16	
v/s Ratio Perm			0.29			c0.70			0.37			
v/c Ratio			0.66			0.70		0.83	0.75	0.87	0.34	
Uniform Delay, d1			3.6			0.0		13.0	12.2	17.5	9.6	
Progression Factor			1.00			1.00		1.00	1.00	0.84	0.30	
Incremental Delay, d2			0.7			2.5		3.4	6.6	8.8	0.2	
Delay (s)			4.4			2.5		16.4	18.8	23.5	3.1	
Level of Service			A			A		B	B	C	A	
Approach Delay (s)		4.4			2.5			17.0			10.3	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	74.2%	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)	482	0	184	0	0	0	743	919	0	0	1035	848
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.91	0.95				0.97	0.95			0.95	1.00
Frt	1.00	0.99	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1602	1504				3433	3539			3539	1583
Flt Permitted	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1602	1504				3433	3539			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)	524	0	200	0	0	0	808	999	0	0	1125	922
RTOR Reduction (vph)	0	46	149	0	0	0	0	0	0	0	0	243
Lane Group Flow (vph)	272	226	31	0	0	0	808	999	0	0	1125	679
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4					5	2			6	
Permitted Phases			4									6
Actuated Green, G (s)	17.0	17.0	17.0				24.0	75.0			47.0	47.0
Effective Green, g (s)	17.0	17.0	17.0				24.0	75.0			47.0	47.0
Actuated g/C Ratio	0.17	0.17	0.17				0.24	0.75			0.47	0.47
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)	285	272	255				823	2654			1663	744
v/s Ratio Prot	c0.16	0.14					c0.24	0.28			0.32	
v/s Ratio Perm			0.02									c0.43
v/c Ratio	0.95	0.83	0.12				0.98	0.38			0.68	0.91
Uniform Delay, d1	41.1	40.1	35.2				37.8	4.4			20.6	24.6
Progression Factor	1.00	1.00	1.00				1.00	1.00			1.05	1.08
Incremental Delay, d2	40.7	19.1	0.2				26.8	0.4			0.8	7.9
Delay (s)	81.9	59.2	35.4				64.5	4.8			22.5	34.5
Level of Service	F	E	D				E	A			C	C
Approach Delay (s)		61.8			0.0			31.5			27.9	
Approach LOS		E			A			C			C	

Intersection Summary						
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service		C		
HCM 2000 Volume to Capacity ratio	0.94					
Actuated Cycle Length (s)	100.0	Sum of lost time (s)		12.0		
Intersection Capacity Utilization	80.4%	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	0	0	906	0	534	324	1077	0	0	977	343
Ideal Flow (vphpl)	1900	1900	1900	1900	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				0.95	0.91	0.95	1.00	0.95			0.95	1.00
Frt				1.00	0.97	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1585	1504	1770	3539			3539	1583
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1585	1504	1770	3539			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)	0	0	0	985	0	580	352	1171	0	0	1062	373
RTOR Reduction (vph)	0	0	0	0	36	49	0	0	0	0	0	251
Lane Group Flow (vph)	0	0	0	542	500	438	352	1171	0	0	1062	122
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				34.2	34.2	34.2	21.0	57.8			32.8	32.8
Effective Green, g (s)				34.2	34.2	34.2	21.0	57.8			32.8	32.8
Actuated g/C Ratio				0.34	0.34	0.34	0.21	0.58			0.33	0.33
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)				574	542	514	371	2045			1160	519
v/s Ratio Prot				c0.32	0.32		c0.20	0.33			c0.30	
v/s Ratio Perm						0.29						0.08
v/c Ratio				0.94	0.92	0.85	0.95	0.57			0.92	0.24
Uniform Delay, d1				32.0	31.6	30.6	39.0	13.3			32.3	24.5
Progression Factor				1.00	1.00	1.00	0.88	1.37			0.99	2.29
Incremental Delay, d2				24.4	21.3	12.9	29.7	1.0			11.4	0.9
Delay (s)				56.3	52.9	43.5	64.0	19.2			43.3	56.9
Level of Service				E	D	D	E	B			D	E
Approach Delay (s)		0.0			51.2			29.5			46.8	
Approach LOS		A			D			C			D	

Intersection Summary						
HCM 2000 Control Delay	42.5	HCM 2000 Level of Service		D		
HCM 2000 Volume to Capacity ratio	0.93					
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	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	32	205	1348	263	0	1288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	1583	3453			3539
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	1583	3453			3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	223	1465	286	0	1400
RTOR Reduction (vph)	0	98	9	0	0	0
Lane Group Flow (vph)	35	125	1742	0	0	1400
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	12.9	12.9	79.1			79.1
Effective Green, g (s)	12.9	12.9	79.1			79.1
Actuated g/C Ratio	0.13	0.13	0.79			0.79
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)	228	204	2731			2799
v/s Ratio Prot	0.02		c0.50			0.40
v/s Ratio Perm		c0.08				
v/c Ratio	0.15	0.61	0.64			0.50
Uniform Delay, d1	38.7	41.2	4.4			3.6
Progression Factor	1.00	1.00	0.91			1.00
Incremental Delay, d2	0.3	5.4	0.8			0.6
Delay (s)	39.0	46.6	4.9			4.3
Level of Service	D	D	A			A
Approach Delay (s)	45.6		4.9			4.3
Approach LOS	D		A			A

Intersection Summary				
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	65.0%	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)	175	227	175	361	111	145	192	692	374	223	443	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	0.92		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)	1770	3308		1770	3239		1770	3539	1583	1770	3432	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3308		1770	3239		1770	3539	1583	1770	3432	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	247	190	392	121	158	209	752	407	242	482	122
RTOR Reduction (vph)	0	157	0	0	124	0	0	0	294	0	21	0
Lane Group Flow (vph)	190	280	0	392	155	0	209	752	113	242	583	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	14.1	13.1		20.0	19.0		11.0	23.5	23.5	13.0	25.5	
Effective Green, g (s)	14.1	13.1		20.0	19.0		11.0	23.5	23.5	13.0	25.5	
Actuated g/C Ratio	0.16	0.15		0.23	0.22		0.12	0.27	0.27	0.15	0.29	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
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)	282	491		401	697		220	942	421	260	992	
v/s Ratio Prot	0.11	c0.08		c0.22	0.05		0.12	c0.21		c0.14	0.17	
v/s Ratio Perm									0.07			
v/c Ratio	0.67	0.57		0.98	0.22		0.95	0.80	0.27	0.93	0.59	
Uniform Delay, d1	34.9	34.9		33.9	28.5		38.3	30.1	25.6	37.2	26.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.2	1.6		38.6	0.2		46.1	4.8	0.3	37.5	0.9	
Delay (s)	41.1	36.5		72.5	28.7		84.4	34.9	25.9	74.7	27.7	
Level of Service	D	D		E	C		F	C	C	E	C	
Approach Delay (s)		37.9			54.3			39.8			41.2	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	18.6	
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)	133	11	203	9	11	6	198	318	11	10	223	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.99		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	1770	1760		1770	1853		1770	1863	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	1770	1760		1770	1853		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)	145	12	221	10	12	7	215	346	12	11	242	84
RTOR Reduction (vph)	0	0	194	0	7	0	0	1	0	0	0	58
Lane Group Flow (vph)	145	12	27	10	12	0	215	357	0	11	242	26
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	5.2	5.8	5.8	0.6	1.2		10.1	24.2		0.6	14.7	14.7
Effective Green, g (s)	5.2	5.8	5.8	0.6	1.2		10.1	24.2		0.6	14.7	14.7
Actuated g/C Ratio	0.11	0.12	0.12	0.01	0.03		0.21	0.51		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
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)	195	228	194	22	44		378	950		22	580	493
v/s Ratio Prot	c0.08	0.01		0.01	0.01		c0.12	c0.19		0.01	0.13	
v/s Ratio Perm			c0.02									0.02
v/c Ratio	0.74	0.05	0.14	0.45	0.28		0.57	0.38		0.50	0.42	0.05
Uniform Delay, d1	20.4	18.3	18.5	23.1	22.6		16.6	6.9		23.2	12.9	11.4
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	14.2	0.1	0.3	14.2	3.4		2.0	0.3		16.8	0.5	0.0
Delay (s)	34.6	18.4	18.8	37.3	26.0		18.6	7.2		39.9	13.3	11.4
Level of Service	C	B	B	D	C		B	A		D	B	B
Approach Delay (s)		24.8			29.9			11.5			13.7	
Approach LOS		C			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	47.2	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	17	4	40	56	2	43	76	264	97	52	213	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	4	43	61	2	47	83	287	105	57	232	35

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	66	110	475	323
Volume Left (vph)	18	61	83	57
Volume Right (vph)	43	47	105	35
Hadj (s)	-0.30	-0.11	-0.06	0.00
Departure Headway (s)	5.8	5.9	4.8	5.1
Degree Utilization, x	0.11	0.18	0.63	0.45
Capacity (veh/h)	514	532	722	680
Control Delay (s)	9.5	10.1	15.8	12.2
Approach Delay (s)	9.5	10.1	15.8	12.2
Approach LOS	A	B	C	B

Intersection Summary				
Delay	13.5			
Level of Service	B			
Intersection Capacity Utilization	49.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	778	0	0	435	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	846	0	0	473	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)				716		
pX, platoon unblocked						
vC, conflicting volume			846		1318	846
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			846		1318	846
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			791		173	362

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	846	473	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.50	0.28	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	44.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	778	0	0	435	0	0	0	0	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							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1863			1863							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1863			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	846	0	0	473	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	846	0	0	473	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm		Perm	Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		17.9			17.9							
Effective Green, g (s)		17.9			17.9							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		4.0			4.0							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1863			1863							
v/s Ratio Prot		c0.45			0.25							
v/s Ratio Perm												
v/c Ratio		0.45			0.25							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.2			0.1							
Delay (s)		0.2			0.1							
Level of Service		A			A							
Approach Delay (s)		0.2			0.1			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	17.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

	Segment Inputs				Existing plus Approved Projects Conditions													
					Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures					
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(l/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Eastbound	West of El Dorado Hills Blvd	8180	4	0.67	3,081	5,593	862.345	73.11	75	74.7902	11.53	B	1565.432	73.11	75	71.4608	21.906	C
Eastbound	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1490	4	0.67	1,146	3,139	320.755	73.11	75	69.8926	4.5893	A	878.5788	73.11	75	74.8368	11.74	B
Eastbound	Silva Valley Pkwy Off Ramp to Silva Valley Pkwy SB On Ramp	1130	4	0.50	1,517	3,619	424.595	73.6	75	71.3348	5.9521	A	1012.927	73.6	75	74.9982	13.506	B
Eastbound	East of Silva Valley Pkwy	1980	4	0.50	2,672	5,210	747.87	73.6	75	74.2963	10.066	A	1458.234	73.6	75	72.6755	20.065	C
Westbound	East of Silva Valley Pkwy	1950	3	0.50	5,133	2,947	1915.58	73.6	75	65.7202	29.147	D	1099.786	73.6	75	74.8898	14.685	B
Westbound	Silva Valley Pkwy Off Ramp to Silva Valley Pkwy NB On Ramp	1640	3	0.50	4,078	1,507	1521.86	73.6	75	71.9852	21.141	C	562.3949	73.6	75	72.8801	7.7167	A
Westbound	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3080	3	0.67	3,943	1,590	1471.48	73.11	75	72.5392	20.285	C	593.3696	73.11	75	73.1696	8.1095	A
Westbound	West of El Dorado Hills Blvd	6320	3	0.67	5,754	3,153	2147.33	73.11	75	60.4279	35.535	E	1176.663	73.11	75	74.6545	15.761	B

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

Existing plus Approve

	Segment Inputs				AM Flow Inputs			AM LOS Performance Measures												
		Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
EB	Silva Valley Pkwy SB On Ramp	4	1	200	2672	1517	1155	2991	1698	1293	49	0.1199	203.6	9600	747	153	679	0.3116	19.011	B
EB	Silva Valley Pkwy NB On Ramp	4	1	1000	2672	2672	0	2991	2991	0	85	0.2178	651.54	9600	1170	489	1197	0.3116	8.5384	A
WB	El Dorado Hills Blvd On Ramp	3	1	800	5754	3943	1811	6442	4414.4	2027.5	126	0.5999	2648.2	7200	1766	1986	2648	0.8947	35.997	E

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Merge

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

		Segment Inputs			ed Project Conditions PM Flow Inputs			PM LOS Performance Measures											
		Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
EB	Silva Valley Pkwy SB On Ramp	4	1	200	5210	3619	1591	5833	4052	1781	116	-0.0049	-19.665	9600	2036	-15	1621	0.6076	29.937	D
EB	Silva Valley Pkwy NB On Ramp	4	1	1000	5210	5210	0	5833	5833	0	167	0.2178	1270.4	9600	2281	953	2333	0.6076	17.404	B
WB	El Dorado Hills Blvd On Ramp	3	1	800	3153	1590	1563	3530	1780.1	1749.9	51	0.5999	1067.9	7200	712	801	1068	0.4903	21.633	C

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Diverge

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

Existing plus Approved I

		Segment Inputs			AM Flow Inputs			AM LOS Performance Measures										
		Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	4	1	140	1599	3081	1482	1790.18	3449.4	1659.2	0.436	2439.7	9600	505	1830	2440	0.3593	23.974	C
	Latrobe NB Off Ramp	4	1	120	1146	1599	453	1283.02	1790.2	507.16	0.436	1066.6	9600	362	800	1067	0.1865	12.344	B
WB	Silva Valley Pkwy Off Ramp	3	2	1300	4078	5133	1055	4565.59	5746.7	1181.1	0.562	3747	7200	2000	2810	3747	0.7982	24.776	C

Univeral Inputs:

Lengl	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Diverge

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

Projects Conditions

	Segment Inputs				PM Flow Inputs			PM LOS Performance Measures										
		Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_D)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	4	1	140	4170	5593	1423	4668.59	6261.7	1593.1	0.436	3628.6	9600	1317	2721	3629	0.6523	34.198	D
	Latrobe NB Off Ramp	4	1	120	3139	4170	1031	3514.32	4668.6	1154.3	0.436	2686.5	9600	991	2015	2687	0.4863	26.276	C
WB	Silva Valley Pkwy Off Ramp	3	2	1300	1507	2947	1440	1687.18	3299.4	1612.2	0.6034	2630.1	7200	669	1973	2630	0.4582	15.171	B

Univeral Inputs:

Lengt	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Weave

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

	Existing Plus Approved Projects		Existing Plus Approved Projects plus Proposed	
Basic Freeway LOS Default Values	EB	WB	EB	WB
Segment	E	D	E	D
	Latrobe Rd On Ramp to Silva Valley Pkwy Off Ramp	Silva Valley Pkwy NB On Ramp to El Dorado Hills Blvd Off Ramp	Latrobe Rd On Ramp to Silva Valley Pkwy Off Ramp	Silva Valley Pkwy NB On Ramp to El Dorado Hills Blvd Off Ramp
Segment Inputs				
Length (ft)	3450	4150	3450	4150
Number of lanes (N)[c]	5	4	5	4
Exist Lanes	1	1	1	1
L_s (ft)	2450	3150	2450	3150
Interchange Density (I/mi)	0.67	0.67	0.67	0.67
LC_{RF} *minimum number of lane changes*	0	1	0	1
LC_{FR}	1	1	1	1
LC_{RR}	0	0	0	0
AM Flow Inputs				
V_U (veh/h) *total freeway volume upstream*	1146	4078	1161	4078
V_{ONR} (veh/h) *total on ramp volume*	863	863	863	905
V_{OFFR} (veh/h) *total on ramp volume*	492	998	507	998
V_{FF} *freeway to freeway*	865.3469388	3254.311678	870.1763834	3261.254264
V_{RF} *ramp to freeway*	651.6530612	688.6883222	646.8236166	723.7457355
V_{FR} *freeway to ramp*	280.6530612	823.6883222	290.8236166	816.7457355
V_{RR} *ramp to ramp*	211.3469388	174.3116778	216.1763834	181.2542645
PHF	0.92	0.92	0.92	0.92
% Trucks (P_T)	6%	6%	6%	6%
f_{HV}	0.970873786	0.970873786	0.970873786	0.970873786
v_{FF} *freeway to freeway* (pc/h/l)	968.8123336	3643.414161	974.2192118	3651.18684
v_{RF} *ramp to freeway* (pc/h/l)	729.5681012	771.0314912	724.1612229	810.2805517
v_{FR} *freeway to ramp(* pc/h/l)	314.2094055	922.1727955	325.5960055	914.4001169
v_{RR} *ramp to ramp* (pc/h/l)	236.6166815	195.1532914	242.0235597	202.92597
v_W *weaving demand flow*	1043.777507	1693.204287	1049.757228	1724.680669
v_{NW} *nonweaving demand flow*	1205.429015	3838.567452	1216.242772	3854.11281
v *total demand flow*	2249.206522	5531.771739	2266	5578.793478
VR	0.46406477	0.306087157	0.463264443	0.309149402
N_{WL}	2	2	2	2
L_{MAX}	7409.428651	5649.292911	7400.21026	5682.257789
	YES	YES	YES	YES
AM LOS Performance Measures				
c_W *capacity under prevailing conditions* (veh/h)	5015	7609	5029	7533
v/c	0.435432832	0.70582891	0.437462716	0.719010268
S_W (mi/h)	62.3	58.3	62.3	58.3
S_{NW} (mi/h)	65.6	51.2	65.5	50.9
S (mi/h)	64.02615516	53.18245474	63.977634	52.97890455
D (pc/mi/ln)	7.025899076	26.00374393	7.08372554	26.32554186
LOS	A	C	A	C
PM Flow Inputs				
V_U (veh/h) *total freeway volume upstream*	3139	1507	3185	1507
V_{ONR} (veh/h) *total on ramp volume*	1146	667	1146	694
V_{OFFR} (veh/h) *total on ramp volume*	666	584	712	584
V_{FF} *freeway to freeway*	2651.118086	1102.175713	2661.39806	1107.141754
V_{RF} *ramp to freeway*	967.8819137	487.824287	957.6019395	509.8582463
V_{FR} *freeway to ramp*	487.8819137	404.824287	523.6019395	399.8582463
V_{RR} *ramp to ramp*	178.1180863	179.175713	188.3980605	184.1417537
PHF	0.92	0.92	0.92	0.92
% Trucks (P_T)	6%	6%	6%	6%
f_{HV}	0.970873786	0.970873786	0.970873786	0.970873786
v_{FF} *freeway to freeway* (pc/h/l)	2968.099597	1233.957592	2979.608698	1239.517398
v_{RF} *ramp to freeway* (pc/h/l)	1083.606925	546.151104	1072.097824	570.8195583
v_{FR} *freeway to ramp(* pc/h/l)	546.2156207	453.2271909	586.2065192	447.6673844
v_{RR} *ramp to ramp* (pc/h/l)	199.4148141	200.598896	210.9239156	206.1587026
v_W *weaving demand flow*	1629.822546	999.3782949	1658.304343	1018.486943

v_{NW} *nonweaving demand flow*	3167.514411	1434.556488	3190.532614	1445.676101
v *total demand flow*	4797.336957	2433.934783	4848.836957	2464.163043
VR	0.339734849	0.41060192	0.342000434	0.413319624
N_{WL}	2	2	2	2
L_{MAX}	6014.041679	6800.307629	6038.800781	6830.942688
	YES	YES	YES	YES
PM LOS Performance Measures				
c_W *capacity under prevailing conditions* (veh/h)	6857	5675	6806	5634
v/c	0.679248752	0.416395327	0.691685086	0.424634594
S_W (mi/h)	60.4	60.7	60.3	60.7
S_{NW} (mi/h)	61.5	59.9	61.1	59.7
S (mi/h)	61.12182557	60.225916	60.824022	60.1092974
D (pc/mi/ln)	15.69762327	10.10335311	15.94382218	10.24867679
LOS	B	B	B	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	158	322	229	73	961	76	316	171	7	91	283	367
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	1.00	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	3539	1583	1770	3539	1583	3433	3517		1770	1863	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	3539	1583	1770	3539	1583	3433	3517		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)	172	350	249	79	1045	83	343	186	8	99	308	399
RTOR Reduction (vph)	0	0	162	0	0	55	0	4	0	0	0	123
Lane Group Flow (vph)	172	350	87	79	1045	28	343	190	0	99	308	276
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	5.0	27.2	27.2	3.9	26.1	26.1	9.9	23.8		4.6	18.5	18.5
Effective Green, g (s)	5.0	27.2	27.2	3.9	26.1	26.1	9.9	23.8		4.6	18.5	18.5
Actuated g/C Ratio	0.06	0.35	0.35	0.05	0.34	0.34	0.13	0.31		0.06	0.24	0.24
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	220	1238	554	88	1188	531	437	1077		104	443	376
v/s Ratio Prot	c0.05	0.10		0.04	c0.30		c0.10	0.05		0.06	0.17	
v/s Ratio Perm			0.06			0.02						c0.17
v/c Ratio	0.78	0.28	0.16	0.90	0.88	0.05	0.78	0.18		0.95	0.70	0.73
Uniform Delay, d1	35.8	18.2	17.4	36.7	24.3	17.4	32.9	19.8		36.4	27.0	27.3
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	16.4	0.1	0.1	62.7	7.7	0.0	9.0	0.1		72.5	4.7	7.2
Delay (s)	52.2	18.3	17.5	99.4	32.0	17.5	41.8	19.8		108.9	31.7	34.5
Level of Service	D	B	B	F	C	B	D	B		F	C	C
Approach Delay (s)		25.6			35.4			33.9			42.6	
Approach LOS		C			D			C			D	

Intersection Summary					
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.81				
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	18.2		
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)	32	369	17	120	977	66	36	84	45	119	308	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	1851		1770	1845		1770	1765			1837	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	1770	1851		1770	1845		1770	1765			1837	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)	35	401	18	130	1062	72	39	91	49	129	335	196
RTOR Reduction (vph)	0	1	0	0	2	0	0	13	0	0	0	115
Lane Group Flow (vph)	35	418	0	130	1132	0	39	127	0	0	464	81
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	3.5	61.9		12.2	70.6		15.1	15.1			34.1	34.1
Effective Green, g (s)	3.5	61.9		12.2	70.6		15.1	15.1			34.1	34.1
Actuated g/C Ratio	0.02	0.43		0.09	0.50		0.11	0.11			0.24	0.24
Clearance Time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	43	805		151	915		187	187			440	379
v/s Ratio Prot	0.02	0.23		c0.07	c0.61		0.02	c0.07			c0.25	
v/s Ratio Perm												0.05
v/c Ratio	0.81	0.52		0.86	1.24		0.21	0.68			1.05	0.21
Uniform Delay, d1	69.1	29.3		64.2	35.9		58.1	61.3			54.1	43.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	68.4	1.1		36.0	116.4		1.0	11.0			58.0	0.5
Delay (s)	137.4	30.5		100.2	152.2		59.1	72.2			112.1	43.9
Level of Service	F	C		F	F		E	E			F	D
Approach Delay (s)		38.7			146.9			69.4			91.8	
Approach LOS		D			F			E			F	

Intersection Summary					
HCM 2000 Control Delay	108.0	HCM 2000 Level of Service	F		
HCM 2000 Volume to Capacity ratio	1.11				
Actuated Cycle Length (s)	142.3	Sum of lost time (s)	19.0		
Intersection Capacity Utilization	105.0%	ICU Level of Service	G		
Analysis Period (min)	15				
c Critical Lane Group					

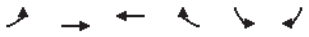
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	297	234	190	779	19	388	50	78	5	41	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1856		1770	1692			1824	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1856		1770	1692			1824	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	323	254	207	847	21	422	54	85	5	45	7
RTOR Reduction (vph)	0	0	169	0	1	0	0	45	0	0	5	0
Lane Group Flow (vph)	2	323	85	207	867	0	422	94	0	0	52	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	0.7	33.7	33.7	14.1	47.1		28.5	28.5			6.6	
Effective Green, g (s)	0.7	33.7	33.7	14.1	47.1		28.5	28.5			6.6	
Actuated g/C Ratio	0.01	0.33	0.33	0.14	0.47		0.28	0.28			0.07	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	12	620	527	246	863		498	476			118	
v/s Ratio Prot	0.00	0.17		c0.12	c0.47		c0.24	0.06			c0.03	
v/s Ratio Perm			0.05									
v/c Ratio	0.17	0.52	0.16	0.84	1.01		0.85	0.20			0.44	
Uniform Delay, d1	50.0	27.2	23.8	42.5	27.1		34.3	27.7			45.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	4.7	0.8	0.1	21.8	31.9		12.4	0.1			1.9	
Delay (s)	54.7	28.0	23.9	64.2	59.0		46.7	27.8			47.5	
Level of Service	D	C	C	E	E		D	C			D	
Approach Delay (s)		26.3			60.0			42.0			47.5	
Approach LOS		C			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	101.2	Sum of lost time (s)	18.3	
Intersection Capacity Utilization	85.6%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	416	13	6	925	23	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	452	14	7	1005	25	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			466		1478	459
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			466		1478	459
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		82	99
cM capacity (veh/h)			1095		138	602

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	466	1012	25	7
Volume Left	0	7	25	0
Volume Right	14	0	0	7
cSH	1700	1095	138	602
Volume to Capacity	0.27	0.01	0.18	0.01
Queue Length 95th (ft)	0	0	16	1
Control Delay (s)	0.0	0.2	36.8	11.0
Lane LOS		A	E	B
Approach Delay (s)	0.0	0.2	31.5	
Approach LOS			D	

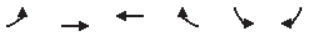
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	11	411	903	4	12	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	447	982	4	13	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	986				1454	984
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	986				1454	984
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				91	90
cM capacity (veh/h)	701				141	302

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	986	43
Volume Left	12	0	13
Volume Right	0	4	30
cSH	701	1700	225
Volume to Capacity	0.02	0.58	0.19
Queue Length 95th (ft)	1	0	17
Control Delay (s)	0.5	0.0	24.8
Lane LOS	A		C
Approach Delay (s)	0.5	0.0	24.8
Approach LOS			C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	6	394	893	2	8	21
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	428	971	2	9	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	973				1413	972
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	973				1413	972
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	93
cM capacity (veh/h)	709				150	306

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	435	973	32
Volume Left	7	0	9
Volume Right	0	2	23
cSH	709	1700	238
Volume to Capacity	0.01	0.57	0.13
Queue Length 95th (ft)	1	0	11
Control Delay (s)	0.3	0.0	22.4
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	22.4
Approach LOS			C

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	350	2	11	637	6	12	0	32	21	0	28
Sign Control		Free			Free			Stop			Stop	
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	0.92	0.92
Hourly flow rate (vph)	8	380	2	12	692	7	13	0	35	23	0	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	699			383			1143	1120	382	1150	1117	696
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	699			383			1143	1120	382	1150	1117	696
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			92	100	95	86	100	93
cM capacity (veh/h)	898			1176			163	203	666	164	203	442

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	8	383	12	699	48	53
Volume Left	8	0	12	0	13	23
Volume Right	0	2	0	7	35	30
cSH	898	1700	1176	1700	361	256
Volume to Capacity	0.01	0.23	0.01	0.41	0.13	0.21
Queue Length 95th (ft)	1	0	1	0	11	19
Control Delay (s)	9.0	0.0	8.1	0.0	16.5	22.7
Lane LOS	A		A		C	C
Approach Delay (s)	0.2		0.1		16.5	22.7
Approach LOS					C	C

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	45.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	607	47	9	775	109	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	1845			1862	1744	
Flt Permitted	1.00			0.99	0.96	
Satd. Flow (perm)	1845			1849	1744	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	660	51	10	842	118	28
RTOR Reduction (vph)	5	0	0	0	15	0
Lane Group Flow (vph)	706	0	0	852	131	0
Turn Type	NA		Perm	NA	NA	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	25.2			25.2	9.0	
Effective Green, g (s)	25.2			25.2	9.0	
Actuated g/C Ratio	0.60			0.60	0.21	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1101			1104	371	
v/s Ratio Prot	0.38				c0.08	
v/s Ratio Perm				c0.46		
v/c Ratio	0.64			0.77	0.35	
Uniform Delay, d1	5.5			6.4	14.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.3			3.4	0.6	
Delay (s)	6.8			9.8	14.7	
Level of Service	A			A	B	
Approach Delay (s)	6.8			9.8	14.7	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	432	156	161	587	5	202	3	63	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	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			1.00	1.00		1.00	
Frt	1.00	0.96		1.00	1.00			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1770	1789		1770	1861			1775	1583		1695	
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	1770	1789		1770	1861			1775	1583		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)	4	470	170	175	638	5	220	3	68	1	0	1
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	56	0	2	0
Lane Group Flow (vph)	4	628	0	175	643	0	0	223	12	0	0	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	33.6		10.1	43.0			13.2	13.2		0.9	
Effective Green, g (s)	0.7	33.6		10.1	43.0			13.2	13.2		0.9	
Actuated g/C Ratio	0.01	0.46		0.14	0.58			0.18	0.18		0.01	
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)	16	814		242	1084			317	283		20	
v/s Ratio Prot	0.00	c0.35		c0.10	0.35			c0.13			c0.00	
v/s Ratio Perm									0.01			
v/c Ratio	0.25	0.77		0.72	0.59			0.70	0.04		0.00	
Uniform Delay, d1	36.3	16.9		30.5	9.8			28.5	25.1		36.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	8.1	4.6		10.2	0.9			6.9	0.1		0.0	
Delay (s)	44.3	21.4		40.7	10.7			35.4	25.1		36.0	
Level of Service	D	C		D	B			D	C		D	
Approach Delay (s)		21.6			17.1			33.0			36.0	
Approach LOS		C			B			C			D	

