

**Existing plus Ambient Growth
plus Cumulative Projects plus Project
Level of Service Calculations**

Movement, Approach, & Intersection Results

Movement LOS	d, M, Delay for Movement [s/veh]		2.17		0.00		36.79		44.88		41.80		41.77		41.77		0.00		0.00	
	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A
d, A, Approach Delay [s/veh]	38.07		42.10		41.79		41.79		41.79		41.79		41.79		41.79		41.79		41.79	
d, I, Intersection Delay [s/veh]	D		D		D		D		D		D		D		D		D		D	
Intersection LOS	D		D		D		D		D		D		D		D		D		D	
Intersection V/C	0.845		0.845		0.845		0.845		0.845		0.845		0.845		0.845		0.845		0.845	

Sequence

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

Lane Group Calculations

Lane Group	L	C	C	R	L	C
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l, p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	22	82	56	56	15	15
g / C, Green / Cycle	0.21	0.78	0.53	0.53	0.15	0.15
(v / s), Volume / Saturation Flow Rate	0.20	0.05	0.49	0.52	0.04	0.04
s, saturation flow rate [veh/h]	3514	3618	1703	1615	1810	1827
c, Capacity [veh/h]	736	2810	901	855	266	269
d1, Uniform Delay [s]	40.88	2.76	22.76	24.01	39.62	39.62
k, delay calibration	0.11	0.11	0.41	0.45	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.85	0.01	14.02	23.40	2.19	2.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	d, Delay for Lane Group [s/veh]	50th-Percentile Queue Length [veh]	50th-Percentile Queue Length [ft]	95th-Percentile Queue Length [veh]	95th-Percentile Queue Length [ft]
0.94	0.07	0.92	0.97	0.25	0.24
47.73	2.77	36.79	47.41	41.81	41.77
D	A	D	D	D	D
yes	no	no	yes	yes	no
9.13	0.30	20.07	23.02	1.56	1.56
228.21	7.50	501.66	575.47	39.00	39.12
14.08	0.54	27.41	30.89	2.81	2.82
352.08	13.51	685.32	772.18	70.19	70.42

Intersection Settings

Located in CBD	no
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Intersection Level Of Service Report

#2: Sycamore Canyon Boulevard (NS) / Fair Isle Drive (EW)

Signalized
 HCM2010
 15 minutes

Control Type: Delay (sec / veh): 29.6
 C
 Analysis Method: Level Of Service: 0.797
 Analysis Period: Volume to Capacity (v/c):

Phasing & Timing

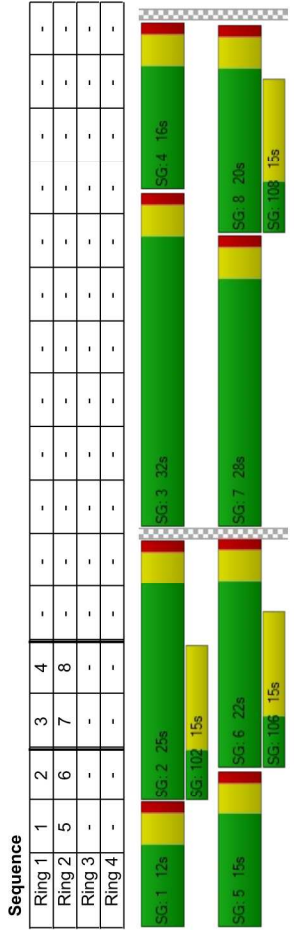
Control Type	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss
Signal Group	3	8	0	7	4	0	5	2
Auxiliary Signal Groups								
Lead / Lag	Lead		Lead		Lead		Lead	
Minimum Green [s]	7	7	0	7	7	0	7	7
Maximum Green [s]	30	30	0	30	30	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	32	20	0	28	16	0	15	25
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	no	no		no	no		no	no
Maximum Recall	no	no		no	no		no	no
Pedestrian Recall	no	no		no	no		no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Volumes

Name	92	107	117	62	358	112	1239	563	42	127	15
Base Volume Input [veh/h]	36	107	1000	1000	1000	1000	1000	1000	1000	1000	1000
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	5	10	20	5	7	3	21	57	11	43
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	56	0	0	144	0	0	0
Total Hourly Volume [veh/h]	44	113	123	144	71	330	122	1334	510	178	20
Peak Hour Factor	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	27	32	38	19	87	32	352	134	15	47
Total Analysis Volume [veh/h]	46	109	130	152	75	348	129	1407	538	188	21
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0

Movement, Approach, & Intersection Results

	d, M, Delay for Movement [s/veh]	42.23	29.91	31.10	44.41	24.96	33.10	46.40	27.00	25.63	38.70	16.65	16.65
Movement LOS	D	C	C	C	D	C	D	D	C	C	D	B	B
d, A, Approach Delay [s/veh]		32.44			38.06			27.85			21.51		
Approach LOS		C			D			C			C		
d, I, Intersection Delay [s/veh]		29.56											
Intersection LOS		C											
Intersection V/C		0.797											



Lane Group Calculations

	L	C	C	L	C	R	L	C	R	L	C	R	L	C
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1, p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	5	16	16	9	21	21	8	38	38	5	36			
g / C, Green / Cycle	0.05	0.19	0.19	0.11	0.24	0.24	0.09	0.45	0.45	0.06	0.42			
(v / s), Volume / Saturation Flow Rate	0.03	0.06	0.08	0.08	0.22	0.22	0.07	0.39	0.33	0.02	0.11			
s, saturation flow rate [veh/h]	1810	1900	1615	1810	3618	1615	1810	3618	1615	3514	1867			
c, Capacity [veh/h]	100	364	310	191	877	391	162	1637	731	218	793			
d1, Uniform Delay [s]	38.94	29.46	30.20	37.11	24.92	31.10	37.92	20.86	19.11	38.03	15.84			
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50			
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
d2, Incremental Delay [s]	3.30	0.46	0.91	7.30	0.04	7.00	8.48	6.14	6.52	0.86	0.81			
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			

Lane Group Results

	X, volume / capacity	0.46	0.30	0.42	0.79	0.09	0.89	0.79	0.86	0.74	0.27	0.26
d, Delay for Lane Group [s/veh]	42.23	29.91	31.10	44.41	24.96	38.10	46.40	27.00	25.63	38.70	16.65	16.65
Lane Group LOS	D	C	C	D	C	D	D	D	C	C	D	B
Critical Lane Group	yes	no	no	no	no	yes	no	yes	no	yes	yes	no
50th-Percentile Queue Length [veh]	0.98	1.84	2.27	3.30	0.55	7.11	2.87	12.18	8.88	0.58	2.54	2.54
50th-Percentile Queue Length [ft]	24.41	46.00	56.78	82.52	13.83	177.76	71.82	304.54	222.04	14.44	63.44	63.44
95th-Percentile Queue Length [veh]	1.76	3.31	4.09	5.94	1.00	11.46	5.17	17.91	13.77	1.04	4.57	4.57
95th-Percentile Queue Length [ft]	43.94	82.79	102.20	148.53	24.89	287.09	129.28	447.64	344.23	25.99	114.20	114.20

Control Type: Located in CBD no
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

Control Type: Signalized
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

#3: Sycamore Canyon Boulevard (NS) / I-215 Southbound Ramps (EW)
 Delay (sec / veh): 20.4
 Level Of Service: C
 Volume to Capacity (v/c): 0.777

Intersection Level Of Service Report
 Delay (sec / veh): 20.4
 Level Of Service: C
 Volume to Capacity (v/c): 0.777

Intersection Setup

Name	Southwestbound	Northwestbound	Southeastbound
Approach	TT	III	rrr
Lane Configuration			
Turning Movement	Left 12.00 Right 12.00 Thru 12.00	Right 12.00 Thru 12.00 Left 12.00	Left 12.00 Thru 12.00 Right 12.00
Lane Width [ft]	0	0	0
No. of Lanes in Pocket	100.00	100.00	100.00
Pocket Length [ft]	45.00	45.00	45.00
Speed [mph]	0.00	0.00	0.00
Grate [%]	yes	yes	no
Crosswalk			

Volumes

Name	347	133	1688	30	136	239
Base Volume Input [veh/h]	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0
In-Process Volume [veh/h]	30	0	87	0	0	74
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	73	0	0	0	0
Right-Turn on Red Volume [veh/h]	398	68	1876	32	147	327
Total Hourly Volume [veh/h]	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	104	18	492	8	39	86
Total 15-Minute Volume [veh/h]	418	71	1969	34	154	343
Total Analysis Volume [veh/h]	no	no	no	no	no	no
Presence of On-Street Parking	0	0	0	0	0	0
On-Street Parking Maneuver Rate [1/h]	0	0	0	0	0	0
Local Bus Stopping Rate [1/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0

Phasing & Timing

Control Type	Split	Split	Split	Permissive	Permissive	Protected	Permissive
Signal Group	8	0	0	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	Lead	Lead	-	-	Lead	-
Minimum Green [s]	7	0	0	7	0	7	7
Maximum Green [s]	30	0	0	30	0	30	30
Amber [s]	3.0	0.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	0.0	1.0	0.0	1.0	1.0
Split [s]	24	0	0	35	0	11	46
Vehicle Extension [s]	3.0	0.0	0.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	10	0	0	10	0	0	10
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	no	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no	no
Pedestrian Recall	no	no	no	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Volumes

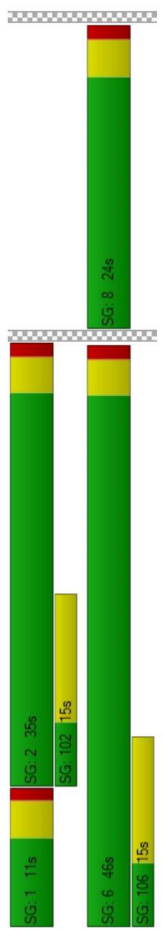
Name	347	133	1688	30	136	239
Base Volume Input [veh/h]	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0
In-Process Volume [veh/h]	30	0	87	0	0	74
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	73	0	0	0	0
Right-Turn on Red Volume [veh/h]	398	68	1876	32	147	327
Total Hourly Volume [veh/h]	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	104	18	492	8	39	86
Total 15-Minute Volume [veh/h]	418	71	1969	34	154	343
Total Analysis Volume [veh/h]	no	no	no	no	no	no
Presence of On-Street Parking	0	0	0	0	0	0
On-Street Parking Maneuver Rate [1/h]	0	0	0	0	0	0
Local Bus Stopping Rate [1/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0

Movement, Approach, & Intersection Results

	30.02	20.00	19.97	21.23	30.97	6.25
d.M. Delay for Movement [s/veh]	C	C	B	C	C	A
Movement LOS						
d.A. Approach Delay [s/veh]		28.57	19.99			13.91
Approach LOS		C	B			B
d.I. Intersection Delay [s/veh]			20.38			
Intersection LOS			C			
Intersection V/C			0.777			

Sequence

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



Lane Group Calculations

	C	R	C	C	L	C
L. Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1.p. Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2. Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g.I. Effective Green Time [s]	18	18	33	33	7	44
g / C. Green / Cycle	0.26	0.26	0.47	0.47	0.10	0.62
(v / s).I Volume / Saturation Flow Rate	0.23	0.04	0.37	0.35	0.04	0.18
s. saturation flow rate [veh/h]	1810	1615	3618	1883	3514	1900
c. Capacity [veh/h]	478	427	1698	884	334	1181
d1. Uniform Delay [s]	24.64	19.82	15.62	15.27	29.98	6.12
k. delay calibration	0.11	0.11	0.50	0.50	0.11	0.11
l. Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2. Incremental Delay [s]	5.38	0.18	3.75	5.96	0.99	0.13
d3. Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp. platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF. progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

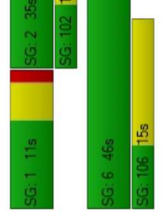
	C	B	C	A
X. volume / capacity	0.87	0.79	0.76	0.29
d. Delay for Lane Group [s/veh]	30.02	19.37	21.23	6.25
Lane Group LOS	C	B	C	A
Critical Lane Group	yes	yes	no	no
50th-Percentile Queue Length [veh]	6.55	8.03	8.45	1.63
50th-Percentile Queue Length [ft]	163.83	200.78	211.22	40.80
95th-Percentile Queue Length [veh]	10.75	12.68	13.22	2.94
95th-Percentile Queue Length [ft]	268.79	316.97	330.39	73.44

Movement, Approach, & Intersection Results

	30.02	20.00	19.97	21.23	30.97	6.25
d.M. Delay for Movement [s/veh]	C	C	B	C	C	A
Movement LOS						
d.A. Approach Delay [s/veh]		28.57	19.99			13.91
Approach LOS		C	B			B
d.I. Intersection Delay [s/veh]			20.38			
Intersection LOS			C			
Intersection V/C			0.777			

Sequence

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



Intersection Level Of Service Report
#4: Sycamore Canyon Boulevard (NS) / Dan Kipper Drive (EW)

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

Delay (sec / veh): 53.8
 Level Of Service: F
 Volume to Capacity (v/c): 0.040

Intersection Setup

Name	Northbound	Southbound	Eastbound
Approach	+	+	T
Lane Configuration			
Turning Movement	Left 12.00	Thru 12.00	Right 12.00
Lane Width [ft]	0	0	0
No. of Lanes in Pocket	100.00	100.00	100.00
Pocket Length [ft]	45.00	45.00	45.00
Speed [mph]	0.00	0.00	0.00
Grade [%]	no	no	no
Crosswalk			

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C	Movement V/C Ratio	d_LM	Delay for Movement [s/veh]	Approach LOS	d_A	Approach Delay [s/veh]	Intersection Delay [s/veh]	Intersection LOS
0.05	0.02	0.05	9.61	A	0.00	0.00	0.04	0.03
0.00	0.00	0.00	0.00	A	0.00	0.00	53.78	15.26
0.00	0.00	0.00	0.00	A	0.00	0.00	0.23	0.23
0.00	0.00	0.00	0.00	A	0.00	0.00	5.78	5.78
0.00	0.00	0.00	0.00	A	0.00	0.00	22.48	C
0.25	0.25	0.25	0.25	F	0.25	0.25	F	F

Volumes

Name	Northbound	Southbound	Eastbound
Base Volume Input [veh/h]	9	39	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00
Growth Rate	1.06	1.06	1.06
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	27	112	3
Diverter Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Total Hourly Volume [veh/h]	37	1908	675
Peak Hour Factor	0.9120	0.9120	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	523	185
Total Analysis Volume [veh/h]	41	2092	740
Pedestrian Volume [ped/h]	0	0	0

