APPENDIX I

TRAVEL TIME STUDY CALCULATION WORKSHEETS

TABLE A (FREEWAY ROUTE)

EXISTING TRAVEL TIME STUDY CALIBRATION – ROUTE F1

WB SR-56 CARMEL COUNTRY ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Freeway Route – F1	Length (mile)	Existing Observed				Existing Calculated			
		Freeway Speed/ Roadway Speed (mph)[a]	Segment Travel Time (min: sec)	Intersection Delay (min:sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)[c]	Segment Travel Time	Intersection Delay	Total Travel Time
Fwy: Carmel Valley Road to Carmel Country Road	1.34	20/ 58	-	-	4:00[b] / 1:24	20/ 65	-	-	4:01/ 1:14
Fwy: Carmel Country to Carmel Creek Road	0.97	30/ 65	-	-	1:54/ 0:54	30/ 65	-	-	1:57/ 0:54
Fwy: Carmel Creek Road to El Camino Real	0.49	28/ 65	-	-	1:04/ 1:19	30/ 65	-	-	0:59/ 0:31
Int: El Camino Real/ SR-56 WB off-ramp	-	-	-	-	-/ -	-	-	0:46/0:56	0:46/0:56
Int: Old El Camino Real/ Carmel Valley Road	-	-	-	-	-/ -	-	-	0:18/0:15	0:18/0:15
Rs: WB Carmel Valley Road between El Camino Real and I-5 NB Ramps	0.21	27/27	0:28/ 0:28	-	0:28/ 0:28	27/27	0:28/ 0:28	-	0:28/ 0:28
Int: I-5 NB ramps/ Carmel Valley Road	-	-	-	-	-	-	-	-	0:00/2:48
Carmel Valley Road ramp meter to I-5 NB	-			-	-	-	-	-	0:00/2:00[d]
Fwy: Carmel Valley Road to Del Mar Heights Road	1.37	55/ 11	-	-	1:32/ 6:54	65/ 30	-	-	1:15/ 1:38
Total Travel Time					8:58/ 10:59				9:44/ 11:24

TABLE B (LOCAL ROUTE)
EXISTING TRAVEL TIME STUDY CALIBRATION – ROUTE L2
WB SR-56 CARMEL COUNTRY ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route- L2	Length (mile)	Existing Observed				Existing Calculated			
		Freeway Speed/ Roadway Speed (mph)[a]	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)	Segment Travel Time	Intersection Delay	Total Travel Time
Fwy: Carmel Valley Road to Carmel Country Road	1.34	20/58	-	-	4:00/ 1:24	20/ 65	-	-	4:01/ 1:14
Int: Carmel Country Rd/ SR-56 WB off-ramp	-	-	-	-	-	-	-	0:33/ 0:50	0:33/ 0:50
Int: Carmel Country Road/ Carmel Canyon Road	-	-	-	-	-	-	-	0:20/ 0:46	0:20/ 0:46
Int: Carmel Country Road/ Carmel Creek Road	-	-	-	-	-	-	-	0:28/ 0:29	0:28/ 0:29
Int: Carmel Country Road/ Townsgate Drive		-	-	-	-	-	-	0:27/ 0:25	0:27/ 0:25
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	-	-	-	-	0:57/ 1:08	0:57/ 1:08
Rs: Carmel Country Road between Del Mar Heights Road and SR-56 WB off-ramp	1.32	18/19	4:32/ 4:16	-	4:32/ 4:16	30/40	2:38/ 1:59	-	2:38/ 1:59
Int: El Camino Real/ Del Mar Heights Road	-	-	-	-	-	-	-	0:27/ 0:28	0:27/ 0:28
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	-	-	-	-	0:18/ 0:33	0:18/ 0:33
Int: I-5 NB ramps/ Del Mar Heights Road	-	-	-	-	-	-	-	2:20/ 2:43	2:20/ 2:43
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Country Road	0.82	14/12	3:39/ 4:03	-	3:39/ 4:03	25/20	1:59/ 2:28	-	1:59/ 2:28
Del Mar Heights Road ramp meter to I-5 NB	-	-	-	-	-	-	-	-	-
Total Travel Time					**12:11/ 9:43**				**14:28/ 13:03**

Footnotes:

a. Observed existing speeds calculated from travel time and length.
b. Existing travel time for freeway segment on WB SR 56 between Carmel Valley Road to Carmel Country Road were determined based on the averages of all the travel times from all the routes.
c. LLG developed a freeway LOS scheme based on freeway speed and volume to capacity ratios.
d. LLG assumed ramp meter delay.