Intersection Summary				
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	69.2%	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)	11	407	89	21	508	6	210	2	48	14	4	44
Ideal Flow (vphpl)	1900	1900	1900	1900	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		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.86			0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1812		1770	1859		1770	1594			1664	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1812		1770	1859		1770	1594			1664	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	442	97	23	552	7	228	2	52	15	4	48
RTOR Reduction (vph)	0	9	0	0	1	0	0	41	0	0	45	0
Lane Group Flow (vph)	12	530	0	23	558	0	228	13	0	0	22	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.6	23.4		1.2	24.0		11.9	11.9			3.7	
Effective Green, g (s)	0.6	23.4		1.2	24.0		11.9	11.9			3.7	
Actuated g/C Ratio	0.01	0.42		0.02	0.43		0.21	0.21			0.07	
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)	18	754		37	793		374	337			109	
v/s Ratio Prot	0.01	0.29		c0.01	c0.30		c0.13	0.01			c0.01	
v/s Ratio Perm												
v/c Ratio	0.67	0.70		0.62	0.70		0.61	0.04			0.20	
Uniform Delay, d1	27.7	13.5		27.3	13.2		20.0	17.6			24.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	66.1	3.0		28.2	2.9		2.8	0.0			0.9	
Delay (s)	93.8	16.5		55.5	16.0		22.9	17.7			25.8	
Level of Service	F	B		E	B		C	B			C	
Approach Delay (s)		18.2			17.6			21.9			25.8	
Approach LOS		B			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	56.2	Sum of lost time (s)	16.0	
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)	23	152	281	115	257	4	270	15	73	10	68	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	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00		1.00	0.88		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	1681		1770	1859		1770	1630		1770	1788	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1681		1770	1859		1770	1630		1770	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)	25	165	305	125	279	4	293	16	79	11	74	27
RTOR Reduction (vph)	0	94	0	0	1	0	0	53	0	0	23	0
Lane Group Flow (vph)	25	376	0	125	282	0	293	42	0	11	78	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.7	18.6		5.1	23.0		11.9	19.9		0.7	8.7	
Effective Green, g (s)	0.7	18.6		5.1	23.0		11.9	19.9		0.7	8.7	
Actuated g/C Ratio	0.01	0.31		0.08	0.38		0.20	0.33		0.01	0.14	
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)	20	518		149	709		349	537		20	257	
v/s Ratio Prot	0.01	c0.22		c0.07	0.15		c0.17	0.03		0.01	c0.04	
v/s Ratio Perm												
v/c Ratio	1.25	0.73		0.84	0.40		0.84	0.08		0.55	0.30	
Uniform Delay, d1	29.8	18.6		27.2	13.6		23.3	13.9		29.6	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	288.2	5.0		31.8	0.4		16.1	0.1		28.9	0.7	
Delay (s)	318.0	23.6		59.0	14.0		39.4	14.0		58.5	23.8	
Level of Service	F	C		E	B		D	B		E	C	
Approach Delay (s)		38.5			27.8			33.1			27.2	
Approach LOS		D			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	63.2%	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	49	485	45	64	42	407	156	37	125	383	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	53	527	49	70	46	442	170	40	136	416	3

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	55	527	164	442	210	136	420
Volume Left (vph)	2	0	49	442	0	136	0
Volume Right (vph)	0	527	46	0	40	0	3
Hadj (s)	0.04	-0.57	-0.07	0.53	-0.10	0.53	0.03
Departure Headway (s)	7.3	3.2	6.7	6.6	6.0	6.8	6.3
Degree Utilization, x	0.11	0.47	0.31	0.81	0.35	0.26	0.73
Capacity (veh/h)	447	1116	502	533	585	513	557
Control Delay (s)	11.2	9.0	12.6	31.3	11.0	10.9	23.1
Approach Delay (s)	9.2		12.6	24.8		20.1	
Approach LOS	A		B	C		C	

Intersection Summary				
Delay	17.8			
Level of Service	C			
Intersection Capacity Utilization	68.8%	ICU Level of Service	C	
Analysis Period (min)	15			

13: El Dorado Hills Blvd. & Harvard Way

Timing Plan: AM

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	399	147	354	328	265	945
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	1.00	0.95		0.97	0.95
Frt	1.00	0.85	0.93		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3284		3433	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3284		3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	160	385	357	288	1027
RTOR Reduction (vph)	0	108	262	0	0	0
Lane Group Flow (vph)	434	52	480	0	288	1027
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	14.2	14.2	11.7		6.1	21.8
Effective Green, g (s)	14.2	14.2	11.7		6.1	21.8
Actuated g/C Ratio	0.32	0.32	0.27		0.14	0.50
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	571	510	873		475	1753
v/s Ratio Prot	c0.25		0.15		0.08	c0.29
v/s Ratio Perm		0.03				
v/c Ratio	0.76	0.10	0.55		0.61	0.59
Uniform Delay, d1	13.4	10.4	13.9		17.8	7.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.9	0.1	0.7		2.2	0.5
Delay (s)	19.3	10.5	14.6		20.0	8.4
Level of Service	B	B	B		C	A
Approach Delay (s)	16.9		14.6			10.9
Approach LOS	B		B			B

Intersection Summary				
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	60.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

14: El Dorado Hills Blvd. & Serrano Pkwy.

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	15	84	664	14	86	32	700	198	66	1487	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	5.2	4.0	3.0	5.2	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.87		1.00	0.97		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1625		1681	1649		1770	3539	1583	1770	3529	
Flt Permitted	0.95	1.00		0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1625		1681	1649		1770	3539	1583	1770	3529	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	16	91	722	15	93	35	761	215	72	1616	33
RTOR Reduction (vph)	0	29	0	0	8	0	0	0	0	0	1	0
Lane Group Flow (vph)	25	78	0	419	403	0	35	761	215	72	1648	0
Turn Type	Split	NA		Split	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	6.8	6.8		33.8	33.8		3.6	68.3	130.0	6.9	71.6	
Effective Green, g (s)	6.8	6.8		33.8	33.8		3.6	68.3	130.0	6.9	71.6	
Actuated g/C Ratio	0.05	0.05		0.26	0.26		0.03	0.53	1.00	0.05	0.55	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	5.2		3.0	5.2	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	92	85		437	428		49	1859	1583	93	1943	
v/s Ratio Prot	0.01	c0.05		c0.25	0.24		c0.02	0.22		0.04	c0.47	
v/s Ratio Perm									0.14			
v/c Ratio	0.27	0.91		0.96	0.94		0.71	0.41	0.14	0.77	0.85	
Uniform Delay, d1	59.2	61.3		47.4	47.1		62.7	18.7	0.0	60.8	24.6	
Progression Factor	1.00	1.00		1.00	1.00		0.76	0.59	1.00	1.00	1.00	
Incremental Delay, d2	0.6	68.1		32.0	28.8		32.8	0.7	0.2	29.8	4.8	
Delay (s)	59.8	129.4		79.4	75.9		80.3	11.7	0.2	90.5	29.5	
Level of Service	E	F		E	E		F	B	A	F	C	
Approach Delay (s)		116.2			77.7			11.6			32.0	
Approach LOS		F			E			B			C	

Intersection Summary				
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	14.2	
Intersection Capacity Utilization	84.4%	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)	31	11	203	13	13	51	191	848	32	125	2083	27
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	1.00	1.00		1.00	0.91		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	0.99		1.00	1.00	
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1728	1583	1770	1640		1770	5057		1770	3533	
Flt Permitted	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1728	1583	1770	1640		1770	5057		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)	34	12	221	14	14	55	208	922	35	136	2264	29
RTOR Reduction (vph)	0	0	209	0	53	0	0	2	0	0	0	0
Lane Group Flow (vph)	23	23	12	14	16	0	208	955	0	136	2293	0
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	7	7	7	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	6.8	6.8	6.8	4.8	4.8		10.0	82.7		18.0	90.7	
Effective Green, g (s)	6.8	6.8	6.8	4.8	4.8		10.0	84.4		18.0	92.4	
Actuated g/C Ratio	0.05	0.05	0.05	0.04	0.04		0.08	0.65		0.14	0.71	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	4.2		0.2	4.2	
Lane Grp Cap (vph)	87	90	82	65	60		136	3283		245	2511	
v/s Ratio Prot	c0.01	0.01	0.01	0.01	c0.01		c0.12	0.19		0.08	c0.65	
v/s Ratio Perm												
v/c Ratio	0.26	0.26	0.14	0.22	0.27		1.53	0.29		0.56	0.91	
Uniform Delay, d1	59.2	59.2	58.8	60.8	60.9		60.0	9.9		52.3	15.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.85	0.54		0.85	0.46	
Incremental Delay, d2	0.6	0.5	0.3	0.6	0.9		269.3	0.2		0.7	3.3	
Delay (s)	59.8	59.7	59.1	61.4	61.8		320.2	5.5		44.9	10.5	
Level of Service	E	E	E	E	E		F	A		D	B	
Approach Delay (s)		59.2			61.7			61.7			12.4	
Approach LOS		E			E			E			B	

Intersection Summary				
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	130.0	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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	176	82	740	161	189	56	828	839	162	66	1397	836
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91		1.00	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	0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1737	1583	1681	1762	1583	3433	4962		1770	5085	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1737	1583	1681	1762	1583	3433	4962		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)	191	89	804	175	205	61	900	912	176	72	1518	909
RTOR Reduction (vph)	0	0	0	0	0	51	0	19	0	0	0	0
Lane Group Flow (vph)	138	142	804	157	223	10	900	1069	0	72	1518	909
Turn Type	Split	NA	Free	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			8						Free
Actuated Green, G (s)	14.4	14.4	130.0	20.6	20.6	20.6	38.1	69.6		9.4	40.9	130.0
Effective Green, g (s)	14.4	14.4	130.0	20.6	20.6	20.6	38.1	69.6		9.4	40.9	130.0
Actuated g/C Ratio	0.11	0.11	1.00	0.16	0.16	0.16	0.29	0.54		0.07	0.31	1.00
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		2.2	2.2	2.2	3.0	3.5		2.0	2.5	
Lane Grp Cap (vph)	186	192	1583	266	279	250	1006	2656		127	1599	1583
v/s Ratio Prot	c0.08	0.08		0.09	c0.13		c0.26	0.22		0.04	c0.30	
v/s Ratio Perm			0.51			0.01						0.57
v/c Ratio	0.74	0.74	0.51	0.59	0.80	0.04	0.89	0.40		0.57	0.95	0.57
Uniform Delay, d1	56.0	56.0	0.0	50.8	52.7	46.3	44.0	17.9		58.3	43.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.95		0.71	0.66	1.00
Incremental Delay, d2	14.7	13.9	1.2	2.6	14.0	0.0	8.6	0.4		1.6	7.4	0.7
Delay (s)	70.7	69.8	1.2	53.3	66.7	46.3	47.5	17.4		43.1	36.2	0.7
Level of Service	E	E	A	D	E	D	D	B		D	D	A
Approach Delay (s)		19.0			59.1			31.0			23.5	
Approach LOS		B			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
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)	0	0	1482	0	0	468	0	1360	245	618	1680	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			0.88			1.00		0.91	1.00	1.00	0.86	
Frt			0.85			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			2787			1611		5085	1583	1770	6408	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			2787			1611		5085	1583	1770	6408	
Peak-hour factor, PHF	0.92	0.92	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	1611	0	0	509	0	1478	266	672	1826	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	110	0	0	0
Lane Group Flow (vph)	0	0	1611	0	0	509	0	1478	156	672	1826	0
Turn Type			custom			Free		NA	Perm	Prot	NA	
Protected Phases			5					2		1	6	
Permitted Phases			1			Free			2			
Actuated Green, G (s)			50.2			65.0		27.8	27.8	29.2	36.0	
Effective Green, g (s)			50.2			65.0		27.8	27.8	29.2	36.0	
Actuated g/C Ratio			0.77			1.00		0.43	0.43	0.45	0.55	
Clearance Time (s)			4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)			3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)			2323			1611		2174	677	795	3549	
v/s Ratio Prot			0.22					c0.29		c0.38	0.28	
v/s Ratio Perm			0.35			0.32			0.10			
v/c Ratio			0.69			0.32		0.68	0.23	0.85	0.51	
Uniform Delay, d1			3.6			0.0		15.0	11.8	15.9	9.0	
Progression Factor			1.00			1.00		1.00	1.00	1.11	0.92	
Incremental Delay, d2			0.9			0.5		1.7	0.8	5.0	0.3	
Delay (s)			4.5			0.5		16.7	12.6	22.7	8.6	
Level of Service			A			A		B	B	C	A	
Approach Delay (s)		4.5			0.5			16.1			12.4	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	82.9%	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)	397	0	110	0	0	0	570	576	0	0	1002	613
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.91	0.95				0.97	0.95			0.95	1.00
Frt	1.00	0.99	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1605	1504				3433	3539			3539	1583
Flt Permitted	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1605	1504				3433	3539			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)	432	0	120	0	0	0	620	626	0	0	1089	666
RTOR Reduction (vph)	0	56	89	0	0	0	0	0	0	0	0	292
Lane Group Flow (vph)	225	163	19	0	0	0	620	626	0	0	1089	374
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4					5	2			6	
Permitted Phases			4									6
Actuated Green, G (s)	14.3	14.3	14.3				19.0	57.7			34.7	34.7
Effective Green, g (s)	14.3	14.3	14.3				19.0	57.7			34.7	34.7
Actuated g/C Ratio	0.18	0.18	0.18				0.24	0.72			0.43	0.43
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)	300	286	268				815	2552			1535	686
v/s Ratio Prot	c0.13	0.10					c0.18	0.18			c0.31	
v/s Ratio Perm			0.01									0.24
v/c Ratio	0.75	0.57	0.07				0.76	0.25			0.71	0.54
Uniform Delay, d1	31.2	30.0	27.3				28.4	3.8			18.5	16.8
Progression Factor	1.00	1.00	1.00				1.00	1.00			0.55	0.94
Incremental Delay, d2	10.1	2.7	0.1				4.2	0.2			1.1	1.2
Delay (s)	41.2	32.8	27.4				32.6	4.0			11.3	17.0
Level of Service	D	C	C				C	A			B	B
Approach Delay (s)		35.2			0.0			18.2			13.4	
Approach LOS		D			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0	
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)	0	0	0	524	0	541	347	627	0	0	1091	558
Ideal Flow (vphpl)	1900	1900	1900	1900	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				0.95	0.91	0.95	1.00	0.95			0.95	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	1519	1504	1770	3539			3539	1583
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1519	1504	1770	3539			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)	0	0	0	570	0	588	377	682	0	0	1186	607
RTOR Reduction (vph)	0	0	0	0	58	200	0	0	0	0	0	391
Lane Group Flow (vph)	0	0	0	399	331	170	377	682	0	0	1186	216
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				20.9	20.9	20.9	18.6	51.1			28.5	28.5
Effective Green, g (s)				20.9	20.9	20.9	18.6	51.1			28.5	28.5
Actuated g/C Ratio				0.26	0.26	0.26	0.23	0.64			0.36	0.36
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)				439	396	392	411	2260			1260	563
v/s Ratio Prot				c0.24	0.22		c0.21	0.19			c0.34	
v/s Ratio Perm						0.11						0.14
v/c Ratio				0.91	0.84	0.43	0.92	0.30			0.94	0.38
Uniform Delay, d1				28.6	27.9	24.6	29.9	6.5			24.9	19.2
Progression Factor				1.00	1.00	1.00	1.21	0.95			0.84	0.50
Incremental Delay, d2				22.3	14.2	0.8	23.7	0.3			12.5	1.6
Delay (s)				50.9	42.2	25.4	59.8	6.5			33.4	11.2
Level of Service				D	D	C	E	A			C	B
Approach Delay (s)		0.0			39.8			25.5			25.9	
Approach LOS		A			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	83.8%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	163	157	1006	161	1	1486
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	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3466		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3466		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	171	1093	175	1	1615
RTOR Reduction (vph)	0	140	12	0	0	0
Lane Group Flow (vph)	177	31	1256	0	1	1615
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	13.2	13.2	54.0		0.8	58.8
Effective Green, g (s)	13.2	13.2	54.0		0.8	58.8
Actuated g/C Ratio	0.16	0.16	0.68		0.01	0.73
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	292	261	2339		17	2601
v/s Ratio Prot	c0.10		0.36		0.00	c0.46
v/s Ratio Perm		0.02				
v/c Ratio	0.61	0.12	0.54		0.06	0.62
Uniform Delay, d1	31.0	28.4	6.6		39.2	5.2
Progression Factor	1.00	1.00	1.13		1.00	1.00
Incremental Delay, d2	3.5	0.2	0.8		1.5	1.1
Delay (s)	34.5	28.6	8.3		40.7	6.3
Level of Service	C	C	A		D	A
Approach Delay (s)	31.6		8.3			6.3
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
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)	159	80	143	439	220	346	144	534	211	160	625	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.90		1.00	0.91		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)	1770	3199		1770	3215		1770	3539	1583	1770	3389	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3199		1770	3215		1770	3539	1583	1770	3389	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	173	87	155	477	239	376	157	580	229	174	679	267
RTOR Reduction (vph)	0	134	0	0	212	0	0	0	159	0	40	0
Lane Group Flow (vph)	173	108	0	477	403	0	157	580	70	174	906	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	13.2	12.0		22.1	20.9		7.0	26.5	26.5	8.0	27.5	
Effective Green, g (s)	13.2	12.0		22.1	20.9		7.0	26.5	26.5	8.0	27.5	
Actuated g/C Ratio	0.15	0.14		0.25	0.24		0.08	0.30	0.30	0.09	0.32	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
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)	267	440		448	770		142	1075	481	162	1068	
v/s Ratio Prot	0.10	0.03		c0.27	c0.13		0.09	0.16		c0.10	c0.27	
v/s Ratio Perm									0.04			
v/c Ratio	0.65	0.25		1.06	0.52		1.11	0.54	0.14	1.07	0.85	
Uniform Delay, d1	34.8	33.6		32.5	28.8		40.1	25.3	22.1	39.6	27.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.3	0.3		60.8	0.6		106.7	0.5	0.1	91.8	6.4	
Delay (s)	40.1	33.9		93.3	29.5		146.8	25.8	22.2	131.4	34.3	
Level of Service	D	C		F	C		F	C	C	F	C	
Approach Delay (s)		36.5			57.4			44.6			49.4	
Approach LOS		D			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	49.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	87.2	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	81.3%	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)	81	105	260	124	73	11	472	265	41	37	274	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		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	1863	1583	1770	1826		1770	1825		1770	1863	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	1770	1826		1770	1825		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)	88	114	283	135	79	12	513	288	45	40	298	368
RTOR Reduction (vph)	0	0	242	0	6	0	0	6	0	0	0	285
Lane Group Flow (vph)	88	114	41	135	85	0	513	327	0	40	298	83
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	5.3	11.3	11.3	7.2	13.2		26.4	40.9		3.3	17.8	17.8
Effective Green, g (s)	5.3	11.3	11.3	7.2	13.2		26.4	40.9		3.3	17.8	17.8
Actuated g/C Ratio	0.07	0.14	0.14	0.09	0.17		0.34	0.52		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
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)	119	267	227	161	306		593	948		74	421	358
v/s Ratio Prot	0.05	c0.06		c0.08	0.05		c0.29	0.18		0.02	c0.16	
v/s Ratio Perm			0.03									0.05
v/c Ratio	0.74	0.43	0.18	0.84	0.28		0.87	0.35		0.54	0.71	0.23
Uniform Delay, d1	36.0	30.7	29.6	35.2	28.6		24.5	11.1		37.0	28.1	24.9
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	21.2	1.1	0.4	29.9	0.5		12.5	0.2		7.8	5.4	0.3
Delay (s)	57.2	31.8	30.0	65.1	29.1		37.0	11.3		44.8	33.4	25.2
Level of Service	E	C	C	E	C		D	B		D	C	C
Approach Delay (s)		35.4			50.6			26.9			29.8	
Approach LOS		D			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	64.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	37	1	87	155	2	63	22	242	46	26	337	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	40	1	95	168	2	68	24	263	50	28	366	23

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	136	239	337	417
Volume Left (vph)	40	168	24	28
Volume Right (vph)	95	68	50	23
Hadj (s)	-0.32	0.00	-0.04	0.01
Departure Headway (s)	6.4	6.4	5.9	5.8
Degree Utilization, x	0.24	0.43	0.55	0.67
Capacity (veh/h)	460	490	569	584
Control Delay (s)	11.5	14.2	15.9	19.9
Approach Delay (s)	11.5	14.2	15.9	19.9
Approach LOS	B	B	C	C

Intersection Summary				
Delay			16.5	
Level of Service			C	
Intersection Capacity Utilization			52.1%	ICU Level of Service
Analysis Period (min)			15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	352	39	0	867	0	21
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	383	42	0	942	0	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				766		
pX, platoon unblocked					0.67	
vC, conflicting volume			425		1346	404
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			425		1270	404
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			1134		124	647

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	425	942	23
Volume Left	0	0	0
Volume Right	42	0	23
cSH	1700	1700	647
Volume to Capacity	0.25	0.55	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	10.8
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.8
Approach LOS			B

Intersection Summary				
Average Delay			0.2	
Intersection Capacity Utilization			49.0%	ICU Level of Service
Analysis Period (min)			15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	334	39	23	653	0	214	0	43	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			
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00			
Frt		0.98		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1834		1770	1863			1770	1583			
Flt Permitted		1.00		0.50	1.00			0.76	1.00			
Satd. Flow (perm)		1834		931	1863			1410	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	363	42	25	710	0	233	0	47	0	0	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	36	0	0	0
Lane Group Flow (vph)	0	397	0	25	710	0	0	233	11	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		20.2		20.2	20.2			9.0	9.0			
Effective Green, g (s)		20.2		20.2	20.2			9.0	9.0			
Actuated g/C Ratio		0.54		0.54	0.54			0.24	0.24			
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		995		505	1011			341	382			
v/s Ratio Prot		0.22			c0.38							
v/s Ratio Perm				0.03				c0.17	0.01			
v/c Ratio		0.40		0.05	0.70			0.68	0.03			
Uniform Delay, d1		5.0		4.0	6.3			12.8	10.8			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		0.3		0.0	2.2			5.6	0.0			
Delay (s)		5.2		4.0	8.5			18.4	10.8			
Level of Service		A		A	A			B	B			
Approach Delay (s)		5.2			8.4			17.1			0.0	
Approach LOS		A			A			B			A	

Intersection Summary				
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	37.2	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	52.9%	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)	426	999	314	150	598	68	348	252	17	105	210	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	1.00	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	3539	1583	1770	3539	1583	3433	3506		1770	1863	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	3539	1583	1770	3539	1583	3433	3506		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)	463	1086	341	163	650	74	378	274	18	114	228	217
RTOR Reduction (vph)	0	0	221	0	0	51	0	5	0	0	0	178
Lane Group Flow (vph)	463	1086	120	163	650	23	378	287	0	114	228	39
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	13.1	29.7	29.7	9.1	25.7	25.7	11.8	20.1		7.0	15.3	15.3
Effective Green, g (s)	13.1	29.7	29.7	9.1	25.7	25.7	11.8	20.1		7.0	15.3	15.3
Actuated g/C Ratio	0.16	0.35	0.35	0.11	0.31	0.31	0.14	0.24		0.08	0.18	0.18
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	534	1249	559	191	1081	483	481	837		147	338	287
v/s Ratio Prot	c0.13	c0.31		0.09	0.18		c0.11	0.08		0.06	c0.12	
v/s Ratio Perm			0.08			0.01						0.02
v/c Ratio	0.87	0.87	0.22	0.85	0.60	0.05	0.79	0.34		0.78	0.67	0.14
Uniform Delay, d1	34.6	25.4	19.0	36.8	24.8	20.6	34.9	26.5		37.8	32.1	28.9
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	13.9	6.7	0.2	29.0	0.9	0.0	8.2	0.2		22.1	5.2	0.2
Delay (s)	48.5	32.1	19.2	65.8	25.8	20.6	43.2	26.8		59.9	37.3	29.1
Level of Service	D	C	B	E	C	C	D	C		E	D	C
Approach Delay (s)		33.8			32.7			36.0			38.7	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	18.2	
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)	138	1063	24	69	630	96	55	214	122	65	101	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1857		1770	1826		1770	1761			1827	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	1857		1770	1826		1770	1761			1827	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)	150	1155	26	75	685	104	60	233	133	71	110	118
RTOR Reduction (vph)	0	0	0	0	4	0	0	14	0	0	0	102
Lane Group Flow (vph)	150	1181	0	75	785	0	60	352	0	0	181	16
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	77.5		4.5	68.3		22.0	22.0			19.2	19.2
Effective Green, g (s)	13.7	77.5		4.5	68.3		22.0	22.0			19.2	19.2
Actuated g/C Ratio	0.10	0.55		0.03	0.48		0.15	0.15			0.14	0.14
Clearance Time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	170	1012		56	877		273	272			246	213
v/s Ratio Prot	0.08	c0.64		c0.04	0.43		0.03	c0.20			c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.88	1.17		1.34	0.90		0.22	1.29			0.74	0.07
Uniform Delay, d1	63.5	32.3		68.8	33.7		52.6	60.1			59.1	53.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	37.4	85.8		235.1	12.4		0.7	156.4			12.2	0.3
Delay (s)	100.9	118.2		303.9	46.1		53.3	216.5			71.3	54.0
Level of Service	F	F		F	D		D	F			E	D
Approach Delay (s)		116.2			68.4			193.5			64.5	
Approach LOS		F			E			F			E	

Intersection Summary				
HCM 2000 Control Delay	108.1	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.13			
Actuated Cycle Length (s)	142.2	Sum of lost time (s)	19.0	
Intersection Capacity Utilization	105.1%	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)	9	856	382	118	505	3	282	18	197	2	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1861		1770	1607			1789	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1861		1770	1607			1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	930	415	128	549	3	307	20	214	2	10	4
RTOR Reduction (vph)	0	0	110	0	0	0	0	170	0	0	4	0
Lane Group Flow (vph)	10	930	305	128	552	0	307	64	0	0	12	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	0.7	48.7	48.7	5.0	53.0		19.5	19.5			2.5	
Effective Green, g (s)	0.7	48.7	48.7	5.0	53.0		19.5	19.5			2.5	
Actuated g/C Ratio	0.01	0.52	0.52	0.05	0.56		0.21	0.21			0.03	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	13	965	820	94	1049		367	333			47	
v/s Ratio Prot	0.01	c0.50		c0.07	0.30		c0.17	0.04			c0.01	
v/s Ratio Perm			0.19									
v/c Ratio	0.77	0.96	0.37	1.36	0.53		0.84	0.19			0.26	
Uniform Delay, d1	46.6	21.8	13.5	44.5	12.7		35.7	30.8			44.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	124.9	20.5	0.3	216.9	0.5		14.9	0.2			2.1	
Delay (s)	171.5	42.3	13.8	261.4	13.2		50.6	31.0			47.0	
Level of Service	F	D	B	F	B		D	C			D	
Approach Delay (s)		34.6			59.9			42.1			47.0	
Approach LOS		C			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.93			
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	18.3	
Intersection Capacity Utilization	85.8%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1044	27	4	592	21	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1135	29	4	643	23	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1164		1802	1149
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1164		1802	1149
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		74	98
cM capacity (veh/h)			600		87	241

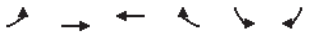
Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	1164	648	23	4
Volume Left	0	4	23	0
Volume Right	29	0	0	4
cSH	1700	600	87	241
Volume to Capacity	0.68	0.01	0.26	0.02
Queue Length 95th (ft)	0	1	24	1
Control Delay (s)	0.0	0.2	60.6	20.2
Lane LOS		A	F	C
Approach Delay (s)	0.0	0.2	54.1	
Approach LOS			F	

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	31	1017	577	12	8	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	1105	627	13	9	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	640				1807	634
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	640				1807	634
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				90	96
cM capacity (veh/h)	944				84	479

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1139	640	29
Volume Left	34	0	9
Volume Right	0	13	21
cSH	944	1700	200
Volume to Capacity	0.04	0.38	0.15
Queue Length 95th (ft)	3	0	13
Control Delay (s)	1.2	0.0	26.1
Lane LOS	A		D
Approach Delay (s)	1.2	0.0	26.1
Approach LOS			D

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	12	1041	588	5	10	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	1132	639	5	11	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	645				1799	642
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	645				1799	642
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				87	97
cM capacity (veh/h)	941				87	474

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1145	645	26
Volume Left	13	0	11
Volume Right	0	5	15
cSH	941	1700	166
Volume to Capacity	0.01	0.38	0.16
Queue Length 95th (ft)	1	0	14
Control Delay (s)	0.5	0.0	30.8
Lane LOS	A		D
Approach Delay (s)	0.5	0.0	30.8
Approach LOS			D

Intersection Summary				
Average Delay		0.7		
Intersection Capacity Utilization		74.4%	ICU Level of Service	D
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	771	18	39	486	7	8	1	23	7	0	14
Sign Control		Free			Free			Stop			Stop	
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	0.92	0.92
Hourly flow rate (vph)	49	838	20	42	528	8	9	1	25	8	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	536			858			1574	1566	848	1578	1572	532
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	536			858			1574	1566	848	1578	1572	532
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			95			89	99	93	90	100	97
cM capacity (veh/h)	1032			783			80	100	361	76	99	547