Intersection Settings

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

Intersection Level Of Service Report

#5: Sycamore Canyon Boulevard (NS) / Box Spring Boulevard (EW)

Signalized
 HCM2010
 15 minutes

Control Type: 18.1
 Analysis Method: B
 Analysis Period: 0.790

Level Of Service:
 Volume to Capacity (v/c):

Phasing & Timing

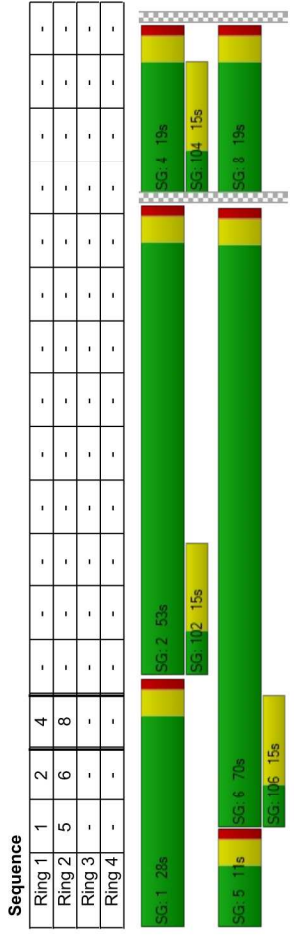
Control Type	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead			Lead								
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	53	0	28	70	0	0	19	0	0	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	no	no		no	no		no	no		no	no	
Maximum Recall	no	no		no	no		no	no		no	no	
Pedestrian Recall	no	no		no	no		no	no		no	no	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Volumes

Name	1514	34	142	361	0	0	0	0	20	0	245
Base Volume Input [veh/h]	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	0	51	71	60	62	0	0	0	12	0	11
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	211
Total Hourly Volume [veh/h]	0	1656	107	211	445	0	0	0	33	0	60
Peak Hour Factor	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030	0.9030
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	458	30	58	123	0	0	0	9	0	17
Total Analysis Volume [veh/h]	no	1834	118	234	493	0	0	0	37	0	66
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0

Movement, Approach, & Intersection Results

Movement	A	E	B	17.13	49.51	2.23	2.23	0.00	0.00	0.00	0.00	0.00	0.00	47.38	0.00	50.96	
d_M, Delay for Movement [s/veh]																	
Movement LOS	A	E	B		D	A	A	A	A	A	A	A	A	D	A	D	
d_A, Approach Delay [s/veh]	16.72			17.45			0.00			49.67							
Approach LOS	E			B			A			D							
d_I, Intersection Delay [s/veh]	18.13												B				
Intersection LOS	B												0.790				
Intersection V/C																	



Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]	0	66	66	15	81	81	7	7	7
g/C, Green / Cycle	0.00	0.66	0.66	0.15	0.81	0.81	0.07	0.07	0.07
(v / s)_I, Volume / Saturation Flow Rate	0.00	0.51	0.52	0.13	0.13	0.13	0.03	0.03	0.04
s, saturation flow rate [veh/h]	1810	1900	1860	1810	1900	1900	1440	1900	1615
c, Capacity [veh/h]	1	1281	1234	271	1544	1544	142	127	108
d1, Uniform Delay [s]	0.00	11.64	11.91	41.51	2.01	2.01	46.42	0.00	45.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	4.68	5.22	8.00	0.22	0.22	0.86	0.00	5.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.77	0.79	0.86	0.16	0.16	0.26	0.00	0.61
d, Delay for Lane Group [s/veh]	0.00	16.32	17.13	49.51	2.23	2.23	47.38	0.00	50.96
Lane Group LOS	A	B	B	D	A	A	D	A	D
Critical Lane Group	no	no	yes	yes	no	no	no	no	yes
50th-Percentile Queue Length [veh]	0.00	13.22	13.63	5.89	0.55	0.55	0.91	0.00	1.71
50th-Percentile Queue Length [ft]	0.00	330.40	340.84	148.82	13.83	13.83	22.65	0.00	42.63
95th-Percentile Queue Length [veh]	0.00	19.18	19.69	10.01	1.00	1.00	1.63	0.00	3.07
95th-Percentile Queue Length [ft]	0.00	479.45	492.23	250.18	24.90	24.90	40.77	0.00	76.74

Intersection Settings

Located in CBD	no
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Intersection Level Of Service Report

#6: Sycamore Canyon Boulevard (NS) / Sierra Ridge Drive (EW)
 Signalized
 HCM2010
 15 minutes
 Delay (sec / veh): 13.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.666

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	7	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	96	56	0	19	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no
Pedestrian Recall	no	no	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Intersection Setup

Name	Northbound	Southbound	Eastbound
Approach	TT	TT	TT
Lane Configuration			
Turning Movement	Left Thru Right	Left Thru Right	Left Thru Right
Lane Width [ft]	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00
No. of Lanes in Pocket	0 0 0	0 0 0	0 0 0
Pocket Length [ft]	100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00
Speed [mph]	45.00	45.00	45.00
Grade [%]	0.00	0.00	0.00
Crosswalk	yes	no	yes

Volumes

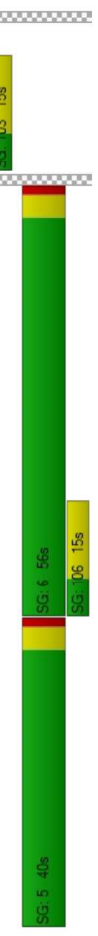
Name	151	1604	332	70	30	24
Base Volume Input [veh/h]	1,000	1,000	1,000	1,000	1,000	1,000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0
In-Process Volume [veh/h]	132	109	64	11	13	55
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	292
Total Hourly Volume [veh/h]	292	1809	416	85	45	0
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	514	118	24	13	0
Total Analysis Volume [veh/h]	332	2056	473	97	51	0
Presence of On-Street Parking	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0

Movement, Approach, & Intersection Results

	37.63	6.84	21.49	21.72	46.83	0.00
d, M, Delay for Movement [s/veh]	D	A	C	C	D	A
Movement LOS						
d, A, Approach Delay [s/veh]	11.12		21.53		46.83	
Approach LOS	B		C		D	
d, I, Intersection Delay [s/veh]	13.69			B		
Intersection LOS				0.666		
Intersection V/C				0.666		

Sequence

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



Lane Group Calculations

	L	C	C	C	C	L	R
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1, p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	36	92	52	52	15	15	15
g / C, Green / Cycle	0.31	0.80	0.45	0.45	0.13	0.13	0.13
(v / s), I Volume / Saturation Flow Rate	0.18	0.57	0.15	0.16	0.03	0.03	0.00
s, saturation flow rate [veh/h]	1810	3618	1900	1792	1810	1810	1615
c, Capacity [veh/h]	566	2894	859	810	236	236	211
d1, Uniform Delay [s]	33.23	5.33	20.30	20.52	44.74	44.74	0.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.40	1.51	1.04	1.20	2.09	2.09	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.71	0.33	0.35	0.22	0.00
d, Delay for Lane Group [s/veh]	37.63	6.84	21.34	21.72	46.83	0.00
Lane Group LOS	D	A	C	C	D	A
Critical Lane Group	no	yes	no	no	yes	no
50th-Percentile Queue Length [veh]	8.16	7.33	4.92	4.99	1.41	0.00
50th-Percentile Queue Length [ft]	204.12	183.28	122.99	124.81	35.19	0.00
95th-Percentile Queue Length [veh]	12.85	11.77	8.56	8.66	2.53	0.00
95th-Percentile Queue Length [ft]	321.27	284.29	213.93	216.42	63.35	0.00

Intersection Settings

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

Intersection Level Of Service Report
 #7: Sycamore Canyon Boulevard (NS) / Eastridge Avenue (EW)

Control Type: Signalized
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

Delay (sec / veh): 53.0
 Level Of Service: D
 Volume to Capacity (v/c): 0.683

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap			
Signal Group	5	2	2	1	6	6	3	8	0	7	4	4
Auxiliary Signal Groups			2.7			3.6				Lead		1.4
Lead / Lag	Lead			Lead			Lead					
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	29	29	21	19	19	11	20	0	30	39	39
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Walk [s]	0	5	5	0	5	5	0	5	0	5	5	5
Pedestrian Clearance [s]	0	10	10	0	10	10	0	10	0	10	10	10
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	no	no	no	no	no	no	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no	no	no	no	no	no	no
Pedestrian Recall	no	no	no	no	no	no	no	no	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Intersection Setup

Name	Northbound	Southbound	Eastbound	Westbound
Approach	זארה	זארה	זארה	זארה
Lane Configuration	Left Thru Right	Left Thru Right	Left Thru Right	Left Thru Right
Turning Movement	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00
Lane Width [ft]	0 0 0	0 0 0	0 0 0	0 0 0
No. of Lanes in Pocket	100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00
Pocket Length [ft]	45.00	45.00	45.00	45.00
Speed [mph]	0.00	0.00	0.00	0.00
Grade [%]	yes	yes	yes	no
Crosswalk				

Volumes

Name	1125	137	77	123	44	60	94	30	136	182	556
Base Volume Input [veh/h]	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	0	49	0	100	18	3	1	0	0	0	193
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	72	0	0	32	0	0	32	0	0	91
Total Hourly Volume [veh/h]	164	1242	73	182	148	18	65	100	0	144	183
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	338	20	49	40	5	18	27	0	39	52
Total Analysis Volume [veh/h]	178	1350	79	198	161	20	71	109	0	157	210
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0

Phasing & Timing

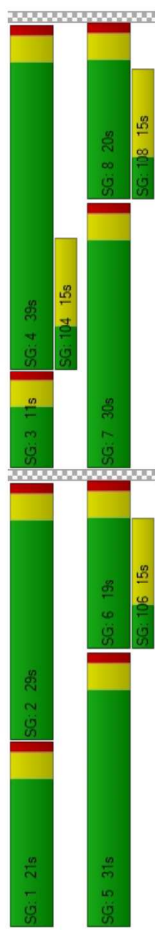
Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	2	1	6	6	3	8	0
Auxiliary Signal Groups			2.7			3.6			
Lead / Lag	Lead			Lead			Lead		
Minimum Green [s]	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	29	29	21	19	19	11	20	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Walk [s]	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	10	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Recall	no	no	no	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no	no	no	no
Pedestrian Recall	no	no	no	no	no	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Movement, Approach, & Intersection Results

	48.27	58.67	14.43	36.82	15.08	9.39	45.45	30.38	0.00	47.69	31.12	72.75
d, I, Delay for Movement [s/veh]	D	F	B	D	B	A	D	C	A	D	C	F
Movement LOS												
d, A, Approach Delay [s/veh]	26.14											
Approach LOS	E											
d, I, Intersection Delay [s/veh]	53.00											
Intersection LOS	D											
Intersection V/C	0.693											

Sequence

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



Lane Group Calculations

	L	C	R	L	C	R	L	C	R	L	C	R
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1, p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	7	37	48	17	47	57	6	23	23	7	24	45
g / C, Green / Cycle	0.07	0.37	0.48	0.17	0.47	0.57	0.06	0.23	0.23	0.07	0.24	0.45
(v / s), Volume / Saturation Flow Rate	0.05	0.37	0.05	0.06	0.04	0.01	0.02	0.02	0.00	0.04	0.06	0.47
s, saturation flow rate [veh/h]	3514	3618	1615	3514	3618	1615	5176	5176	1615	3514	3618	1615
c, Capacity [veh/h]	261	1336	776	597	1683	920	227	1186	370	251	854	721
d1, Uniform Delay [s]	45.14	31.53	14.17	36.50	14.97	9.38	44.66	30.35	0.00	45.13	30.97	27.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.13	27.14	0.26	0.32	0.11	0.01	0.78	0.03	0.00	2.55	0.15	45.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

	D	F	B	D	B	A	D	C	A	D	C	F
X, volume / capacity	0.68	1.01	0.10	0.33	0.10	0.02	0.31	0.09	0.00	0.63	0.25	1.04
d, Delay for Lane Group [s/veh]	48.27	58.67	14.43	36.82	15.08	9.39	45.45	30.38	0.00	47.69	31.12	72.75
Lane Group LOS	D	F	B	D	B	A	D	C	A	D	C	F
Critical Lane Group	no	yes	no	no	no	no	yes	no	no	no	no	yes
50th-Percentile Queue Length [veh]	2.19	19.83	0.96	2.07	0.98	0.17	0.84	0.66	0.00	1.92	1.98	24.38
50th-Percentile Queue Length [ft]	54.79	495.71	24.02	51.79	24.42	4.30	20.93	16.62	0.00	47.93	49.62	609.59
95th-Percentile Queue Length [veh]	3.94	27.33	1.73	3.73	1.76	0.31	1.51	1.20	0.00	3.45	3.57	33.51
95th-Percentile Queue Length [ft]	98.62	683.15	43.23	93.22	43.96	7.75	37.67	29.92	0.00	86.28	89.31	837.66

Intersection Settings

Located in CBD	no
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Intersection Level Of Service Report

#8: Box Springs Boulevard (NS) / Eastridge Avenue (EW)

Signalized Delay (sec / veh): 32.1
 HCM2010 Level Of Service: C
 15 minutes Volume to Capacity (v/c): 0.729

Phasing & Timing

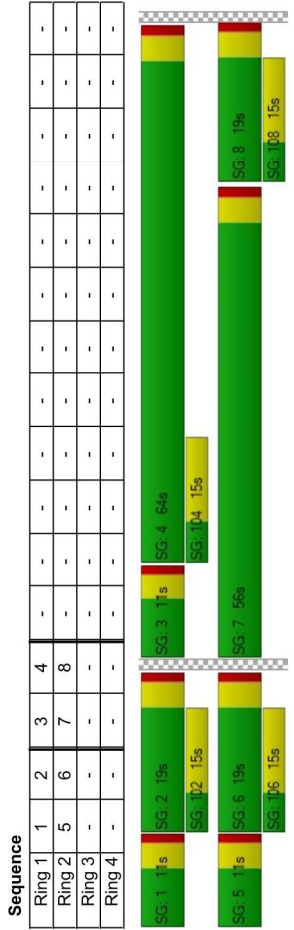
Control Type	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss
Signal Group	5	2	0	1	6	0	3	8
Auxiliary Signal Groups								
Lead / Lag	Lead		Lead		Lead		Lead	
Minimum Green [s]	7	7	0	7	7	0	7	7
Maximum Green [s]	30	30	0	30	30	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	11	19	0	11	19	0	11	19
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	no	no		no	no		no	no
Maximum Recall	no	no		no	no		no	no
Pedestrian Recall	no	no		no	no		no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Volumes