LOS	V/C	Speed
A	<0.41	
B	0.62	>=65
C	0.8	
D	0.92	50-64
E	1	30-49
F(0)	1.25	20-29
F(1)	1.35	15-19
F(2)	1.45	11-15
F(3)	>1.46	>10

TABLE 1
YEAR 2030 TRAVEL TIME STUDY – ROUTE F1
WB SR-56 FROM CARMEL VALLEY ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Freeway Route – F1	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min:sec)	Total Travel Time (min: sec)
Fwy: Carmel Valley Road to Carmel Country Road	1.30	20/ 65	-	-	3:54/ 1:12
Fwy: Carmel Country to Carmel Creek Road	0.95	20/ 65	-	-	2:51/ 0:53
Fwy: Carmel Creek Road to El Camino Real	0.55	30/ 65	-	-	2:12/ 0:31
Int: El Camino Real/ SR-56 WB off-ramp	-	-	-	2:28/ 2:00	2:28/ 2:00
Int: Old El Camino Real/ Carmel Valley Road	-	-	-	0:27/ 0:18	0:27/ 0:18
Rs: WB Carmel Valley Road between El Camino Real and I-5 NB Ramps	0.21	30/25	0:25/ 0:30	-	0:25/ 0:30
Int: I-5 NB ramps/ Carmel Valley Road	-	-	-	2:35/ 2:46	2:35/ 2:46
Carmel Valley Road ramp meter to I-5 NB[a]	-			5:00/ 7:30	5:00/ 7:30
Fwy: Carmel Valley Road to Del Mar Heights Road	1.37	65/ 50	-	-	1:16/ 1:39
Total Travel Time					**21:08/ 17:19**

TABLE 2
YEAR 2030 TRAVEL TIME STUDY – ROUTE L1
WB SR-56 FROM CARMEL VALLEY ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route- L1	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)
Int: Carmel Valley Road / SR-56 WB off-ramp	-	-	-	0:53/ 0:55	0:53/ 0:55
Int: Carmel Valley Road/ Del Mar Heights Road	-	-	-	2:40/ 0:47	2:40/ 0:47
Rs: Carmel Valley Road between Del Mar Heights Road between SR-56 WB off-ramp	0.56	30/40	1:08/ 0:51	-	1:08/ 0:51
Int: Carmel Canyon Road/ Del Mar Heights Road	-	-	-	0:19/ 0:19	0:19/ 0:19
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	0:56/ 0:58	0:56/ 0:58
Int: Signature Point Dwy/ Del Mar Heights Road	-	-	-	0:18/ 0:28	0:18/ 0:28
Int: El Camino Real/ Del Mar Heights Road	-	-	-	1:35/ 0:24	1:35/ 0:24
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	1:30/ 0:28	1:30/ 0:28
Int: I-5 NB ramps/ Del Mar Heights Road	-	-	-	4:18/ 2:03	4:18/ 2:03
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Valley Road	3.24	30/25	6:29/ 7:47	-	6:29/ 7:47
Del Mar Heights Road ramp meter to I-5 NB	-	-	-	5:00/ 7:30	5:00/ 7:30
Total Travel Time					25:06/ 22:30