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	49	858	42	536	35	23
Volume Left	49	0	42	0	9	8
Volume Right	0	20	0	8	25	15
cSH	1032	1700	783	1700	184	178
Volume to Capacity	0.05	0.50	0.05	0.32	0.19	0.13
Queue Length 95th (ft)	4	0	4	0	17	11
Control Delay (s)	8.7	0.0	9.9	0.0	29.0	28.2
Lane LOS	A		A		D	D
Approach Delay (s)	0.5		0.7		29.0	28.2
Approach LOS					D	D

Intersection Summary				
Average Delay		1.6		
Intersection Capacity Utilization		51.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	734	121	29	431	79	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.98			1.00	0.98	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	1827			1857	1747	
Flt Permitted	1.00			0.93	0.96	
Satd. Flow (perm)	1827			1729	1747	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	798	132	32	468	86	18
RTOR Reduction (vph)	9	0	0	0	14	0
Lane Group Flow (vph)	921	0	0	500	90	0
Turn Type	NA		Perm	NA	NA	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	27.9			27.9	8.0	
Effective Green, g (s)	27.9			27.9	8.0	
Actuated g/C Ratio	0.64			0.64	0.18	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1161			1098	318	
v/s Ratio Prot	c0.50				c0.05	
v/s Ratio Perm				0.29		
v/c Ratio	0.79			0.46	0.28	
Uniform Delay, d1	5.9			4.1	15.5	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	3.8			0.3	0.5	
Delay (s)	9.7			4.4	16.0	
Level of Service	A			A	B	
Approach Delay (s)	9.7			4.4	16.0	
Approach LOS	A			A	B	

Intersection Summary				
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	43.9	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	58.6%	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)	2	597	117	111	360	8	65	6	192	17	7	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	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1770	1817		1770	1856			1782	1583		1739	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (perm)	1770	1817		1770	1856			1782	1583		1739	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	649	127	121	391	9	71	7	209	18	8	13
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	185	0	12	0
Lane Group Flow (vph)	2	770	0	121	399	0	0	78	24	0	27	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	38.8		7.1	45.2			8.4	8.4		4.2	
Effective Green, g (s)	0.7	38.8		7.1	45.2			8.4	8.4		4.2	
Actuated g/C Ratio	0.01	0.52		0.10	0.61			0.11	0.11		0.06	
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)	16	946		168	1126			200	178		98	
v/s Ratio Prot	0.00	c0.42		c0.07	0.22			c0.04			c0.02	
v/s Ratio Perm									0.01			
v/c Ratio	0.12	0.81		0.72	0.35			0.39	0.13		0.27	
Uniform Delay, d1	36.6	14.8		32.7	7.3			30.7	29.8		33.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	3.5	5.4		14.1	0.2			1.3	0.3		1.5	
Delay (s)	40.1	20.3		46.8	7.5			31.9	30.1		35.2	
Level of Service	D	C		D	A			C	C		D	
Approach Delay (s)		20.3			16.7			30.6			35.2	
Approach LOS		C			B			C			D	

Intersection Summary				
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	74.5	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)	26	636	156	44	361	8	112	4	72	8	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	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		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.86			0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1808		1770	1856		1770	1597			1704	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	1770	1808		1770	1856		1770	1597			1704	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	691	170	48	392	9	122	4	78	9	4	14
RTOR Reduction (vph)	0	7	0	0	1	0	0	69	0	0	14	0
Lane Group Flow (vph)	28	854	0	48	400	0	122	13	0	0	13	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	1.6	41.0		2.1	41.5		8.2	8.2			2.4	
Effective Green, g (s)	1.6	41.0		2.1	41.5		8.2	8.2			2.4	
Actuated g/C Ratio	0.02	0.59		0.03	0.60		0.12	0.12			0.03	
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)	40	1063		53	1105		208	187			58	
v/s Ratio Prot	0.02	c0.47		c0.03	0.22		c0.07	0.01			c0.01	
v/s Ratio Perm												
v/c Ratio	0.70	0.80		0.91	0.36		0.59	0.07			0.23	
Uniform Delay, d1	33.8	11.2		33.7	7.3		29.1	27.4			32.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	42.0	4.5		88.7	0.2		4.2	0.2			2.1	
Delay (s)	75.8	15.7		122.4	7.5		33.3	27.5			34.8	
Level of Service	E	B		F	A		C	C			C	
Approach Delay (s)		17.6			19.8			31.0			34.8	
Approach LOS		B			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	62.5%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	296	275	86	166	15	245	116	134	30	89	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.92		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	1728		1770	1840		1770	1713		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1728		1770	1840		1770	1713		1770	1815	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	322	299	93	180	16	266	126	146	33	97	20
RTOR Reduction (vph)	0	40	0	0	4	0	0	54	0	0	10	0
Lane Group Flow (vph)	87	581	0	93	192	0	266	218	0	33	107	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.4	27.9		5.2	26.7		13.1	20.7		1.8	9.4	
Effective Green, g (s)	6.4	27.9		5.2	26.7		13.1	20.7		1.8	9.4	
Actuated g/C Ratio	0.09	0.39		0.07	0.37		0.18	0.29		0.03	0.13	
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)	158	673		128	686		323	495		44	238	
v/s Ratio Prot	0.05	c0.34		c0.05	0.10		c0.15	c0.13		0.02	0.06	
v/s Ratio Perm												
v/c Ratio	0.55	0.86		0.73	0.28		0.82	0.44		0.75	0.45	
Uniform Delay, d1	31.2	20.1		32.5	15.7		28.1	20.7		34.7	28.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.1	11.1		18.5	0.2		15.5	0.6		51.4	1.3	
Delay (s)	35.3	31.2		51.0	15.9		43.6	21.4		86.1	30.0	
Level of Service	D	C		D	B		D	C		F	C	
Approach Delay (s)		31.7			27.2			32.4			42.4	
Approach LOS		C			C			C			D	

Intersection Summary				
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	71.6	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	69.8%	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	41	497	26	36	40	535	401	19	9	220	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	45	540	28	39	43	582	436	21	10	239	2

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	45	540	111	582	457	10	241
Volume Left (vph)	0	0	28	582	0	10	0
Volume Right (vph)	0	540	43	0	21	0	2
Hadj (s)	0.03	-0.57	-0.15	0.53	0.00	0.53	0.03
Departure Headway (s)	6.6	3.2	6.2	5.9	5.3	6.9	6.4
Degree Utilization, x	0.08	0.48	0.19	0.95	0.68	0.02	0.43
Capacity (veh/h)	514	1116	556	605	658	507	553
Control Delay (s)	10.2	9.1	10.7	47.8	17.6	8.8	12.8
Approach Delay (s)	9.2		10.7	34.5		12.6	
Approach LOS	A		B	D		B	

Intersection Summary				
Delay	23.0			
Level of Service	C			
Intersection Capacity Utilization	63.8%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	141	125	969	184	162	603
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	1.00	0.95		0.97	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3454		3433	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3454		3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	153	136	1053	200	176	655
RTOR Reduction (vph)	0	115	22	0	0	0
Lane Group Flow (vph)	153	21	1231	0	176	655
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	7.9	7.9	27.5		3.7	35.2
Effective Green, g (s)	7.9	7.9	27.5		3.7	35.2
Actuated g/C Ratio	0.15	0.15	0.54		0.07	0.69
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	273	244	1858		248	2437
v/s Ratio Prot	c0.09		c0.36		c0.05	0.19
v/s Ratio Perm		0.01				
v/c Ratio	0.56	0.09	0.66		0.71	0.27
Uniform Delay, d1	20.0	18.5	8.5		23.2	3.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.6	0.2	0.9		9.0	0.1
Delay (s)	22.6	18.7	9.4		32.1	3.1
Level of Service	C	B	A		C	A
Approach Delay (s)	20.8		9.4			9.2
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	51.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

14: El Dorado Hills Blvd. & Serrano Pkwy.

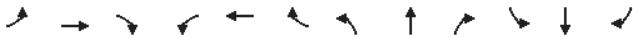
Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	18	46	314	33	18	120	1326	606	24	1094	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	5.2	4.0	3.0	5.2	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.89		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1663		1681	1682		1770	3539	1583	1770	3517	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1663		1681	1682		1770	3539	1583	1770	3517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	20	50	341	36	20	130	1441	659	26	1189	53
RTOR Reduction (vph)	0	48	0	0	3	0	0	0	0	0	2	0
Lane Group Flow (vph)	27	22	0	198	196	0	130	1441	659	26	1240	0
Turn Type	Split	NA		Split	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	4.4	4.4		16.9	16.9		17.2	81.2	120.0	3.3	67.3	
Effective Green, g (s)	4.4	4.4		16.9	16.9		17.2	81.2	120.0	3.3	67.3	
Actuated g/C Ratio	0.04	0.04		0.14	0.14		0.14	0.68	1.00	0.03	0.56	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	5.2		3.0	5.2	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	64	60		236	236		253	2394	1583	48	1972	
v/s Ratio Prot	0.02	0.01		c0.12	0.12		0.07	c0.41		0.01	c0.35	
v/s Ratio Perm									c0.42			
v/c Ratio	0.42	0.36		0.84	0.83		0.51	0.60	0.42	0.54	0.63	
Uniform Delay, d1	56.6	56.4		50.2	50.1		47.5	10.6	0.0	57.6	17.9	
Progression Factor	1.00	1.00		1.00	1.00		0.71	0.18	1.00	1.00	1.00	
Incremental Delay, d2	1.6	1.4		21.3	19.8		0.6	0.9	0.7	6.5	1.5	
Delay (s)	58.2	57.8		71.5	70.0		34.2	2.8	0.7	64.1	19.4	
Level of Service	E	E		E	E		C	A	A	E	B	
Approach Delay (s)		57.9			70.8			4.0			20.3	
Approach LOS		E			E			A			C	

Intersection Summary				
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2	
Intersection Capacity Utilization	67.8%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

15: El Dorado Hills Blvd. & Saratoga Wy. (North)

Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	27	210	43	22	304	295	1663	78	158	1234	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	0.95	0.95	1.00	1.00	1.00		1.00	0.91		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.86		1.00	0.99		1.00	0.99	
Flt Protected	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1724	1583	1770	1602		1770	5051		1770	3514	
Flt Permitted	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1724	1583	1770	1602		1770	5051		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)	93	29	228	47	24	330	321	1808	85	172	1341	67
RTOR Reduction (vph)	0	0	214	0	279	0	0	3	0	0	2	0
Lane Group Flow (vph)	60	62	14	47	75	0	321	1890	0	172	1406	0
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	7	7	7	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	7.6	7.6	7.6	9.9	9.9		22.0	72.8		12.0	62.8	
Effective Green, g (s)	7.6	7.6	7.6	9.9	9.9		22.0	74.5		12.0	64.5	
Actuated g/C Ratio	0.06	0.06	0.06	0.08	0.08		0.18	0.62		0.10	0.54	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	4.2		0.2	4.2	
Lane Grp Cap (vph)	106	109	100	146	132		324	3135		177	1888	
v/s Ratio Prot	0.04	c0.04	0.01	0.03	c0.05		c0.18	0.37		0.10	c0.40	
v/s Ratio Perm												
v/c Ratio	0.57	0.57	0.14	0.32	0.57		0.99	0.60		0.97	0.74	
Uniform Delay, d1	54.6	54.6	53.1	51.9	53.0		48.9	13.8		53.8	21.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.90	0.27		0.82	0.55	
Incremental Delay, d2	4.1	4.0	0.2	0.5	3.3		37.8	0.6		52.4	2.2	
Delay (s)	58.7	58.6	53.4	52.4	56.3		81.7	4.3		96.4	14.0	
Level of Service	E	E	D	D	E		F	A		F	B	
Approach Delay (s)		55.2			55.9			15.5			22.9	
Approach LOS		E			E			B			C	

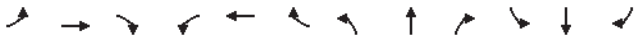
Intersection Summary				
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	89.9%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	212	70	302	212	155	91	987	1733	286	54	985	448
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91		1.00	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	0.98	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1726	1583	1681	1754	1583	3433	4977		1770	5085	1583
Flt Permitted	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1726	1583	1681	1754	1583	3433	4977		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)	230	76	328	230	168	99	1073	1884	311	59	1071	487
RTOR Reduction (vph)	0	0	0	0	0	84	0	16	0	0	0	0
Lane Group Flow (vph)	152	154	328	195	203	15	1073	2179	0	59	1071	487
Turn Type	Split	NA	Free	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			8						Free
Actuated Green, G (s)	14.4	14.4	120.0	18.5	18.5	18.5	43.3	66.9		4.2	27.8	120.0
Effective Green, g (s)	14.4	14.4	120.0	18.5	18.5	18.5	43.3	66.9		4.2	27.8	120.0
Actuated g/C Ratio	0.12	0.12	1.00	0.15	0.15	0.15	0.36	0.56		0.04	0.23	1.00
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		2.2	2.2	2.2	3.0	3.5		2.0	2.5	
Lane Grp Cap (vph)	201	207	1583	259	270	244	1238	2774		61	1178	1583
v/s Ratio Prot	c0.09	0.09		c0.12	0.12		c0.31	0.44		0.03	c0.21	
v/s Ratio Perm			0.21			0.01						0.31
v/c Ratio	0.76	0.74	0.21	0.75	0.75	0.06	0.87	0.79		0.97	0.91	0.31
Uniform Delay, d1	51.1	51.0	0.0	48.6	48.6	43.3	35.7	20.9		57.8	44.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.13	0.70		0.72	0.64	1.00
Incremental Delay, d2	14.9	13.5	0.3	10.7	10.3	0.1	4.0	1.4		84.4	8.8	0.4
Delay (s)	66.0	64.5	0.3	59.3	58.8	43.4	44.4	15.9		126.0	37.7	0.4
Level of Service	E	E	A	E	E	D	D	B		F	D	A
Approach Delay (s)		31.6			55.9			25.3			29.7	
Approach LOS		C			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	78.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

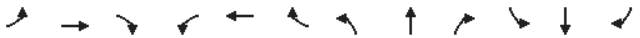
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1423	0	0	1077	0	1929	619	527	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor			0.88			1.00		0.91	1.00	1.00	0.86	
Frt			0.85			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			2787			1611		5085	1583	1770	6408	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			2787			1611		5085	1583	1770	6408	
Peak-hour factor, PHF	0.92	0.92	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	1547	0	0	1171	0	2097	673	573	1057	0
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	84	0	0	0
Lane Group Flow (vph)	0	0	1522	0	0	1171	0	2097	589	573	1057	0
Turn Type			custom			Free		NA	Perm	Prot	NA	
Protected Phases			5					2		1	6	
Permitted Phases			1			Free			2			
Actuated Green, G (s)			45.3			60.0		29.7	29.7	22.3	29.0	
Effective Green, g (s)			45.3			60.0		29.7	29.7	22.3	29.0	
Actuated g/C Ratio			0.75			1.00		0.49	0.49	0.37	0.48	
Clearance Time (s)			4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)			3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)			2289			1611		2517	783	657	3097	
v/s Ratio Prot			0.25					c0.41		c0.32	0.16	
v/s Ratio Perm			0.29			c0.73			0.37			
v/c Ratio			0.66			0.73		0.83	0.75	0.87	0.34	
Uniform Delay, d1			3.6			0.0		13.0	12.2	17.5	9.6	
Progression Factor			1.00			1.00		1.00	1.00	0.85	0.30	
Incremental Delay, d2			0.7			2.9		3.4	6.6	8.5	0.2	
Delay (s)			4.4			2.9		16.4	18.8	23.4	3.1	
Level of Service			A			A		B	B	C	A	
Approach Delay (s)		4.4			2.9			17.0			10.2	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	74.2%	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)	528	0	184	0	0	0	743	919	0	0	1035	866
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.91	0.95				0.97	0.95			0.95	1.00
Frt	1.00	0.99	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1603	1504				3433	3539			3539	1583
Flt Permitted	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1603	1504				3433	3539			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)	574	0	200	0	0	0	808	999	0	0	1125	941
RTOR Reduction (vph)	0	46	149	0	0	0	0	0	0	0	0	243
Lane Group Flow (vph)	298	250	31	0	0	0	808	999	0	0	1125	698
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4					5	2			6	
Permitted Phases			4									6
Actuated Green, G (s)	17.0	17.0	17.0				24.0	75.0			47.0	47.0
Effective Green, g (s)	17.0	17.0	17.0				24.0	75.0			47.0	47.0
Actuated g/C Ratio	0.17	0.17	0.17				0.24	0.75			0.47	0.47
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)	285	272	255				823	2654			1663	744
v/s Ratio Prot	c0.18	0.16					c0.24	0.28			0.32	
v/s Ratio Perm			0.02									c0.44
v/c Ratio	1.05	0.92	0.12				0.98	0.38			0.68	0.94
Uniform Delay, d1	41.5	40.8	35.2				37.8	4.4			20.6	25.1
Progression Factor	1.00	1.00	1.00				1.00	1.00			1.02	1.04
Incremental Delay, d2	65.7	34.2	0.2				26.8	0.4			0.8	9.3
Delay (s)	107.2	75.0	35.4				64.5	4.8			21.7	35.5
Level of Service	F	E	D				E	A			C	D
Approach Delay (s)		78.2			0.0			31.5			28.0	
Approach LOS		E			A			C			C	

Intersection Summary					
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.97				
Actuated Cycle Length (s)	100.0	Sum of lost time (s)		12.0	
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	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	906	0	564	324	1123	0	0	995	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
Lane Util. Factor				0.95	0.91	0.95	1.00	0.95			0.95	1.00
Frt				1.00	0.97	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1581	1504	1770	3539			3539	1583
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1581	1504	1770	3539			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)	0	0	0	985	0	613	352	1221	0	0	1082	402
RTOR Reduction (vph)	0	0	0	0	36	44	0	0	0	0	0	269
Lane Group Flow (vph)	0	0	0	552	507	459	352	1221	0	0	1082	133
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				34.0	34.0	34.0	21.0	58.0			33.0	33.0
Effective Green, g (s)				34.0	34.0	34.0	21.0	58.0			33.0	33.0
Actuated g/C Ratio				0.34	0.34	0.34	0.21	0.58			0.33	0.33
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)				571	537	511	371	2052			1167	522
v/s Ratio Prot				c0.33	0.32		c0.20	0.34			c0.31	
v/s Ratio Perm						0.31						0.08
v/c Ratio				0.97	0.94	0.90	0.95	0.60			0.93	0.25
Uniform Delay, d1				32.4	32.1	31.4	39.0	13.5			32.3	24.5
Progression Factor				1.00	1.00	1.00	1.00	0.58			0.94	2.16
Incremental Delay, d2				29.1	25.4	18.4	28.9	1.0			12.4	1.0
Delay (s)				61.6	57.4	49.8	68.1	8.8			42.9	53.9
Level of Service				E	E	D	E	A			D	D
Approach Delay (s)		0.0			56.4			22.1			45.9	
Approach LOS		A			E			C			D	

Intersection Summary					
HCM 2000 Control Delay	41.5	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.95				
Actuated Cycle Length (s)	100.0	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	86.3%	ICU Level of Service		E	
Analysis Period (min)	15				
c Critical Lane Group					

21: Silva Valley Pkwy & County Club Dr.

Timing Plan: PM

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	32	205	1424	263	0	1333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	1583	3456			3539
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	1583	3456			3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	223	1548	286	0	1449
RTOR Reduction (vph)	0	90	9	0	0	0
Lane Group Flow (vph)	35	133	1825	0	0	1449
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	13.3	13.3	78.7			78.7
Effective Green, g (s)	13.3	13.3	78.7			78.7
Actuated g/C Ratio	0.13	0.13	0.79			0.79
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)	235	210	2719			2785
v/s Ratio Prot	0.02		c0.53			0.41
v/s Ratio Perm		c0.08				
v/c Ratio	0.15	0.63	0.67			0.52
Uniform Delay, d1	38.3	41.0	4.8			3.8
Progression Factor	1.00	1.00	0.99			1.00
Incremental Delay, d2	0.3	6.1	0.9			0.7
Delay (s)	38.6	47.1	5.7			4.5
Level of Service	D	D	A			A
Approach Delay (s)	46.0		5.7			4.5
Approach LOS	D		A			A

Intersection Summary				
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	67.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

22: Silva Valley Pkwy. & Serrano Pkwy.

Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	227	175	361	111	145	192	768	374	223	488	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	0.92		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)	1770	3308		1770	3239		1770	3539	1583	1770	3433	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3308		1770	3239		1770	3539	1583	1770	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	247	190	392	121	158	209	835	407	242	530	132
RTOR Reduction (vph)	0	157	0	0	126	0	0	0	263	0	21	0
Lane Group Flow (vph)	207	280	0	392	153	0	209	835	144	242	641	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	14.7	13.0		20.0	18.3		11.0	24.4	24.4	13.0	26.4	
Effective Green, g (s)	14.7	13.0		20.0	18.3		11.0	24.4	24.4	13.0	26.4	
Actuated g/C Ratio	0.17	0.15		0.22	0.21		0.12	0.27	0.27	0.15	0.30	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
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)	292	483		397	665		218	970	433	258	1018	
v/s Ratio Prot	0.12	c0.08		c0.22	0.05		0.12	c0.24		c0.14	0.19	
v/s Ratio Perm									0.09			
v/c Ratio	0.71	0.58		0.99	0.23		0.96	0.86	0.33	0.94	0.63	
Uniform Delay, d1	35.1	35.4		34.4	29.5		38.8	30.7	25.8	37.6	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.7	1.7		41.4	0.2		48.7	7.9	0.5	39.1	1.2	
Delay (s)	42.8	37.1		75.8	29.7		87.5	38.6	26.3	76.7	28.3	
Level of Service	D	D		E	C		F	D	C	E	C	
Approach Delay (s)		39.0			56.6			42.2			41.2	
Approach LOS		D			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	81.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

23: Harvard Way & Silva Valley Pkwy.

Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	11	203	9	11	6	198	409	11	10	277	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00		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	1770	1760		1770	1855		1770	1863	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	1770	1760		1770	1855		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)	145	12	221	10	12	7	215	445	12	11	301	84
RTOR Reduction (vph)	0	0	186	0	7	0	0	1	0	0	0	58
Lane Group Flow (vph)	145	12	35	10	12	0	215	456	0	11	301	26
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	7.2	7.8	7.8	0.6	1.2		9.7	24.4		0.6	15.3	15.3
Effective Green, g (s)	7.2	7.8	7.8	0.6	1.2		9.7	24.4		0.6	15.3	15.3
Actuated g/C Ratio	0.15	0.16	0.16	0.01	0.02		0.20	0.49		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
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	294	249	21	42		347	916		21	577	490
v/s Ratio Prot	c0.08	0.01		0.01	0.01		c0.12	c0.25		0.01	0.16	
v/s Ratio Perm			c0.02									0.02
v/c Ratio	0.56	0.04	0.14	0.48	0.29		0.62	0.50		0.52	0.52	0.05
Uniform Delay, d1	19.6	17.6	17.9	24.2	23.7		18.2	8.4		24.3	14.0	12.0
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	2.8	0.1	0.3	16.0	3.8		3.3	0.4		21.6	0.9	0.0
Delay (s)	22.5	17.7	18.2	40.3	27.5		21.4	8.8		45.8	14.9	12.0
Level of Service	C	B	B	D	C		C	A		D	B	B
Approach Delay (s)		19.8			31.9			12.9			15.1	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	49.4	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	49.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

24: Silva Valley Pkwy. & Appian Way

Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	17	4	40	56	2	43	76	355	97	52	267	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	4	43	61	2	47	83	386	105	57	290	35

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	66	110	574	382
Volume Left (vph)	18	61	83	57
Volume Right (vph)	43	47	105	35
Hadj (s)	-0.30	-0.11	-0.05	0.01
Departure Headway (s)	6.3	6.3	5.0	5.3
Degree Utilization, x	0.12	0.19	0.79	0.56
Capacity (veh/h)	504	508	709	658
Control Delay (s)	10.1	10.8	24.2	14.7
Approach Delay (s)	10.1	10.8	24.2	14.7
Approach LOS	B	B	C	B

Intersection Summary				
Delay	18.8			
Level of Service	C			
Intersection Capacity Utilization	55.8%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	895	117	0	574	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	973	127	0	624	0	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				716		
pX, platoon unblocked					0.89	
vC, conflicting volume			1100		1660	1036
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1100		1679	1036
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			635		93	281

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1100	624	15
Volume Left	0	0	0
Volume Right	127	0	15
cSH	1700	1700	281
Volume to Capacity	0.65	0.37	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	18.5
Lane LOS			C
Approach Delay (s)	0.0	0.0	18.5
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	792	117	70	435	0	139	0	28	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			
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00			
Frt		0.98		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1827		1770	1863			1770	1583			
Flt Permitted		1.00		0.15	1.00			0.76	1.00			
Satd. Flow (perm)		1827		276	1863			1410	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	861	127	76	473	0	151	0	30	0	0	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	25	0	0	0
Lane Group Flow (vph)	0	980	0	76	473	0	0	151	5	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		31.1		31.1	31.1			8.4	8.4			
Effective Green, g (s)		31.1		31.1	31.1			8.4	8.4			
Actuated g/C Ratio		0.65		0.65	0.65			0.18	0.18			
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		1196		180	1219			249	279			
v/s Ratio Prot		c0.54			0.25							
v/s Ratio Perm				0.28				c0.11	0.00			
v/c Ratio		0.82		0.42	0.39			0.61	0.02			
Uniform Delay, d1		6.1		3.9	3.8			18.0	16.1			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		4.5		1.6	0.2			4.1	0.0			
Delay (s)		10.6		5.5	4.0			22.2	16.2			
Level of Service		B		A	A			C	B			
Approach Delay (s)		10.6			4.2			21.2			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	47.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

	Segment Inputs				Existing plus Approved Projects plus Proposed Project Conditions														
					Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures						
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Eastbound	West of El Dorado Hills Blvd	8180	4	0.67	3,111	5,685	870.742	73.11	75	74.815	11.639	B	1591.182	73.11	75	71.1311	22.37	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1490	4	0.67	1,161	3,185	324.954	73.11	75	69.9555	4.6451	A	891.4538	73.11	75	74.8696	11.907	B
	Silva Valley Pkwy Off Ramp to Silva Valley Pkwy SB On Ramp	1130	4	0.50	1,517	3,619	424.595	73.6	75	71.3348	5.9521	A	1012.927	73.6	75	74.9982	13.506	B
	East of Silva Valley Pkwy	1980	4	0.50	2,700	5,228	755.707	73.6	75	74.3394	10.166	A	1463.272	73.6	75	72.6241	20.149	C
Westbound	East of Silva Valley Pkwy	1950	3	0.50	5,143	2,977	1919.31	73.6	75	65.6444	29.238	D	1110.982	73.6	75	74.8637	14.84	B
	Silva Valley Pkwy Off Ramp to Silva Valley Pkwy NB On Ramp	1640	3	0.50	4,078	1,507	1521.86	73.6	75	71.9852	21.141	C	562.3949	73.6	75	72.8801	7.7167	A
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3080	3	0.67	3,985	1,617	1487.16	73.11	75	72.3729	20.549	C	603.4457	73.11	75	73.2592	8.2371	A
	West of El Dorado Hills Blvd	6320	3	0.67	5,838	3,207	2178.67	73.11	75	59.6208	36.542	E	1196.815	73.11	75	74.5712	16.049	B

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

Existing plus Approved Project p

	Segment Inputs				AM Flow Inputs			AM LOS Performance Measures											
		Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
EB	Silva Valley Pkwy SB On Ramp	4	1	200	2700	1517	1183	3023	1698	1324	49	0.116	196.94	9600	751	148	679	0.3149	19.241	B
EB	Silva Valley Pkwy NB On Ramp	4	1	1000	2700	2700	0	3023	3023	0	86	0.2178	658.37	9600	1182	494	1209	0.3149	8.6362	A
WB	El Dorado Hills Blvd On Ramp	3	1	800	5838	3985	1853	6536	4461.5	2074.6	127	0.5999	2676.4	7200	1785	2007	2676	0.9078	36.562	E

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

		Segment Inputs			ılus Proposed Project Conditions PM Flow Inputs			PM LOS Performance Measures										
		Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
EB	Silva Valley Pkwy SB On Ramp	4	1	200	5228	3619	1609	5853	4052	1801	116	-0.0074	-29.871	9600	2041	-22	1621	0.6097	30.084	D
EB	Silva Valley Pkwy NB On Ramp	4	1	1000	5228	5228	0	5853	5853	0	167	0.2178	1274.8	9600	2289	956	2341	0.6097	17.467	B
WB	El Dorado Hills Blvd On Ramp	3	1	800	3207	1617	1590	3590.4	1810.3	1780.1	52	0.5999	1086	7200	724	815	1086	0.4987	21.996	C

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

Existing plus Approved Projects plu

		Segment Inputs			AM Flow Inputs			AM LOS Performance Measures										
		Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	4	1	140	1629	3111	1482	1823.77	3483	1659.2	0.436	2454.4	9600	514	1841	2454	0.3628	24.099	C
	Latrobe NB Off Ramp	4	1	120	1161	1629	468	1299.82	1823.8	523.96	0.436	1090.7	9600	367	818	1091	0.19	12.552	B
WB	Silva Valley Pkwy Off Ramp	3	2	1300	4078	5143	1065	4565.59	5757.9	1192.3	0.5612	3754.6	7200	2003	2816	3755	0.7997	24.841	C

Univeral Inputs:

Lengl	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Existing Basic Freeway Segments (State Route 50)

Is Proposed Project Conditions

	Segment Inputs				PM Flow Inputs			PM LOS Performance Measures										
		Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_D)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	4	1	140	4262	5685	1423	4771.59	6364.7	1593.1	0.436	3673.6	9600	1346	2755	3674	0.663	34.585	D
	Latrobe NB Off Ramp	4	1	120	3185	4262	1077	3565.82	4771.6	1205.8	0.436	2760.5	9600	1006	2070	2760	0.497	26.912	C
WB	Silva Valley Pkwy Off Ramp	3	2	1300	1507	2977	1470	1687.18	3332.9	1645.8	0.601	2659.7	7200	673	1995	2660	0.4629	15.426	B