Name	11	7	40	5	6	62	272	9	52	817	377
Base Volume Input [veh/h]	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	34	0	0	100	0	0	0	193	193
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	55	0	0	0	0	0	12	0	0	0
Total Hourly Volume [veh/h]	12	12	0	76	5	66	388	0	55	1059	593
Peak Hour Factor	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220	0.9220
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	0	21	1	18	105	0	15	287	161
Total Analysis Volume [veh/h]	13	13	0	82	5	72	421	0	60	1149	643
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0

Movement, Approach, & Intersection Results

d, M, Delay for Movement [s/veh]	55.76	35.90	0.00	60.07	32.27	32.38	55.87	11.98	0.00	53.47	29.94	40.27
Movement LOS	E	D	A	E	C	C	E	B	A	D	C	D
d, A, Approach Delay [s/veh]	45.83											
Approach LOS	D											
d, I, Intersection Delay [s/veh]	56.53											
Intersection Delay	E											
Intersection V/C	32.08											
	C											
	0.729											



Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	L	C
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l, p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	2	19	19	6	23	6	58	58	6	58	58	58
g / C, Green / Cycle	0.02	0.18	0.18	0.06	0.22	0.06	0.55	0.55	0.06	0.55	0.55	0.55
(v / s), Volume / Saturation Flow Rate	1810	1900	1615	1810	1900	1615	1810	1615	1810	1900	1615	1810
s, saturation flow rate [veh/h]	38	339	288	110	414	352	106	1987	891	103	1045	927
c, Capacity [veh/h]	50.66	35.69	0.00	48.53	32.22	32.27	48.46	11.93	0.00	48.31	20.31	22.40
k, delay calibration	0.11	0.50	0.50	0.13	0.50	0.11	0.11	0.11	0.11	0.11	0.34	0.40
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.10	0.21	0.00	11.54	0.05	0.10	7.41	0.05	0.00	5.16	6.87	17.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.04	0.00	0.75	0.01	0.02	0.68	0.21	0.00	0.58	0.87	0.96
d, Delay for Lane Group [s/veh]	55.76	35.90	0.00	60.07	32.27	32.38	55.87	11.98	0.00	53.47	27.18	40.27
Lane Group LOS	E	D	A	E	C	C	E	B	A	D	C	D
Critical Lane Group	no	yes	no	yes	no	no	yes	no	no	no	no	yes
50th-Percentile Queue Length [veh]	0.38	0.29	0.00	2.40	0.10	0.15	2.01	2.27	0.00	1.63	18.55	22.44
50th-Percentile Queue Length [ft]	9.54	7.17	0.00	59.97	2.57	3.64	50.25	56.81	0.00	40.87	463.86	561.08
95th-Percentile Queue Length [veh]	0.69	0.52	0.00	4.32	0.18	0.26	3.62	4.09	0.00	2.94	25.62	30.21
95th-Percentile Queue Length [ft]	17.17	12.91	0.00	107.94	4.62	6.55	90.44	102.26	0.00	73.57	640.46	755.32

Intersection Settings

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

Intersection Level Of Service Report

#8: I-215 Ramps (NS) / Eastridge Avenue-Eucalyptus Avenue (EW)

Signalized
 HCM2010
 15 minutes

Delay (sec / veh): 22.3
 C
 Level Of Service:
 Volume to Capacity (v/c): 0.731

Phasing & Timing

Control Type	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss
Signal Group	3	0	0	0	7	0	0	0
Auxiliary Signal Groups	Lead	-	-	-	Lead	-	-	-
Lead / Lag	7	0	0	0	7	0	0	7
Minimum Green [s]	30	0	0	0	30	0	0	30
Maximum Green [s]	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0
Amber [s]	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0
All red [s]	23	0	0	0	23	0	0	21
Split [s]	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0
Vehicle Extension [s]	5	0	0	0	5	0	0	5
Walk [s]	10	0	0	0	10	0	0	10
Pedestrian Clearance [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	no				no			no
Minimum Recall	no				no			no
Maximum Recall	no				no			no
Pedestrian Recall	no				no			no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Intersection Setup

Name	Northbound	Southbound	Eastbound	Westbound
Approach	⬆️	⬆️	⬆️	⬆️
Lane Configuration	Left Thru Right	Left Thru Right	Left Thru Right	Left Thru Right
Turning Movement	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00
Lane Width [ft]	0 0 0	0 0 0	0 0 0	0 0 0
No. of Lanes in Pocket	100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00
Pocket Length [ft]	45.00	45.00	45.00	45.00
Speed [mph]	0.00	0.00	0.00	0.00
Grade [%]	no	no	no	no
Crosswalk	no	no	no	no

Volumes

Name	472	205	160	304	134	108	90	311	493	280
Base Volume Input [veh/h]	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	150	21	9	180	50	35	49	17	56	8
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	650	65	179	310	192	149	0	347	579	0
Total Hourly Volume [veh/h]	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	17	48	83	52	40	0	93	156	0
Total Analysis Volume [veh/h]	699	70	192	333	206	160	0	373	623	0
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0

Intersection Level Of Service Report

#8: I-215 Ramps (NS) / Eastridge Avenue-Eucalyptus Avenue (EW)

Signalized
 HCM2010
 15 minutes

Delay (sec / veh): 22.3
 C
 Level Of Service:
 Volume to Capacity (v/c): 0.731

Movement, Approach, & Intersection Results

	21.78	0.00	14.31	16.57	0.00	13.91	29.36	19.47	0.00	25.74	23.75	0.00
d.M. Delay for Movement [s/veh]	C		B	B		B	C	B	A	C	C	A
Movement LOS		21.10			18.06			25.04			24.50	
d.A. Approach Delay [s/veh]	C				B		C				C	
Approach LOS						22.31						
d.I. Intersection Delay [s/veh]						C						
Intersection LOS							0.731					
Intersection V/C												

Sequence

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

SG 1 1fs	SG 2 21s	SG 3 23s
SG 5 1fs	SG 6 21s	SG 7 23s

Lane Group Calculations

	L	R	L	R	L	C	R	L	C	R	L	C	R
L. Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1.p. Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	0.00	0.00
l2. Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g.I. Effective Green Time [s]	19	19	19	19	13	13	13	9	13	13	9	13	13
g / C. Green / Cycle	0.32	0.32	0.32	0.32	0.15	0.21	0.21	0.15	0.22	0.22	0.22	0.22	0.22
(v / s)_I Volume / Saturation Flow Rate	0.25	0.02	0.07	0.21	0.11	0.04	0.00	0.11	0.17	0.00	0.17	0.00	0.00
s. saturation flow rate [veh/h]	2796	2859	2796	1615	1810	3618	1615	3514	3618	1615	3618	1615	1615
c. Capacity [veh/h]	917	911	917	515	267	778	347	536	797	356	797	356	356
d1. Uniform Delay [s]	20.44	14.27	16.46	17.54	24.62	19.34	0.00	24.10	22.03	0.00	24.10	22.03	0.00
k. delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l. Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2. Incremental Delay [s]	1.34	0.04	0.11	1.37	4.75	0.13	0.00	1.64	1.72	0.00	1.64	1.72	0.00
d3. Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp. platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF. progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X. volume / capacity	0.76	0.08	0.21	0.65	0.77	0.21	0.00	0.70	0.78	0.00
d. Delay for Lane Group [s/veh]	21.78	14.31	16.57	18.91	29.36	19.47	0.00	25.74	23.75	0.00
Lane Group LOS	C	B	B	B	C	B	A	C	C	A
Critical Lane Group	yes	no	no	no	yes	no	no	no	yes	no
50th-Percentile Queue Length [veh]	4.06	0.28	0.88	3.46	2.83	0.81	0.00	2.33	3.75	0.00
50th-Percentile Queue Length [ft]	101.56	7.10	21.88	86.62	70.77	20.31	0.00	58.22	93.63	0.00
95th-Percentile Queue Length [veh]	7.31	0.51	1.58	6.24	5.10	1.46	0.00	4.19	6.74	0.00
95th-Percentile Queue Length [ft]	182.80	12.78	39.38	155.92	127.39	36.55	0.00	104.79	168.53	0.00

Intersection Settings

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

Intersection Level Of Service Report

#1: I-215 Northbound Ramps (NS) / Fair Isle Drive-Box Springs Road (EW)

Control Type: Signalized
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

Delay (sec / veh): 19.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.429

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	0	0	0	2	0	0
Auxiliary Signal Groups	Lead	-	-	-	-	-	-	-	-	-	-
Lead / Lag	7	7	0	0	7	0	0	0	7	0	0
Minimum Green [s]	30	30	0	0	30	0	0	0	30	0	0
Maximum Green [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0
Amber [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
All red [s]	19	41	0	0	22	0	0	0	19	0	0
Split [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0
Vehicle Extension [s]	0	5	0	0	5	0	0	0	5	0	0
Walk [s]	0	10	0	0	10	0	0	0	10	0	0
Pedestrian Clearance [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	no	no	no	no	no	no	no	no	no	no	no
Minimum Recall	no	no	no	no	no	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no	no	no	no	no	no
Pedestrian Recall	no	no	no	no	no	no	no	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Intersection Setup

Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Approach	TTL			TTL			TTL			TTL		
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Lane Width [ft]	0	0	0	0	0	0	0	0	0	0	0	0
No. of Lanes in Pocket	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Pocket Length [ft]	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Speed [mph]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade [%]	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Crosswalk	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Volumes

Name	659	171	284	83	6	3	0	0	0
Base Volume Input [veh/h]	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	30	40	12	0	33	1	22	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	487	739	12	0	214	302	110	6	3
Peak Hour Factor	0.9650	0.9200	0.9200	0.9650	0.9650	0.9650	0.9650	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	126	161	3	0	55	78	28	2	1
Total Analysis Volume [veh/h]	505	766	13	0	222	313	114	6	3
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	0	0	0	2	0	0
Auxiliary Signal Groups	Lead	-	-	-	-	-	-	-	-	-	-
Lead / Lag	7	7	0	0	7	0	0	0	7	0	0
Minimum Green [s]	30	30	0	0	30	0	0	0	30	0	0
Maximum Green [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0
Amber [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
All red [s]	19	41	0	0	22	0	0	0	19	0	0
Split [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0
Vehicle Extension [s]	0	5	0	0	5	0	0	0	5	0	0
Walk [s]	0	10	0	0	10	0	0	0	10	0	0
Pedestrian Clearance [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	no	no	no	no	no	no	no	no	no	no	no
Minimum Recall	no	no	no	no	no	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no	no	no	no	no	no
Pedestrian Recall	no	no	no	no	no	no	no	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Movement, Approach, & Intersection Results

d.M. Delay for Movement [s/veh]	25.48	11.30	0.00	0.00	25.17	23.37	11.16	11.16	11.16	11.16	0.00	0.00	0.00
Movement LOS	C	E			C	C	B	B	B	B			
d.A. Approach Delay [s/veh]	16.93												
Approach LOS	E												
d.I. Intersection Delay [s/veh]	19.04												
Intersection LOS	B												
Intersection V/C	0.429												

Sequence

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

Lane Group Calculations

Lane Group	L	C	C	R	L	C
L. Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1.p. Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2. Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g.I. Effective Green Time [s]	11	28	13	13	24	24
g / C. Green / Cycle	0.18	0.46	0.21	0.21	0.41	0.41
(v / s).I Volume / Saturation Flow Rate	0.14	0.21	0.16	0.17	0.03	0.03
s. saturation flow rate [veh/h]	3514	3618	1722	1615	1810	1807
c. Capacity [veh/h]	645	1664	361	339	736	735
d1. Uniform Delay [s]	23.35	11.10	22.18	22.45	10.93	10.93
k. delay calibration	0.11	0.11	0.11	0.11	0.50	0.50
l. Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2. Incremental Delay [s]	2.13	0.20	2.99	4.13	0.22	0.22
d3. Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp. platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF. progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X. volume / capacity	0.78	0.46	0.74	0.79	0.08	0.08
d. Delay for Lane Group [s/veh]	25.48	11.30	25.17	26.58	11.16	11.16
Lane Group LOS	C	B	C	C	B	B
Critical Lane Group	yes	no	no	yes	no	yes
50th-Percentile Queue Length [veh]	3.15	2.69	3.34	3.47	0.40	0.40
50th-Percentile Queue Length [ft]	78.86	67.37	83.62	86.76	10.09	10.09
95th-Percentile Queue Length [veh]	5.68	4.85	6.02	6.25	0.73	0.73
95th-Percentile Queue Length [ft]	141.94	121.26	150.51	156.16	18.17	18.16

Intersection Settings

Located in CBD	no
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Intersection Level Of Service Report

#2: Sycamore Canyon Boulevard (NS) / Fair Isle Drive (EW)

Signalized Delay (sec / veh): 30.0
 HCM2010 Level Of Service: C
 15 minutes Volume to Capacity (v/c): 0.842

Phasing & Timing

Control Type	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss
Signal Group	3	8	0	7	4	0	5	2
Auxiliary Signal Groups								
Lead / Lag	Lead		Lead		Lead		Lead	
Minimum Green [s]	7	7	0	7	7	0	7	7
Maximum Green [s]	30	30	0	30	30	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	16	19	0	14	17	0	23	29
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	no	no		no	no		no	no
Maximum Recall	no	no		no	no		no	no
Pedestrian Recall	no	no		no	no		no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Intersection Setup

Name	Approach	Northwestbound	Southwestbound	Southwestbound	Northwestbound	Southwestbound	Southwestbound
Lane Configuration		TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Turning Movement		Left Thru Right	Left Thru Right	Left Thru Right	Left Thru Right	Left Thru Right	Left Thru Right
Lane Width [ft]		12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00	12.00 12.00 12.00
No. of Lanes in Pocket		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Pocket Length [ft]		100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00	100.00 100.00 100.00
Speed [mph]		45.00	45.00	45.00	45.00	45.00	45.00
Grade [%]		0.00	0.00	0.00	0.00	0.00	0.00
Crosswalk		yes	yes	yes	yes	yes	no