TABLE 3

YEAR 2030 TRAVEL TIME STUDY – ROUTE L2
WB SR-56 CARMEL COUNTRY ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route- L2	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)
Fwy: Carmel Valley Road to Carmel Country Road	1.30	20/ 65	-	-	3:54/ 1:12
Int: Carmel Country Rd/ SR-56 WB off-ramp	-	-	-	0:33/ 0:48	0:33/ 0:48
Int: Carmel Country Road/ Carmel Canyon Road	-	-	-	0:20/ 0:43	0:20/ 0:43
Int: Carmel Country Road/ Carmel Creek Road	-	-	-	0:28/ 0:41	0:28/ 0:41
Int: Carmel Country Road/ Townsgate Drive		-	-	1:20/ 0:27	1:20/ 0:27
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	3:02/ 2:43	3:02/ 2:43
Rs: Carmel Country Road between Del Mar Heights Road and SR-56 WB off-ramp	1.32	25/30	3:10/ 2:38	-	3:10/ 2:38
Int: El Camino Real/ Del Mar Heights Road	-	-	-	1:35/ 0:24	1:35/ 0:24
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	1:30/ 0:28	1:30/ 0:28
Int: I-5 NB ramps/ Del Mar Heights Road	-	-	-	4:18/ 2:03	4:18/ 2:03
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Country Road	0.82	25/20	1:58/ 2:28	-	1:58/ 2:28
Del Mar Heights Road ramp meter to I-5 NB	-	-	-	-	5:00/ 7:30
Total Travel Time					27:08/ 22:05

TABLE 4
YEAR 2030 TRAVEL TIME STUDY – ROUTE L3
WB SR-56 CARMEL CREEK ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route- L3	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)
Fwy: Carmel Valley Road to Carmel Country Road	1.30	20/ 65	-	-	3:54/ 1:12
Fwy: Carmel Country to Carmel Creek Road	0.95	20/ 65	-	-	2:51/ 0:53
Int: Carmel Creek Road / SR-56 WB off-ramp	-	-	-	1:11/ 1:08	1:11/ 1:08
Int: Carmel Country Road/ Carmel Creek Road	-	-	-	1:26/ 1:11	1:26/ 1:11
Rs: Carmel Creek Road between SR-56 WB off-ramp and Carmel Country Road	0.69	30/30	1:02/ 1:02	-	1:02/ 1:02
Int: Carmel Country Road/ Townsgate Drive	-	-	-	1:18/ 0:27	1:18/ 0:27
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	3:02/ 2:43	3:02/ 2:43
Rs: Carmel Country Road between Del Mar Heights Road and Carmel Creek Road	0.62	25/30	1:30/ 1:15	-	1:30/ 1:15
Int: El Camino Real/ Del Mar Heights Road	-	-	-	1:35/ 0:24	1:35/ 0:24
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	1:30/ 0:28	1:30/ 0:28
Int: I-5 NB ramps/ Del Mar Heights Road	-	-	-	4:18/ 2:03	4:18/ 2:03
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Country Road	0.82	25/20	1:58/ 2:28	-	1:58/ 2:28
Del Mar Heights Road ramp meter to I-5 NB	-	-	-	5:00/ 7:30	5:00/ 7:30
Total Travel Time					**30:35/ 22:44**

TABLE 5
YEAR 2030 TRAVEL TIME STUDY – ROUTE L4
WB SR-56 EL CAMINO REAL TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route– L4	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min:sec)	Total Travel Time (min: sec)
Fwy: Carmel Valley Road to Carmel Country Road	1.30	20/ 65	-	-	3:54/ 1:12
Fwy: Carmel Country to Carmel Creek Road	0.95	20/ 65	-	-	2:51/ 0:53
Fwy: Carmel Creek Road to El Camino Real	0.55	30/ 65	-	-	2:12/ 0:31
Int: El Camino Real/ SR-56 WB off-ramp	-	-	-	0:30/ 0:54	0:30/ 0:54
Int: El Camino Real/ Valley Centre Drive	-	-	-	0:50/ 0:42	0:50/ 0:42
Int: El Camino Real/ High Bluff Drive	-	-	-	0:11/ 0:46	0:11/ 0:46
Int: El Camino Real/ Townsgate Drive	-	-	-	0:18/ 0:08	0:18/ 0:08
Int: El Camino Real/ Del Mar Heights Road	-	-	-	1:47/ 1:04	1:47/ 1:04
Rs: El Camino Real between SR-56 and Del Mar Heights Road	1.45	40/40	2:10/ 2:10	-	2:10/ 2:10
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:51/ 5:00	0:51/ 5:00
Int: I-5 NB Ramps/ Del Mar Heights Road	-	-	-	4:18/ 2:03	4:18/ 2:03
Del Mar Heights Road ramp meter to I-5 NB	-	-	-	5:00/ 7:30	5:00/ 7:30
Rs: Del Mar Heights Road between I-5 NB ramps and El Camino Real	0.37	25/15	0:54/ 1:29	-	0:54/ 1:29
Total Travel Time					**25:46/ 24:22**

Footnotes:

a. Year 2030 ramp meter delays assumed as 5:00/7:30 in the AM/PM peak hour for the Carmel Valley Road and Del Mar Heights on-ramps at NB I-5 in the No Build scenarios.