Univeral Inputs:

Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Attachment C
Cumulative (2035) Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	164	195	285	99	715	107	380	290	11	106	490	411
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	1.00	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	3539	1583	1770	3539	1583	3433	3520		1770	1863	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	3539	1583	1770	3539	1583	3433	3520		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)	178	212	310	108	777	116	413	315	12	115	533	447
RTOR Reduction (vph)	0	0	225	0	0	84	0	3	0	0	0	116
Lane Group Flow (vph)	178	212	85	108	777	32	413	324	0	115	533	331
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	6.0	24.0	24.0	6.0	24.0	24.0	12.0	31.1		8.6	27.7	27.7
Effective Green, g (s)	6.0	24.0	24.0	6.0	24.0	24.0	12.0	31.1		8.6	27.7	27.7
Actuated g/C Ratio	0.07	0.27	0.27	0.07	0.27	0.27	0.14	0.35		0.10	0.32	0.32
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	234	966	432	120	966	432	468	1245		173	587	498
v/s Ratio Prot	0.05	0.06		c0.06	c0.22		c0.12	c0.09		0.06	c0.29	
v/s Ratio Perm			0.05			0.02						0.21
v/c Ratio	0.76	0.22	0.20	0.90	0.80	0.07	0.88	0.26		0.66	0.91	0.66
Uniform Delay, d1	40.2	24.7	24.5	40.7	29.8	23.7	37.3	20.2		38.3	28.9	26.1
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	13.6	0.1	0.2	52.4	4.9	0.1	17.5	0.1		9.3	17.8	3.3
Delay (s)	53.8	24.8	24.8	93.0	34.7	23.8	54.8	20.3		47.5	46.7	29.4
Level of Service	D	C	C	F	C	C	D	C		D	D	C
Approach Delay (s)		32.2			39.7			39.6			39.7	
Approach LOS		C			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	87.9	Sum of lost time (s)	18.2	
Intersection Capacity Utilization	76.2%	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)	40	237	21	83	693	92	55	80	83	56	221	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	1840		1770	1830		1770	1721			1844	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	1770	1840		1770	1830		1770	1721			1844	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)	43	258	23	90	753	100	60	87	90	61	240	446
RTOR Reduction (vph)	0	3	0	0	4	0	0	33	0	0	0	247
Lane Group Flow (vph)	43	278	0	90	849	0	60	144	0	0	301	199
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	3.2	47.4		8.5	52.7		14.4	14.4			21.5	21.5
Effective Green, g (s)	3.2	47.4		8.5	52.7		14.4	14.4			21.5	21.5
Actuated g/C Ratio	0.03	0.43		0.08	0.48		0.13	0.13			0.19	0.19
Clearance Time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	51	787		135	870		230	223			357	307
v/s Ratio Prot	0.02	0.15		c0.05	c0.46		0.03	c0.08			c0.16	
v/s Ratio Perm												0.13
v/c Ratio	0.84	0.35		0.67	0.98		0.26	0.65			0.84	0.65
Uniform Delay, d1	53.6	21.4		49.8	28.4		43.4	45.8			43.0	41.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	69.8	0.6		10.7	24.7		1.0	7.7			17.5	5.7
Delay (s)	123.4	21.9		60.4	53.1		44.5	53.5			60.6	46.8
Level of Service	F	C		E	D		D	D			E	D
Approach Delay (s)		35.4			53.8			51.2			52.4	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	50.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	110.8	Sum of lost time (s)	19.0	
Intersection Capacity Utilization	89.6%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

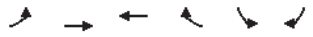
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	231	182	84	593	30	335	68	46	7	47	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1849		1770	1750			1822	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1849		1770	1750			1822	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	251	198	91	645	33	364	74	50	8	51	8
RTOR Reduction (vph)	0	0	125	0	2	0	0	21	0	0	6	0
Lane Group Flow (vph)	10	251	73	91	676	0	364	103	0	0	61	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	0.7	31.9	31.9	7.2	38.4		22.8	22.8			6.4	
Effective Green, g (s)	0.7	31.9	31.9	7.2	38.4		22.8	22.8			6.4	
Actuated g/C Ratio	0.01	0.37	0.37	0.08	0.44		0.26	0.26			0.07	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	14	686	583	147	819		466	460			134	
v/s Ratio Prot	0.01	0.13		c0.05	c0.37		c0.21	0.06			c0.03	
v/s Ratio Perm			0.05									
v/c Ratio	0.71	0.37	0.13	0.62	0.83		0.78	0.22			0.46	
Uniform Delay, d1	42.9	20.0	18.1	38.4	21.2		29.6	25.0			38.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	95.3	0.3	0.1	6.5	6.8		8.0	0.2			1.8	
Delay (s)	138.1	20.3	18.2	44.9	28.0		37.6	25.2			40.2	
Level of Service	F	C	B	D	C		D	C			D	
Approach Delay (s)		22.0			30.0			34.4			40.2	
Approach LOS		C			C			C			D	

Intersection Summary				
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	18.3	
Intersection Capacity Utilization	73.5%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	196	116	0	510	139	98
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	213	126	0	554	151	107
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			339		830	276
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			339		830	276
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		56	86
cM capacity (veh/h)			1220		340	763

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	339	554	151	107
Volume Left	0	0	151	0
Volume Right	126	0	0	107
cSH	1700	1220	340	763
Volume to Capacity	0.20	0.00	0.44	0.14
Queue Length 95th (ft)	0	0	55	12
Control Delay (s)	0.0	0.0	23.8	10.5
Lane LOS			C	B
Approach Delay (s)	0.0	0.0	18.3	
Approach LOS			C	

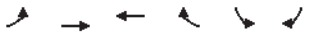
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	279	544	5	12	27
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	303	591	5	13	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	597				919	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	597				919	594
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	94
cM capacity (veh/h)	980				298	505

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	314	597	42
Volume Left	11	0	13
Volume Right	0	5	29
cSH	980	1700	416
Volume to Capacity	0.01	0.35	0.10
Queue Length 95th (ft)	1	0	8
Control Delay (s)	0.4	0.0	14.6
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	14.6
Approach LOS			B

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		38.9%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	4	260	510	5	10	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	283	554	5	11	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	560				848	557
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	560				848	557
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	95
cM capacity (veh/h)	1011				330	530

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	287	560	38
Volume Left	4	0	11
Volume Right	0	5	27
cSH	1011	1700	452
Volume to Capacity	0.00	0.33	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.2	0.0	13.7
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	13.7
Approach LOS			B

Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization		37.1%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	250	1	2	499	6	6	0	10	42	0	11
Sign Control		Free			Free			Stop			Stop	
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	0.92	0.92
Hourly flow rate (vph)	5	272	1	2	542	7	7	0	11	46	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	549			273			842	836	272	843	834	546
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	549			273			842	836	272	843	834	546
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			98	100	99	84	100	98
cM capacity (veh/h)	1021			1290			276	301	766	278	302	538

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	5	273	2	549	17	58
Volume Left	5	0	2	0	7	46
Volume Right	0	1	0	7	11	12
cSH	1021	1700	1290	1700	460	309
Volume to Capacity	0.01	0.16	0.00	0.32	0.04	0.19
Queue Length 95th (ft)	0	0	0	0	3	17
Control Delay (s)	8.5	0.0	7.8	0.0	13.1	19.3
Lane LOS	A		A		B	C
Approach Delay (s)	0.2		0.0		13.1	19.3
Approach LOS					B	C

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	39.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	575	18	16	819	70	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	1855			1861	1724	
Flt Permitted	1.00			0.99	0.97	
Satd. Flow (perm)	1855			1839	1724	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	625	20	17	890	76	35
RTOR Reduction (vph)	2	0	0	0	29	0
Lane Group Flow (vph)	643	0	0	907	82	0
Turn Type	NA		Perm	NA	NA	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	27.3			27.3	7.9	
Effective Green, g (s)	27.3			27.3	7.9	
Actuated g/C Ratio	0.63			0.63	0.18	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1172			1162	315	
v/s Ratio Prot	0.35				c0.05	
v/s Ratio Perm				c0.49		
v/c Ratio	0.55			0.78	0.26	
Uniform Delay, d1	4.5			5.8	15.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.5			3.5	0.4	
Delay (s)	5.0			9.2	15.6	
Level of Service	A			A	B	
Approach Delay (s)	5.0			9.2	15.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	43.2	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)	3	348	187	336	514	8	316	6	189	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	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			1.00	1.00		1.00	
Frt	1.00	0.95		1.00	1.00			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1770	1765		1770	1858			1776	1583		1695	
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	1770	1765		1770	1858			1776	1583		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)	3	378	203	365	559	9	343	7	205	1	0	1
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	130	0	2	0
Lane Group Flow (vph)	3	565	0	365	568	0	0	350	75	0	0	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	37.3		22.0	58.6			22.0	22.0		1.0	
Effective Green, g (s)	0.7	37.3		22.0	58.6			22.0	22.0		1.0	
Actuated g/C Ratio	0.01	0.38		0.22	0.60			0.22	0.22		0.01	
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)	12	669		396	1107			397	354		17	
v/s Ratio Prot	0.00	c0.32		c0.21	0.31			c0.20			c0.00	
v/s Ratio Perm									0.05			
v/c Ratio	0.25	0.85		0.92	0.51			0.88	0.21		0.00	
Uniform Delay, d1	48.5	27.9		37.3	11.5			36.9	31.1		48.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	10.7	9.6		26.6	0.4			19.9	0.3		0.0	
Delay (s)	59.2	37.5		63.9	11.9			56.8	31.4		48.2	
Level of Service	E	D		E	B			E	C		D	
Approach Delay (s)		37.6			32.3			47.4			48.2	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	98.3	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	82.8%	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)	10	320	212	83	411	11	460	9	160	19	20	38
Ideal Flow (vphpl)	1900	1900	1900	1900	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		1.00	1.00			1.00	
Frt	1.00	0.94		1.00	1.00		1.00	0.86			0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1752		1770	1855		1770	1599			1719	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1752		1770	1855		1770	1599			1719	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	348	230	90	447	12	500	10	174	21	22	41
RTOR Reduction (vph)	0	24	0	0	1	0	0	121	0	0	38	0
Lane Group Flow (vph)	11	554	0	90	458	0	500	63	0	0	46	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.7	30.4		5.0	34.7		25.7	25.7			6.5	
Effective Green, g (s)	0.7	30.4		5.0	34.7		25.7	25.7			6.5	
Actuated g/C Ratio	0.01	0.36		0.06	0.42		0.31	0.31			0.08	
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)	14	637		105	769		544	491			133	
v/s Ratio Prot	0.01	c0.32		c0.05	0.25		c0.28	0.04			c0.03	
v/s Ratio Perm												
v/c Ratio	0.79	0.87		0.86	0.60		0.92	0.13			0.35	
Uniform Delay, d1	41.4	24.8		38.9	19.0		27.9	20.9			36.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	130.6	12.1		45.7	1.2		20.6	0.1			1.6	
Delay (s)	171.9	36.9		84.6	20.2		48.5	21.0			38.1	
Level of Service	F	D		F	C		D	C			D	
Approach Delay (s)		39.4			30.8			41.1			38.1	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	83.6	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	76.5%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

11: Cameron Park Dr. & Green Valley Rd.

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	27	122	294	190	205	12	293	39	137	15	115	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.99		1.00	0.88		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	1665		1770	1847		1770	1645		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1665		1770	1847		1770	1645		1770	1815	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	133	320	207	223	13	318	42	149	16	125	26
RTOR Reduction (vph)	0	103	0	0	2	0	0	93	0	0	10	0
Lane Group Flow (vph)	29	350	0	207	234	0	318	98	0	16	141	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.9	20.0		10.8	28.9		15.5	28.8		0.7	14.0	
Effective Green, g (s)	1.9	20.0		10.8	28.9		15.5	28.8		0.7	14.0	
Actuated g/C Ratio	0.02	0.26		0.14	0.38		0.20	0.38		0.01	0.18	
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)	44	436		250	699		359	620		16	333	
v/s Ratio Prot	0.02	c0.21		c0.12	0.13		c0.18	0.06		0.01	c0.08	
v/s Ratio Perm												
v/c Ratio	0.66	0.80		0.83	0.33		0.89	0.16		1.00	0.42	
Uniform Delay, d1	36.9	26.3		31.8	16.9		29.5	15.7		37.8	27.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	30.4	10.2		19.7	0.3		22.0	0.1		225.0	0.9	
Delay (s)	67.2	36.5		51.5	17.1		51.5	15.8		262.8	28.5	
Level of Service	E	D		D	B		D	B		F	C	
Approach Delay (s)		38.4			33.2			38.1			50.9	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	38.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	76.3	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	72.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

12: El Dorado Hills Blvd. & Francisco Dr.

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	41	501	47	56	55	436	228	43	142	547	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	45	545	51	61	60	474	248	47	154	595	12

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	49	545	172	474	295	154	607
Volume Left (vph)	4	0	51	474	0	154	0
Volume Right (vph)	0	545	60	0	47	0	12
Hadj (s)	0.05	-0.57	-0.12	0.53	-0.08	0.53	0.02
Departure Headway (s)	7.7	3.2	7.0	6.9	6.3	7.0	6.5
Degree Utilization, x	0.10	0.48	0.33	0.90	0.51	0.30	1.10
Capacity (veh/h)	440	1116	499	512	569	499	560
Control Delay (s)	11.6	9.2	13.4	44.2	14.4	11.9	91.2
Approach Delay (s)	9.4		13.4	32.8		75.1	
Approach LOS	A		B	D		F	

Intersection Summary					
Delay	39.3				
Level of Service	E				
Intersection Capacity Utilization	79.4%	ICU Level of Service		D	
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	794	171	372	643	314	1036
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	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	863	186	404	699	341	1126
RTOR Reduction (vph)	0	89	0	548	0	0
Lane Group Flow (vph)	863	97	404	151	341	1126
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	39.4	39.4	16.4	16.4	8.1	28.5
Effective Green, g (s)	39.4	39.4	16.4	16.4	8.1	28.5
Actuated g/C Ratio	0.52	0.52	0.22	0.22	0.11	0.38
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)	918	821	764	342	366	1328
v/s Ratio Prot	c0.49		0.11		0.10	c0.32
v/s Ratio Perm		0.06		0.10		
v/c Ratio	0.94	0.12	0.53	0.44	0.93	0.85
Uniform Delay, d1	17.1	9.3	26.3	25.8	33.6	21.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.0	0.1	0.7	0.9	30.1	5.2
Delay (s)	34.2	9.4	27.0	26.7	63.7	26.9
Level of Service	C	A	C	C	E	C
Approach Delay (s)	29.8		26.8			35.5
Approach LOS	C		C			D

Intersection Summary				
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	75.9	Sum of lost time (s)	12.0	
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)	57	55	181	650	50	214	46	919	193	154	1618	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	5.2	4.0	3.0	5.2	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.89		1.00	0.93		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1649		1681	1609		1770	3539	1583	1770	3521	
Flt Permitted	0.95	1.00		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1649		1681	1609		1770	3539	1583	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)	62	60	197	707	54	233	50	999	210	167	1759	63
RTOR Reduction (vph)	0	31	0	0	22	0	0	0	0	0	2	0
Lane Group Flow (vph)	62	226	0	509	463	0	50	999	210	167	1820	0
Turn Type	Split	NA		Split	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	17.0	17.0		42.0	42.0		4.0	61.0	150.0	15.8	72.8	
Effective Green, g (s)	17.0	17.0		42.0	42.0		4.0	61.0	150.0	15.8	72.8	
Actuated g/C Ratio	0.11	0.11		0.28	0.28		0.03	0.41	1.00	0.11	0.49	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	5.2		3.0	5.2	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	200	186		470	450		47	1439	1583	186	1708	
v/s Ratio Prot	0.04	c0.14		c0.30	0.29		c0.03	0.28		0.09	c0.52	
v/s Ratio Perm									0.13			
v/c Ratio	0.31	1.21		1.08	1.03		1.06	0.69	0.13	0.90	1.07	
Uniform Delay, d1	61.1	66.5		54.0	54.0		73.0	36.8	0.0	66.3	38.6	
Progression Factor	1.00	1.00		1.00	1.00		0.59	0.26	1.00	1.00	1.00	
Incremental Delay, d2	0.3	135.7		65.7	49.8		147.7	2.7	0.2	37.5	41.7	
Delay (s)	61.4	202.2		119.7	103.8		190.6	12.3	0.2	103.9	80.3	
Level of Service	E	F		F	F		F	B	A	F	F	
Approach Delay (s)		174.8			112.0			17.4			82.3	
Approach LOS		F			F			B			F	

Intersection Summary				
HCM 2000 Control Delay	77.3	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.09			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.2	
Intersection Capacity Utilization	104.1%	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)	31	11	203	13	13	51	191	1078	32	125	2297	27
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	1.00	1.00		1.00	0.91		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	1.00		1.00	1.00	
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1728	1583	1770	1640		1770	5063		1770	3533	
Flt Permitted	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1728	1583	1770	1640		1770	5063		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)	34	12	221	14	14	55	208	1172	35	136	2497	29
RTOR Reduction (vph)	0	0	211	0	53	0	0	1	0	0	0	0
Lane Group Flow (vph)	23	23	10	14	16	0	208	1206	0	136	2526	0
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	7	7	7	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	6.9	6.9	6.9	5.0	5.0		12.0	99.4		21.0	108.4	
Effective Green, g (s)	6.9	6.9	6.9	5.0	5.0		12.0	101.1		21.0	110.1	
Actuated g/C Ratio	0.05	0.05	0.05	0.03	0.03		0.08	0.67		0.14	0.73	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	4.2		0.2	4.2	
Lane Grp Cap (vph)	77	79	72	59	54		141	3412		247	2593	
v/s Ratio Prot	c0.01	0.01	0.01	0.01	c0.01		c0.12	0.24		0.08	c0.71	
v/s Ratio Perm												
v/c Ratio	0.30	0.29	0.14	0.24	0.29		1.48	0.35		0.55	0.97	
Uniform Delay, d1	69.2	69.2	68.7	70.6	70.8		69.0	10.5		60.1	18.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.18		0.83	0.42	
Incremental Delay, d2	0.8	0.7	0.3	0.8	1.1		243.7	0.2		0.1	2.0	
Delay (s)	70.0	69.9	69.0	71.4	71.9		309.3	2.1		49.8	9.7	
Level of Service	E	E	E	E	E		F	A		D	A	
Approach Delay (s)		69.2			71.8			47.3			11.8	
Approach LOS		E			E			D			B	

Intersection Summary				
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.96			
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)	190	87	776	168	199	58	906	1085	169	69	1665	794
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91		1.00	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	0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1737	1583	1681	1763	1583	3433	4982		1770	5085	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1737	1583	1681	1763	1583	3433	4982		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)	207	95	843	183	216	63	985	1179	184	75	1810	863
RTOR Reduction (vph)	0	0	0	0	0	53	0	13	0	0	0	0
Lane Group Flow (vph)	149	153	843	165	234	10	985	1350	0	75	1810	863
Turn Type	Split	NA	Free	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			8						Free
Actuated Green, G (s)	15.4	15.4	150.0	23.2	23.2	23.2	43.9	82.5		12.9	51.5	150.0
Effective Green, g (s)	15.4	15.4	150.0	23.2	23.2	23.2	43.9	82.5		12.9	51.5	150.0
Actuated g/C Ratio	0.10	0.10	1.00	0.15	0.15	0.15	0.29	0.55		0.09	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	
Vehicle Extension (s)	3.0	3.0		2.2	2.2	2.2	3.0	3.5		2.0	2.5	
Lane Grp Cap (vph)	172	178	1583	259	272	244	1004	2740		152	1745	1583
v/s Ratio Prot	c0.09	0.09		0.10	c0.13		c0.29	0.27		0.04	c0.36	
v/s Ratio Perm			0.53			0.01						0.55
v/c Ratio	0.87	0.86	0.53	0.64	0.86	0.04	0.98	0.49		0.49	1.04	0.55
Uniform Delay, d1	66.3	66.2	0.0	59.5	61.8	53.9	52.6	20.8		65.4	49.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.45	0.57		0.72	0.63	1.00
Incremental Delay, d2	33.7	31.4	1.3	4.0	22.6	0.0	19.1	0.4		0.3	24.1	0.5
Delay (s)	100.0	97.7	1.3	63.5	84.5	54.0	42.7	12.3		47.3	55.0	0.5
Level of Service	F	F	A	E	F	D	D	B		D	E	A
Approach Delay (s)		27.0			72.8			25.1			37.7	
Approach LOS		C			E			C			D	

Intersection Summary				
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	89.4%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

18: Latrobe Rd. & US-50 EB Ramp

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1606	0	0	462	0	1698	245	724	1885	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			0.88			1.00		0.91	1.00	1.00	0.86	
Frt			0.85			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			2787			1611		5085	1583	1770	6408	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			2787			1611		5085	1583	1770	6408	
Peak-hour factor, PHF	0.92	0.92	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	1746	0	0	502	0	1846	266	787	2049	0
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	72	0	0	0
Lane Group Flow (vph)	0	0	1741	0	0	502	0	1846	194	787	2049	0
Turn Type			custom			Free		NA	Perm	Prot	NA	
Protected Phases			5					2		1	6	
Permitted Phases			1			Free			2			
Actuated Green, G (s)			121.6			150.0		66.4	66.4	75.6	96.0	
Effective Green, g (s)			121.6			150.0		66.4	66.4	75.6	96.0	
Actuated g/C Ratio			0.81			1.00		0.44	0.44	0.50	0.64	
Clearance Time (s)			4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)			3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)			2333			1611		2250	700	892	4101	
v/s Ratio Prot			0.23					c0.36		c0.44	0.32	
v/s Ratio Perm			0.40			0.31			0.12			
v/c Ratio			0.75			0.31		0.82	0.28	0.88	0.50	
Uniform Delay, d1			6.8			0.0		36.6	26.6	33.2	14.3	
Progression Factor			1.00			1.00		1.00	1.00	0.36	0.43	
Incremental Delay, d2			1.3			0.5		3.5	1.0	5.5	0.2	
Delay (s)			8.1			0.5		40.1	27.5	17.4	6.4	
Level of Service			A			A		D	C	B	A	
Approach Delay (s)		8.1			0.5			38.5			9.4	
Approach LOS		A			A			D			A	

Intersection Summary				
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	90.2%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

19: Silva Valley Pkwy & EB US-50 Ramps

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	471	0	148	0	0	0	791	775	0	0	1376	592
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.91	0.95				0.97	0.95			0.95	1.00
Frt	1.00	0.99	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1604	1504				3433	3539			3539	1583
Flt Permitted	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1604	1504				3433	3539			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)	512	0	161	0	0	0	860	842	0	0	1496	643
RTOR Reduction (vph)	0	50	120	0	0	0	0	0	0	0	0	257
Lane Group Flow (vph)	266	212	25	0	0	0	860	842	0	0	1496	386
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4					5	2			6	
Permitted Phases			4									6
Actuated Green, G (s)	15.8	15.8	15.8				23.2	66.2			39.0	39.0
Effective Green, g (s)	15.8	15.8	15.8				23.2	66.2			39.0	39.0
Actuated g/C Ratio	0.18	0.18	0.18				0.26	0.74			0.43	0.43
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)	295	281	264				884	2603			1533	685
v/s Ratio Prot	c0.16	0.13					c0.25	0.24			c0.42	
v/s Ratio Perm			0.02									0.24
v/c Ratio	0.90	0.75	0.10				0.97	0.32			0.98	0.56
Uniform Delay, d1	36.3	35.2	31.1				33.1	4.1			25.0	19.1
Progression Factor	1.00	1.00	1.00				1.00	1.00			0.75	0.72
Incremental Delay, d2	28.6	10.9	0.2				23.7	0.3			3.3	0.3
Delay (s)	64.9	46.1	31.3				56.7	4.5			22.0	14.0
Level of Service	E	D	C				E	A			C	B
Approach Delay (s)		50.3			0.0			30.9			19.6	
Approach LOS		D			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	90.0	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				

20: Silva Valley Pkwy & WB US-50 Ramps

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	701	0	553	466	780	0	0	1267	639
Ideal Flow (vphpl)	1900	1900	1900	1900	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				0.95	0.91	0.95	1.00	0.95			0.95	1.00
Frt				1.00	0.94	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	1553	1504	1770	3539			3539	1583
Flt Permitted				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1553	1504	1770	3539			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)	0	0	0	762	0	601	507	848	0	0	1377	695
RTOR Reduction (vph)	0	0	0	0	46	156	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	472	412	277	507	848	0	0	1377	695
Turn Type				Split	NA	Perm	Prot	NA			NA	Free
Protected Phases				8	8		5	2			6	
Permitted Phases						8						Free
Actuated Green, G (s)				22.0	22.0	22.0	23.0	60.0			33.0	90.0
Effective Green, g (s)				22.0	22.0	22.0	23.0	60.0			33.0	90.0
Actuated g/C Ratio				0.24	0.24	0.24	0.26	0.67			0.37	1.00
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)				410	379	367	452	2359			1297	1583
v/s Ratio Prot				c0.28	0.27		c0.29	0.24			c0.39	
v/s Ratio Perm						0.18						0.44
v/c Ratio				1.15	1.09	0.75	1.12	0.36			1.06	0.44
Uniform Delay, d1				34.0	34.0	31.5	33.5	6.6			28.5	0.0
Progression Factor				1.00	1.00	1.00	0.73	0.93			0.83	1.00
Incremental Delay, d2				92.6	71.5	8.5	77.3	0.4			39.5	0.6
Delay (s)				126.6	105.5	40.0	101.9	6.5			63.2	0.6
Level of Service				F	F	D	F	A			E	A
Approach Delay (s)		0.0			92.0			42.2			42.2	
Approach LOS		A			F			D			D	

Intersection Summary				
HCM 2000 Control Delay	56.4	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.10			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	95.9%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

21: Silva Valley Pkwy & County Club Dr.