Volumes

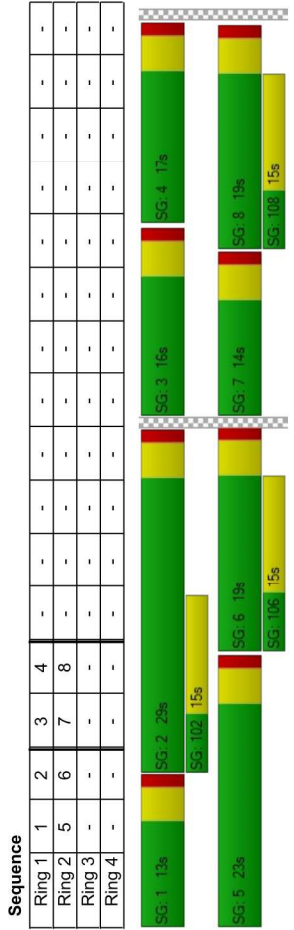
Name	85	95	104	80	71	214	204	649	323	341	35
Base Volume Input [veh/h]	22	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	1.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	7	3	32	4	19	8	38	57	18	13
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	97	104	142	89	0	235	254	603	367	50
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	28	38	24	0	63	68	162	96	104	13
Total Analysis Volume [veh/h]	38	104	111	152	95	0	252	272	646	386	415
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0

Phasing & Timing

Control Type	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss
Signal Group	3	8	0	7	4	0	5	2
Auxiliary Signal Groups								
Lead / Lag	Lead		Lead		Lead		Lead	
Minimum Green [s]	7	7	0	7	7	0	7	7
Maximum Green [s]	30	30	0	30	30	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	16	19	0	14	17	0	23	29
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	no	no		no	no		no	no
Maximum Recall	no	no		no	no		no	no
Pedestrian Recall	no	no		no	no		no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Movement, Approach, & Intersection Results

	37.04	34.93	38.38	41.56	27.97	0.00	36.62	11.86	30.49	40.83	20.40	20.40
Movement LOS	D	C	D	D	C	A	D	B	C	D	C	C
d.M. Delay for Movement [s/veh]												
d.A. Approach Delay [s/veh]	36.33											
d.L. Intersection Delay [s/veh]	30.00											
Intersection LOS	C											
Intersection V/C	0.842											



Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R	L	C
L. Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1.p. Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2. Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g.I. Effective Green Time [s]	4	7	7	8	11	11	12	35	35	9	31			
g/C. Green / Cycle	0.05	0.10	0.10	0.10	0.15	0.15	0.17	0.46	0.46	0.12	0.42			
(v / s)_I Volume / Saturation Flow Rate	0.02	0.05	0.07	0.08	0.03	0.00	0.14	0.08	0.40	0.11	0.25			
s. saturation flow rate [veh/h]	1810	1900	1615	1810	3618	1615	1810	3618	1615	3514	1862			
c. Capacity [veh/h]	96	188	158	190	543	242	300	1678	749	422	779			
d1. Uniform Delay [s]	34.37	32.30	32.78	32.79	27.82	0.00	30.33	11.66	17.97	32.82	16.97			
k. delay calibration	0.11	0.11	0.11	0.13	0.11	0.11	0.11	0.50	0.50	0.11	0.50			
l. Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
d2. Incremental Delay [s]	2.87	2.63	5.60	8.77	0.15	0.00	6.29	0.21	12.53	8.21	3.43			
d3. Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Rp. platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PF. progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			

Lane Group Results

	L	C	C	L	C	R	L	C	R	L	C	R	L	C
X. volume / capacity	0.40	0.56	0.70	0.80	0.17	0.00	0.84	0.16	0.86	0.92	0.80			
d. Delay for Lane Group [s/veh]	37.04	34.93	38.38	41.56	27.97	0.00	36.62	11.86	30.49	40.83	20.40			
Lane Group LOS	D	C	D	D	C	A	D	B	C	D	C			
Critical Lane Group	no	no	yes	yes	no	no	no	no	yes	yes	no			
50th-Percentile Queue Length [veh]	0.70	1.81	2.06	2.97	0.70	0.00	4.57	1.16	10.78	3.68	6.09			
50th-Percentile Queue Length [ft]	17.48	45.32	51.56	74.14	17.53	0.00	114.27	29.12	269.48	92.07	152.35			
95th-Percentile Queue Length [veh]	1.26	3.26	3.71	5.34	1.26	0.00	8.08	2.10	16.16	6.63	10.14			
95th-Percentile Queue Length [ft]	31.46	81.58	92.82	133.46	31.55	0.00	201.93	52.41	404.09	165.72	253.56			

Intersection Settings

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

Intersection Level Of Service Report

#3: Sycamore Canyon Boulevard (NS) / I-215 Southbound Ramps (EW)
 Delay (sec / veh): 12.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.481

Control Type: Signalized
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

Name	Southwestbound	Northwestbound	Southeastbound
Approach	TT	III	rrr
Lane Configuration			
Turning Movement			
Lane Width [ft]	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0
Pocket Length [ft]	100.00	100.00	100.00
Speed [mph]	45.00	45.00	45.00
Grade [%]	0.00	0.00	0.00
Crosswalk	yes	yes	no

Intersection Setup

Control Type	no
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Permissive	Protected	Permissive
Signal Group	8	2	0	0
Auxiliary Signal Groups				
Lead / Lag	Lead	-	-	-
Minimum Green [s]	7	7	0	7
Maximum Green [s]	30	30	0	30
Amber [s]	3.0	3.0	0.0	3.0
All red [s]	1.0	1.0	0.0	1.0
Split [s]	30	19	0	11
Vehicle Extension [s]	3.0	3.0	0.0	3.0
Walk [s]	5	5	0	5
Pedestrian Clearance [s]	10	10	0	10
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0
Minimum Recall	no	no	no	no
Maximum Recall	no	no	no	no
Pedestrian Recall	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00

Volumes

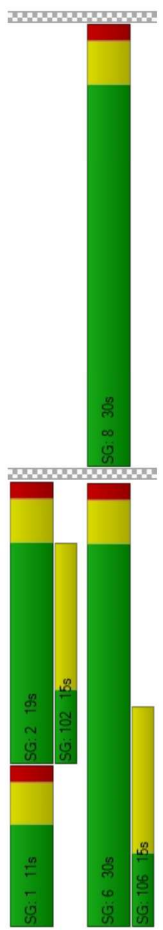
Name	151	236	777	146	166	380
Base Volume Input [veh/h]	1,000	1,000	1,000	1,000	1,000	1,000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0
In-Process Volume [veh/h]	26	2	104	0	0	67
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	83	0	0	0	0
Right-Turn on Red Volume [veh/h]	186	169	928	155	167	470
Total Hourly Volume [veh/h]	0.9250	0.9250	0.9250	0.9250	0.9250	0.9250
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	50	46	251	42	45	127
Total 15-Minute Volume [veh/h]	201	183	1003	168	181	508
Total Analysis Volume [veh/h]	no	no	no	no	no	no
Presence of On-Street Parking	0	0	0	0	0	0
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0

Movement, Approach, & Intersection Results

d.M. Delay for Movement [s/veh]	27.57	28.04	9.12	9.72	25.88	3.59
Movement LOS	C	C	A	A	C	A
d.A. Approach Delay [s/veh]	27.79		9.21			9.44
Approach LOS	C		A			A
d.I. Intersection Delay [s/veh]			12.46			
Intersection LOS			B			
Intersection V/C			0.481			

Sequence

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



Lane Group Calculations

Lane Group	C	R	C	C	L	C
L. Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1.p. Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2. Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g.I. Effective Green Time [s]	9	9	32	32	7	43
g / C. Green / Cycle	0.16	0.16	0.53	0.53	0.11	0.71
(v / s).I Volume / Saturation Flow Rate	0.11	0.11	0.22	0.22	0.05	0.27
s. saturation flow rate [veh/h]	1808	1615	3618	1766	3514	1900
c. Capacity [veh/h]	281	251	1990	942	390	1351
d1. Uniform Delay [s]	24.10	24.11	8.32	8.38	25.00	3.41
k. delay calibration	0.11	0.11	0.50	0.50	0.11	0.11
l. Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2. Incremental Delay [s]	3.47	3.93	0.63	1.34	0.68	0.17
d3. Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp. platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF. progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X. volume / capacity	0.72	0.72	0.40	0.41	0.46	0.38
d. Delay for Lane Group [s/veh]	27.57	28.04	8.95	9.72	25.86	3.59
Lane Group LOS	C	C	A	A	C	A
Critical Lane Group	no	yes	no	yes	yes	no
50th-Percentile Queue Length [veh]	2.67	2.43	2.26	2.46	1.12	0.83
50th-Percentile Queue Length [ft]	66.68	60.64	56.55	61.47	28.01	23.20
95th-Percentile Queue Length [veh]	4.80	4.37	4.07	4.43	2.02	1.67
95th-Percentile Queue Length [ft]	120.02	109.15	101.79	110.64	50.41	41.77

Intersection Level Of Service Report
#4: Sycamore Canyon Boulevard (NS) / Dan Kipper Drive (EW)

Control Type: Two-way stop
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

Delay (sec / veh): 28.4
 Level Of Service: D
 Volume to Capacity (v/c): 0.054

Intersection Setup

Name	Northbound	Southbound	Eastbound
Approach	+	+	T
Lane Configuration			
Turning Movement	Left 12.00	Thru 12.00	Right 12.00
Lane Width [ft]	0	0	0
No. of Lanes in Pocket	100.00	100.00	100.00
Pocket Length [ft]	45.00	45.00	45.00
Speed [mph]	0.00	0.00	0.00
Grade [%]	no	no	no
Crosswalk			

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			no
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			yes
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	d_L, Delay for Movement [s/veh]	0.02	0.01	0.01	0.00	0.05	0.08
Movement LOS	A	A	A	A	A	D	B
95th-Percentile Queue Length [veh]	56.80	56.80	0.00	0.00	0.00	0.47	0.47
95th-Percentile Queue Length [ft]	1419.96	1419.96	0.00	0.00	0.00	11.85	11.85
d_A, Approach Delay [s/veh]	0.13	F			A		C
d_I, Intersection Delay [s/veh]					0.48		
Intersection LOS					D		

Volumes

Name	1	899	486	3	0	1
Base Volume Input [veh/h]	1,000	1,000	1,000	1,000	1,000	1,000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.00	1.06
Growth Rate	0	0	0	0	0	0
In-Process Volume [veh/h]	14	115	45	14	8	31
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1068	560	17	8	32
Peak Hour Factor	0.8340	0.8340	0.8340	0.8340	0.9200	0.8340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	320	168	5	2	10
Total Analysis Volume [veh/h]	18	1281	671	20	9	38
Pedestrian Volume [ped/h]	0	0	0	0	0	0

Volumes

Name	1	899	486	3	0	1
Base Volume Input [veh/h]	1,000	1,000	1,000	1,000	1,000	1,000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.00	1.06
Growth Rate	0	0	0	0	0	0
In-Process Volume [veh/h]	14	115	45	14	8	31
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1068	560	17	8	32
Peak Hour Factor	0.8340	0.8340	0.8340	0.8340	0.9200	0.8340
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	320	168	5	2	10
Total Analysis Volume [veh/h]	18	1281	671	20	9	38
Pedestrian Volume [ped/h]	0	0	0	0	0	0

Control Type: Located in CBD no
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

Control Type: Signalized
 Analysis Method: HCM2010
 Analysis Period: 15 minutes

Intersection Level Of Service Report
 #5: Sycamore Canyon Boulevard (NS) / Box Spring Boulevard (EW)
 Delay (sec / veh): 13.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.552

Intersection Level Of Service Report
 #5: Sycamore Canyon Boulevard (NS) / Box Spring Boulevard (EW)
 Delay (sec / veh): 13.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.552

Intersection Setup

Name	Northbound	Southbound	Eastbound	Westbound
Approach	+			
Lane Configuration	T T T T			
Turning Movement	Left	Thru	Right	Left
Lane Width [ft]	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00
Speed [mph]	45.00	45.00	45.00	45.00
Grade [%]	0.00	0.00	0.00	0.00
Crosswalk	no	yes	yes	yes

Intersection Setup

Name	Northbound	Southbound	Eastbound	Westbound
Approach	+			
Lane Configuration	T T T T			
Turning Movement	Left	Thru	Right	Left
Lane Width [ft]	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00
Speed [mph]	45.00	45.00	45.00	45.00
Grade [%]	0.00	0.00	0.00	0.00
Crosswalk	no	yes	yes	yes

Volumes

Name	1	572	7	54	437	0	45	1	17	17	0	247
Base Volume Input [veh/h]	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	0	87	17	59	0	0	0	0	49	0	42	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	653	24	74	522	0	48	1	18	67	0	230
Peak Hour Factor	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	205	7	22	154	0	14	0	5	20	0	68
Total Analysis Volume [veh/h]	1	820	28	88	618	0	57	1	21	79	0	272
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [hr]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [hr]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0	0

Volumes

Name	1	572	7	54	437	0	45	1	17	17	0	247
Base Volume Input [veh/h]	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	0	87	17	59	0	0	0	0	49	0	42	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	653	24	74	522	0	48	1	18	67	0	230
Peak Hour Factor	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450	0.8450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	205	7	22	154	0	14	0	5	20	0	68
Total Analysis Volume [veh/h]	1	820	28	88	618	0	57	1	21	79	0	272
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [hr]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [hr]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0	0

Phasing & Timing

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

Phasing & Timing

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

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]	0	30	30	5	35	35	12	12	12
g / C, Green / Cycle	0.00	0.50	0.50	0.09	0.59	0.59	0.21	0.21	0.21
(v / s)_l, Volume / Saturation Flow Rate	0.00	0.22	0.22	0.05	0.16	0.16	0.06	0.06	0.17
s, saturation flow rate [veh/h]	1810	1900	1878	1810	1900	1900	1405	1412	1900
c, Capacity [veh/h]	7	955	944	163	1119	1119	385	311	394
d1, Uniform Delay [s]	29.79	9.57	9.57	26.10	6.05	6.05	20.26	23.76	0.00
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.82	1.51	1.53	2.75	0.61	0.61	0.25	0.43	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	0.45	0.45	0.54	0.28	0.28	0.25	0.00	0.81
d, Delay for Lane Group [s/veh]	39.62	11.09	11.10	28.86	6.67	6.67	20.51	24.19	27.43
Lane Group LOS	D	B	B	C	A	A	C	C	A
Critical Lane Group	no	no	yes	yes	no	no	no	no	yes
50th-Percentile Queue Length [veh]	0.03	2.99	2.96	1.20	1.39	1.39	0.85	0.95	3.60
50th-Percentile Queue Length [ft]	0.79	74.82	74.09	29.99	34.85	34.85	21.22	23.63	90.03
95th-Percentile Queue Length [veh]	0.06	5.39	5.33	2.16	2.51	2.51	1.53	1.70	6.48
95th-Percentile Queue Length [ft]	1.41	134.68	133.36	53.91	62.72	62.72	38.19	42.53	162.05