General Notes:

a. LLG developed a freeway LOS scheme based on freeway speed and volume to capacity ratios.

LOS	V/C	Speed
A	<0.41	
B	0.62	>=65
C	0.8	
D	0.92	50-64
E	1	30-49
F(0)	1.25	20-29
F(1)	1.35	15-19
F(2)	1.45	11-15
F(3)	>1.46	>10

TABLE 6
YEAR 2030 TRAVEL TIME STUDY – ROUTE F1
WB SR-56 FROM CARMEL VALLEY ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Freeway Route – F1	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min:sec)	Total Travel Time (min: sec)	Freeway Speed	Segment Travel Time	Intersection Delay	Total Travel Time
Fwy: Carmel Valley Road to Carmel Country Road	1.30	20/ 65	-	-	3:54/ 1:12	50/ 65	-	-	1:34/ 1:12
Fwy: Carmel Country to Carmel Creek Road	0.95	50/ 65	-	-	1:08/ 0:53	30/ 65	-	-	1:54/ 0:53
Fwy: Carmel Creek Road to El Camino Real	0.55	30/ 65	-	-	1:06/ 0:31	50/ 65	-	-	0:40/ 0:31
Int: El Camino Real/ SR-56 WB off-ramp	-	-	-	0:46/ 1:01	0:46/ 1:01	-	-	-	-
Int: Old El Camino Real/ Carmel Valley Road	-	-	-	0:18/ 0:09	0:18/ 0:09	-	-	-	-
Rs: WB Carmel Valley Road between El Camino Real and I-5 NB Ramps	0.21	30/25	0:25/ 0:30	-	0:25/ 0:30	-	-	-	-
Int: I-5 NB ramps/ Carmel Valley Road	-	-	-	0:31/ 0:50	0:31/ 0:50	-	-	-	-
Carmel Valley Road ramp meter to I-5 NB [a]	-			7:30/ 7:30	7:30/ 7:30	-	-	-	-
WB SR-56 to NB I-5 Freeway to freeway connector [b]	0.70	-	-	-	-	-	-	-	7:30/ 7:30
Fwy: Carmel Valley Road to Del Mar Heights Road	1.37/ 1:03	65/ 50	-	-	1:16/ 1:39	65/ 30	-	-	0:57/ 2:04
Total Travel Time					**16:54/ 14:15**	-			**12:35/ 12:10**

TABLE 7
YEAR 2030 TRAVEL TIME STUDY – ROUTE L1
WB SR-56 FROM CARMEL VALLEY ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route - L1	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)	Segment Travel Time	Intersection Delay	Total Travel Time
Int: Carmel Valley Road / SR-56 WB off-ramp	-	-	-	0:53/ 0:55	0:53/ 0:55	-	-	0:53/ 0:55	0:53/ 0:55
Int: Carmel Valley Road/ Del Mar Heights Road	-	-	-	2:40/ 0:47	2:40/ 0:47	-	-	2:18/ 0:47	2:18/ 0:47
Rs: Carmel Valley Road between Del Mar Heights Road between SR-56 WB off-ramp	0.56	30/40	1:08/ 0:51	-	1:08/ 0:51	40/40	0:51/ 0:51	-	0:51/ 0:51
Int: Carmel Canyon Road/ Del Mar Heights Road	-	-	-	0:19/ 0:19	0:19/ 0:19	-	-	0:18/ 0:18	0:18/ 0:18
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	0:56/ 0:58	0:56/ 0:58	-	-	0:51/ 0:33	0:51/ 0:33
Int: Signature Point Dwy/ Del Mar Heights Road	-	-	-	0:18/ 0:28	0:18/ 0:28	-	-	0:25/ 0:30	0:25/ 0:30
Int: El Camino Real/ Del Mar Heights Road	-	-	-	1:35/ 0:24	1:35/ 0:24	-	-	0:33/ 0:32	0:33/ 0:32
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	1:30/ 0:28	1:30/ 0:28	-	-	0:35/ 0:39	0:35/ 0:39
Int: I-5 NB ramps/ Del Mar Heights Road	-	-	-	4:18/ 2:03	4:18/ 2:03	-	-	1:40/ 2:03	1:40/ 2:03
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Valley Road	3.24	30/25	6:29/ 7:47	-	6:29/ 7:47	45/45	5:33/ 5:33	-	5:33/ 5:33
Del Mar Heights Road ramp meter to I-5 NB [a]	-	-	-	5:00/ 7:30	5:00/ 7:30	-	-	2:00/ 4:00	2:00/ 4:00
Total Travel Time					**25:06/ 22:30**		-		**15:57/ 16:40**