Timing Plan: AM

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	255	246	1082	252	1	1650
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	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3439		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3439		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	267	1176	274	1	1793
RTOR Reduction (vph)	0	113	18	0	0	0
Lane Group Flow (vph)	277	154	1432	0	1	1793
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	18.6	18.6	58.6		0.8	63.4
Effective Green, g (s)	18.6	18.6	58.6		0.8	63.4
Actuated g/C Ratio	0.21	0.21	0.65		0.01	0.70
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	365	327	2239		15	2493
v/s Ratio Prot	c0.16		0.42		0.00	c0.51
v/s Ratio Perm		0.10				
v/c Ratio	0.76	0.47	0.64		0.07	0.72
Uniform Delay, d1	33.6	31.4	9.4		44.2	8.0
Progression Factor	1.00	1.00	1.56		1.00	1.00
Incremental Delay, d2	8.8	1.1	1.2		1.9	1.8
Delay (s)	42.4	32.4	15.8		46.1	9.8
Level of Service	D	C	B		D	A
Approach Delay (s)	37.5		15.8			9.8
Approach LOS	D		B			A

Intersection Summary				
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0	
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)	161	83	166	535	230	360	150	658	255	168	698	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.90		1.00	0.91		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)	1770	3185		1770	3215		1770	3539	1583	1770	3403	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3185		1770	3215		1770	3539	1583	1770	3403	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	175	90	180	582	250	391	163	715	277	183	759	263
RTOR Reduction (vph)	0	165	0	0	193	0	0	0	138	0	22	0
Lane Group Flow (vph)	175	105	0	582	448	0	163	715	139	183	1000	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	18.3	11.1		48.0	40.8		14.0	41.0	41.0	17.7	44.7	
Effective Green, g (s)	18.3	11.1		48.0	40.8		14.0	41.0	41.0	17.7	44.7	
Actuated g/C Ratio	0.13	0.08		0.35	0.30		0.10	0.30	0.30	0.13	0.33	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
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)	237	259		622	961		181	1063	475	229	1115	
v/s Ratio Prot	0.10	0.03		c0.33	c0.14		c0.09	0.20		0.10	c0.29	
v/s Ratio Perm									0.09			
v/c Ratio	0.74	0.40		0.94	0.47		0.90	0.67	0.29	0.80	0.90	
Uniform Delay, d1	56.7	59.5		42.7	38.9		60.5	41.8	36.6	57.6	43.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.4	1.0		21.5	0.4		40.0	1.7	0.3	17.5	9.6	
Delay (s)	68.1	60.5		64.2	39.3		100.5	43.5	36.9	75.1	53.2	
Level of Service	E	E		E	D		F	D	D	E	D	
Approach Delay (s)		63.5			51.1			50.0			56.5	
Approach LOS		E			D			D			E	

Intersection Summary				
HCM 2000 Control Delay	53.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	136.4	Sum of lost time (s)	18.6	
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)	99	127	316	140	82	12	537	267	47	43	219	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	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		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	1863	1583	1770	1827		1770	1821		1770	1863	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	1770	1827		1770	1821		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)	108	138	343	152	89	13	584	290	51	47	238	424
RTOR Reduction (vph)	0	0	292	0	6	0	0	6	0	0	0	337
Lane Group Flow (vph)	108	138	51	152	96	0	584	335	0	47	238	87
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	6.1	12.6	12.6	9.1	15.6		29.9	43.0		3.3	16.4	16.4
Effective Green, g (s)	6.1	12.6	12.6	9.1	15.6		29.9	43.0		3.3	16.4	16.4
Actuated g/C Ratio	0.07	0.15	0.15	0.11	0.19		0.36	0.51		0.04	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)	128	279	237	191	339		630	932		69	363	309
v/s Ratio Prot	0.06	c0.07		c0.09	c0.05		c0.33	0.18		0.03	c0.13	
v/s Ratio Perm			0.03									0.05
v/c Ratio	0.84	0.49	0.22	0.80	0.28		0.93	0.36		0.68	0.66	0.28
Uniform Delay, d1	38.5	32.8	31.4	36.5	29.4		26.0	12.3		39.8	31.2	28.8
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	37.0	1.4	0.5	20.1	0.5		19.8	0.2		24.2	4.2	0.5
Delay (s)	75.5	34.2	31.8	56.6	29.9		45.8	12.5		64.1	35.4	29.3
Level of Service	E	C	C	E	C		D	B		E	D	C
Approach Delay (s)		40.4			45.9			33.5			33.6	
Approach LOS		D			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	69.1%	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	39	1	92	158	2	63	25	242	52	30	293	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	42	1	100	172	2	68	27	263	57	33	318	27

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	143	242	347	378
Volume Left (vph)	42	172	27	33
Volume Right (vph)	100	68	57	27
Hadj (s)	-0.33	0.01	-0.05	0.01
Departure Headway (s)	6.3	6.4	5.8	5.8
Degree Utilization, x	0.25	0.43	0.56	0.61
Capacity (veh/h)	473	496	576	575
Control Delay (s)	11.4	14.1	16.1	17.7
Approach Delay (s)	11.4	14.1	16.1	17.7
Approach LOS	B	B	C	C

Intersection Summary			
Delay	15.6		
Level of Service	C		
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	256	0	0	543	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	278	0	0	590	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)				796		
pX, platoon unblocked					0.77	
vC, conflicting volume			278		868	278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			278		677	278
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1284		321	761

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	278	590	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.16	0.35	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	31.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	256	0	0	543	0	0	0	0	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							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1863			1863							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1863			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	278	0	0	590	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	278	0	0	590	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm		Perm	Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		13.6			13.6							
Effective Green, g (s)		13.6			13.6							
Actuated g/C Ratio		0.50			0.50							
Clearance Time (s)		4.0			4.0							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		931			931							
v/s Ratio Prot		0.15			c0.32							
v/s Ratio Perm												
v/c Ratio		0.30			0.63							
Uniform Delay, d1		4.0			5.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.2			1.4							
Delay (s)		4.2			6.4							
Level of Service		A			A							
Approach Delay (s)		4.2			6.4			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	27.2	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	31.9%	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)	479	651	429	224	403	93	408	436	24	123	373	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	1.00	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	3539	1583	1770	3539	1583	3433	3512		1770	1863	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	3539	1583	1770	3539	1583	3433	3512		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)	521	708	466	243	438	101	443	474	26	134	405	235
RTOR Reduction (vph)	0	0	217	0	0	75	0	4	0	0	0	180
Lane Group Flow (vph)	521	708	249	243	438	26	443	496	0	134	405	55
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	14.0	23.7	23.7	13.0	22.7	22.7	12.0	25.5		7.0	20.5	20.5
Effective Green, g (s)	14.0	23.7	23.7	13.0	22.7	22.7	12.0	25.5		7.0	20.5	20.5
Actuated g/C Ratio	0.16	0.27	0.27	0.15	0.26	0.26	0.14	0.29		0.08	0.23	0.23
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	549	959	429	263	919	411	471	1024		141	436	371
v/s Ratio Prot	c0.15	c0.20		0.14	0.12		c0.13	0.14		0.08	c0.22	
v/s Ratio Perm			0.16			0.02						0.03
v/c Ratio	0.95	0.74	0.58	0.92	0.48	0.06	0.94	0.48		0.95	0.93	0.15
Uniform Delay, d1	36.3	29.0	27.5	36.7	27.3	24.4	37.3	25.5		40.0	32.7	26.5
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	25.9	3.0	1.9	35.6	0.4	0.1	27.1	0.4		60.6	26.0	0.2
Delay (s)	62.3	32.0	29.4	72.3	27.7	24.4	64.5	25.9		100.6	58.7	26.7
Level of Service	E	C	C	E	C	C	E	C		F	E	C
Approach Delay (s)		40.6			41.1			44.0			56.2	
Approach LOS		D			D			D			E	

Intersection Summary				
HCM 2000 Control Delay	44.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	18.2	
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)	178	686	27	43	447	145	55	317	77	104	151	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.96		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1852		1770	1794		1770	1808			1826	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	1852		1770	1794		1770	1808			1826	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)	193	746	29	47	486	158	60	345	84	113	164	188
RTOR Reduction (vph)	0	1	0	0	8	0	0	6	0	0	0	158
Lane Group Flow (vph)	193	774	0	47	636	0	60	423	0	0	277	30
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	17.1	66.8		4.1	53.8		31.0	31.0			22.9	22.9
Effective Green, g (s)	17.1	66.8		4.1	53.8		31.0	31.0			22.9	22.9
Actuated g/C Ratio	0.12	0.46		0.03	0.37		0.22	0.22			0.16	0.16
Clearance Time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	210	860		50	671		381	389			290	252
v/s Ratio Prot	c0.11	0.42		0.03	c0.35		0.03	c0.23			c0.15	
v/s Ratio Perm												0.02
v/c Ratio	0.92	0.90		0.94	0.95		0.16	1.09			0.96	0.12
Uniform Delay, d1	62.7	35.4		69.7	43.6		45.8	56.4			59.9	51.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	39.8	13.0		103.6	23.1		0.3	70.9			41.0	0.4
Delay (s)	102.5	48.4		173.3	66.7		46.1	127.3			100.9	52.2
Level of Service	F	D		F	E		D	F			F	D
Approach Delay (s)		59.2			73.9			117.4			81.2	
Approach LOS		E			E			F			F	

Intersection Summary				
HCM 2000 Control Delay	77.9	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	143.8	Sum of lost time (s)	19.0	
Intersection Capacity Utilization	93.5%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

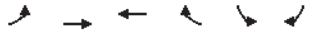
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	656	276	56	381	10	252	18	91	2	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1856		1770	1630			1789	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1856		1770	1630			1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	713	300	61	414	11	274	20	99	2	10	4
RTOR Reduction (vph)	0	0	114	0	1	0	0	79	0	0	4	0
Lane Group Flow (vph)	10	713	186	61	424	0	274	40	0	0	12	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	0.7	40.1	40.1	4.0	43.4		16.1	16.1			1.2	
Effective Green, g (s)	0.7	40.1	40.1	4.0	43.4		16.1	16.1			1.2	
Actuated g/C Ratio	0.01	0.50	0.50	0.05	0.54		0.20	0.20			0.02	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	15	937	796	88	1010		357	329			26	
v/s Ratio Prot	0.01	c0.38		c0.03	c0.23		c0.15	0.02			c0.01	
v/s Ratio Perm			0.12									
v/c Ratio	0.67	0.76	0.23	0.69	0.42		0.77	0.12			0.46	
Uniform Delay, d1	39.4	15.9	11.1	37.2	10.7		30.0	26.0			38.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	70.0	3.7	0.2	19.5	0.3		9.1	0.1			9.2	
Delay (s)	109.4	19.6	11.3	56.8	11.0		39.2	26.1			48.2	
Level of Service	F	B	B	E	B		D	C			D	
Approach Delay (s)		18.1			16.7			35.2			48.2	
Approach LOS		B			B			D			D	

Intersection Summary				
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	79.7	Sum of lost time (s)	18.3	
Intersection Capacity Utilization	70.4%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	537	177	83	268	132	83
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	584	192	90	291	143	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			776		1152	680
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			776		1152	680
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		26	80
cM capacity (veh/h)			840		195	451

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	776	382	143	90
Volume Left	0	90	143	0
Volume Right	192	0	0	90
cSH	1700	840	195	451
Volume to Capacity	0.46	0.11	0.74	0.20
Queue Length 95th (ft)	0	9	120	18
Control Delay (s)	0.0	3.3	62.1	15.0
Lane LOS		A	F	B
Approach Delay (s)	0.0	3.3	43.9	
Approach LOS			E	

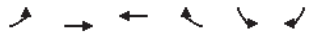
Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	27	621	343	16	8	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	675	373	17	9	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	390				1115	382
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	390				1115	382
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				96	97
cM capacity (veh/h)	1168				224	666

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	704	390	29
Volume Left	29	0	9
Volume Right	0	17	21
cSH	1168	1700	420
Volume to Capacity	0.03	0.23	0.07
Queue Length 95th (ft)	2	0	6
Control Delay (s)	0.7	0.0	14.2
Lane LOS	A		B
Approach Delay (s)	0.7	0.0	14.2
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	626	337	11	13	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	680	366	12	14	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	378				1074	372
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	378				1074	372
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	97
cM capacity (veh/h)	1180				241	674

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	691	378	33
Volume Left	11	0	14
Volume Right	0	12	18
cSH	1180	1700	379
Volume to Capacity	0.01	0.22	0.09
Queue Length 95th (ft)	1	0	7
Control Delay (s)	0.2	0.0	15.4
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	15.4
Approach LOS			C

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	50.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	616	4	12	334	23	4	1	6	19	0	6
Sign Control		Free			Free			Stop			Stop	
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	0.92	0.92
Hourly flow rate (vph)	23	670	4	13	363	25	4	1	7	21	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	388			674			1113	1132	672	1124	1121	376
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	388			674			1113	1132	672	1124	1121	376
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			98	99	99	88	100	99
cM capacity (veh/h)	1170			917			179	196	456	175	199	671

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	23	674	13	388	12	27
Volume Left	23	0	13	0	4	21
Volume Right	0	4	0	25	7	7
cSH	1170	1700	917	1700	271	212
Volume to Capacity	0.02	0.40	0.01	0.23	0.04	0.13
Queue Length 95th (ft)	1	0	1	0	3	11
Control Delay (s)	8.1	0.0	9.0	0.0	18.9	24.4
Lane LOS	A		A		C	C
Approach Delay (s)	0.3		0.3		18.9	24.4
Approach LOS					C	C

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	42.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	732	76	32	405	52	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	1839			1856	1730	
Flt Permitted	1.00			0.92	0.97	
Satd. Flow (perm)	1839			1716	1730	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	796	83	35	440	57	22
RTOR Reduction (vph)	6	0	0	0	18	0
Lane Group Flow (vph)	873	0	0	475	61	0
Turn Type	NA		Perm	NA	NA	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	25.2			25.2	7.3	
Effective Green, g (s)	25.2			25.2	7.3	
Actuated g/C Ratio	0.62			0.62	0.18	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1144			1067	311	
v/s Ratio Prot	c0.47				c0.04	
v/s Ratio Perm				0.28		
v/c Ratio	0.76			0.45	0.20	
Uniform Delay, d1	5.5			4.0	14.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	3.1			0.3	0.3	
Delay (s)	8.6			4.3	14.4	
Level of Service	A			A	B	
Approach Delay (s)	8.6			4.3	14.4	
Approach LOS	A			A	B	

Intersection Summary				
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	40.5	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	58.5%	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)	3	524	163	205	284	10	102	9	397	22	13	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	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1770	1797		1770	1853			1781	1583		1757	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (perm)	1770	1797		1770	1853			1781	1583		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	570	177	223	309	11	111	10	432	24	14	13
RTOR Reduction (vph)	0	9	0	0	1	0	0	0	376	0	12	0
Lane Group Flow (vph)	3	738	0	223	319	0	0	121	56	0	39	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	42.8		13.2	55.3			11.4	11.4		4.8	
Effective Green, g (s)	0.7	42.8		13.2	55.3			11.4	11.4		4.8	
Actuated g/C Ratio	0.01	0.49		0.15	0.63			0.13	0.13		0.05	
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)	14	872		264	1161			230	204		95	
v/s Ratio Prot	0.00	c0.41		c0.13	0.17			c0.07			c0.02	
v/s Ratio Perm									0.04			
v/c Ratio	0.21	0.85		0.84	0.27			0.53	0.27		0.41	
Uniform Delay, d1	43.5	19.8		36.5	7.4			35.9	34.7		40.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	7.6	7.6		21.2	0.1			2.2	0.7		2.8	
Delay (s)	51.0	27.4		57.7	7.5			38.0	35.4		43.2	
Level of Service	D	C		E	A			D	D		D	
Approach Delay (s)		27.5			28.1			36.0			43.2	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	16.0	
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)	27	545	425	124	241	12	240	18	205	8	14	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	4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.86			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1740		1770	1850		1770	1606			1753	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1740		1770	1850		1770	1606			1753	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	592	462	135	262	13	261	20	223	9	15	13
RTOR Reduction (vph)	0	17	0	0	1	0	0	187	0	0	12	0
Lane Group Flow (vph)	29	1037	0	135	274	0	261	56	0	0	25	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	3.5	85.8		11.0	93.3		22.8	22.8			6.4	
Effective Green, g (s)	3.5	85.8		11.0	93.3		22.8	22.8			6.4	
Actuated g/C Ratio	0.02	0.60		0.08	0.66		0.16	0.16			0.05	
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)	43	1051		137	1215		284	257			79	
v/s Ratio Prot	0.02	c0.60		c0.08	0.15		c0.15	0.03			c0.01	
v/s Ratio Perm												
v/c Ratio	0.67	0.99		0.99	0.23		0.92	0.22			0.31	
Uniform Delay, d1	68.7	27.5		65.4	9.8		58.7	51.8			65.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	34.5	24.3		71.9	0.1		32.5	0.4			2.2	
Delay (s)	103.2	51.8		137.3	9.9		91.2	52.3			67.9	
Level of Service	F	D		F	A		F	D			E	
Approach Delay (s)		53.2			51.8			72.4			67.9	
Approach LOS		D			D			E			E	

Intersection Summary				
HCM 2000 Control Delay	58.0	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	142.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	91.5%	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)	117	283	293	126	123	30	219	227	213	49	144	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	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.97		1.00	0.93		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	1721		1770	1808		1770	1727		1770	1828	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1721		1770	1808		1770	1727		1770	1828	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	308	318	137	134	33	238	247	232	53	157	22
RTOR Reduction (vph)	0	41	0	0	9	0	0	38	0	0	6	0
Lane Group Flow (vph)	127	585	0	137	158	0	238	441	0	53	173	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.6	32.1		8.1	31.6		14.1	26.5		3.0	15.4	
Effective Green, g (s)	8.6	32.1		8.1	31.6		14.1	26.5		3.0	15.4	
Actuated g/C Ratio	0.10	0.37		0.09	0.37		0.16	0.31		0.04	0.18	
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)	177	644		167	666		291	534		61	328	
v/s Ratio Prot	0.07	c0.34		c0.08	0.09		c0.13	c0.26		0.03	0.09	
v/s Ratio Perm												
v/c Ratio	0.72	0.91		0.82	0.24		0.82	0.83		0.87	0.53	
Uniform Delay, d1	37.4	25.4		38.1	18.7		34.6	27.5		41.2	31.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.0	16.7		26.4	0.2		16.2	10.1		69.6	1.5	
Delay (s)	50.4	42.1		64.5	18.9		50.7	37.5		110.8	33.4	
Level of Service	D	D		E	B		D	D		F	C	
Approach Delay (s)		43.5			39.4			41.9			51.1	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	81.4%	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	33	536	31	30	47	552	548	30	11	303	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	36	583	34	33	51	600	596	33	12	329	3

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	36	583	117	600	628	12	333
Volume Left (vph)	0	0	34	600	0	12	0
Volume Right (vph)	0	583	51	0	33	0	3
Hadj (s)	0.03	-0.57	-0.17	0.53	0.00	0.53	0.03
Departure Headway (s)	6.9	3.2	6.4	6.0	5.5	7.1	6.6
Degree Utilization, x	0.07	0.52	0.21	1.01	0.96	0.02	0.61
Capacity (veh/h)	484	1117	535	600	648	492	526
Control Delay (s)	10.4	9.6	11.1	61.5	47.6	9.1	18.2
Approach Delay (s)	9.6		11.1	54.4		17.9	
Approach LOS	A		B	F		C	

Intersection Summary				
Delay	34.8			
Level of Service	D			
Intersection Capacity Utilization	69.5%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	353	100	1070	461	123	684
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	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	109	1163	501	134	743
RTOR Reduction (vph)	0	78	0	280	0	0
Lane Group Flow (vph)	384	31	1163	221	134	743
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.7	15.7	24.2	24.2	2.9	31.1
Effective Green, g (s)	15.7	15.7	24.2	24.2	2.9	31.1
Actuated g/C Ratio	0.29	0.29	0.44	0.44	0.05	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)	507	453	1562	699	181	2008
v/s Ratio Prot	c0.22		c0.33		c0.04	0.21
v/s Ratio Perm		0.02		0.14		
v/c Ratio	0.76	0.07	0.74	0.32	0.74	0.37
Uniform Delay, d1	17.8	14.2	12.7	9.9	25.6	6.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.4	0.1	2.0	0.3	15.0	0.1
Delay (s)	24.2	14.3	14.7	10.2	40.6	6.6
Level of Service	C	B	B	B	D	A
Approach Delay (s)	22.0		13.3			11.8
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.6%	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)	71	76	172	305	124	65	176	1238	591	75	856	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	5.2	4.0	3.0	5.2	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.90		1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1669		1681	1680		1770	3539	1583	1770	3481	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1669		1681	1680		1770	3539	1583	1770	3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	83	187	332	135	71	191	1346	642	82	930	115
RTOR Reduction (vph)	0	67	0	0	12	0	0	0	0	0	7	0
Lane Group Flow (vph)	77	203	0	269	257	0	191	1346	642	82	1038	0
Turn Type	Split	NA		Split	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	8.0	8.0		21.4	21.4		15.0	68.9	120.0	7.5	61.4	
Effective Green, g (s)	8.0	8.0		21.4	21.4		15.0	68.9	120.0	7.5	61.4	
Actuated g/C Ratio	0.07	0.07		0.18	0.18		0.12	0.57	1.00	0.06	0.51	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	5.2		3.0	5.2	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	118	111		299	299		221	2031	1583	110	1781	
v/s Ratio Prot	0.04	c0.12		c0.16	0.15		c0.11	c0.38		c0.05	0.30	
v/s Ratio Perm									0.41			
v/c Ratio	0.65	1.83		0.90	0.86		0.86	0.66	0.41	0.75	0.58	
Uniform Delay, d1	54.6	56.0		48.2	47.9		51.5	17.6	0.0	55.3	20.4	
Progression Factor	1.00	1.00		1.00	1.00		0.77	0.32	1.00	1.00	1.00	
Incremental Delay, d2	9.5	405.1		27.1	20.9		23.1	1.4	0.6	21.1	1.4	
Delay (s)	64.1	461.1		75.3	68.8		63.0	7.0	0.6	76.4	21.8	
Level of Service	E	F		E	E		E	A	A	E	C	
Approach Delay (s)		373.0			72.1			10.0			25.8	
Approach LOS		F			E			B			C	

Intersection Summary				
HCM 2000 Control Delay	52.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2	
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	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	27	210	43	22	304	295	1617	78	158	1113	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	0.95	0.95	1.00	1.00	1.00		1.00	0.91		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.86		1.00	0.99		1.00	0.99	
Flt Protected	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1724	1583	1770	1602		1770	5050		1770	3511	
Flt Permitted	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1724	1583	1770	1602		1770	5050		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)	93	29	228	47	24	330	321	1758	85	172	1210	67
RTOR Reduction (vph)	0	0	214	0	231	0	0	3	0	0	2	0
Lane Group Flow (vph)	60	62	14	47	123	0	321	1840	0	172	1275	0
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	7	7	7	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	7.6	7.6	7.6	12.4	12.4		12.0	72.3		10.0	70.3	
Effective Green, g (s)	7.6	7.6	7.6	12.4	12.4		12.0	74.0		10.0	72.0	
Actuated g/C Ratio	0.06	0.06	0.06	0.10	0.10		0.10	0.62		0.08	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	4.2		0.2	4.2	
Lane Grp Cap (vph)	106	109	100	182	165		177	3114		147	2106	
v/s Ratio Prot	0.04	c0.04	0.01	0.03	c0.08		c0.18	0.36		0.10	c0.36	
v/s Ratio Perm												
v/c Ratio	0.57	0.57	0.14	0.26	0.74		1.81	0.59		1.17	0.61	
Uniform Delay, d1	54.6	54.6	53.1	49.6	52.3		54.0	13.9		55.0	15.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.28		0.84	0.42	
Incremental Delay, d2	4.1	4.0	0.2	0.3	14.6		380.7	0.6		114.0	0.9	
Delay (s)	58.7	58.6	53.4	49.8	66.8		433.2	4.5		160.3	7.2	
Level of Service	E	E	D	D	E		F	A		F	A	
Approach Delay (s)		55.2			64.9			68.1			25.3	
Approach LOS		E			E			E			C	

Intersection Summary				
HCM 2000 Control Delay	52.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	86.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

16: El Dorado Hills Blvd. & Saratoga Wy. (South)

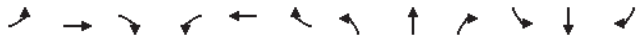
Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	212	70	302	212	155	91	987	1687	286	54	985	421
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91		1.00	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	0.98	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1726	1583	1681	1754	1583	3433	4975		1770	5085	1583
Flt Permitted	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1726	1583	1681	1754	1583	3433	4975		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)	230	76	328	230	168	99	1073	1834	311	59	1071	458
RTOR Reduction (vph)	0	0	0	0	0	84	0	16	0	0	0	0
Lane Group Flow (vph)	152	154	328	195	203	15	1073	2129	0	59	1071	458
Turn Type	Split	NA	Free	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			8						Free
Actuated Green, G (s)	14.4	14.4	120.0	18.5	18.5	18.5	41.6	66.9		4.2	29.5	120.0
Effective Green, g (s)	14.4	14.4	120.0	18.5	18.5	18.5	41.6	66.9		4.2	29.5	120.0
Actuated g/C Ratio	0.12	0.12	1.00	0.15	0.15	0.15	0.35	0.56		0.04	0.25	1.00
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		2.2	2.2	2.2	3.0	3.5		2.0	2.5	
Lane Grp Cap (vph)	201	207	1583	259	270	244	1190	2773		61	1250	1583
v/s Ratio Prot	c0.09	0.09		c0.12	0.12		c0.31	0.43		0.03	c0.21	
v/s Ratio Perm			0.21			0.01						0.29
v/c Ratio	0.76	0.74	0.21	0.75	0.75	0.06	0.90	0.77		0.97	0.86	0.29
Uniform Delay, d1	51.1	51.0	0.0	48.6	48.6	43.3	37.3	20.5		57.8	43.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.60	0.49		0.82	0.73	1.00
Incremental Delay, d2	14.9	13.5	0.3	10.7	10.3	0.1	6.0	1.2		93.4	6.6	0.4
Delay (s)	66.0	64.5	0.3	59.3	58.8	43.4	28.5	11.3		140.5	38.2	0.4
Level of Service	E	E	A	E	E	D	C	B		F	D	A
Approach Delay (s)		31.6			55.9			17.1			31.1	
Approach LOS		C			E			B			C	

Intersection Summary				
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	78.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

18: Latrobe Rd. & US-50 EB Ramp

Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1423	0	0	1031	0	1929	619	527	972	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			0.88			1.00		0.91	1.00	1.00	0.86	
Frt			0.85			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			2787			1611		5085	1583	1770	6408	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			2787			1611		5085	1583	1770	6408	
Peak-hour factor, PHF	0.92	0.92	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	1547	0	0	1121	0	2097	673	573	1057	0
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	101	0	0	0
Lane Group Flow (vph)	0	0	1500	0	0	1121	0	2097	572	573	1057	0
Turn Type			custom			Free		NA	Perm	Prot	NA	
Protected Phases			5					2		1	6	
Permitted Phases			1			Free			2			
Actuated Green, G (s)			77.0			120.0		59.0	59.0	53.0	88.0	
Effective Green, g (s)			77.0			120.0		59.0	59.0	53.0	88.0	
Actuated g/C Ratio			0.64			1.00		0.49	0.49	0.44	0.73	
Clearance Time (s)			4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)			3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)			1881			1611		2500	778	781	4699	
v/s Ratio Prot			c0.16					c0.41		0.32	0.16	
v/s Ratio Perm			0.38			0.70			0.36			
v/c Ratio			0.80			0.70		0.84	0.74	0.73	0.22	
Uniform Delay, d1			15.8			0.0		26.4	24.3	27.7	5.1	
Progression Factor			1.00			1.00		1.00	1.00	0.49	0.59	
Incremental Delay, d2			2.4			2.5		3.6	6.1	2.6	0.1	
Delay (s)			18.2			2.5		30.0	30.4	16.2	3.1	
Level of Service			B			A		C	C	B	A	
Approach Delay (s)		18.2			2.5			30.1			7.7	
Approach LOS		B			A			C			A	

Intersection Summary				
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	74.2%	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)	482	0	184	0	0	0	743	919	0	0	1033	848
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.91	0.95				0.97	0.95			0.95	1.00
Frt	1.00	0.99	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1602	1504				3433	3539			3539	1583
Flt Permitted	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1602	1504				3433	3539			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)	524	0	200	0	0	0	808	999	0	0	1123	922
RTOR Reduction (vph)	0	41	148	0	0	0	0	0	0	0	0	240
Lane Group Flow (vph)	272	231	32	0	0	0	808	999	0	0	1123	682
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4					5	2			6	
Permitted Phases			4									6
Actuated Green, G (s)	19.5	19.5	19.5				30.1	82.5			48.4	48.4
Effective Green, g (s)	19.5	19.5	19.5				30.1	82.5			48.4	48.4
Actuated g/C Ratio	0.18	0.18	0.18				0.27	0.75			0.44	0.44
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)	297	283	266				939	2654			1557	696
v/s Ratio Prot	c0.16	0.14					c0.24	0.28			0.32	
v/s Ratio Perm			0.02									c0.43
v/c Ratio	0.92	0.82	0.12				0.86	0.38			0.72	0.98
Uniform Delay, d1	44.4	43.5	38.0				38.0	4.8			25.3	30.3
Progression Factor	1.00	1.00	1.00				1.00	1.00			0.50	0.90
Incremental Delay, d2	31.0	16.4	0.2				8.1	0.4			1.0	15.9
Delay (s)	75.5	59.9	38.2				46.1	5.2			13.6	43.3
Level of Service	E	E	D				D	A			B	D
Approach Delay (s)		60.4			0.0			23.5			27.0	
Approach LOS		E			A			C			C	

Intersection Summary					
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.93				
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0		
Intersection Capacity Utilization	80.4%	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	0	0	906	0	534	324	1077	0	0	977	343
Ideal Flow (vphpl)	1900	1900	1900	1900	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				0.95	0.91	0.95	1.00	0.95			0.95	1.00
Frt				1.00	0.97	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1585	1504	1770	3539			3539	1583
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1585	1504	1770	3539			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)	0	0	0	985	0	580	352	1171	0	0	1062	373
RTOR Reduction (vph)	0	0	0	0	35	61	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	542	501	426	352	1171	0	0	1062	373
Turn Type				Split	NA	Perm	Prot	NA			NA	Free
Protected Phases				8	8		5	2			6	
Permitted Phases						8						Free
Actuated Green, G (s)				34.0	34.0	34.0	24.9	68.0			39.1	110.0
Effective Green, g (s)				34.0	34.0	34.0	24.9	68.0			39.1	110.0
Actuated g/C Ratio				0.31	0.31	0.31	0.23	0.62			0.36	1.00
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)				519	489	464	400	2187			1257	1583
v/s Ratio Prot				c0.32	0.32		c0.20	0.33			c0.30	
v/s Ratio Perm						0.28						0.24
v/c Ratio				1.04	1.03	0.92	0.88	0.54			0.84	0.24
Uniform Delay, d1				38.0	38.0	36.7	41.1	12.0			32.7	0.0
Progression Factor				1.00	1.00	1.00	0.99	0.59			0.90	1.00
Incremental Delay, d2				51.6	47.3	23.0	17.2	0.8			6.4	0.3
Delay (s)				89.6	85.3	59.7	58.0	7.9			35.7	0.3
Level of Service				F	F	E	E	A			D	A
Approach Delay (s)		0.0			78.8			19.4			26.5	
Approach LOS		A			E			B			C	

Intersection Summary					
HCM 2000 Control Delay	42.2	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.92				
Actuated Cycle Length (s)	110.0	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	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	32	205	1348	263	0	1288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	1583	3453			3539
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	1583	3453			3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	223	1465	286	0	1400
RTOR Reduction (vph)	0	93	8	0	0	0
Lane Group Flow (vph)	35	130	1743	0	0	1400
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	13.9	13.9	88.1			88.1
Effective Green, g (s)	13.9	13.9	88.1			88.1
Actuated g/C Ratio	0.13	0.13	0.80			0.80
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)	223	200	2765			2834
v/s Ratio Prot	0.02		c0.50			0.40
v/s Ratio Perm		c0.08				
v/c Ratio	0.16	0.65	0.63			0.49
Uniform Delay, d1	42.8	45.7	4.4			3.6
Progression Factor	1.00	1.00	1.11			1.00
Incremental Delay, d2	0.3	7.0	0.8			0.6
Delay (s)	43.2	52.8	5.7			4.2
Level of Service	D	D	A			A
Approach Delay (s)	51.4		5.7			4.2
Approach LOS	D		A			A