Movement, Approach, & Intersection Results

d, M, Delay for Movement [s/veh]	39.62	11.09	11.10	28.86	6.67	6.67	20.51	20.51	20.51	20.51	24.19	0.00	27.43
Movement LOS	D	E	B	C	A	A	C	C	C	C	C	A	C
d_A, Approach Delay [s/veh]	11.13												
Approach LOS	E												
d_I, Intersection Delay [s/veh]	13.65												
Intersection LOS	B												
Intersection V/C	0.552												

Sequence

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

Intersection Settings

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

Intersection Level Of Service Report

#6: Sycamore Canyon Boulevard (NS) / Sierra Ridge Drive (EW)
 Signalized
 HCM2010
 15 minutes
 Delay (sec / veh): 14.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.438

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	5	2	6	0	0	3	0
Auxiliary Signal Groups							
Lead / Lag	Lead	-	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	0	7	0
Maximum Green [s]	30	30	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	41	26	0	0	19	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	0	5	0
Pedestrian Clearance [s]	0	10	10	0	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	no	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no	no
Pedestrian Recall	no	no	no	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Name	Northbound	Southbound	Eastbound
Approach	TT	TT	TT
Lane Configuration			
Turning Movement			
Lane Width [ft]	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0
Pocket Length [ft]	100.00	100.00	100.00
Speed [mph]	45.00	45.00	45.00
Grade [%]	0.00	0.00	0.00
Crosswalk	yes	no	yes

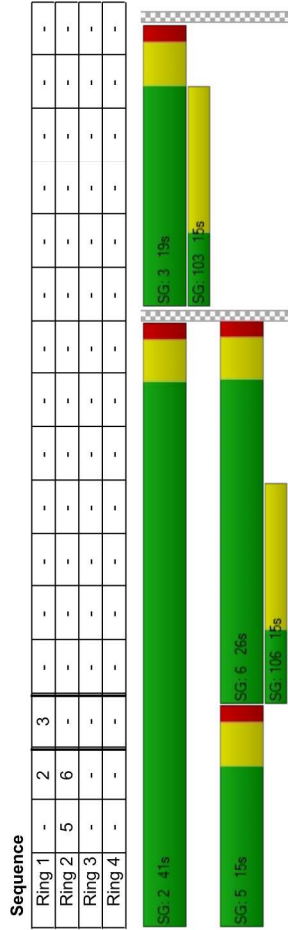
Name	Northbound	Southbound	Eastbound
Base Volume Input [veh/h]	78	461	96
Base Volume Adjustment Factor	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00
Growth Rate	1.06	1.06	1.06
In-Process Volume [veh/h]	0	0	0
Site-Generated Trips [veh/h]	71	102	31
Diverted Trips [veh/h]	0	0	0
Pass-by Trips [veh/h]	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0
Other Volume [veh/h]	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	154
Total Hourly Volume [veh/h]	154	637	102
Peak Hour Factor	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	163	28
Total Analysis Volume [veh/h]	170	705	116
Presence of On-Street Parking	no	no	no
On-Street Parking Maneuver Rate [1/h]	0	0	0
Local Bus Stopping Rate [1/h]	0	0	0
Pedestrian Volume [ped/h]	0	0	0
Bicycle Volume [bicycles/h]	0	0	0

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	5	2	6	0	0	3	0
Auxiliary Signal Groups							
Lead / Lag	Lead	-	-	-	-	Lead	-
Minimum Green [s]	7	7	7	0	0	7	0
Maximum Green [s]	30	30	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	41	26	0	0	19	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	0	5	0
Pedestrian Clearance [s]	0	10	10	0	0	10	0
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	no	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no	no
Pedestrian Recall	no	no	no	no	no	no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Name	Northbound	Southbound	Eastbound
Approach	TT	TT	TT
Lane Configuration			
Turning Movement			
Lane Width [ft]	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0
Pocket Length [ft]	100.00	100.00	100.00
Speed [mph]	45.00	45.00	45.00
Grade [%]	0.00	0.00	0.00
Crosswalk	yes	no	yes

Movement, Approach, & Intersection Results

d.M. Delay for Movement [s/veh]	27.64	5.85	17.36	17.48	19.40	19.87
Movement LOS	C	A	B	B	B	B
d.A. Approach Delay [s/veh]	10.08		17.37		19.63	
Approach LOS	B		B		B	
d.I. Intersection Delay [s/veh]			14.11			
Intersection LOS			B			
Intersection V/C			0.438			



Lane Group Calculations

Lane Group	L	C	C	C	L	R
L. Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1.p. Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2. Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g.I. Effective Green Time [s]	11	37	22	22	15	15
g / C. Green / Cycle	0.18	0.62	0.37	0.37	0.25	0.25
(v / s).I Volume / Saturation Flow Rate	0.09	0.19	0.18	0.19	0.06	0.07
s. saturation flow rate [veh/h]	1810	3618	1900	1862	1810	1615
c. Capacity [veh/h]	332	2231	697	683	452	404
d1. Uniform Delay [s]	22.08	5.48	14.72	14.79	18.03	18.14
k. delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l. Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2. Incremental Delay [s]	5.56	0.37	2.54	2.69	1.37	1.72
d3. Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp. platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF. progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X. volume / capacity	0.51	0.32	0.50	0.51	0.26	0.28
d. Delay for Lane Group [s/veh]	27.64	5.85	17.26	17.48	19.40	19.87
Lane Group LOS	C	A	B	B	B	B
Critical Lane Group	yes	no	no	yes	no	yes
50th-Percentile Queue Length [veh]	2.40	1.35	3.46	3.49	1.28	1.28
50th-Percentile Queue Length [ft]	59.94	33.79	86.46	87.29	31.98	31.97
95th-Percentile Queue Length [veh]	4.32	2.43	6.23	6.29	2.30	2.30
95th-Percentile Queue Length [ft]	107.88	60.83	155.63	157.13	57.56	57.55

Intersection Settings

Located in CBD	no
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Intersection Level Of Service Report

#7: Sycamore Canyon Boulevard (NS) / Eastridge Avenue (EW)

Signalized
 HCM2010
 15 minutes

Control Type: Delay (sec / veh): 26.1
 C
 Analysis Method: Level Of Service: C
 Analysis Period: Volume to Capacity (v/c): 0.629

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	2	1	6	6	3	8	0
Auxiliary Signal Groups	Lead	-	2.7	Lead	-	3.6	Lead	-	1.4
Lead / Lag	7	7	7	7	7	7	7	7	7
Minimum Green [s]	30	30	30	30	30	30	30	30	30
Maximum Green [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Amber [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
All red [s]	14	15	15	18	19	19	11	19	0
Split [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension [s]	0	5	5	0	5	5	0	5	5
Walk [s]	0	10	10	0	10	10	0	10	10
Pedestrian Clearance [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	no	no	no	no	no	no	no	no	no
Minimum Recall	no	no	no	no	no	no	no	no	no
Maximum Recall	no	no	no	no	no	no	no	no	no
Pedestrian Recall	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Volumes

Name	Northbound	Southbound	Eastbound	Westbound
Base Volume Input [veh/h]	42	228	153	317
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00
Growth Rate	1.06	1.06	1.06	1.06
In-Process Volume [veh/h]	0	0	0	0
Site-Generated Trips [veh/h]	0	24	0	212
Diverged Trips [veh/h]	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0
Other Volume [veh/h]	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	255	0	45
Total Hourly Volume [veh/h]	45	266	548	422
Peak Hour Factor	0.8470	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	79	162	125
Total Analysis Volume [veh/h]	53	314	647	498
Presence of On-Street Parking	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0

Intersection Level Of Service Report

#7: Sycamore Canyon Boulevard (NS) / Eastridge Avenue (EW)

Signalized
 HCM2010
 15 minutes

Control Type: Delay (sec / veh): 26.1
 C
 Analysis Method: Level Of Service: C
 Analysis Period: Volume to Capacity (v/c): 0.629

Volumes

Name	Northbound	Southbound	Eastbound	Westbound
Base Volume Input [veh/h]	42	228	153	317
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00
Growth Rate	1.06	1.06	1.06	1.06
In-Process Volume [veh/h]	0	0	0	0
Site-Generated Trips [veh/h]	0	24	0	212
Diverged Trips [veh/h]	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0
Other Volume [veh/h]	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	255	0	45
Total Hourly Volume [veh/h]	45	266	548	422
Peak Hour Factor	0.8470	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	79	162	125
Total Analysis Volume [veh/h]	53	314	647	498
Presence of On-Street Parking	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0

Movement, Approach, & Intersection Results

	31.59	20.93	0.00	33.01	14.70	0.00	30.72	30.22	0.00	30.86	22.84	10.73
d, I, Delay for Movement [s/veh]	C	C	A	C	B	A	C	C	A	C	C	B
Movement LOS	22.47											
d, A, Approach Delay [s/veh]	25.04											
Approach LOS	C											
d, I, Intersection Delay [s/veh]	26.06											
Intersection LOS	C											
Intersection V/C	0.629											

Sequence

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1, p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	5	19	37	14	29	39	6	7	7	14	15	33
g / C, Green / Cycle	0.06	0.28	0.53	0.20	0.41	0.56	0.09	0.10	0.10	0.20	0.21	0.46
(v / s), Volume / Saturation Flow Rate	0.02	0.09	0.00	0.18	0.14	0.00	0.03	0.04	0.00	0.17	0.03	0.06
s, saturation flow rate [veh/h]	3514	3618	1615	3514	3618	1615	5176	5176	1615	3514	3618	1615
c, Capacity [veh/h]	228	998	854	703	1486	897	308	515	161	689	753	751
d1, Uniform Delay [s]	31.07	20.10	0.00	27.45	14.09	0.00	30.05	29.65	0.00	27.29	22.74	10.65
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	0.83	0.00	5.55	0.61	0.00	0.67	0.57	0.00	3.66	0.10	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.31	0.00	0.82	0.34	0.00	0.35	0.43	0.00	0.87	0.17	0.13
d, Delay for Lane Group [s/veh]	31.59	20.93	0.00	33.01	14.70	0.00	30.72	30.22	0.00	30.86	22.84	10.73
Lane Group LOS	C	C	A	C	B	A	C	C	A	C	C	B
Critical Lane Group	no	yes	no	yes	no	no	no	yes	no	yes	no	no
50th-Percentile Queue Length [veh]	0.41	1.82	0.00	5.30	2.40	0.00	0.81	1.11	0.00	4.73	0.76	0.72
50th-Percentile Queue Length [ft]	10.24	48.03	0.00	132.40	60.00	0.00	20.27	27.65	0.00	118.33	19.43	18.05
95th-Percentile Queue Length [veh]	0.74	3.46	0.00	9.07	4.32	0.00	1.46	1.99	0.00	8.30	1.40	1.30
95th-Percentile Queue Length [ft]	18.44	86.45	0.00	226.76	108.00	0.00	36.49	49.77	0.00	207.53	34.98	32.49

Movement, Approach, & Intersection Results

	31.59	20.93	0.00	33.01	14.70	0.00	30.72	30.22	0.00	30.86	22.84	10.73
d, I, Delay for Movement [s/veh]	C	C	A	C	B	A	C	C	A	C	C	B
Movement LOS	22.47											
d, A, Approach Delay [s/veh]	25.04											
Approach LOS	C											
d, I, Intersection Delay [s/veh]	26.06											
Intersection LOS	C											
Intersection V/C	0.629											

Sequence

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

Intersection Settings

Located in CBD	no
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Intersection Level Of Service Report

#8: Box Springs Boulevard (NS) / Eastridge Avenue (EW)

Signalized Delay (sec / veh): 36.9
 HCM2010 Level Of Service: D
 15 minutes Volume to Capacity (v/c): 0.654

Phasing & Timing

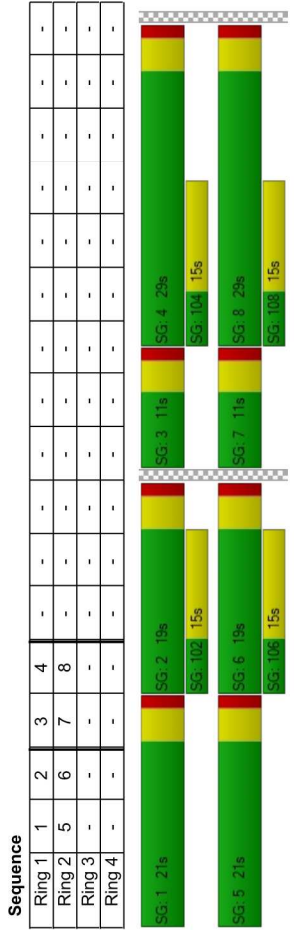
Control Type	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss
Signal Group	5	2	0	1	6	0	3	8
Auxiliary Signal Groups								
Lead / Lag	Lead		Lead		Lead		Lead	
Minimum Green [s]	7	7	0	7	7	0	7	7
Maximum Green [s]	30	30	0	30	30	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	21	19	0	21	19	0	11	29
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	no	no		no	no		no	no
Maximum Recall	no	no		no	no		no	no
Pedestrian Recall	no	no		no	no		no	no
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Volumes

Name	12	5	1	175	6	15	20	637	3	24	741	56
Base Volume Input [veh/h]	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	130	0	0	0	212	0	0	122	46
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	25	0	0	0	0	0	13	0	0	0
Total Hourly Volume [veh/h]	13	10	0	316	6	16	21	887	0	25	907	105
Peak Hour Factor	0.8860	0.8860	0.8860	0.8860	0.8860	0.8860	0.8860	0.8860	0.8860	0.8860	0.8860	0.8860
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	3	0	89	2	5	6	250	0	7	256	30
Total Analysis Volume [veh/h]	15	11	0	357	7	18	24	1001	0	28	1024	119
Presence of On-Street Parking	no	no	no	no	no	no	no	no	no	no	no	no
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0	0