TABLE 8

YEAR 2030 TRAVEL TIME STUDY – ROUTE L2

WB SR-56 CARMEL COUNTRY ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route- L2	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)	Freeway Speed	Segment Travel Time	Intersection Delay	Total Travel Time
Fwy: Carmel Valley Road to Carmel Country Road	1.30	20/ 65	-	-	3:54/ 1:12	50/ 65	-	-	1:34/ 1:12
Int: Carmel Country Rd/ SR-56 WB off-ramp	-	-	-	1:00/ 0:42	1:00/ 0:42	-	-	0:46/ 0:42	0:46/ 0:42
Int: Carmel Country Road/ Carmel Canyon Road	-	-	-	0:17/ 0:37	0:17/ 0:37	-	-	0:16/ 0:34	0:16/ 0:34
Int: Carmel Country Road/ Carmel Creek Road	-	-	-	0:29/ 0:41	0:29/ 0:41	-	-	0:26/ 0:37	0:26/ 0:37
Int: Carmel Country Road/ Townsgate Drive		-	-	1:20/ 0:27	1:20/ 0:27	-	-	0:47/ 0:27	0:47/ 0:27
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	3:02/ 2:43	3:02/ 2:43	-	-	1:04/ 1:03	1:04/ 1:03
Rs: Carmel Country Road between Del Mar Heights Road and SR-56 WB off-ramp	1.32	25/30	3:10/ 2:38	-	3:10/ 2:38	25/25	3:10/ 3:10	-	3:10/ 3:10
Int: El Camino Real/ Del Mar Heights Road	-	-	-	1:35/ 0:24	1:35/ 0:24	-	-	0:33/ 0:32	0:33/ 0:32
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	1:30/ 0:28	1:30/ 0:28	-	-	0:35/ 0:39	0:35/ 0:39
Int: I-5 NB ramps/ Del Mar Heights Road	-	-	-	4:18/ 2:03	4:18/ 2:03	-	-	1:40/ 2:03	1:40/ 2:03
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Country Road	0.82	25/20	1:58/ 2:28	-	1:58/ 2:28	35/35	1:23/ 1:23	-	1:23/ 1:23
Del Mar Heights Road ramp meter to I-5 NB	-	-	-	5:00/ 7:30	5:00/ 7:30	-	-	2:00/ 4:00	2:00/ 4:00
Total Travel Time					**27:33/ 21:53**				**14:14/ 16:22**