Intersection Summary				
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	65.0%	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)	175	227	175	361	111	145	192	692	374	223	443	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	0.92		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)	1770	3308		1770	3239		1770	3539	1583	1770	3432	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3308		1770	3239		1770	3539	1583	1770	3432	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	247	190	392	121	158	209	752	407	242	482	122
RTOR Reduction (vph)	0	157	0	0	124	0	0	0	294	0	21	0
Lane Group Flow (vph)	190	280	0	392	155	0	209	752	113	242	583	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	14.1	13.1		20.0	19.0		11.0	23.5	23.5	13.0	25.5	
Effective Green, g (s)	14.1	13.1		20.0	19.0		11.0	23.5	23.5	13.0	25.5	
Actuated g/C Ratio	0.16	0.15		0.23	0.22		0.12	0.27	0.27	0.15	0.29	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
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)	282	491		401	697		220	942	421	260	992	
v/s Ratio Prot	0.11	c0.08		c0.22	0.05		0.12	c0.21		c0.14	0.17	
v/s Ratio Perm									0.07			
v/c Ratio	0.67	0.57		0.98	0.22		0.95	0.80	0.27	0.93	0.59	
Uniform Delay, d1	34.9	34.9		33.9	28.5		38.3	30.1	25.6	37.2	26.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.2	1.6		38.6	0.2		46.1	4.8	0.3	37.5	0.9	
Delay (s)	41.1	36.5		72.5	28.7		84.4	34.9	25.9	74.7	27.7	
Level of Service	D	D		E	C		F	C	C	E	C	
Approach Delay (s)		37.9			54.3			39.8			41.2	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	18.6	
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)	173	14	264	10	12	6	223	358	13	12	252	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		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	1770	1765		1770	1853		1770	1863	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	1770	1765		1770	1853		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)	188	15	287	11	13	7	242	389	14	13	274	93
RTOR Reduction (vph)	0	0	239	0	7	0	0	2	0	0	0	65
Lane Group Flow (vph)	188	15	48	11	13	0	242	401	0	13	274	28
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	7.3	8.1	8.1	0.6	1.4		9.3	23.5		0.6	14.8	14.8
Effective Green, g (s)	7.3	8.1	8.1	0.6	1.4		9.3	23.5		0.6	14.8	14.8
Actuated g/C Ratio	0.15	0.17	0.17	0.01	0.03		0.19	0.48		0.01	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
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	309	262	21	50		337	892		21	565	480
v/s Ratio Prot	c0.11	0.01		0.01	0.01		c0.14	c0.22		0.01	0.15	
v/s Ratio Perm			c0.03									0.02
v/c Ratio	0.71	0.05	0.18	0.52	0.26		0.72	0.45		0.62	0.48	0.06
Uniform Delay, d1	19.7	17.1	17.5	24.0	23.2		18.5	8.4		24.0	13.9	12.1
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	8.8	0.1	0.3	21.6	2.8		7.1	0.4		43.9	0.7	0.1
Delay (s)	28.5	17.2	17.8	45.5	26.0		25.7	8.7		67.9	14.5	12.1
Level of Service	C	B	B	D	C		C	A		E	B	B
Approach Delay (s)		21.9			32.9			15.1			15.8	
Approach LOS		C			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	48.8	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	51.9%	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	19	4	43	57	2	44	89	309	113	61	247	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	4	47	62	2	48	97	336	123	66	268	41

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	72	112	555	376
Volume Left (vph)	21	62	97	66
Volume Right (vph)	47	48	123	41
Hadj (s)	-0.30	-0.11	-0.06	0.00
Departure Headway (s)	6.2	6.3	5.0	5.3
Degree Utilization, x	0.12	0.19	0.77	0.55
Capacity (veh/h)	505	508	707	658
Control Delay (s)	10.1	10.8	22.3	14.5
Approach Delay (s)	10.1	10.8	22.3	14.5
Approach LOS	B	B	C	B

Intersection Summary			
Delay	17.7		
Level of Service	C		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	612	0	0	367	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	665	0	0	399	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)				836		
pX, platoon unblocked					0.96	
vC, conflicting volume			665		1064	665
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			665		1046	665
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			924		243	460

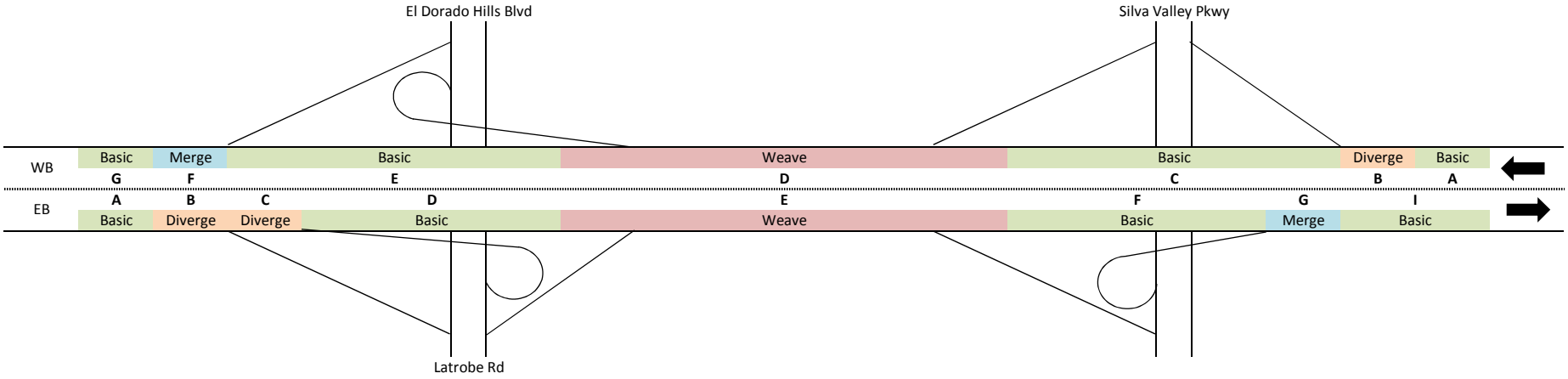
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	665	399	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.39	0.23	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	35.5%	ICU Level of Service		A
Analysis Period (min)	15			

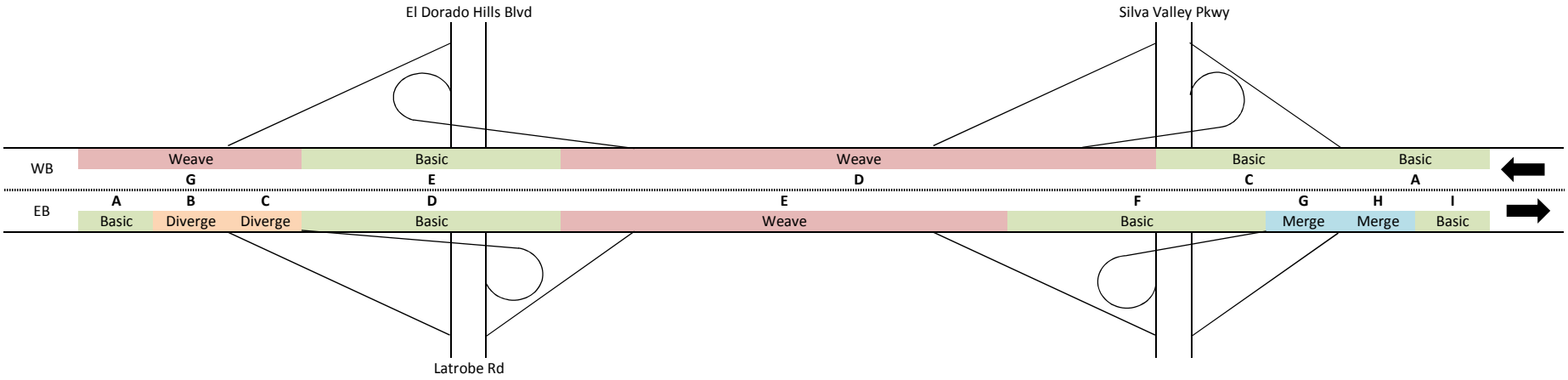
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	612	0	0	367	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1863			1863							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1863			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	665	0	0	399	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	665	0	0	399	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm		Perm	Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		15.4			15.4							
Effective Green, g (s)		15.4			15.4							
Actuated g/C Ratio		0.53			0.53							
Clearance Time (s)		4.0			4.0							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		985			985							
v/s Ratio Prot		c0.36			0.21							
v/s Ratio Perm												
v/c Ratio		0.68			0.41							
Uniform Delay, d1		5.0			4.1							
Progression Factor		1.00			1.00							
Incremental Delay, d2		1.8			0.3							
Delay (s)		6.9			4.4							
Level of Service		A			A							
Approach Delay (s)		6.9			4.4			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	29.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Existing



Cumulative



75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

	Segment Inputs				Cumulative Conditions													Cumulative plus Proposed Project Conditions											
					Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures					Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures				
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(l/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Eastbound	West of El Dorado Hills Blvd	8180	4	0.67	3,683	6,274	1030.84	73.11	75	74.9895	13.746	B	1756.038	73.11	75	68.6725	25.571	C	3,713	6,366	1039.24	73.11	75	74.983	13.86	B	1781.788	73.11	75	68.2341	26.113	D
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1490	4	0.67	1,615	3,820	452.024	73.11	75	71.6759	6.3065	A	1069.185	73.11	75	74.947	14.266	B	1,630	3,866	456.223	73.11	75	71.7267	6.3606	A	1082.06	73.11	75	74.9255	14.442	B
	Silva Valley Pkwy Off Ramp to Silva Valley Pkwy SB On Ramp	1130	4	0.50	1,965	4,300	549.986	73.6	75	72.7582	7.5591	A	1203.533	73.6	75	74.5414	16.146	B	1,965	4,300	549.986	73.6	75	72.7582	7.5591	A	1203.533	73.6	75	74.5414	16.146	B
	East of Silva Valley Pkwy	1980	4	0.50	3,348	5,891	937.076	73.6	75	74.9562	12.502	B	1648.84	73.6	75	70.3396	23.441	C	3,376	5,909	944.913	73.6	75	74.9664	12.604	B	1653.878	73.6	75	70.267	23.537	C
Westbou	East of Silva Valley Pkwy	2950	4	0.50	6,579	4,245	1841.4	73.6	75	67.1629	27.417	D	1188.139	73.6	75	74.6082	15.925	B	6,589	4,275	1844.2	73.6	75	67.1106	27.48	D	1196.535	73.6	75	74.5724	16.045	B
	Silva Valley Pkwy Off Ramp to Silva Valley Pkwy NB On Ramp	1640	3	0.50	5,325	2,805	1987.23	73.6	75	64.211	30.948	D	1046.793	73.6	75	74.9758	13.962	B	5,325	2,805	1987.23	73.6	75	64.211	30.948	D	1046.793	73.6	75	74.9758	13.962	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3080	3	0.67	5,377	2,888	2006.63	73.11	75	63.7826	31.461	D	1077.768	73.11	75	74.933	14.383	B	5,419	2,915	2022.31	73.11	75	63.4306	31.882	D	1087.844	73.11	75	74.9146	14.521	B

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

		Segment Inputs			AM Flow Inputs			AM LOS Performance Measures												Cumulative
		Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
G	EB Silva Valley Pkwy SB On Ramp	4	1	200	2557	1965	592	2863	2200	663	63	0.1987	437.06	9600	881	328	880	0.2982	15.95	B
H	EB Silva Valley Pkwy NB On Ramp	4	1	1000	3348	2557	791	3748	2863	886	82	0.1071	306.61	9600	1278	230	1145	0.3904	14.637	B

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

			Segment Inputs			Conditions: PM Flow Inputs			PM LOS Performance Measures											
			Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
			(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
G	EB	Silva Valley Pkwy SB On Ramp	4	1	200	5148	4300	848	5764	4814	949	138	0.0991	477.21	9600	2168	358	1926	0.6004	26.21	C
H	EB	Silva Valley Pkwy NB On Ramp	4	1	1000	5891	5148	743	6595	5764	832	165	0.1138	656.01	9600	2554	492	2305	0.687	23.293	C

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

Cumulative Co

			Segment Inputs			AM Flow Inputs			AM LOS Performance Measures											
			Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
			(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
B	EB	Latrobe SB Off Ramp	4	1	140	2077	3683	1606	2325.34	4123.4	1798	0.436	2811.9	9600	656	2109	2812	0.4295	27.174	C
C	EB	Latrobe NB Off Ramp	4	1	120	1615	2077	462	1808.1	2325.3	517.24	0.436	1305.6	9600	510	979	1306	0.2422	14.4	B

Univeral Inputs:

Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

onditions

			Segment Inputs			PM Flow Inputs			PM LOS Performance Measures											
			Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_D)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
			(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
B	EB	Latrobe SB Off Ramp	4	1	140	4851	6274	1423	5431.01	7024.2	1593.1	0.436	3961.1	9600	1532	2971	3961	0.7317	37.057	E
C		Latrobe NB Off Ramp	4	1	120	3820	4851	1031	4276.74	5431	1154.3	0.436	3018.9	9600	1206	2264	3019	0.5657	29.135	D

Univeral Inputs:

Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Weave

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

	Cumulative			Cumulative Projects plus Proposed Project		
Basic Freeway LOS Default Values	EB	WB	WB	EB	WB	WB
Segment	E	D	G	E	D	G
	Latrobe Rd On Ramp to Silva Valley Pkwy Off Ramp	Silva Valley Pkwy NB On Ramp to El Dorado Hills Blvd Off Ramp	El Dorado Hills to Empire Ranch	Latrobe Rd On Ramp to Silva Valley Pkwy Off Ramp	Silva Valley Pkwy NB On Ramp to El Dorado Hills Blvd Off Ramp	El Dorado Hills to Empire Ranch
Segment Inputs						
Length (ft)	3450	4150	5775	3450	4150	5775
Number of lanes (N)[c]	5	5	5	5	5	5
Exist Lanes	1	2	1	1	2	1
L_s (ft)	2450	3150	4775	2450	3150	4775
Interchange Density (I/mi)	0.67	0.67	0.67	0.67	0.67	0.67
LC_{RF} *minimum number of lane changes*	0	1	1	0	1	1
LC_{FR}	1	1	1	1	1	1
LC_{RR}	0	0	0	0	0	0
AM Flow Inputs						
V_U (veh/h) *total freeway volume upstream*	1615	5325	5377	1630	5325	5419
V_{ONR} (veh/h) *total on ramp volume*	969	1105	1899	969	1147	1941
V_{OFFR} (veh/h) *total on ramp volume*	619	1053	2020	634	1053	2020
V_{FF} *freeway to freeway*	1228.125	4452.958787	3884.210005	1232.377838	4458.617892	3931.720109
V_{RF} *ramp to freeway*	736.875	924.0412131	1371.789995	732.6221624	960.3821075	1408.279891
V_{FR} *freeway to ramp*	386.875	872.0412131	1492.789995	397.6221624	866.3821075	1487.279891
V_{RR} *ramp to ramp*	232.125	180.9587869	527.2100055	236.3778376	186.6178925	532.7201087
PHF	0.92	0.92	0.92	0.92	0.92	0.92
% Trucks (P_T)	6%	6%	6%	6%	6%	6%
f_{HV}	0.970873786	0.970873786	0.970873786	0.970873786	0.970873786	0.970873786
v_{FF} *freeway to freeway* (pc/h/l)	1374.966033	4985.377772	4348.626419	1379.727362	4991.71351	4401.817078
v_{RF} *ramp to freeway* (pc/h/l)	824.9796196	1034.524402	1535.808363	820.2182905	1075.210403	1576.661183
v_{FR} *freeway to ramp(* pc/h/l)	433.1317935	976.3070103	1671.275755	445.1639427	969.9712726	1665.106835
v_{RR} *ramp to ramp* (pc/h/l)	259.8790761	202.5951636	590.2459844	264.6404052	208.9309013	596.4149043
v_W *weaving demand flow*	1258.111413	2010.831412	3207.084118	1265.382233	2045.181676	3241.768017
v_{NW} *nonweaving demand flow*	1634.845109	5187.972936	4938.872404	1644.367767	5200.644411	4998.231983
v *total demand flow*	2892.956522	7198.804348	8145.956522	2909.75	7245.826087	8240
VR	0.434887771	0.279328527	0.393702582	0.434876616	0.282256523	0.393418449
N_{WL}	2	3	2	2	3	2
L_{MAX}	7075.319388	3797.214393	6610.606835	7075.192424	3828.344509	6607.429075
	YES	YES	YES	YES	YES	YES
AM LOS Performance Measures						
c_W *capacity under prevailing conditions* (veh/h)	5358	11413	5917	5352	11398	5924
v/c	0.524205982	0.612383285	1.336605654	0.52784006	0.617194473	1.350438893
S_W (mi/h)	61.6	57.1		61.6	57.1	
S_{NW} (mi/h)	64.1	48.6		64	48.3	
S (mi/h)	62.98827793	50.70852668	#DIV/0!	62.93369893	50.49660904	#DIV/0!
D (pc/mi/ln)	9.185698091	28.3928752	#DIV/0!	9.247033145	28.69826796	#DIV/0!
LOS	A	D	F	A	D	F
PM Flow Inputs						
V_U (veh/h) *total freeway volume upstream*	3820	2805	2888	3866	2805	2915
V_{ONR} (veh/h) *total on ramp volume*	1146	667	1563	1146	694	1590
V_{OFFR} (veh/h) *total on ramp volume*	666	584	1790	712	584	1790
V_{FF} *freeway to freeway*	3307.692308	2333.191244	1726.571108	3316.799681	2336.831952	1756.764706
V_{RF} *ramp to freeway*	992.3076923	554.8087558	934.4288924	983.2003192	578.168048	958.2352941
V_{FR} *freeway to ramp*	512.3076923	471.8087558	1161.428892	549.2003192	468.168048	1158.235294
V_{RR} *ramp to ramp*	153.6923077	112.1912442	628.5711076	162.7996808	115.831952	631.7647059
PHF	0.92	0.92	0.92	0.92	0.92	0.92
% Trucks (P_T)	6%	6%	6%	6%	6%	6%
f_{HV}	0.970873786	0.970873786	0.970873786	0.970873786	0.970873786	0.970873786
v_{FF} *freeway to freeway* (pc/h/l)	3703.177258	2612.159763	1933.008957	3713.373556	2616.235772	1966.81266
v_{RF} *ramp to freeway* (pc/h/l)	1110.953177	621.1445853	1046.154086	1100.756879	647.2968364	1072.806905
v_{FR} *freeway to ramp(* pc/h/l)	573.5618729	528.2206722	1300.29539	614.8655748	524.1446625	1296.719949
v_{RR} *ramp to ramp* (pc/h/l)	172.0685619	125.6054147	703.7263487	182.26486	129.6814245	707.3017903
v_W *weaving demand flow*	1684.51505	1149.365257	2346.449476	1715.622454	1171.441499	2369.526854
v_{NW} *nonweaving demand flow*	3875.245819	2737.765177	2636.735306	3895.638416	2745.917197	2674.11445
v *total demand flow*	5559.76087	3887.130435	4983.184783	5611.26087	3917.358696	5043.641304
VR	0.302983364	0.295684767	0.470873463	0.305746336	0.29903861	0.469804792
N_{WL}	2	3	2	2	3	2
L_{MAX}	5615.928053	3971.658165	7487.975373	5645.626861	4007.591895	7475.632462
	YES	YES	YES	YES	YES	YES
PM LOS Performance Measures						
c_W *capacity under prevailing conditions* (veh/h)	6753	10323	4949	6720	10215	4961
v/c	0.799322684	0.365582974	0.977580012	0.810688406	0.372321182	0.987046791
S_W (mi/h)	60	59.4	58.9	59.8	59.3	58.9
S_{NW} (mi/h)	60.3	56.9	48.3	59.9	56.7	48.1
S (mi/h)	60.20878869	57.61702341	52.77196113	59.86938989	57.45328758	52.63412296
D (pc/mi/ln)	18.46827013	13.49299289	18.885729	18.74500769	13.63667376	19.1649106
LOS	B	B	B	B	B	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	164	230	285	99	812	107	380	290	11	106	490	411
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	1.00	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	3539	1583	1770	3539	1583	3433	3520		1770	1863	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	3539	1583	1770	3539	1583	3433	3520		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)	178	250	310	108	883	116	413	315	12	115	533	447
RTOR Reduction (vph)	0	0	222	0	0	82	0	3	0	0	0	98
Lane Group Flow (vph)	178	250	88	108	883	34	413	324	0	115	533	349
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	5.0	25.2	25.2	6.0	26.2	26.2	12.0	31.1		8.7	27.8	27.8
Effective Green, g (s)	5.0	25.2	25.2	6.0	26.2	26.2	12.0	31.1		8.7	27.8	27.8
Actuated g/C Ratio	0.06	0.28	0.28	0.07	0.29	0.29	0.13	0.35		0.10	0.31	0.31
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	192	999	447	119	1039	464	461	1227		172	580	493
v/s Ratio Prot	0.05	0.07		c0.06	c0.25		c0.12	c0.09		0.06	c0.29	
v/s Ratio Perm			0.06			0.02						0.22
v/c Ratio	0.93	0.25	0.20	0.91	0.85	0.07	0.90	0.26		0.67	0.92	0.71
Uniform Delay, d1	41.9	24.7	24.3	41.3	29.6	22.7	38.0	20.8		38.9	29.6	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	44.3	0.1	0.2	54.2	6.6	0.1	19.5	0.1		9.5	19.6	4.6
Delay (s)	86.2	24.8	24.5	95.5	36.3	22.8	57.5	21.0		48.3	49.2	31.7
Level of Service	F	C	C	F	D	C	E	C		D	D	C
Approach Delay (s)		39.5			40.7			41.4			42.0	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	18.2	
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)	40	272	21	111	790	98	55	80	93	58	221	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	1843		1770	1832		1770	1713			1844	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	1770	1843		1770	1832		1770	1713			1844	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)	43	296	23	121	859	107	60	87	101	63	240	446
RTOR Reduction (vph)	0	2	0	0	3	0	0	31	0	0	0	217
Lane Group Flow (vph)	43	317	0	121	963	0	60	157	0	0	303	229
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	3.6	60.8		13.4	70.6		15.9	15.9			23.8	23.8
Effective Green, g (s)	3.6	60.8		13.4	70.6		15.9	15.9			23.8	23.8
Actuated g/C Ratio	0.03	0.46		0.10	0.53		0.12	0.12			0.18	0.18
Clearance Time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	47	843		178	973		211	204			330	283
v/s Ratio Prot	c0.02	0.17		0.07	c0.53		0.03	c0.09			c0.16	
v/s Ratio Perm												0.14
v/c Ratio	0.91	0.38		0.68	0.99		0.28	0.77			0.92	0.81
Uniform Delay, d1	64.5	23.6		57.7	30.8		53.3	56.7			53.6	52.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	98.6	0.6		9.0	26.1		1.3	18.1			30.1	17.4
Delay (s)	163.1	24.2		66.7	56.9		54.6	74.8			83.7	69.8
Level of Service	F	C		E	E		D	E			F	E
Approach Delay (s)		40.7			58.0			69.9			75.4	
Approach LOS		D			E			E			E	

Intersection Summary				
HCM 2000 Control Delay	62.0	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	132.9	Sum of lost time (s)	19.0	
Intersection Capacity Utilization	95.7%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

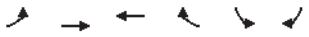
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	278	182	167	724	30	335	68	76	7	47	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.92			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1852		1770	1715			1822	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1852		1770	1715			1822	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	302	198	182	787	33	364	74	83	8	51	8
RTOR Reduction (vph)	0	0	124	0	1	0	0	30	0	0	5	0
Lane Group Flow (vph)	10	302	74	182	819	0	364	127	0	0	62	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	0.7	40.8	40.8	15.5	55.6		26.8	26.8			7.2	
Effective Green, g (s)	0.7	40.8	40.8	15.5	55.6		26.8	26.8			7.2	
Actuated g/C Ratio	0.01	0.38	0.38	0.14	0.51		0.25	0.25			0.07	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	11	699	594	252	948		436	423			120	
v/s Ratio Prot	0.01	0.16		c0.10	c0.44		c0.21	0.07			c0.03	
v/s Ratio Perm			0.05									
v/c Ratio	0.91	0.43	0.13	0.72	0.86		0.83	0.30			0.52	
Uniform Delay, d1	53.9	25.3	22.2	44.5	23.2		38.8	33.3			49.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	217.6	0.4	0.1	9.2	8.2		12.7	0.3			2.8	
Delay (s)	271.5	25.7	22.3	53.7	31.4		51.5	33.6			51.8	
Level of Service	F	C	C	D	C		D	C			D	
Approach Delay (s)		29.2			35.5			46.1			51.8	
Approach LOS		C			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	108.6	Sum of lost time (s)	18.3	
Intersection Capacity Utilization	80.4%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	274	116	0	724	139	98
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	298	126	0	787	151	107
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			424		1148	361
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			424		1148	361
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		31	84
cM capacity (veh/h)			1135		220	684

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	424	787	151	107
Volume Left	0	0	151	0
Volume Right	126	0	0	107
cSH	1700	1135	220	684
Volume to Capacity	0.25	0.00	0.69	0.16
Queue Length 95th (ft)	0	0	109	14
Control Delay (s)	0.0	0.0	51.1	11.2
Lane LOS			F	B
Approach Delay (s)	0.0	0.0	34.6	
Approach LOS			D	

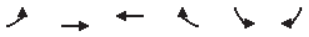
Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	357	758	5	12	27
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	388	824	5	13	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	829				1236	827
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	829				1236	827
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				93	92
cM capacity (veh/h)	802				192	372

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	399	829	42
Volume Left	11	0	13
Volume Right	0	5	29
cSH	802	1700	288
Volume to Capacity	0.01	0.49	0.15
Queue Length 95th (ft)	1	0	13
Control Delay (s)	0.4	0.0	19.6
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	19.6
Approach LOS			C

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		50.2%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	4	338	724	5	10	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	367	787	5	11	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	792				1166	790
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	792				1166	790
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	93
cM capacity (veh/h)	828				213	390

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	372	792	38
Volume Left	4	0	11
Volume Right	0	5	27
cSH	828	1700	315
Volume to Capacity	0.01	0.47	0.12
Queue Length 95th (ft)	0	0	10
Control Delay (s)	0.2	0.0	18.0
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	18.0
Approach LOS			C

Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization		48.4%	ICU Level of Service	A
Analysis Period (min)		15		

7: Deer Valley Rd. & Green Valley Rd.