Movement, Approach, & Intersection Results

d, I, Delay for Movement [s/veh]	41.97	24.84	0.00	55.98	14.36	11.52	40.93	26.44	0.00	40.54	40.44	40.80
Movement LOS	D	C	A	E	B	B	D	C	A	D	D	D
d, A, Approach Delay [s/veh]	34.72											
Approach LOS	C											
d, I, Intersection Delay [s/veh]	53.26											
Intersection LOS	D											
Intersection V/C	0.654											



Lane Group Calculations

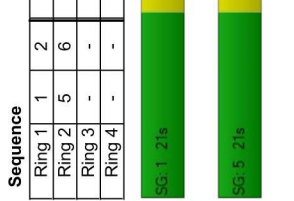
Lane Group	L	C	R	L	C	L	C	R	L	C	L	C	L	C	L	C	L	C	L	C
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I, p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	2	17	17	32	32	3	26	26	3	27	27	27	27	27	27	27	27	27	27	27
g / C, Green / Cycle	0.03	0.22	0.22	0.40	0.40	0.04	0.33	0.33	0.04	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
(v / s), Volume / Saturation Flow Rate	0.01	0.01	0.00	0.20	0.00	0.01	0.01	0.28	0.00	0.02	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	3618	1615	1810	1900	1900	1831	1831	1831	1831	1831	1831	1831	1831
c, Capacity [veh/h]	48	411	349	385	765	66	1195	534	74	636	613	613	613	613	613	613	613	613	613	613
d1, Uniform Delay [s]	38.24	24.72	0.00	30.90	14.34	14.44	37.63	24.80	0.00	37.37	25.51	25.53	25.53	25.53	25.53	25.53	25.53	25.53	25.53	25.53
k, delay calibration	0.11	0.50	0.50	0.37	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.33	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.73	0.12	0.00	25.08	0.02	0.08	3.31	1.84	0.00	3.16	14.85	15.27	15.27	15.27	15.27	15.27	15.27	15.27	15.27	15.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.03	0.00	0.89	0.01	0.03	0.36	0.84	0.00	0.38	0.91	0.92
d, Delay for Lane Group [s/veh]	41.97	24.84	0.00	55.98	14.36	14.52	40.93	26.44	0.00	40.54	40.17	40.80
Lane Group LOS	D	C	A	E	B	B	D	C	A	D	D	D
Critical Lane Group	no	yes	no	yes	no	no	yes	no	no	no	no	yes
50th-Percentile Queue Length [veh]	0.32	0.17	0.00	8.88	0.07	0.19	0.49	8.10	0.00	0.57	11.99	11.88
50th-Percentile Queue Length [ft]	8.07	4.18	0.00	221.90	1.82	4.77	12.37	202.49	0.00	14.25	299.70	291.99
95th-Percentile Queue Length [veh]	0.58	0.30	0.00	13.76	0.13	0.34	0.89	12.77	0.00	1.03	17.67	17.28
95th-Percentile Queue Length [ft]	14.53	7.52	0.00	344.05	3.27	8.58	22.27	319.17	0.00	25.64	441.66	432.11

Movement, Approach, & Intersection Results

d, I, Delay for Movement [s/veh]	41.97	24.84	0.00	55.98	14.36	11.52	40.93	26.44	0.00	40.54	40.44	40.80
Movement LOS	D	C	A	E	B	B	D	C	A	D	D	D
d, A, Approach Delay [s/veh]	34.72											
Approach LOS	C											
d, I, Intersection Delay [s/veh]	53.26											
Intersection LOS	D											
Intersection V/C	0.654											



Intersection Settings

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

Intersection Level Of Service Report

#8: I-215 Ramps (NS) / Eastridge Avenue-Eucalyptus Avenue (EW)
 Signalized
 HCM2010
 15 minutes

Delay (sec / veh): 22.7
 C
 Level Of Service: C
 0.718
 Volume to Capacity (v/c):

Phasing & Timing

Control Type	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss	Protecte	Permiss
Signal Group	3	0	0	7	0	0	5	2
Auxiliary Signal Groups	Lead	-	-	Lead	-	-	Lead	-
Lead / Lag	7	0	0	7	0	0	7	0
Minimum Green [s]	30	0	0	30	0	0	30	0
Maximum Green [s]	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Amber [s]	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
All red [s]	19	0	0	19	0	0	26	17
Split [s]	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Vehicle Extension [s]	5	0	0	5	0	0	5	0
Walk [s]	10	0	0	10	0	0	10	0
Pedestrian Clearance [s]	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	no	-	-	no	-	-	no	-
Minimum Recall	no	-	-	no	-	-	no	-
Maximum Recall	no	-	-	no	-	-	no	-
Pedestrian Recall	no	-	-	no	-	-	no	-
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Intersection Setup

Name	Northbound	Southbound	Eastbound	Westbound
Approach	右左	右	右	右
Lane Configuration	左 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00	左 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00	左 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00	左 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00
Turning Movement	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0
Lane Width [ft]	100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00	100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00	100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00	100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00
No. of Lanes in Pocket	45.00	45.00	45.00	45.00
Pocket Length [ft]	0.00	0.00	0.00	0.00
Speed [mph]	no	no	no	no
Grade [%]	no	no	no	no
Crosswalk	no	no	no	no

Volumes

Name	125	0	472	0	456	245	374	220	616	250	327
Base Volume Input [veh/h]	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Base Volume Adjustment Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Vehicles Percentage [%]	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Growth Rate	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	63	0	27	10	66	157	55	131	24	39	9
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Diverged Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	196	0	284	510	0	32	417	451	0	677	304
Total Hourly Volume [veh/h]	0.9490	0.9200	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	52	0	75	134	0	35	110	119	0	178	80
Total 15-Minute Volume [veh/h]	no	no	no	no	no	no	no	no	no	no	no
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0
Presence of On-Street Parking	0	0	0	0	0	0	0	0	0	0	0
On-Street Parking Maneuver Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [ft]	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	0	0	0	0	0	0	0

Movement, Approach, & Intersection Results

	19.32	0.00	18.34	23.10	0.00	13.07	25.02	25.25	0.00	22.30	24.59	0.00
d, M, Delay for Movement [s/veh]												
Movement LOS	B		B	C		B	C	C	A	C	C	A
d, A, Approach Delay [s/veh]	18.74											
Approach LOS	E											
d, I, Intersection Delay [s/veh]	22.07											
Intersection LOS	C											
Intersection V/C	0.718											

Sequence

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

Lane Group Calculations

	L	R	L	R	L	C	R	L	C	R	L	C	R
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l, p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	16	16	16	16	17	10	10	15	9	9	9	9	9
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.28	0.17	0.17	0.26	0.15	0.15	0.15	0.15	0.15
(v / s), Volume / Saturation Flow Rate	0.07	0.10	0.19	0.09	0.24	0.13	0.00	0.20	0.09	0.00	0.00	0.00	0.00
s, saturation flow rate [veh/h]	2796	2859	2796	1615	1810	3618	1615	3514	3618	1615	1615	1615	1615
c, Capacity [veh/h]	767	763	767	431	508	635	284	906	552	247	247	247	247
d1, Uniform Delay [s]	19.13	18.01	21.93	17.64	20.49	23.47	0.00	20.73	23.63	0.00	0.00	0.00	0.00
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.19	0.33	1.17	0.43	4.53	1.78	0.00	1.56	0.96	0.00	0.00	0.00	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

	0.27	0.39	0.70	0.32	0.86	0.75	0.00	0.79	0.58	0.00
X, volume / capacity										
d, Delay for Lane Group [s/veh]	19.32	18.34	23.10	18.07	25.02	25.25	0.00	22.30	24.59	0.00
Lane Group LOS	B	B	C	B	C	C	A	C	C	A
Critical Lane Group	no	no	yes	no	no	yes	no	yes	no	no
50th-Percentile Queue Length [veh]	1.05	1.48	3.20	1.37	5.53	2.94	0.00	4.14	1.93	0.00
50th-Percentile Queue Length [ft]	26.37	37.05	80.04	34.25	138.23	73.57	0.00	103.55	48.25	0.00
95th-Percentile Queue Length [veh]	1.90	2.67	5.76	2.47	9.39	5.30	0.00	7.46	3.47	0.00
95th-Percentile Queue Length [ft]	47.47	66.70	144.08	61.64	234.64	132.42	0.00	186.38	86.84	0.00

Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Diverge Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 9/30/2015
 Date performed: AM Peak Hour
 Analysis time period: I-215 NB
 Freeway/Dir of Travel: Eastridge Off
 Junction: Eastridge Off
 Jurisdiction: EACP1
 Analysis Year:

Freeway Data

Type of analysis Diverge
 Number of lanes in freeway 3
 Free-flow speed on freeway 65.3 mph
 Volume on freeway 4967 vph

Off Ramp Data

Side of freeway Right
 Number of lanes in ramp 1
 Free-flow speed on ramp 50.0 mph
 Volume on ramp 799 vph
 Length of first accel/decel lane 190 ft
 Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
 Volume on adjacent ramp 394 vph
 Position of adjacent ramp Downstream
 Type of adjacent ramp On
 Distance to adjacent ramp 2900 ft

Conversion to pc/h under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	4967	799	394
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	1307	210	104
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	0.00 %	0.00 %	0.00 %
Length	0.00 mi	0.00 mi	0.00 mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Estimation of V12 Diverge Areas

$L =$ (Equation 13-12 or 13-13)
 $P =$ 0.585 Using Equation 5
 $V = v + (v - v) P = 3525$ pc/h
 12 R F R FD

Capacity Checks

V	F	R	Actual	Maximum	LOS	F?
12	12	12	5411	7059	No	
			4541	7059	No	
			870	2100	No	
			1886			(Equation 13-14 or 13-17)
Is v or v	av_{34}	av_{34}	> 2700	pc/h?	No	
Is v or v	av_{34}	av_{34}	> 1.5	$v / 2$	No	
Is v or v	av_{34}	av_{34}	12			(Equation 13-15, 13-16, 13-18, or 13-19)
If yes, v	12A		= 3525			

Flow Entering Diverge Influence Area

Actual 3525
 Max Desirable 4400
 Violation? No

Level of service determination (if not F)
 $D = 4.252 + 0.0086 \frac{v_{12}}{L} - 0.009 \frac{L}{D} = 32.9$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.311$
 Space mean speed in ramp influence area, $S = 58.0$ mph
 Space mean speed in outer lanes, $S = 68.2$ mph
 Space mean speed for all vehicles, $S = 61.2$ mph

Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Diverge Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 9/30/2015
 Date performed: PM Peak Hour
 Analysis time period: I-215 NB
 Freeway/Dir of Travel: Eastridge Off
 Junction: Eastridge Off
 Jurisdiction: EACP1
 Analysis Year:

Freeway Data

Type of analysis Diverge
 Number of lanes in freeway 3
 Free-flow speed on freeway 65.3 mph
 Volume on freeway 5727 vph

Off Ramp Data

Side of freeway Right
 Number of lanes in ramp 1
 Free-flow speed on ramp 50.0 mph
 Volume on ramp 773 vph
 Length of first accel/decel lane 190 ft
 Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
 Volume on adjacent ramp 657 vph
 Position of adjacent ramp Downstream
 Type of adjacent ramp On
 Distance to adjacent ramp 2900 ft

Conversion to pc/h under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	5727	773	657
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	1507	203	173
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	0.00 %	0.00 %	0.00 %
Length	0.00 mi	0.00 mi	0.00 mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Estimation of V12 Diverge Areas

$L =$ (Equation 13-12 or 13-13)
 $P =$ 0.565 Using Equation 5
 $V = v + (v - v) P = 3893$ pc/h
 12 R F R FD

Capacity Checks

V	F	R	Actual	Maximum	LOS	F?
12	3	3	6239	7059	No	
			5397	7059	No	
			842	2100	No	
			2346 pc/h	(Equation 13-14 or 13-17)		
Is v or v	$av34$	$av34$	> 2700 pc/h?	No		
Is v or v	$av34$	$av34$	$> 1.5 v / 2$	No		
Is v or v	$av34$	$av34$	$> 1.5 v / 2$	No		
If yes, v	$av34$	$av34$	$= 3893$	(Equation 13-15, 13-16, 13-18, or 13-19)		
12A						

Flow Entering Diverge Influence Area

Actual 3893
 Max Desirable 4400
 Violation? No

Level of service determination (if not F)

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 36.0$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, $D = 0.309$
 Space mean speed in ramp influence area, $S = 58.1$ mph
 Space mean speed in outer lanes, $S_0 = 66.4$ mph
 Space mean speed for all vehicles, $S = 61.0$ mph

Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
Phone: (951) 686-1070 Fax: (951) 788-1256
E-mail:

Merge Analysis

Analyst: Albert A. Webb Associates
Agency/Co.: 9/25/2015
Date performed: AM Peak Hour
Analysis time period: I-215 NB
Freeway/Dir of Travel: Eastridge on
Junction: Eastridge on
Jurisdiction: EACP1
Analysis Year:
Description:

Freeway Data

Type of analysis Merge
Number of lanes in freeway 3
Free-flow speed on freeway 65.3 mph
Volume on freeway 4169 vph

On Ramp Data

Side of freeway Right
Number of lanes in ramp 1
Free-flow speed on ramp 50.0 mph
Volume on ramp 394 vph
Length of first accel/decel lane 530 ft
Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
Volume on adjacent Ramp 799 vph
Position of adjacent Ramp Upstream
Type of adjacent Ramp Off
Distance to adjacent Ramp 2900 ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	4169	394	799
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	1097	104	210
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Flow rate, vp

Estimation of V12 Merge Areas
L = 1512.11 (Equation 13-6 or 13-7)
EQ P = 0.592 Using Equation 1
FM V = v (P) = 2690 pc/h
12 F FM

Capacity Checks

V	FO	Actual	Maximum	LOS	F?
V ₃ or V ₃	v ₃ or v ₃	1852 pc/h	7059	No	
IS	V ₃ or V ₃	av34 > 2700 pc/h?	(Equation 13-14 or 13-17)		
IS	V ₃ or V ₃	av34 > 1.5 v ₃ /2	No		
IF yes, v _{12A}	v _{12A}	= 2690	(Equation 13-15, 13-16, 13-18, or 13-19)		

Flow Entering Merge Inflow Area Violation?