TABLE 9
YEAR 2030 TRAVEL TIME STUDY – ROUTE L3
WB SR-56 CARMEL CREEK ROAD TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route- L3	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)	Segment Travel Time	Intersection Delay	Total Travel Time
Fwy: Carmel Valley Road to Carmel Country Road	1.30	20/ 65	-	-	3:54/ 1:12	50/ 65	-	-	1:34/ 1:12
Fwy: Carmel Country to Carmel Creek Road	0.95	50/ 65	-	-	1:01/ 0:53	30/ 65	-	-	1:54/ 0:53
Int: Carmel Creek Road / SR-56 WB off-ramp	-	-	-	2:31/ 2:47	2:31/ 2:47	-	-	2:16/ 2:30	2:16/ 2:30
Int: Carmel Country Road/ Carmel Creek Road	-	-	-	1:30/ 1:08	1:30/ 1:08	-	-	1:11/ 1:12	1:11/ 1:12
Rs: Carmel Creek Road between SR-56 WB off-ramp and Carmel Country Road	0.69	30/30	1:02/ 1:02	-	1:02/ 1:02	25/25	1:40/ 1:40	-	1:40/ 1:40
Int: Carmel Country Road/ Townsgate Drive	-	-	-	1:18/ 0:27	1:18/ 0:27	-	-	-	0:47/ 0:27
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	3:02/ 2:43	3:02/ 2:43	-	-	1:04/ 1:03	1:04/ 1:03
Rs: Carmel Country Road between Del Mar Heights Road and Carmel Creek Road	0.62	25/30	1:30/ 1:15	-	1:30/ 1:15	25/25	1:30/ 1:30	-	1:30/ 1:30
Int: El Camino Real/ Del Mar Heights Road	-	-	-	1:35/ 0:24	1:35/ 0:24	-	-	0:33/ 0:32	0:33/ 0:32
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	1:30/ 0:28	1:30/ 0:28	-	-	0:35/ 0:39	0:35/ 0:39
Int: I-5 NB ramps/ Del Mar Heights Road	-	-	-	4:18/ 2:03	4:18/ 2:03	-	-	1:40/ 2:03	1:40/ 2:03
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Country Road	0.82	25/20	1:58/ 2:28	-	1:58/ 2:28	35/35	1:23/ 1:23	-	1:23/ 1:23
Del Mar Heights Road ramp meter to I-5 NB	-	-	-	5:00/ 7:30	5:00/ 7:30	-	-	2:00/ 4:00	2:00/ 4:00
Total Travel Time					**30:09/ 24:20**				**18:07/ 19:04**

TABLE 10
YEAR 2030 TRAVEL TIME STUDY – ROUTE L4
WB SR-56 EL CAMINO REAL TO NB I-5 DEL MAR HEIGHTS ROAD

Local Route – L4	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph))	Segment Travel Time (min: sec)	Intersection Delay (min:sec)	Total Travel Time (min: sec)	Freeway Speed	Segment Travel Time	Intersection Delay	Total Travel Time
Fwy: Carmel Valley Road to Carmel Country Road	1.30	20/ 65	-	-	3:54/ 1:12	50/ 65	-	-	1:34/ 1:12
Fwy: Carmel Country to Carmel Creek Road	0.95	50/ 65	-	-	1:01/ 0:53	30/ 65	-	-	1:54/ 0:53
Fwy: Carmel Creek Road to El Camino Real	0.55	30/ 65	-	-	1:06/ 0:31	50/ 65	-	-	0:40/ 0:31
Int: El Camino Real/ SR-56 WB off-ramp	-	-	-	0:30/ 0:54	0:30/ 0:54	-	-	0:32/ 0:50	0:32/ 0:50
Int: El Camino Real/ Valley Centre Drive	-	-	-	0:50/ 0:42	0:50/ 0:42	-	-	1:11/ 0:36	1:11/ 0:36
Int: El Camino Real/ High Bluff Drive	-	-	-	0:11/ 0:46	0:11/ 0:46	-	-	0:26/ 0:40	0:26/ 0:40
Int: El Camino Real/ Townsgate Drive	-	-	-	0:18/ 0:08	0:18/ 0:08	-	-	0:22/ 0:08	0:22/ 0:08
Int: El Camino Real/ Del Mar Heights Road	-	-	-	1:47/ 1:04	1:47/ 1:04	-	-	1:51/ 0:54	1:51/ 0:54
Rs: El Camino Real between SR-56 and Del Mar Heights Road	1.45	40/40	2:10/ 2:10	-	2:10/ 2:10	40/40	2:10/ 2:10	-	2:10/ 2:10
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	1:30/ 0:28	1:30/ 0:28	-	-	0:35/ 0:39	0:35/ 0:39
Int: I-5 NB Ramps/ Del Mar Heights Road	-	-	-	4:18/ 2:03	4:18/ 2:03	-	-	1:40/ 2:03	1:40/ 2:03
Del Mar Heights Road ramp meter to I-5 NB	-	-	-	5:00/ 7:30	5:00/ 7:30	-	-	2:00/ 4:00	2:00/ 4:00
Rs: Del Mar Heights Road between I-5 NB ramps and El Camino Real	0.37	25/15	0:54/ 1:29	-	0:54/ 1:29	25/25	0:54/0:54	-	0:54/ 0:54
Total Travel Time					**23:36/ 19:50**				**15:49/15:30**