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	314	1	2	522	6	6	0	10	42	0	11
Sign Control		Free			Free			Stop			Stop	
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	0.92	0.92
Hourly flow rate (vph)	5	341	1	2	567	7	7	0	11	46	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	574			342			936	931	342	938	928	571
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	574			342			936	931	342	938	928	571
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			97	100	98	81	100	98
cM capacity (veh/h)	999			1217			238	265	701	239	266	521

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	5	342	2	574	17	58
Volume Left	5	0	2	0	7	46
Volume Right	0	1	0	7	11	12
cSH	999	1700	1217	1700	405	270
Volume to Capacity	0.01	0.20	0.00	0.34	0.04	0.21
Queue Length 95th (ft)	0	0	0	0	3	20
Control Delay (s)	8.6	0.0	8.0	0.0	14.3	21.9
Lane LOS	A		A		B	C
Approach Delay (s)	0.1		0.0		14.3	21.9
Approach LOS					B	C

Intersection Summary					
Average Delay	1.6				
Intersection Capacity Utilization	40.3%	ICU Level of Service		A	
Analysis Period (min)	15				

8: Silver Springs Pkwy & Green Valley Rd

Timing Plan: AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	628	29	16	838	74	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	1851			1861	1726	
Flt Permitted	1.00			0.99	0.97	
Satd. Flow (perm)	1851			1837	1726	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	683	32	17	911	80	35
RTOR Reduction (vph)	3	0	0	0	29	0
Lane Group Flow (vph)	712	0	0	928	86	0
Turn Type	NA		Perm	NA	NA	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	28.0			28.0	8.0	
Effective Green, g (s)	28.0			28.0	8.0	
Actuated g/C Ratio	0.64			0.64	0.18	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1177			1169	313	
v/s Ratio Prot	0.38				c0.05	
v/s Ratio Perm				c0.51		
v/c Ratio	0.61			0.79	0.28	
Uniform Delay, d1	4.7			5.9	15.5	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.9			3.8	0.5	
Delay (s)	5.6			9.7	16.0	
Level of Service	A			A	B	
Approach Delay (s)	5.6			9.7	16.0	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	8.0
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)	3	401	187	336	533	8	316	6	189	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	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			1.00	1.00		1.00	
Frt	1.00	0.95		1.00	1.00			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1770	1774		1770	1858			1776	1583		1695	
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)	1770	1774		1770	1858			1776	1583		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)	3	436	203	365	579	9	343	7	205	1	0	1
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	112	0	2	0
Lane Group Flow (vph)	3	628	0	365	588	0	0	350	93	0	0	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	47.3		26.1	72.7			26.2	26.2		1.0	
Effective Green, g (s)	0.7	47.3		26.1	72.7			26.2	26.2		1.0	
Actuated g/C Ratio	0.01	0.41		0.22	0.62			0.22	0.22		0.01	
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)	10	719		396	1158			399	355		14	
v/s Ratio Prot	0.00	c0.35		c0.21	0.32			c0.20			c0.00	
v/s Ratio Perm									0.06			
v/c Ratio	0.30	0.87		0.92	0.51			0.88	0.26		0.00	
Uniform Delay, d1	57.7	31.9		44.3	12.1			43.6	37.2		57.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	16.1	11.4		26.6	0.4			19.0	0.4		0.0	
Delay (s)	73.9	43.3		70.8	12.4			62.6	37.6		57.3	
Level of Service	E	D		E	B			E	D		E	
Approach Delay (s)		43.4			34.8			53.4			57.3	
Approach LOS		D			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	42.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	116.6	Sum of lost time (s)	16.0	
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)	10	362	223	83	426	11	464	9	160	19	20	38
Ideal Flow (vphpl)	1900	1900	1900	1900	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		1.00	1.00			1.00	
Frt	1.00	0.94		1.00	1.00		1.00	0.86			0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1756		1770	1856		1770	1599			1719	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1756		1770	1856		1770	1599			1719	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	393	242	90	463	12	504	10	174	21	22	41
RTOR Reduction (vph)	0	23	0	0	1	0	0	122	0	0	38	0
Lane Group Flow (vph)	11	612	0	90	474	0	504	62	0	0	46	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.8	31.5		5.0	35.7		25.1	25.1			6.5	
Effective Green, g (s)	0.8	31.5		5.0	35.7		25.1	25.1			6.5	
Actuated g/C Ratio	0.01	0.37		0.06	0.42		0.30	0.30			0.08	
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)	16	657		105	787		528	477			132	
v/s Ratio Prot	0.01	c0.35		c0.05	0.26		c0.28	0.04			c0.03	
v/s Ratio Perm												
v/c Ratio	0.69	0.93		0.86	0.60		0.95	0.13			0.35	
Uniform Delay, d1	41.5	25.3		39.2	18.7		28.9	21.5			36.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	80.1	20.2		45.7	1.3		27.9	0.1			1.6	
Delay (s)	121.6	45.4		84.9	20.0		56.8	21.7			38.4	
Level of Service	F	D		F	C		E	C			D	
Approach Delay (s)		46.7			30.3			47.4			38.4	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	41.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	79.6%	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)	27	144	313	190	213	12	300	39	137	15	115	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.88		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	1672		1770	1848		1770	1645		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1672		1770	1848		1770	1645		1770	1815	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	157	340	207	232	13	326	42	149	16	125	26
RTOR Reduction (vph)	0	83	0	0	2	0	0	93	0	0	9	0
Lane Group Flow (vph)	29	414	0	207	243	0	326	98	0	16	142	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.9	25.4		11.9	35.4		18.0	32.1		0.7	14.8	
Effective Green, g (s)	1.9	25.4		11.9	35.4		18.0	32.1		0.7	14.8	
Actuated g/C Ratio	0.02	0.30		0.14	0.41		0.21	0.37		0.01	0.17	
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)	39	493		244	759		370	613		14	311	
v/s Ratio Prot	0.02	c0.25		c0.12	0.13		c0.18	0.06		0.01	c0.08	
v/s Ratio Perm												
v/c Ratio	0.74	0.84		0.85	0.32		0.88	0.16		1.14	0.46	
Uniform Delay, d1	41.9	28.4		36.2	17.2		33.0	18.0		42.7	32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	54.3	11.9		23.0	0.2		20.9	0.1		291.3	1.1	
Delay (s)	96.1	40.4		59.2	17.4		53.9	18.1		334.0	33.1	
Level of Service	F	D		E	B		D	B		F	C	
Approach Delay (s)		43.4			36.6			40.7			61.9	
Approach LOS		D			D			D			E	

Intersection Summary				
HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	86.1	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	41	501	47	56	55	436	238	43	142	575	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	45	545	51	61	60	474	259	47	154	625	12

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	49	545	172	474	305	154	637
Volume Left (vph)	4	0	51	474	0	154	0
Volume Right (vph)	0	545	60	0	47	0	12
Hadj (s)	0.05	-0.57	-0.12	0.53	-0.07	0.53	0.02
Departure Headway (s)	7.7	3.2	7.0	6.9	6.3	7.1	6.5
Degree Utilization, x	0.10	0.48	0.33	0.90	0.53	0.30	1.16
Capacity (veh/h)	440	1116	499	511	568	497	554
Control Delay (s)	11.6	9.2	13.4	44.3	14.9	11.9	111.7
Approach Delay (s)	9.4		13.4	32.8		92.2	
Approach LOS	A		B	D		F	

Intersection Summary				
Delay	45.5			
Level of Service	E			
Intersection Capacity Utilization	80.9%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	794	171	382	643	314	1064
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	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	863	186	415	699	341	1157
RTOR Reduction (vph)	0	92	0	546	0	0
Lane Group Flow (vph)	863	94	415	153	341	1157
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	34.6	34.6	15.0	15.0	7.0	26.0
Effective Green, g (s)	34.6	34.6	15.0	15.0	7.0	26.0
Actuated g/C Ratio	0.50	0.50	0.22	0.22	0.10	0.38
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)	892	798	773	346	350	1341
v/s Ratio Prot	c0.49		0.12		0.10	c0.33
v/s Ratio Perm		0.06		0.10		
v/c Ratio	0.97	0.12	0.54	0.44	0.97	0.86
Uniform Delay, d1	16.5	9.0	23.7	23.2	30.7	19.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.3	0.1	0.7	0.9	40.9	6.0
Delay (s)	38.7	9.0	24.4	24.1	71.6	25.6
Level of Service	D	A	C	C	E	C
Approach Delay (s)	33.5		24.2			36.1
Approach LOS	C		C			D

Intersection Summary				
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	68.6	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	80.1%	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)	57	55	181	664	50	214	46	929	198	154	1646	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	5.2	4.0	3.0	5.2	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.89		1.00	0.93		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1649		1681	1610		1770	3539	1583	1770	3521	
Flt Permitted	0.95	1.00		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1649		1681	1610		1770	3539	1583	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)	62	60	197	722	54	233	50	1010	215	167	1789	63
RTOR Reduction (vph)	0	45	0	0	22	0	0	0	0	0	1	0
Lane Group Flow (vph)	62	212	0	520	467	0	50	1010	215	167	1851	0
Turn Type	Split	NA		Split	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	15.0	15.0		40.0	40.0		4.8	65.0	150.0	15.8	76.0	
Effective Green, g (s)	15.0	15.0		40.0	40.0		4.8	65.0	150.0	15.8	76.0	
Actuated g/C Ratio	0.10	0.10		0.27	0.27		0.03	0.43	1.00	0.11	0.51	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	5.2		3.0	5.2	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	177	164		448	429		56	1533	1583	186	1783	
v/s Ratio Prot	0.04	c0.13		c0.31	0.29		c0.03	0.29		0.09	c0.53	
v/s Ratio Perm									0.14			
v/c Ratio	0.35	1.29		1.16	1.09		0.89	0.66	0.14	0.90	1.04	
Uniform Delay, d1	63.0	67.5		55.0	55.0		72.3	33.7	0.0	66.3	37.0	
Progression Factor	1.00	1.00		1.00	1.00		0.60	0.25	1.00	1.00	1.00	
Incremental Delay, d2	0.4	169.4		94.5	69.5		78.3	2.1	0.2	37.5	31.8	
Delay (s)	63.4	236.9		149.5	124.5		121.5	10.7	0.2	103.9	68.8	
Level of Service	E	F		F	F		F	B	A	F	E	
Approach Delay (s)		203.2			137.4			13.3			71.7	
Approach LOS		F			F			B			E	

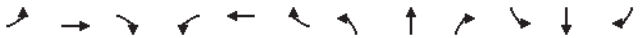
Intersection Summary				
HCM 2000 Control Delay	79.0	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.10			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.2	
Intersection Capacity Utilization	105.3%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	11	203	13	13	51	191	1093	32	125	2339	27
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	1.00	1.00		1.00	0.91		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	1.00		1.00	1.00	
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1728	1583	1770	1640		1770	5063		1770	3533	
Flt Permitted	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1728	1583	1770	1640		1770	5063		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)	34	12	221	14	14	55	208	1188	35	136	2542	29
RTOR Reduction (vph)	0	0	211	0	53	0	0	1	0	0	0	0
Lane Group Flow (vph)	23	23	10	14	16	0	208	1222	0	136	2571	0
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	7	7	7	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	6.9	6.9	6.9	5.0	5.0		12.0	99.4		21.0	108.4	
Effective Green, g (s)	6.9	6.9	6.9	5.0	5.0		12.0	101.1		21.0	110.1	
Actuated g/C Ratio	0.05	0.05	0.05	0.03	0.03		0.08	0.67		0.14	0.73	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	4.2		0.2	4.2	
Lane Grp Cap (vph)	77	79	72	59	54		141	3412		247	2593	
v/s Ratio Prot	c0.01	0.01	0.01	0.01	c0.01		c0.12	0.24		0.08	c0.73	
v/s Ratio Perm												
v/c Ratio	0.30	0.29	0.14	0.24	0.29		1.48	0.36		0.55	0.99	
Uniform Delay, d1	69.2	69.2	68.7	70.6	70.8		69.0	10.5		60.1	19.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.18		0.82	0.43	
Incremental Delay, d2	0.8	0.7	0.3	0.8	1.1		243.6	0.3		0.1	3.7	
Delay (s)	70.0	69.9	69.0	71.4	71.9		308.8	2.1		49.7	12.0	
Level of Service	E	E	E	E	E		F	A		D	B	
Approach Delay (s)		69.2			71.8			46.7			13.9	
Approach LOS		E			E			D			B	

Intersection Summary				
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	93.9%	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)	190	87	776	168	199	58	906	1100	169	69	1665	836
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91		1.00	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	0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1737	1583	1681	1763	1583	3433	4984		1770	5085	1583
Flt Permitted	0.95	0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1737	1583	1681	1763	1583	3433	4984		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)	207	95	843	183	216	63	985	1196	184	75	1810	909
RTOR Reduction (vph)	0	0	0	0	0	53	0	13	0	0	0	0
Lane Group Flow (vph)	149	153	843	165	234	10	985	1367	0	75	1810	909
Turn Type	Split	NA	Free	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			8						Free
Actuated Green, G (s)	15.4	15.4	150.0	23.2	23.2	23.2	43.9	82.5		12.9	51.5	150.0
Effective Green, g (s)	15.4	15.4	150.0	23.2	23.2	23.2	43.9	82.5		12.9	51.5	150.0
Actuated g/C Ratio	0.10	0.10	1.00	0.15	0.15	0.15	0.29	0.55		0.09	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	
Vehicle Extension (s)	3.0	3.0		2.2	2.2	2.2	3.0	3.5		2.0	2.5	
Lane Grp Cap (vph)	172	178	1583	259	272	244	1004	2741		152	1745	1583
v/s Ratio Prot	c0.09	0.09		0.10	c0.13		c0.29	0.27		0.04	c0.36	
v/s Ratio Perm			0.53			0.01						0.57
v/c Ratio	0.87	0.86	0.53	0.64	0.86	0.04	0.98	0.50		0.49	1.04	0.57
Uniform Delay, d1	66.3	66.2	0.0	59.5	61.8	53.9	52.6	20.9		65.4	49.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.45	0.58		0.72	0.64	1.00
Incremental Delay, d2	33.7	31.4	1.3	4.0	22.6	0.0	19.1	0.4		0.3	23.6	0.5
Delay (s)	100.0	97.7	1.3	63.5	84.5	54.0	42.9	12.6		47.6	55.3	0.5
Level of Service	F	F	A	E	F	D	D	B		D	E	A
Approach Delay (s)		27.0			72.8			25.2			37.3	
Approach LOS		C			E			C			D	

Intersection Summary				
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0	
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)	0	0	1606	0	0	477	0	1698	245	724	1885	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			0.88			1.00		0.91	1.00	1.00	0.86	
Frt			0.85			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			2787			1611		5085	1583	1770	6408	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			2787			1611		5085	1583	1770	6408	
Peak-hour factor, PHF	0.92	0.92	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	1746	0	0	518	0	1846	266	787	2049	0
RTOR Reduction (vph)	0	0	5	0	0	0	0	0	72	0	0	0
Lane Group Flow (vph)	0	0	1741	0	0	518	0	1846	194	787	2049	0
Turn Type			custom			Free		NA	Perm	Prot	NA	
Protected Phases			5					2		1	6	
Permitted Phases			1			Free			2			
Actuated Green, G (s)			121.6			150.0		66.4	66.4	75.6	96.0	
Effective Green, g (s)			121.6			150.0		66.4	66.4	75.6	96.0	
Actuated g/C Ratio			0.81			1.00		0.44	0.44	0.50	0.64	
Clearance Time (s)			4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)			3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)			2333			1611		2250	700	892	4101	
v/s Ratio Prot			0.23					c0.36		c0.44	0.32	
v/s Ratio Perm			0.40			0.32			0.12			
v/c Ratio			0.75			0.32		0.82	0.28	0.88	0.50	
Uniform Delay, d1			6.8			0.0		36.6	26.6	33.2	14.3	
Progression Factor			1.00			1.00		1.00	1.00	0.35	0.43	
Incremental Delay, d2			1.3			0.5		3.5	1.0	5.5	0.2	
Delay (s)			8.1			0.5		40.1	27.5	17.2	6.4	
Level of Service			A			A		D	C	B	A	
Approach Delay (s)		8.1			0.5			38.5			9.4	
Approach LOS		A			A			D			A	

Intersection Summary				
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0	
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)	486	0	148	0	0	0	791	775	0	0	1376	620
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.91	0.95				0.97	0.95			0.95	1.00
Frt	1.00	0.99	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1605	1504				3433	3539			3539	1583
Flt Permitted	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1605	1504				3433	3539			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)	528	0	161	0	0	0	860	842	0	0	1496	674
RTOR Reduction (vph)	0	50	119	0	0	0	0	0	0	0	0	257
Lane Group Flow (vph)	275	219	26	0	0	0	860	842	0	0	1496	417
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4					5	2			6	
Permitted Phases			4									6
Actuated Green, G (s)	16.0	16.0	16.0				23.0	66.0			39.0	39.0
Effective Green, g (s)	16.0	16.0	16.0				23.0	66.0			39.0	39.0
Actuated g/C Ratio	0.18	0.18	0.18				0.26	0.73			0.43	0.43
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)	298	285	267				877	2595			1533	685
v/s Ratio Prot	c0.16	0.14					c0.25	0.24			c0.42	
v/s Ratio Perm			0.02									0.26
v/c Ratio	0.92	0.77	0.10				0.98	0.32			0.98	0.61
Uniform Delay, d1	36.4	35.2	31.0				33.3	4.2			25.0	19.6
Progression Factor	1.00	1.00	1.00				1.00	1.00			0.73	0.69
Incremental Delay, d2	32.5	11.7	0.2				25.6	0.3			3.3	0.4
Delay (s)	68.9	47.0	31.1				58.8	4.5			21.5	13.8
Level of Service	E	D	C				E	A			C	B
Approach Delay (s)		52.4			0.0			32.0			19.1	
Approach LOS		D			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	85.6%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

20: Silva Valley Pkwy & WB US-50 Ramps

Timing Plan: AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	701	0	563	466	795	0	0	1295	681
Ideal Flow (vphpl)	1900	1900	1900	1900	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				0.95	0.91	0.95	1.00	0.95			0.95	1.00
Frt				1.00	0.94	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	1549	1504	1770	3539			3539	1583
Flt Permitted				0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1549	1504	1770	3539			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)	0	0	0	762	0	612	507	864	0	0	1408	740
RTOR Reduction (vph)	0	0	0	0	46	151	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	480	413	284	507	864	0	0	1408	740
Turn Type				Split	NA	Perm	Prot	NA			NA	Free
Protected Phases				8	8		5	2			6	
Permitted Phases						8						Free
Actuated Green, G (s)				22.0	22.0	22.0	23.0	60.0			33.0	90.0
Effective Green, g (s)				22.0	22.0	22.0	23.0	60.0			33.0	90.0
Actuated g/C Ratio				0.24	0.24	0.24	0.26	0.67			0.37	1.00
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)				410	378	367	452	2359			1297	1583
v/s Ratio Prot				c0.29	0.27		c0.29	0.24			c0.40	
v/s Ratio Perm						0.19						0.47
v/c Ratio				1.17	1.09	0.77	1.12	0.37			1.09	0.47
Uniform Delay, d1				34.0	34.0	31.7	33.5	6.6			28.5	0.0
Progression Factor				1.00	1.00	1.00	1.00	0.59			0.83	1.00
Incremental Delay, d2				100.0	73.4	9.8	77.1	0.4			47.9	0.7
Delay (s)				134.0	107.4	41.4	110.5	4.3			71.7	0.7
Level of Service				F	F	D	F	A			E	A
Approach Delay (s)		0.0			95.8			43.6			47.2	
Approach LOS		A			F			D			D	

Intersection Summary				
HCM 2000 Control Delay	59.8	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.12			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	96.8%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

21: Silva Valley Pkwy & County Club Dr.

Timing Plan: AM

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	255	246	1107	252	1	1720
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	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3441		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3441		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	267	1203	274	1	1870
RTOR Reduction (vph)	0	110	17	0	0	0
Lane Group Flow (vph)	277	157	1460	0	1	1870
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	18.6	18.6	58.6		0.8	63.4
Effective Green, g (s)	18.6	18.6	58.6		0.8	63.4
Actuated g/C Ratio	0.21	0.21	0.65		0.01	0.70
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	365	327	2240		15	2493
v/s Ratio Prot	c0.16		0.42		0.00	c0.53
v/s Ratio Perm		0.10				
v/c Ratio	0.76	0.48	0.65		0.07	0.75
Uniform Delay, d1	33.6	31.4	9.5		44.2	8.3
Progression Factor	1.00	1.00	1.28		1.00	1.00
Incremental Delay, d2	8.8	1.1	1.2		1.9	2.1
Delay (s)	42.4	32.5	13.4		46.1	10.5
Level of Service	D	C	B		D	B
Approach Delay (s)	37.5		13.4			10.5
Approach LOS	D		B			B

Intersection Summary				
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	68.3%	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)	166	83	166	535	230	360	150	683	255	168	768	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.90		1.00	0.91		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)	1770	3185		1770	3215		1770	3539	1583	1770	3407	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3185		1770	3215		1770	3539	1583	1770	3407	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	180	90	180	582	250	391	163	742	277	183	835	278
RTOR Reduction (vph)	0	165	0	0	193	0	0	0	133	0	21	0
Lane Group Flow (vph)	180	105	0	582	448	0	163	742	144	183	1092	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	18.9	11.2		47.0	39.3		13.0	42.7	42.7	17.7	47.4	
Effective Green, g (s)	18.9	11.2		47.0	39.3		13.0	42.7	42.7	17.7	47.4	
Actuated g/C Ratio	0.14	0.08		0.34	0.29		0.09	0.31	0.31	0.13	0.35	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
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)	243	260		606	920		167	1101	492	228	1177	
v/s Ratio Prot	0.10	0.03		c0.33	c0.14		c0.09	0.21		c0.10	c0.32	
v/s Ratio Perm									0.09			
v/c Ratio	0.74	0.40		0.96	0.49		0.98	0.67	0.29	0.80	0.93	
Uniform Delay, d1	56.8	59.8		44.2	40.6		61.9	41.2	35.8	58.1	43.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.5	1.0		26.9	0.4		62.0	1.6	0.3	18.1	12.4	
Delay (s)	68.3	60.8		71.1	41.0		123.9	42.8	36.1	76.2	55.7	
Level of Service	E	E		E	D		F	D	D	E	E	
Approach Delay (s)		63.8			55.3			52.4			58.6	
Approach LOS		E			E			D			E	

Intersection Summary				
HCM 2000 Control Delay	56.4	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	137.2	Sum of lost time (s)	18.6	
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)	99	127	316	140	82	12	537	297	47	43	302	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	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		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	1863	1583	1770	1827		1770	1825		1770	1863	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	1770	1827		1770	1825		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)	108	138	343	152	89	13	584	323	51	47	328	424
RTOR Reduction (vph)	0	0	293	0	6	0	0	6	0	0	0	318
Lane Group Flow (vph)	108	138	50	152	96	0	584	368	0	47	328	106
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	6.2	12.6	12.6	8.1	14.5		30.0	46.2		3.4	19.6	19.6
Effective Green, g (s)	6.2	12.6	12.6	8.1	14.5		30.0	46.2		3.4	19.6	19.6
Actuated g/C Ratio	0.07	0.15	0.15	0.09	0.17		0.35	0.54		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
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)	127	272	231	166	306		615	976		69	423	359
v/s Ratio Prot	0.06	c0.07		c0.09	0.05		c0.33	0.20		0.03	c0.18	
v/s Ratio Perm			0.03									0.07
v/c Ratio	0.85	0.51	0.22	0.92	0.31		0.95	0.38		0.68	0.78	0.29
Uniform Delay, d1	39.6	34.0	32.5	38.8	31.5		27.4	11.7		40.9	31.3	27.6
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	38.8	1.5	0.5	45.7	0.6		24.1	0.2		24.2	8.6	0.5
Delay (s)	78.4	35.5	33.0	84.5	32.1		51.6	11.9		65.1	39.9	28.1
Level of Service	E	D	C	F	C		D	B		E	D	C
Approach Delay (s)		41.9			63.5			36.1			35.1	
Approach LOS		D			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	86.3	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	39	1	92	158	2	63	25	272	52	30	376	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	42	1	100	172	2	68	27	296	57	33	409	27

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	143	242	379	468
Volume Left (vph)	42	172	27	33
Volume Right (vph)	100	68	57	27
Hadj (s)	-0.33	0.01	-0.04	0.01
Departure Headway (s)	6.9	6.9	6.2	6.1
Degree Utilization, x	0.27	0.46	0.65	0.79
Capacity (veh/h)	439	470	548	567
Control Delay (s)	12.5	15.7	20.0	28.1
Approach Delay (s)	12.5	15.7	20.0	28.1
Approach LOS	B	C	C	D

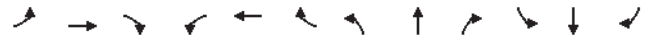
Intersection Summary				
Delay			21.3	
Level of Service			C	
Intersection Capacity Utilization			55.7%	ICU Level of Service
Analysis Period (min)			15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	295	39	0	757	0	21
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	321	42	0	823	0	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				796		
pX, platoon unblocked					0.72	
vC, conflicting volume			363		1165	342
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			363		1037	342
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			1196		185	701

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	363	823	23
Volume Left	0	0	0
Volume Right	42	0	23
cSH	1700	1700	701
Volume to Capacity	0.21	0.48	0.03
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary					
Average Delay			0.2		
Intersection Capacity Utilization			43.2%	ICU Level of Service	A
Analysis Period (min)			15		

26: Site Dwy. Full/Site Dwy. & Green Valley Rd. Timing Plan: AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	277	39	23	543	0	214	0	43	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			
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00			
Frt		0.98		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1829		1770	1863			1770	1583			
Flt Permitted		1.00		0.54	1.00			0.76	1.00			
Satd. Flow (perm)		1829		1001	1863			1410	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	301	42	25	590	0	233	0	47	0	0	0
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	32	0	0	0
Lane Group Flow (vph)	0	331	0	25	590	0	0	233	15	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		15.7		15.7	15.7			11.1	11.1			
Effective Green, g (s)		15.7		15.7	15.7			11.1	11.1			
Actuated g/C Ratio		0.45		0.45	0.45			0.32	0.32			
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		825		451	840			449	504			
v/s Ratio Prot		0.18			c0.32							
v/s Ratio Perm				0.02				c0.17	0.01			
v/c Ratio		0.40		0.06	0.70			0.52	0.03			
Uniform Delay, d1		6.4		5.4	7.7			9.7	8.1			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		0.3		0.1	2.7			1.0	0.0			
Delay (s)		6.7		5.4	10.4			10.7	8.2			
Level of Service		A		A	B			B	A			
Approach Delay (s)		6.7			10.2			10.3			0.0	
Approach LOS		A			B			B			A	

Intersection Summary				
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	34.8	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	47.1%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

1: Green Valley Rd. & Francisco Rd. Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	479	757	429	224	466	93	408	436	24	123	373	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	1.00	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	3539	1583	1770	3539	1583	3433	3512		1770	1863	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	3539	1583	1770	3539	1583	3433	3512		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)	521	823	466	243	507	101	443	474	26	134	405	235
RTOR Reduction (vph)	0	0	214	0	0	74	0	4	0	0	0	180
Lane Group Flow (vph)	521	823	252	243	507	27	443	496	0	134	405	55
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	14.0	25.0	25.0	13.0	24.0	24.0	12.0	25.6		7.0	20.6	20.6
Effective Green, g (s)	14.0	25.0	25.0	13.0	24.0	24.0	12.0	25.6		7.0	20.6	20.6
Actuated g/C Ratio	0.16	0.28	0.28	0.15	0.27	0.27	0.14	0.29		0.08	0.23	0.23
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7	5.7	4.0	4.5		4.0	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	541	996	445	259	956	427	463	1012		139	432	367
v/s Ratio Prot	c0.15	c0.23		0.14	0.14		c0.13	0.14		0.08	c0.22	
v/s Ratio Perm			0.16			0.02						0.03
v/c Ratio	0.96	0.83	0.57	0.94	0.53	0.06	0.96	0.49		0.96	0.94	0.15
Uniform Delay, d1	37.1	29.9	27.3	37.5	27.6	24.1	38.1	26.2		40.8	33.5	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	29.3	5.7	1.7	39.0	0.6	0.1	30.7	0.4		64.9	27.9	0.2
Delay (s)	66.5	35.6	28.9	76.5	28.2	24.1	68.9	26.6		105.6	61.3	27.3
Level of Service	E	D	C	E	C	C	E	C		F	E	C
Approach Delay (s)		42.8			41.5			46.4			58.7	
Approach LOS		D			D			D			E	

Intersection Summary				
HCM 2000 Control Delay	46.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	18.2	
Intersection Capacity Utilization	79.8%	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)	178	792	27	61	510	149	55	317	107	110	151	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.97		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1854		1770	1800		1770	1792			1824	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	1854		1770	1800		1770	1792			1824	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)	193	861	29	66	554	162	60	345	116	120	164	188
RTOR Reduction (vph)	0	1	0	0	7	0	0	9	0	0	0	159
Lane Group Flow (vph)	193	889	0	66	709	0	60	452	0	0	284	29
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	16.3	65.2		6.3	55.2		32.0	32.0			22.5	22.5
Effective Green, g (s)	16.3	65.2		6.3	55.2		32.0	32.0			22.5	22.5
Actuated g/C Ratio	0.11	0.45		0.04	0.38		0.22	0.22			0.16	0.16
Clearance Time (s)	3.5	6.0		3.5	6.0		4.0	4.0			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	198	833		76	685		390	395			283	245
v/s Ratio Prot	c0.11	c0.48		0.04	0.39		0.03	c0.25			c0.16	
v/s Ratio Perm												0.02
v/c Ratio	0.97	1.07		0.87	1.03		0.15	1.15			1.00	0.12
Uniform Delay, d1	64.1	39.9		68.9	44.9		45.6	56.5			61.2	52.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	56.2	50.7		59.8	43.6		0.3	91.2			54.4	0.4
Delay (s)	120.3	90.6		128.7	88.5		45.9	147.7			115.6	53.1
Level of Service	F	F		F	F		D	F			F	D
Approach Delay (s)		95.9			91.9			136.0			90.7	
Approach LOS		F			F			F			F	

Intersection Summary				
HCM 2000 Control Delay	101.2	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.08			
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	19.0	
Intersection Capacity Utilization	100.2%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

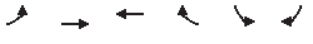
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	799	276	110	466	10	252	18	182	2	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	1857		1770	1609			1789	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1583	1770	1857		1770	1609			1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	868	300	120	507	11	274	20	198	2	10	4
RTOR Reduction (vph)	0	0	71	0	0	0	0	160	0	0	4	0
Lane Group Flow (vph)	10	868	229	120	518	0	274	58	0	0	12	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	0.7	63.6	63.6	10.1	73.0		22.2	22.2			2.5	
Effective Green, g (s)	0.7	63.6	63.6	10.1	73.0		22.2	22.2			2.5	
Actuated g/C Ratio	0.01	0.54	0.54	0.09	0.63		0.19	0.19			0.02	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	10	1015	862	153	1161		336	306			38	
v/s Ratio Prot	0.01	c0.47		c0.07	0.28		c0.15	0.04			c0.01	
v/s Ratio Perm			0.14									
v/c Ratio	1.00	0.86	0.27	0.78	0.45		0.82	0.19			0.32	
Uniform Delay, d1	58.0	22.6	14.1	52.2	11.3		45.3	39.7			56.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	284.6	7.2	0.2	21.9	0.3		13.8	0.2			3.5	
Delay (s)	342.6	29.8	14.3	74.1	11.6		59.1	39.9			59.8	
Level of Service	F	C	B	E	B		E	D			E	
Approach Delay (s)		28.5			23.4			50.6			59.8	
Approach LOS		C			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	116.7	Sum of lost time (s)	18.3	
Intersection Capacity Utilization	80.7%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	771	177	83	407	132	83
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	838	192	90	442	143	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1030		1557	934
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1030		1557	934
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			87		0	72
cM capacity (veh/h)			674		107	322

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	1030	533	143	90
Volume Left	0	90	143	0
Volume Right	192	0	0	90
cSH	1700	674	107	322
Volume to Capacity	0.61	0.13	1.34	0.28
Queue Length 95th (ft)	0	12	248	28
Control Delay (s)	0.0	3.6	275.0	20.5
Lane LOS		A	F	C
Approach Delay (s)	0.0	3.6	176.7	
Approach LOS			F	

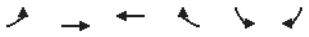
Intersection Summary			
Average Delay	24.0		
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	27	855	482	16	8	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	929	524	17	9	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	541				1521	533
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	541				1521	533
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				93	96
cM capacity (veh/h)	1027				127	547