Actual 3119 Max Desirable 4600 No
Level of Service Determination (if not F)
Density, D_R = 5.475 + 0.00734 v_R + 0.0078 v_R¹² - 0.00627 L_A = 26.3 pc/mi/ln
Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.356
Space mean speed in ramp influence area, S_R = 57.0 mph
Space mean speed in outer lanes, S₀ = 60.4 mph
Space mean speed for all vehicles, S = 58.2 mph

Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
Phone: (951) 686-1070 Fax: (951) 788-1256
E-mail:

Merge Analysis

Analyst: Albert A. Webb Associates
Agency/Co.: 9/25/2015
Date performed: PM Peak Hour
Analysis time period: I-215 NB
Freeway/Dir of Travel: Eastridge on
Junction: Eastridge on
Jurisdiction: EACP1
Analysis Year:
Description:

Freeway Data

Type of analysis Merge
Number of lanes in freeway 3
Free-flow speed on freeway 65.3 mph
Volume on freeway 4954 vph

On Ramp Data

Side of freeway Right
Number of lanes in ramp 1
Free-flow speed on ramp 50.0 mph
Volume on ramp 657 vph
Length of first accel/decel lane 530 ft
Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
Volume on adjacent Ramp 773 vph
Position of adjacent Ramp Upstream
Type of adjacent Ramp Off
Distance to adjacent Ramp 2900 ft

Conversion to pc/h under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	4954	657	773
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	1304	173	203
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Flow rate, vp

Estimation of V12 Merge Areas
L = 1756.50 (Equation 13-6 or 13-7)
EQ = 0.592 Using Equation 1
FM = v (P) = 3197 pc/h
12 F FM

Capacity Checks

Actual Maximum LOS F?
6113 7059 No
v_{FO} 2200 pc/h (Equation 13-14 or 13-17)
v₃ or v_{av34} > 2700 pc/h? No
v₃ or v_{av34} > 1.5 v₁₂/2 Yes
v₃ or v_{av34} > 1.5 v₁₂ Yes
IF yes, v_{12A} = 3197 (Equation 13-15, 13-16, 13-18, or 13-19)

Flow Entering Merge Inflow Area Violation?

Actual Max Desirable No
3913 4600
Level of Service Determination (if not F)
Density, D = 5.475 + 0.00734 v_R + 0.0078 v_R¹² - 0.00627 L_A = 32.3 pc/mi/ln
Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.463
Space mean speed in ramp influence area, S_R = 54.5 mph
Space mean speed in outer lanes, S_O = 59.2 mph
Space mean speed for all vehicles, S = 56.1 mph

Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Merge Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 10/1/2015
 Date performed: AM Peak Hour
 Analysis time period: I-215 NB
 Freeway/Dir of Travel: Fair Isle on
 Junction: EACP1
 Jurisdiction:
 Analysis Year:
 Description:

Freeway Data

Type of analysis Merge
 Number of lanes in freeway 4
 Free-flow speed on freeway 66.8 mph
 Volume on freeway 6635 vph

On Ramp Data

Side of freeway Right
 Number of lanes in ramp 1
 Free-flow speed on ramp 50.0 mph
 Volume on ramp 1436 vph
 Length of first accel/decel lane 510 ft
 Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
 Volume on adjacent Ramp 113 vph
 Position of adjacent Ramp Upstream
 Type of adjacent Ramp Off
 Distance to adjacent Ramp 2900 ft

Conversion to pc/h under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	6635	1436	113
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	1746	378	30
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Estimation of V12 Merge Areas

$L =$ (Equation 13-6 or 13-7)
 $P =$ 0.022 Using Equation 4
 $F =$ 4
 $V = v (P) = 161$ pc/h
 $F =$ 12

Capacity Checks

V	FO	Actual	Maximum	LOS	F?
3	or v	8793	9472	No	
3	or v	3534 pc/h	(Equation 13-14 or 13-17)		
3	or v	> 2700 pc/h?	Yes		
3	or v	> 1.5 v / 2	Yes		
3	or v	> 2891	(Equation 13-15, 13-16, 13-18, or 13-19)		

Flow Entering Merge Influence Area

Actual 4455
 Max Desirable 4600
 Violation? No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 36.3$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, $M = 0.606$
 Space mean speed in ramp influence area, $S = 51.8$ mph
 Space mean speed in outer lanes, $S = 60.8$ mph
 Space mean speed for all vehicles, $S = 55.9$ mph

Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
Phone: (951) 686-1070 Fax: (951) 788-1256
E-mail:

Estimation of V12 Merge Areas
(Equation 13-6 or 13-7)
Using Equation 4
pc/h

Capacity Checks

Actual	Maximum	LOS F?
9893	9472	Yes
4011 pc/h	(Equation 13-14 or 13-17)	
Yes		
Yes		
Yes		
Yes		

(Equation 13-15, 13-16, 13-18, or 13-19)

Merge Analysis

Analyst: Albert A. Webb Associates
Agency/Co.: 10/1/2015
Date performed: PM Peak Hour
Analysis time period: I-215 NB
Freeway/Dir of Travel: Fair Isle on
Junction: EACP1
Jurisdiction:
Analysis Year:
Description:

Freeway Data

Merge	4
Number of lanes in freeway	66.8 mph
Free-flow speed on freeway	8342 vph
Volume on freeway	

On Ramp Data

Side of freeway	Right
Number of lanes in ramp	10.0 mph
Free-flow speed on ramp	739 ft
Volume on ramp	510 ft
Length of first accel/decel lane	
Length of second accel/decel lane	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes
Volume on adjacent Ramp	118 vph
Position of adjacent Ramp	Upstream
Type of adjacent Ramp	Off
Distance to adjacent Ramp	2900 ft

Conversion to pc/h under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	8342	739	118 vph
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	2195	194	31 v
Trucks and buses	7	7	7 %
Recreational vehicles	0	0	0 %
Terrain type:	Level	Level	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

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Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Operational Analysis

Analyst: Albert A. Webb Associates
 Agency or Company: 10/1/2015
 Date Performed: AM Peak Hour
 Analysis Time Period: I-215 SB
 Freeway/Direction: Sycamore Off
 From/To: EACP1
 Jurisdiction: EACP1
 Analysis Year: EACP1
 Description:

Flow Inputs and Adjustments

Volume, V	5831	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1534	V
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses, PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, FHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1271	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	0.83	ramps/mi
Number of lanes, N	5	
Free-flow speed:		
Base	75.4	mi/h
FFS or BFFS	0.0	mi/h
Lane width adjustment, flw	0.0	mi/h
Lateral clearance adjustment, flc	0.0	mi/h
TRD adjustment	2.8	mi/h
Free-flow speed, FFS	72.6	mi/h

LOS and Performance Measures

Flow rate, vp	1271	pc/h/ln
Free-flow speed, FFS	72.6	mi/h
Average passenger-car speed, S	74.2	mi/h
Number of lanes, N	5	
Density, D	17.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Operational Analysis

Analyst: Albert A. Webb Associates
 Agency or Company: 10/1/2015
 Date Performed: PM Peak Hour
 Analysis Time Period: I-215 SB
 Freeway/Direction: Sycamore Off
 From/To: EACP1
 Jurisdiction: EACP1
 Analysis Year: EACP1
 Description:

Flow Inputs and Adjustments

Volume, V	7761	veh/h
Peak-hour factor, PHF	0.95	V
Peak 15-min volume, v15	2042	%
Trucks and buses	7	%
Recreational vehicles	0	Level
Terrain type:	-	%
Grade	-	mi
Segment length	1.5	
Trucks and buses, PCE, ET	1.2	
Recreational vehicle PCE, ER	0.966	
Heavy vehicle adjustment, FHV	1.00	
Driver population factor, fp	1.691	pc/h/ln
Flow rate, vp		

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	0.83	ramps/mi
Number of lanes, N	5	
Free-flow speed:		
Base	75.4	mi/h
FFS or BFFS	0.0	mi/h
Lane width adjustment, flw	0.0	mi/h
Lateral clearance adjustment, flc	0.0	mi/h
TRD adjustment	2.8	mi/h
Free-flow speed, FFS	72.6	mi/h

LOS and Performance Measures

Flow rate, vp	1691	pc/h/ln
Free-flow speed, FFS	72.6	mi/h
Average passenger-car speed, S	69.7	mi/h
Number of lanes, N	5	
Density, D	24.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone:
E-mail:

Operational Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 7/14/2015
 Date Performed: AM Peak Hour
 Analysis Time Period: I-215 SB
 Freeway/Dir of Travel: N of Eastridge Off
 Weaving Location: EACP1
 Analysts Year:
 Description:

Inputs

Segment Type Freeway
 Weaving configuration One-Sided
 Number of lanes, N 5
 Weaving segment length, LS 1000 ft
 Freeway free-flow speed, FFS 64 mi/h
 Minimum segment speed, SMIN 15 pc/h/ln
 Freeway maximum capacity, CIFL 2350
 Terrain type Level
 Grade 0.00 %
 Length 0.00 mi

Conversion to pc/h Under Base Conditions

Volume Components	VFF	VRF	VFR	VRR
Volume, V	4519	1035	421	95
Peak hour factor, PHF	0.95	0.95	0.95	0.95
Peak 15-min volume, V15	1189	272	111	25
Trucks and buses	7	7	7	7
Recreational vehicles	0	0	0	0
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966	0.966
Driver population adjustment, FP	1.00	1.00	1.00	1.00
Flow rate, V	4923	1128	459	104
Volume ratio, VR	0.240			

Configuration Characteristics

Configuration Characteristics	In
Number of maneuver lanes, NML	3
Interchange density, ID	5.0
Minimum RR lane changes, LCRF	1
Minimum FR lane changes, LCFR	0
Minimum RR lane changes, LCRR	1c/pc
Minimum FR lane changes, LCFR	1c/pc
Minimum weaving lane changes, LCMIN	1128
Weaving lane changes, LCW	2210
Non-weaving vehicle index, INW	2514
Non-weaving lane change, LCNW	2810
Total lane changes, LCALL	5020

Weaving and Non-weaving Speeds

Weaving intensity factor, W	0.807
Average weaving speed, SW	42.1
Average non-weaving speed, SNW	49.5

Weaving segment speed, S 47.5 mi/h
 Weaving segment density, D 27.8 pc/mi/ln
 Level of service, LOS C
 Weaving segment v/c ratio 0.610
 Weaving segment flow rate, v 6390 veh/h
 Weaving segment capacity, cw 10473 veh/h

Limitations on Weaving Segments

If limit reached, see note.

Weaving length (ft)	Minimum	Maximum	Actual	Note
Density-based capacity, CIWL (pc/h/ln)	300	3383	1000	a,b
v/c ratio		Maximum 2350	Analyzed 2168	c
		Maximum 1.00	Analyzed 0.610	d

- Notes:
- In weaving segments shorter than 300 ft, weaving vehicles are assumed to make only necessary lane changes.
 - Weaving segments longer than the calculated maximum length should be treated as isolated merge and diverge areas using the procedures of Chapter 13, "Freeway Merge and Diverge Segments."
 - The density-based capacity exceeds the capacity of a basic freeway segment, under equivalent ideal conditions.
 - Volumes exceed the weaving segment capacity. The level of service is F.

Phone:
E-mail:

Operational Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 7/14/2015
 Date Performed: PM Peak Hour
 Analysis Time Period: I-215 SB
 Freeway/Dir of Travel: N of Eastridge Off
 Weaving Location: EACP1
 Analyst's Year:
 Description:

Inputs

Segment Type Freeway
 Weaving configuration One-Sided
 Number of lanes, N 5
 Weaving segment length, LS 1000 ft
 Freeway free-flow speed, FFS 64 mi/h
 Minimum segment speed, SMIN 15 mi/h
 Freeway maximum capacity, CIFL 2350 pc/h/ln
 Terrain type Level
 Grade 0.00 %
 Length 0.00 mi

Conversion to pc/h Under Base Conditions

	VFF	VRF	VFR	VRR
Volume, V	4922	979	822	163
Peak hour factor, PHF	0.95	0.95	0.95	0.95
Peak 15-min volume, V15	1295	258	216	43
Trucks and buses	7	7	7	7
Recreational vehicles	0	0	0	0
Trucks and buses PCE, ET	1.5	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966	0.966
Driver population adjustment, FP	1.00	1.00	1.00	1.00
Flow rate, V	5362	1067	896	178
Volume ratio, VR	0.262			

Configuration Characteristics

	In
Number of maneuver lanes, NML	3
Interchange density, ID	5.0
Minimum RR lane changes, LCRF	1
Minimum FR lane changes, LCFR	0
Minimum RR lane changes, LCRR	1c/pc
Minimum weaving lane changes, LCMIN	1067
Weaving lane changes, LCW	2149
Non-weaving vehicle index, INW	2770
Non-weaving lane change, LCNW	2924
Total lane changes, LCALL	5073

Weaving and Non-weaving Speeds

Weaving intensity factor, W	0.814
Average weaving speed, SW	42.0 mi/h
Average non-weaving speed, SNW	49.1 mi/h

Weaving segment speed, S 47.0 mi/h
 Weaving segment density, D 31.9 pc/mi/ln
 Level of service, LOS D
 Weaving segment v/c ratio 0.698
 Weaving segment flow rate, v 7249 veh/h
 Weaving segment capacity, cw 10386 veh/h

Limitations on Weaving Segments

If limit reached, see note.

	Minimum	Maximum	Actual	Note
Weaving length (ft)	300	3610	1000	a,b
Density-based capacity, CIWL (pc/h/ln)		Maximum 2350	Analyzed 2150	c
v/c ratio		Maximum 1.00	Analyzed 0.698	d

Notes:

- In weaving segments shorter than 300 ft, weaving vehicles are assumed to make only necessary lane changes.
- Weaving segments longer than the calculated maximum length should be treated as isolated merge and diverge areas using the procedures of Chapter 13, "Freeway Merge and Diverge Segments."
- The density-based capacity exceeds the capacity of a basic freeway segment, under equivalent ideal conditions.
- Volumes exceed the weaving segment capacity. The level of service is F.

Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
Phone: (951) 686-1070 Fax: (951) 788-1256
E-mail:

Merge Analysis

Analyst: Albert A. Webb Associates
Agency/Co.: 9/25/2015
Date performed: AM Peak Hour
Analysis time period: I-215 SB
Freeway/Dir of Travel: Eastridge on
Junction: Eastridge on
Jurisdiction: EACP1
Analysis Year:
Description:

Freeway Data

Type of analysis Merge
Number of lanes in freeway 3
Free-flow speed on freeway 66.8 mph
Volume on freeway 4447 vph

On Ramp Data

Side of freeway Right
Number of lanes in ramp 1
Free-flow speed on ramp 50.0 mph
Volume on ramp 448 vph
Length of first accel/decel lane 880 ft
Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
Volume on adjacent Ramp 516 vph
Position of adjacent Ramp Upstream
Type of adjacent Ramp Off
Distance to adjacent Ramp 3100 ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	4447	448	516 vph
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	1170	118	136 v
Trucks and buses	7	7	7 %
Recreational vehicles	0	0	0 %
Terrain type:	Level	Level	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Flow rate, vp

Estimation of V12 Merge Areas
L = 1744.98 (Equation 13-6 or 13-7)
EQ = 0.602 Using Equation 1
FM = v = v (P) = 2917 pc/h
12 F FM

Capacity Checks

V	FO	Actual	Maximum	LOS	F?
v ₃ or v ₃	v ₃ or v ₃	5333	7104	No	
v ₃ or v ₃	v ₃ or v ₃	1928 pc/h	(Equation 13-14 or 13-17)		
IS	v ₃ or v ₃	> 2700 pc/h?	No		
IS	v ₃ or v ₃	> 1.5 v ₃ /2	No		
IF yes, v ₃	v ₃	= 2917	(Equation 13-15, 13-16, 13-18, or 13-19)		

Flow Entering Merge Inflow Area Violation?

V	R12	Actual	Max Desirable	Violation?
v ₃ or v ₃	v ₃ or v ₃	3405	4600	No

Level of Service Determination (if not F)
Density, D_R = 5.475 + 0.00734 v_R + 0.0078 v_R¹² - 0.00627 L_A = 26.3 pc/mi/ln
Level of service for ramp-freeflow junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.350
Space mean speed in ramp influence area, S_R = 58.1 mph
Space mean speed in outer lanes, S_O = 61.7 mph
Space mean speed for all vehicles, S = 59.3 mph

**Existing plus Ambient Growth
plus Cumulative Projects plus Project
with Improvements
Level of Service Calculations**

Option 1: Mitigation

Number	4					
Intersection	Sycamore Canyon Boulevard (NS) / Dan Kipper Drive (EW)					
Control Type	Two-way stop					
Analysis Method	HCM 2010					
Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Base Volume Input [veh/h]	9	1767	531	39	0	2
Total Analysis Volume [veh/h]	41	2092	740	75	3	13

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			yes
Number of Storage Spaces in Median	0	0	1




Capacity Analysis

Calculated Rank	2	1	1	1	3	2
v_c, Conflicting Flow Rate [veh/h]	815	0	0	0	1906	408
v_c, Stage 1 [veh/h]	815	0	0	0	778	408
v_c, Stage 2 [veh/h]	0	0	0	0	1128	0
c_p,x, Potential Capacity [veh/h]	821	0	0	0	62	599
c_p,x, Stage 1 [veh/h]	1700	0	0	0	419	1307
c_p,x, Stage 2 [veh/h]	1636	0	0	0	275	1091
c_m,x, Movement Capacity [veh/h]	821	100000	100000	100000	59	599
c_m,x, Stage 1 [veh/h]	0	0	0	0	398	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	261	0
c_T, Total Capacity [veh/h]	821	100000	100000	100000	169	599

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.02	0.01	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	9.61	0.00	0.00	0.00	26.63	11.15
Movement LOS	A	A	A	A	D	B
Critical Movement	no	no	no	no	yes	no
95th-Percentile Queue Length [veh]	0.16	0.00	0.00	0.00	0.05	0.07
95th-Percentile Queue Length [ft]	3.94	0.00	0.00	0.00	1.35	1.66
d_A, Approach Delay [s/veh]	0.18		0.00		14.05	
Approach LOS	A		A		B	
V/C_I, Worst Movement V/C Ratio	0.02					
d_I, Worst Movement Control Delay [s/veh]	26.63					
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	D					

Option 1: Mitigation

Number	4					
Intersection	Sycamore Canyon Boulevard (NS) / Dan Kipper Drive (EW)					
Control Type	Two-way stop					
Analysis Method	HCM 2010					
Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Base Volume Input [veh/h]	1	899	486	3	0	1
Total Analysis Volume [veh/h]	18	1281	671	20	9	38

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			yes
Number of Storage Spaces in Median	0	0	1

Capacity Analysis

Calculated Rank	2	1	1	1	3	2
v_c, Conflicting Flow Rate [veh/h]	691	0	0	0	1358	346
v_c, Stage 1 [veh/h]	691	0	0	0	681	346
v_c, Stage 2 [veh/h]	0	0	0	0	677	0
c_p,x, Potential Capacity [veh/h]	913	0	0	0	143	656
c_p,x, Stage 1 [veh/h]	1700	0	0	0	469	1273
c_p,x, Stage 2 [veh/h]	1636	0	0	0	472	1091
c_m,x, Movement Capacity [veh/h]	913	100000	100000	100000	140	656
c_m,x, Stage 1 [veh/h]	0	0	0	0	460	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	463	0
c_T, Total Capacity [veh/h]	913	100000	100000	100000	274	656

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.01	0.00	0.03	0.06
d_M, Delay for Movement [s/veh]	9.02	0.00	0.00	0.00	18.56	10.82
Movement LOS	A	A	A	A	C	B
Critical Movement	no	no	no	no	yes	no
95th-Percentile Queue Length [veh]	0.06	0.00	0.00	0.00	0.10	0.18
95th-Percentile Queue Length [ft]	1.51	0.00	0.00	0.00	2.54	4.60
d_A, Approach Delay [s/veh]	0.13		0.00		12.30	
Approach LOS	A		A		B	
V/C_I, Worst Movement V/C Ratio	0.03					
d_I, Worst Movement Control Delay [s/veh]	18.56					
d_I, Intersection Delay [s/veh]	0.36					
Intersection LOS	C					

Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Diverge Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 9/30/2015
 Date performed: AM Peak Hour
 Analysis time period: I-215 NB
 Freeway/Dir of Travel: Eastridge Off
 Junction: EACPI+mit
 Jurisdiction: EACPI+mit
 Analysis Year: Description:

Freeway Data

Type of analysis Diverge
 Number of lanes in freeway 3
 Free-flow speed on freeway 65.3 mph
 Volume on freeway 3921 vph

Off Ramp Data

Side of freeway Right
 Number of lanes in ramp 1
 Free-flow speed on ramp 50.0 mph
 Volume on ramp 799 vph
 Length of first accel/decel lane 190 ft
 Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
 Volume on adjacent ramp 394 vph
 Position of adjacent ramp Downstream
 Type of adjacent ramp On
 Distance to adjacent ramp 2900 ft

Conversion to pc/h under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	3921	799	394
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, v15	1032	210	104
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	0.00 %	0.00 %	0.00 %
Length	0.00 mi	0.00 mi	0.00 mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, fp	1.00	1.00	1.00

Estimation of V12 Diverge Areas

$L =$ (Equation 13-12 or 13-13)
 $P =$ 0.613 Using Equation 5
 $V = v + (v - v) P = 2956$ pc/h
 12 R F R FD

Capacity Checks

V	F	R	Actual	Maximum	LOS	F?
12	12	12	4272	7059	No	No
3	3	3	3402	7059	No	No
3	3	3	870	2100	No	No
3	3	3	1316	1316	(Equation 13-14 or 13-17)	

Is v or $v > 2700$ pc/h? No
 Is v or $v > 1.5 v / 2$ No
 If yes, $v = 2956$ (Equation 13-15, 13-16, 13-18, or 13-19)
 12A

Flow Entering Diverge Influence Area

Actual 2956
 Max Desirable 4400
 Violation? No

Level of service determination (if not F)

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 28.0$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence c

Speed Estimation

Intermediate speed variable, $D = 0.311$
 Space mean speed in ramp influence area, $S = 58.0$ mph
 Space mean speed in outer lanes, $S = 70.4$ mph
 Space mean speed for all vehicles, $S = 61.4$ mph

Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Diverge Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 9/30/2015
 Date performed: PM Peak Hour
 Analysis time period: I-215 NB
 Freeway/Dir of Travel: Eastridge Off
 Junction: Eastridge Off
 Jurisdiction: EACP1+mit
 Analysis Year:
 Description:

Freeway Data

Type of analysis Diverge
 Number of lanes in freeway 3
 Free-flow speed on freeway 65.3 mph
 Volume on freeway 4909 vph

Off Ramp Data

Side of freeway Right
 Number of lanes in ramp 1
 Free-flow speed on ramp 50.0 mph
 Volume on ramp 773 vph
 Length of first accel/decel lane 190 ft
 Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
 Volume on adjacent ramp 657 vph
 Position of adjacent ramp Downstream
 Type of adjacent ramp On
 Distance to adjacent ramp 2900 ft

Conversion to pc/h under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	4909	773	657
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	1292	203	173
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	0.00 %	0.00 %	0.00 %
Length	0.00 mi	0.00 mi	0.00 mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Flow rate, vp

215NB-01P-Diverge.txt
 5348 842 716 pcph

Estimation of V12 Diverge Areas

$L =$ (Equation 13-12 or 13-13)
 $P =$ 0.588 Using Equation 5
 $V = v + (v - v) P = 3490$ pc/h
 12 R F R FD

Capacity Checks

V	F	R	Actual	Maximum	LOS	F?
12	3	3	5348	7059	No	
12	3	3	4506	7059	No	
12	3	3	842	2100	No	
12	3	3	1858	pc/h	(Equation 13-14 or 13-17)	
12	3	3	> 2700	pc/h?	No	
12	3	3	> 1.5 v / 2		No	
12	3	3	av34	av34		
12	3	3	av34	av34		
12	3	3	av34	av34		
12	3	3	av34	av34		

If yes, v = 3490 (Equation 13-15, 13-16, 13-18, or 13-19)
 12A

Flow Entering Diverge Influence Area

Actual 3490
 Max Desirable 4400
 Violation? No

Level of service determination (if not F)

Density, $D = 4.252 + 0.0086 \frac{V}{L} - 0.009 \frac{L}{D} = 32.6$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.309$
 Space mean speed in ramp influence area, $S = 58.1$ mph
 Space mean speed in outer lanes, $S = 68.3$ mph
 Space mean speed for all vehicles, $S = 61.3$ mph

Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Merge Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 10/1/2015
 Date performed: AM Peak Hour
 Analysis time period: I-215 NB
 Freeway/Dir of Travel: Fair Isle on
 Junction: EACP1+mit
 Jurisdiction: EACP1+mit
 Analysis Year:
 Description:

Freeway Data

Type of analysis Merge
 Number of lanes in freeway 5
 Free-flow speed on freeway 66.8 mph
 Volume on freeway 6635 vph

On Ramp Data

Side of freeway Right
 Number of lanes in ramp 1
 Free-flow speed on ramp 50.0 mph
 Volume on ramp 1436 vph
 Length of first accel/decel lane 510 ft
 Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
 Volume on adjacent Ramp 113 vph
 Position of adjacent Ramp Upstream
 Type of adjacent Ramp Off
 Distance to adjacent Ramp 2900 ft

Conversion to pc/h under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	6635	1436	113
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	1746	378	30
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Estimation of V12 Merge Areas

$L =$ (Equation 13-6 or 13-7)
 $P = 0.022$ Using Equation 4
 $V = v$ (P) = 118 pc/h
 $F =$
 $M =$

Capacity Checks

V	FO	Actual	Maximum	LOS	F?
3	or v	6842	9472	No	
3	or v	2580 pc/h	(Equation 13-14 or 13-17)		
3	or v	> 2700 pc/h?	No		
3	or v	> 1.5 v / 2	Yes		
3	or v	> 1.5 v / 2	Yes		
3	or v	> 1.5 v / 2	Yes		

IF yes, v_{12A} = 2111 (Equation 13-15, 13-16, 13-18, or 13-19)

Flow Entering Merge Inflow Area

V	12A	Actual	Max Desirable	Violation?
3		3675	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 30.2$ pc/mi/ln

Level of service for ramp-freeflow junction areas of influence D

Speed Estimation

Intermediate speed variable, $M = 0.424$
 Space mean speed in ramp influence area, $S_R = 56.3$ mph
 Space mean speed in outer lanes, $S_0 = 62.9$ mph
 Space mean speed for all vehicles, $S = 59.2$ mph

Albert A. Webb Associates
 3788 McCray Street
 Riverside, CA 92506
 Phone: (951) 686-1070 Fax: (951) 788-1256
 E-mail:

Merge Analysis

Analyst: Albert A. Webb Associates
 Agency/Co.: 10/1/2015
 Date performed: PM Peak Hour
 Analysis time period: I-215 NB
 Freeway/Dir of Travel: Fair Isle on
 Junction: EACPI+mit
 Jurisdiction: EACPI+mit
 Analysis Year:
 Description:

Freeway Data

Type of analysis Merge
 Number of lanes in freeway 5
 Free-flow speed on freeway 66.8 mph
 Volume on freeway 8342 vph

On Ramp Data

Side of freeway Right
 Number of lanes in ramp 1
 Free-flow speed on ramp 50.0 mph
 Volume on ramp 739 vph
 Length of first accel/decel lane 510 ft
 Length of second accel/decel lane

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist? Yes
 Volume on adjacent Ramp 118 vph
 Position of adjacent Ramp Upstream
 Type of adjacent Ramp Off
 Distance to adjacent Ramp 2900 ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	8342	739	118
Peak-hour factor, PHF	0.95	0.95	0.95
Peak 15-min volume, V15	2195	194	31
Trucks and buses	7	7	7
Recreational vehicles	0	0	0
Terrain type:	Level	Level	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5
Recreational vehicle PCE, ER	1.2	1.2	1.2
Heavy vehicle adjustment, FHV	0.966	0.966	0.966
Driver population factor, FP	1.00	1.00	1.00

Estimation of V12 Merge Areas

$L =$ (Equation 13-6 or 13-7)
 $P = 0.117$ Using Equation 4
 $V = v \text{ (P)} = 772$ pc/h
 12 F FM

Capacity Checks

Actual Maximum LOS F?
 7393 9472 No
 2908 pc/h (Equation 13-14 or 13-17)
 IS $v \text{ or } v_{av34} > 2700$ pc/h? Yes
 IS $v \text{ or } v_{av34} > 1.5 v / 2$ No
 IF yes, $v_{12A} = 1188$ (Equation 13-15, 13-16, 13-18, or 13-19)

Flow Entering Merge Influence Area Violation?

Actual 1993 Max Desirable 4600 No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 17.5$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $M = 0.299$
 Space mean speed in ramp influence area, $S = 59.4$ mph
 Space mean speed in outer lanes, $S = 57.9$ mph
 Space mean speed for all vehicles, $S = 58.3$ mph