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	959	541	29
Volume Left	29	0	9
Volume Right	0	17	21
cSH	1027	1700	276
Volume to Capacity	0.03	0.32	0.11
Queue Length 95th (ft)	2	0	9
Control Delay (s)	0.8	0.0	19.6
Lane LOS	A		C
Approach Delay (s)	0.8	0.0	19.6
Approach LOS			C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	860	476	11	13	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	935	517	12	14	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	529				1480	523
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	529				1480	523
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				90	97
cM capacity (veh/h)	1038				137	554

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	946	529	33
Volume Left	11	0	14
Volume Right	0	12	18
cSH	1038	1700	239
Volume to Capacity	0.01	0.31	0.14
Queue Length 95th (ft)	1	0	12
Control Delay (s)	0.3	0.0	22.5
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	22.5
Approach LOS			C

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	63.2%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	657	4	12	404	23	4	1	6	19	0	6
Sign Control		Free			Free			Stop			Stop	
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	0.92	0.92
Hourly flow rate (vph)	23	714	4	13	439	25	4	1	7	21	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	464			718			1234	1252	716	1245	1242	452
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	464			718			1234	1252	716	1245	1242	452
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			97	99	98	86	100	99
cM capacity (veh/h)	1097			883			148	166	430	144	169	608

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	23	718	13	464	12	27
Volume Left	23	0	13	0	4	21
Volume Right	0	4	0	25	7	7
cSH	1097	1700	883	1700	234	176
Volume to Capacity	0.02	0.42	0.01	0.27	0.05	0.15
Queue Length 95th (ft)	2	0	1	0	4	13
Control Delay (s)	8.4	0.0	9.1	0.0	21.2	29.1
Lane LOS	A		A		C	D
Approach Delay (s)	0.3		0.2		21.2	29.1
Approach LOS					C	D

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	44.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	766	83	32	463	64	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.97	
Flt Protected	1.00			1.00	0.96	
Satd. Flow (prot)	1838			1857	1737	
Flt Permitted	1.00			0.93	0.96	
Satd. Flow (perm)	1838			1724	1737	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	833	90	35	503	70	22
RTOR Reduction (vph)	6	0	0	0	18	0
Lane Group Flow (vph)	917	0	0	538	74	0
Turn Type	NA		Perm	NA	NA	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	27.5			27.5	7.6	
Effective Green, g (s)	27.5			27.5	7.6	
Actuated g/C Ratio	0.64			0.64	0.18	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1172			1100	306	
v/s Ratio Prot	c0.50				c0.04	
v/s Ratio Perm				0.31		
v/c Ratio	0.78			0.49	0.24	
Uniform Delay, d1	5.6			4.1	15.3	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	3.5			0.3	0.4	
Delay (s)	9.1			4.4	15.7	
Level of Service	A			A	B	
Approach Delay (s)	9.1			4.4	15.7	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	43.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.1%	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)	3	558	163	205	342	10	102	9	397	22	13	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	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1770	1800		1770	1855			1781	1583		1757	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (perm)	1770	1800		1770	1855			1781	1583		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	607	177	223	372	11	111	10	432	24	14	13
RTOR Reduction (vph)	0	9	0	0	1	0	0	0	375	0	12	0
Lane Group Flow (vph)	3	775	0	223	382	0	0	121	57	0	39	0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	42.9		12.2	54.4			11.6	11.6		4.7	
Effective Green, g (s)	0.7	42.9		12.2	54.4			11.6	11.6		4.7	
Actuated g/C Ratio	0.01	0.49		0.14	0.62			0.13	0.13		0.05	
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)	14	883		247	1154			236	210		94	
v/s Ratio Prot	0.00	c0.43		c0.13	0.21			c0.07			c0.02	
v/s Ratio Perm									0.04			
v/c Ratio	0.21	0.88		0.90	0.33			0.51	0.27		0.41	
Uniform Delay, d1	43.1	19.9		37.0	7.8			35.3	34.1		40.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	7.6	9.9		32.6	0.2			1.9	0.7		2.9	
Delay (s)	50.6	29.8		69.6	8.0			37.1	34.8		42.9	
Level of Service	D	C		E	A			D	C		D	
Approach Delay (s)		29.8			30.7			35.3			42.9	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	27	572	432	124	287	12	252	18	205	8	14	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	4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.94		1.00	0.99		1.00	0.86			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1742		1770	1852		1770	1606			1753	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1742		1770	1852		1770	1606			1753	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	622	470	135	312	13	274	20	223	9	15	13
RTOR Reduction (vph)	0	16	0	0	1	0	0	187	0	0	12	0
Lane Group Flow (vph)	29	1076	0	135	324	0	274	56	0	0	25	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	3.5	85.8		11.0	93.3		23.0	23.0			6.4	
Effective Green, g (s)	3.5	85.8		11.0	93.3		23.0	23.0			6.4	
Actuated g/C Ratio	0.02	0.60		0.08	0.66		0.16	0.16			0.05	
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)	43	1051		136	1215		286	259			78	
v/s Ratio Prot	0.02	c0.62		c0.08	0.18		c0.15	0.03			c0.01	
v/s Ratio Perm												
v/c Ratio	0.67	1.02		0.99	0.27		0.96	0.22			0.32	
Uniform Delay, d1	68.8	28.2		65.6	10.2		59.1	51.8			65.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	34.5	33.9		74.6	0.1		41.4	0.4			2.3	
Delay (s)	103.3	62.1		140.2	10.3		100.5	52.2			68.1	
Level of Service	F	E		F	B		F	D			E	
Approach Delay (s)		63.1			48.4			77.8			68.1	
Approach LOS		E			D			E			E	

Intersection Summary				
HCM 2000 Control Delay	63.6	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	142.2	Sum of lost time (s)	16.0	
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)	117	297	306	126	147	30	240	227	213	49	144	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	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.97		1.00	0.93		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	1721		1770	1815		1770	1727		1770	1828	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1721		1770	1815		1770	1727		1770	1828	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	323	333	137	160	33	261	247	232	53	157	22
RTOR Reduction (vph)	0	41	0	0	8	0	0	38	0	0	6	0
Lane Group Flow (vph)	127	615	0	137	185	0	261	441	0	53	173	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.4	32.6		8.0	30.2		14.1	27.2		3.1	16.2	
Effective Green, g (s)	10.4	32.6		8.0	30.2		14.1	27.2		3.1	16.2	
Actuated g/C Ratio	0.12	0.38		0.09	0.35		0.16	0.31		0.04	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)	211	645		162	630		287	540		63	340	
v/s Ratio Prot	0.07	c0.36		c0.08	0.10		c0.15	c0.26		0.03	0.09	
v/s Ratio Perm												
v/c Ratio	0.60	0.95		0.85	0.29		0.91	0.82		0.84	0.51	
Uniform Delay, d1	36.3	26.4		38.8	20.6		35.8	27.6		41.7	31.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	24.4		31.2	0.3		30.3	9.3		60.8	1.2	
Delay (s)	41.1	50.9		70.1	20.9		66.1	36.9		102.5	33.0	
Level of Service	D	D		E	C		E	D		F	C	
Approach Delay (s)		49.3			41.3			47.2			48.9	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.93			
Actuated Cycle Length (s)	86.9	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												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	33	536	31	30	47	552	578	30	11	321	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	36	583	34	33	51	600	628	33	12	349	3

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	36	583	117	600	661	12	352
Volume Left (vph)	0	0	34	600	0	12	0
Volume Right (vph)	0	583	51	0	33	0	3
Hadj (s)	0.03	-0.57	-0.17	0.53	0.00	0.53	0.03
Departure Headway (s)	7.0	3.2	6.5	6.1	5.5	7.2	6.7
Degree Utilization, x	0.07	0.52	0.21	1.01	1.02	0.02	0.65
Capacity (veh/h)	479	1117	530	600	661	492	526
Control Delay (s)	10.6	9.6	11.3	63.2	61.3	9.2	20.1
Approach Delay (s)	9.6		11.3	62.2		19.8	
Approach LOS	A		B	F		C	

Intersection Summary				
Delay	39.4			
Level of Service	E			
Intersection Capacity Utilization	70.5%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	353	100	1100	461	123	702
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	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	3433	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	109	1196	501	134	763
RTOR Reduction (vph)	0	78	0	279	0	0
Lane Group Flow (vph)	384	31	1196	222	134	763
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.7	15.7	24.3	24.3	2.9	31.2
Effective Green, g (s)	15.7	15.7	24.3	24.3	2.9	31.2
Actuated g/C Ratio	0.29	0.29	0.44	0.44	0.05	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)	506	452	1566	700	181	2011
v/s Ratio Prot	c0.22		c0.34		c0.04	0.22
v/s Ratio Perm		0.02		0.14		
v/c Ratio	0.76	0.07	0.76	0.32	0.74	0.38
Uniform Delay, d1	17.9	14.3	12.9	9.9	25.6	6.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.4	0.1	2.3	0.3	15.0	0.1
Delay (s)	24.3	14.3	15.2	10.2	40.6	6.6
Level of Service	C	B	B	B	D	A
Approach Delay (s)	22.1		13.7			11.7
Approach LOS	C		B			B

Intersection Summary				
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	54.9	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				

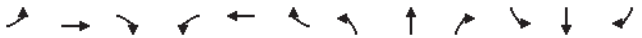
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	76	172	314	124	65	176	1268	606	75	874	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	5.2	4.0	3.0	5.2	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.90		1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1669		1681	1680		1770	3539	1583	1770	3482	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1669		1681	1680		1770	3539	1583	1770	3482	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	83	187	341	135	71	191	1378	659	82	950	115
RTOR Reduction (vph)	0	67	0	0	11	0	0	0	0	0	7	0
Lane Group Flow (vph)	77	203	0	276	260	0	191	1378	659	82	1058	0
Turn Type	Split	NA		Split	NA		Prot	NA	Free	Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									Free			
Actuated Green, G (s)	8.0	8.0		21.9	21.9		15.0	68.6	120.0	7.3	60.9	
Effective Green, g (s)	8.0	8.0		21.9	21.9		15.0	68.6	120.0	7.3	60.9	
Actuated g/C Ratio	0.07	0.07		0.18	0.18		0.12	0.57	1.00	0.06	0.51	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	5.2		3.0	5.2	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	118	111		306	306		221	2023	1583	107	1767	
v/s Ratio Prot	0.04	c0.12		c0.16	0.15		c0.11	c0.39		c0.05	0.30	
v/s Ratio Perm									0.42			
v/c Ratio	0.65	1.83		0.90	0.85		0.86	0.68	0.42	0.77	0.60	
Uniform Delay, d1	54.6	56.0		48.0	47.4		51.5	18.0	0.0	55.5	20.9	
Progression Factor	1.00	1.00		1.00	1.00		0.77	0.31	1.00	1.00	1.00	
Incremental Delay, d2	9.5	405.1		27.4	18.4		22.8	1.5	0.7	25.0	1.5	
Delay (s)	64.1	461.1		75.4	65.9		62.4	7.1	0.7	80.5	22.4	
Level of Service	E	F		E	E		E	A	A	F	C	
Approach Delay (s)		373.0			70.7			10.0			26.6	
Approach LOS		F			E			A			C	

Intersection Summary				
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2	
Intersection Capacity Utilization	82.0%	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)	86	27	210	43	22	304	295	1663	78	158	1140	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	0.95	0.95	1.00	1.00	1.00		1.00	0.91		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.86		1.00	0.99		1.00	0.99	
Flt Protected	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1724	1583	1770	1602		1770	5051		1770	3512	
Flt Permitted	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1724	1583	1770	1602		1770	5051		1770	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	29	228	47	24	330	321	1808	85	172	1239	67
RTOR Reduction (vph)	0	0	214	0	230	0	0	3	0	0	2	0
Lane Group Flow (vph)	60	62	14	47	124	0	321	1890	0	172	1304	0
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	7	7	7	8	8		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	7.6	7.6	7.6	12.5	12.5		12.0	72.2		10.0	70.2	
Effective Green, g (s)	7.6	7.6	7.6	12.5	12.5		12.0	73.9		10.0	71.9	
Actuated g/C Ratio	0.06	0.06	0.06	0.10	0.10		0.10	0.62		0.08	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2		0.2	4.2		0.2	4.2	
Lane Grp Cap (vph)	106	109	100	184	166		177	3110		147	2104	
v/s Ratio Prot	0.04	c0.04	0.01	0.03	c0.08		c0.18	c0.37		0.10	0.37	
v/s Ratio Perm												
v/c Ratio	0.57	0.57	0.14	0.26	0.75		1.81	0.61		1.17	0.62	
Uniform Delay, d1	54.6	54.6	53.1	49.5	52.2		54.0	14.2		55.0	15.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.96	0.27		0.83	0.43	
Incremental Delay, d2	4.1	4.0	0.2	0.3	14.7		380.3	0.6		113.3	0.9	
Delay (s)	58.7	58.6	53.4	49.7	66.9		432.4	4.5		159.1	7.4	
Level of Service	E	E	D	D	E		F	A		F	A	
Approach Delay (s)		55.2			64.9			66.5			25.1	
Approach LOS		E			E			E			C	

Intersection Summary				
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	120.0	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				

16: El Dorado Hills Blvd. & Saratoga Wy. (South) Timing Plan: PM



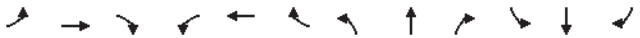
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	212	70	302	212	155	91	987	1733	286	54	985	448
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91		1.00	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	0.98	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1726	1583	1681	1754	1583	3433	4977		1770	5085	1583
Flt Permitted	0.95	0.98	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1726	1583	1681	1754	1583	3433	4977		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)	230	76	328	230	168	99	1073	1884	311	59	1071	487
RTOR Reduction (vph)	0	0	0	0	0	84	0	16	0	0	0	0
Lane Group Flow (vph)	152	154	328	195	203	15	1073	2179	0	59	1071	487
Turn Type	Split	NA	Free	Split	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			8						Free
Actuated Green, G (s)	14.4	14.4	120.0	18.5	18.5	18.5	41.6	66.9		4.2	29.5	120.0
Effective Green, g (s)	14.4	14.4	120.0	18.5	18.5	18.5	41.6	66.9		4.2	29.5	120.0
Actuated g/C Ratio	0.12	0.12	1.00	0.15	0.15	0.15	0.35	0.56		0.04	0.25	1.00
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		2.2	2.2	2.2	3.0	3.5		2.0	2.5	
Lane Grp Cap (vph)	201	207	1583	259	270	244	1190	2774		61	1250	1583
v/s Ratio Prot	c0.09	0.09		c0.12	0.12		c0.31	0.44		0.03	c0.21	
v/s Ratio Perm			0.21			0.01						0.31
v/c Ratio	0.76	0.74	0.21	0.75	0.75	0.06	0.90	0.79		0.97	0.86	0.31
Uniform Delay, d1	51.1	51.0	0.0	48.6	48.6	43.3	37.3	20.9		57.8	43.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.61	0.51		0.83	0.74	1.00
Incremental Delay, d2	14.9	13.5	0.3	10.7	10.3	0.1	5.9	1.3		92.8	6.6	0.4
Delay (s)	66.0	64.5	0.3	59.3	58.8	43.4	28.5	11.9		140.8	38.7	0.4
Level of Service	E	E	A	E	E	D	C	B		F	D	A
Approach Delay (s)		31.6			55.9			17.4			30.9	
Approach LOS		C			E			B			C	

Intersection Summary				
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	78.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

18: Latrobe Rd. & US-50 EB Ramp Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1423	0	0	1077	0	1929	619	527	972	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			0.88			1.00		0.91	1.00	1.00	0.86	
Frt			0.85			0.86		1.00	0.85	1.00	1.00	
Flt Protected			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)			2787			1611		5085	1583	1770	6408	
Flt Permitted			1.00			1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)			2787			1611		5085	1583	1770	6408	
Peak-hour factor, PHF	0.92	0.92	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	1547	0	0	1171	0	2097	673	573	1057	0
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	101	0	0	0
Lane Group Flow (vph)	0	0	1500	0	0	1171	0	2097	572	573	1057	0
Turn Type			custom			Free		NA	Perm	Prot	NA	
Protected Phases			5					2		1	6	
Permitted Phases			1			Free			2			
Actuated Green, G (s)			77.0			120.0		59.0	59.0	53.0	88.0	
Effective Green, g (s)			77.0			120.0		59.0	59.0	53.0	88.0	
Actuated g/C Ratio			0.64			1.00		0.49	0.49	0.44	0.73	
Clearance Time (s)			4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)			3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)			1881			1611		2500	778	781	4699	
v/s Ratio Prot			c0.16					c0.41		0.32	0.16	
v/s Ratio Perm			0.38			0.73			0.36			
v/c Ratio			0.80			0.73		0.84	0.74	0.73	0.22	
Uniform Delay, d1			15.8			0.0		26.4	24.3	27.7	5.1	
Progression Factor			1.00			1.00		1.00	1.00	0.49	0.59	
Incremental Delay, d2			2.4			2.9		3.6	6.1	2.6	0.1	
Delay (s)			18.2			2.9		30.0	30.4	16.2	3.1	
Level of Service			B			A		C	C	B	A	
Approach Delay (s)		18.2			2.9			30.1			7.7	
Approach LOS		B			A			C			A	

Intersection Summary				
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	74.2%	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)	528	0	184	0	0	0	743	919	0	0	1033	866
Ideal Flow (vphpl)	1900	1900	1900	1900	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	0.95	0.91	0.95				0.97	0.95			0.95	1.00
Frt	1.00	0.99	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1603	1504				3433	3539			3539	1583
Flt Permitted	0.95	0.96	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1603	1504				3433	3539			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)	574	0	200	0	0	0	808	999	0	0	1123	941
RTOR Reduction (vph)	0	41	147	0	0	0	0	0	0	0	0	254
Lane Group Flow (vph)	298	255	33	0	0	0	808	999	0	0	1123	688
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4					5	2			6	
Permitted Phases			4									6
Actuated Green, G (s)	20.0	20.0	20.0				33.0	82.0			45.0	45.0
Effective Green, g (s)	20.0	20.0	20.0				33.0	82.0			45.0	45.0
Actuated g/C Ratio	0.18	0.18	0.18				0.30	0.75			0.41	0.41
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)	305	291	273				1029	2638			1447	647
v/s Ratio Prot	c0.18	0.16					c0.24	0.28			0.32	
v/s Ratio Perm			0.02									c0.43
v/c Ratio	0.98	0.88	0.12				0.79	0.38			0.78	1.06
Uniform Delay, d1	44.8	43.8	37.6				35.3	5.0			28.1	32.5
Progression Factor	1.00	1.00	1.00				1.00	1.00			1.34	1.60
Incremental Delay, d2	44.8	24.2	0.2				4.0	0.4			1.4	39.1
Delay (s)	89.6	68.0	37.8				39.3	5.4			39.0	91.2
Level of Service	F	E	D				D	A			D	F
Approach Delay (s)		69.3			0.0			20.5			62.8	
Approach LOS		E			A			C			E	

Intersection Summary				
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0	
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	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	906	0	564	324	1123	0	0	995	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
Lane Util. Factor				0.95	0.91	0.95	1.00	0.95			0.95	1.00
Frt				1.00	0.97	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1581	1504	1770	3539			3539	1583
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1581	1504	1770	3539			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)	0	0	0	985	0	613	352	1221	0	0	1082	402
RTOR Reduction (vph)	0	0	0	0	35	55	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	552	508	448	352	1221	0	0	1082	402
Turn Type				Split	NA	Perm	Prot	NA			NA	Free
Protected Phases				8	8		5	2			6	
Permitted Phases						8						Free
Actuated Green, G (s)				34.0	34.0	34.0	24.9	68.0			39.1	110.0
Effective Green, g (s)				34.0	34.0	34.0	24.9	68.0			39.1	110.0
Actuated g/C Ratio				0.31	0.31	0.31	0.23	0.62			0.36	1.00
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)				519	488	464	400	2187			1257	1583
v/s Ratio Prot				c0.33	0.32		c0.20	0.34			c0.31	
v/s Ratio Perm						0.30						0.25
v/c Ratio				1.06	1.04	0.97	0.88	0.56			0.86	0.25
Uniform Delay, d1				38.0	38.0	37.4	41.1	12.2			32.9	0.0
Progression Factor				1.00	1.00	1.00	0.72	1.02			0.89	1.00
Incremental Delay, d2				57.5	52.1	32.9	16.7	0.8			7.0	0.3
Delay (s)				95.5	90.1	70.3	46.4	13.3			36.3	0.3
Level of Service				F	F	E	D	B			D	A
Approach Delay (s)		0.0			85.7			20.7			26.5	
Approach LOS		A			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.93			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	86.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

21: Silva Valley Pkwy & County Club Dr.

Timing Plan: PM

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	32	205	1424	263	0	1333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	1583	3456			3539
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	1583	3456			3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	223	1548	286	0	1449
RTOR Reduction (vph)	0	86	8	0	0	0
Lane Group Flow (vph)	35	137	1826	0	0	1449
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	14.5	14.5	87.5			87.5
Effective Green, g (s)	14.5	14.5	87.5			87.5
Actuated g/C Ratio	0.13	0.13	0.80			0.80
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)	233	208	2749			2815
v/s Ratio Prot	0.02		c0.53			0.41
v/s Ratio Perm		c0.09				
v/c Ratio	0.15	0.66	0.66			0.51
Uniform Delay, d1	42.3	45.4	4.9			3.9
Progression Factor	1.00	1.00	1.32			1.00
Incremental Delay, d2	0.3	7.3	0.9			0.7
Delay (s)	42.6	52.7	7.3			4.6
Level of Service	D	D	A			A
Approach Delay (s)	51.4		7.3			4.6
Approach LOS	D		A			A

Intersection Summary				
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	67.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

22: Silva Valley Pkwy. & Serrano Pkwy.

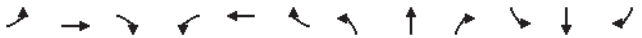
Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	227	175	361	111	145	192	768	374	223	488	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.93		1.00	0.92		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)	1770	3308		1770	3239		1770	3539	1583	1770	3433	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3308		1770	3239		1770	3539	1583	1770	3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	247	190	392	121	158	209	835	407	242	530	132
RTOR Reduction (vph)	0	157	0	0	124	0	0	0	263	0	21	0
Lane Group Flow (vph)	207	280	0	392	155	0	209	835	144	242	641	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	13.9	13.1		20.0	19.2		11.0	24.4	24.4	13.0	26.4	
Effective Green, g (s)	13.9	13.1		20.0	19.2		11.0	24.4	24.4	13.0	26.4	
Actuated g/C Ratio	0.16	0.15		0.22	0.22		0.12	0.27	0.27	0.15	0.30	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
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)	276	486		397	697		218	969	433	258	1017	
v/s Ratio Prot	0.12	c0.08		c0.22	0.05		0.12	c0.24		c0.14	0.19	
v/s Ratio Perm									0.09			
v/c Ratio	0.75	0.58		0.99	0.22		0.96	0.86	0.33	0.94	0.63	
Uniform Delay, d1	35.9	35.4		34.4	28.8		38.8	30.7	25.8	37.7	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.9	1.7		41.4	0.2		48.7	8.0	0.5	39.1	1.3	
Delay (s)	46.8	37.1		75.8	29.0		87.5	38.7	26.3	76.7	28.4	
Level of Service	D	D		E	C		F	D	C	E	C	
Approach Delay (s)		40.2			56.3			42.3			41.3	
Approach LOS		D			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	44.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	89.1	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	81.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

23: Harvard Way & Silva Valley Pkwy.

Timing Plan: PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	173	14	264	10	12	6	223	449	13	12	306	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		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	1770	1765		1770	1855		1770	1863	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	1770	1765		1770	1855		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)	188	15	287	11	13	7	242	488	14	13	333	93
RTOR Reduction (vph)	0	0	240	0	7	0	0	1	0	0	0	63
Lane Group Flow (vph)	188	15	47	11	13	0	242	501	0	13	333	30
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	7.3	8.1	8.1	0.6	1.4		9.2	24.6		0.6	16.0	16.0
Effective Green, g (s)	7.3	8.1	8.1	0.6	1.4		9.2	24.6		0.6	16.0	16.0
Actuated g/C Ratio	0.15	0.16	0.16	0.01	0.03		0.18	0.49		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
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)	258	302	256	21	49		326	914		21	597	507
v/s Ratio Prot	c0.11	0.01		0.01	0.01		c0.14	c0.27		0.01	0.18	
v/s Ratio Perm			c0.03									0.02
v/c Ratio	0.73	0.05	0.18	0.52	0.27		0.74	0.55		0.62	0.56	0.06
Uniform Delay, d1	20.4	17.6	18.0	24.5	23.7		19.2	8.8		24.5	14.0	11.7
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	9.8	0.1	0.3	21.6	3.0		8.8	0.7		43.9	1.1	0.0
Delay (s)	30.2	17.7	18.4	46.1	26.7		28.0	9.5		68.4	15.2	11.8
Level of Service	C	B	B	D	C		C	A		E	B	B
Approach Delay (s)		22.9			33.6			15.5			16.0	
Approach LOS		C			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	54.7%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

24: Silva Valley Pkwy. & Appian Way

Timing Plan: PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	19	4	43	57	2	44	89	400	113	61	301	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	4	47	62	2	48	97	435	123	66	327	41

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	72	112	654	435
Volume Left (vph)	21	62	97	66
Volume Right (vph)	47	48	123	41
Hadj (s)	-0.30	-0.11	-0.05	0.01
Departure Headway (s)	6.7	6.7	5.1	5.5
Degree Utilization, x	0.13	0.21	0.94	0.66
Capacity (veh/h)	490	495	688	643
Control Delay (s)	10.7	11.5	42.3	18.5
Approach Delay (s)	10.7	11.5	42.3	18.5
Approach LOS	B	B	E	C

Intersection Summary				
Delay	29.7			
Level of Service	D			
Intersection Capacity Utilization	61.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	729	117	0	506	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	792	127	0	550	0	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				836		
pX, platoon unblocked					0.92	
vC, conflicting volume			920		1406	856
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			920		1397	856
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			742		142	357

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	920	550	15
Volume Left	0	0	0
Volume Right	127	0	15
cSH	1700	1700	357
Volume to Capacity	0.54	0.32	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	15.5
Lane LOS			C
Approach Delay (s)	0.0	0.0	15.5
Approach LOS			C

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		55.5%	ICU Level of Service B
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	626	117	70	367	0	139	0	28	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			
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00			
Frt		0.98		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1819		1770	1863			1770	1583			
Flt Permitted		1.00		0.19	1.00			0.76	1.00			
Satd. Flow (perm)		1819		358	1863			1410	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	680	127	76	399	0	151	0	30	0	0	0
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	23	0	0	0
Lane Group Flow (vph)	0	795	0	76	399	0	0	151	7	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		23.4		23.4	23.4			10.4	10.4			
Effective Green, g (s)		23.4		23.4	23.4			10.4	10.4			
Actuated g/C Ratio		0.56		0.56	0.56			0.25	0.25			
Clearance Time (s)		4.0		4.0	4.0			4.0	4.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		1018		200	1042			350	393			
v/s Ratio Prot		c0.44			0.21							
v/s Ratio Perm				0.21				c0.11	0.00			
v/c Ratio		0.78		0.38	0.38			0.43	0.02			
Uniform Delay, d1		7.2		5.1	5.2			13.2	11.8			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		3.9		1.2	0.2			0.9	0.0			
Delay (s)		11.1		6.4	5.4			14.1	11.9			
Level of Service		B		A	A			B	B			
Approach Delay (s)		11.1			5.5			13.7			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	41.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

Cumulative plus Propo

			Segment Inputs			AM Flow Inputs			AM LOS Performance Measures												
			Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
			(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
G		Silva Valley Pkwy SB On Ramp	4	1	200	2585	1965	620	2894	2200	694	63	0.1947	428.43	9600	886	321	880	0.3015	16.18	B
H	EB	Silva Valley Pkwy NB On Ramp	4	1	1000	3376	2585	791	3780	2894	886	83	0.1071	309.96	9600	1292	232	1158	0.3937	14.735	B

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

sed Project Conditions

			Segment Inputs			PM Flow Inputs			PM LOS Performance Measures											
			Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_A)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
			(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
G		Silva Valley Pkwy SB On Ramp	4	1	200	5166	4300	866	5784	4814	970	138	0.0966	465.08	9600	2175	349	1926	0.6025	26.358	C
H	EB	Silva Valley Pkwy NB On Ramp	4	1	1000	5909	5166	743	6616	5784	832	165	0.1138	658.3	9600	2563	494	2313	0.6891	23.356	C

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

Cumulative plus Propose

			Segment Inputs			AM Flow Inputs			AM LOS Performance Measures											
			Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
			(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
B	EB	Latrobe SB Off Ramp	4	1	140	2107	3713	1606	2358.92	4156.9	1798	0.436	2826.5	9600	665	2120	2827	0.433	27.3	C
C	EB	Latrobe NB Off Ramp	4	1	120	1630	2107	477	1824.89	2358.9	534.03	0.436	1329.7	9600	515	997	1330	0.2457	14.607	B

Univeral Inputs:

Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

75-25 Mod-Cumulative Basic Freeway Segments (State Route 50)

d Project Conditions

			Segment Inputs			PM Flow Inputs			PM LOS Performance Measures										
			Number of Lanes	Number of Ramp Lanes	Length of Deceleration Lane (L_D)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
			(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
B	EB	Latrobe SB Off Ramp	4	1	140	4943	6366	1423	5534.01	7127.2	1593.1	0.436	4006	9600	1561	3004	4006	0.7424	37.443	E
C	EB	Latrobe NB Off Ramp	4	1	120	3866	4943	1077	4328.24	5534	1205.8	0.436	3092.9	9600	1221	2320	3093	0.5765	29.771	D

Univeral Inputs:

Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	