Footnotes:

a. Year 2030 ramp meter delays assumed as 7:30/7:30 in the AM/PM peak hours for the Carmel Valley Road. The ramp meter delays at Del Mar Heights on-ramps at NB I-5 in the Aux.Lane and No Build scenarios were assumed as 5:00/7:30. Since the ramp meter analyses does not show any delay at the Del Mar Heights Road on-ramp in the Direct connectors scenario, a delay of 2:00/4:00 was assumed to be more conservative.

b. This analysis assumes ramp meter at the WB SR 56 to NB I-5 freeway connector in the AM peak hour. A ramp meter delay of 7.5 minutes is assumed to be conservative.

General Notes:

a. LLG developed a freeway LOS scheme based on freeway speed and volume to capacity ratios.

LOS	V/C	Speed
A	<0.41	
B	0.62	>=65
C	0.8	
D	0.92	50-64
E	1	30-49
F(0)	1.25	20-29
F(1)	1.35	15-19
F(2)	1.45	11-15
F(3)	>1.46	>10

TABLE 11
YEAR 2030 TRAVEL TIME STUDY – ROUTE F2
SB I-5 FROM DEL MAR HEIGHTS ROAD TO EB SR-56 CARMEL VALLEY ROAD

Freeway Route – F2	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min:sec)	Total Travel Time (min: sec)
Fwy: Del Mar Heights Road to Carmel Valley Road	1.51	30/ 65	-	-	3:01/ 1:24
Int: I-5 SB Ramps/ Carmel Valley Road	-	-	-	5:16/ 9:42	5:16/ 9:42
Int: I-5 NB ramps/ Carmel Valley Road	-	-	-	0:27/ 0:55	0:27/ 0:55
Int: Old El Camino Real/ Carmel Valley Road	-	-	-	0:08/ 0:09	0:08/ 0:09
Int: SR-56 EB on-ramp/ Carmel Valley Road	-	-	-	2:05/5:43	2:05/5:43
Rs: EB Carmel Valley Road between El Camino Real and I-5 NB Ramps	0.21	30/10	0:25/1:16	-	0:25/ 1:16
Fwy: El Camino Real to Carmel Creek Road	0.79	65/ 20[a]	-	-	0:44/ 2:22
Fwy: Carmel Creek Road to Carmel Country Road	0.95	65/ 20	-	-	0:53/ 2:51
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:45
Total Travel Time					14:08/ 28:07

Footnotes:

a. Based on existing field reviews, the freeway segment of SR 56 EB between El Camino Real and Carmel Creek Road is severely congested in the PM peak hour. Even though the Year 2030 freeway mainline analysis shows LOS C, 20 mph was assumed as the speed (which equates to LOS F(0)) for the No Build scenario to be more conservative.

TABLE 12
YEAR 2030 TRAVEL TIME STUDY – ROUTE L5
SB I-5 FROM DEL MAR HEIGHTS ROAD TO EB SR-56 THRU CARMEL VALLEY ROAD

Local Route- L5	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)
Int: Del Mar Heights Road/ I-5 SB ramps	-	-	-	2:29/ 3:18	2:29/ 3:18
Int: Del Mar Heights Road/ I-5 NB ramps	-	-	-	0:43/ 0:18	0:43/ 0:18
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:27/ 0:13	0:27/ 0:13
Int: El Camino Real/ Del Mar Heights Road	-	-	-	0:26/ 0:26	0:26/ 0:26
Int: Signature Point Dwy/ Del Mar Heights Road	-	-	-	0:29/ 1:00	0:29/ 1:00
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	0:17/ 0:36	0:17/ 0:36
Int: Carmel Canyon Road/ Del Mar Heights Road	-	-	-	0:30/ 0:24	0:30/ 0:24
Int: Carmel Valley Road / Del Mar Heights Road	-	-	-	0:50/ 0:50	0:50/ 0:50
Rs: Del Mar Heights Road between I-5 SB ramps and Carmel Valley Road	3.39	30/25	6:47/8:08	-	6:47/8:08
Int: Carmel Valley Road / SR-56 WB & EB ramps	-	-	-	1:00/ 4:04	1:00/ 4:04
Carmel Valley Road ramp meter to SR-56 EB[a]	-			0:00/3:00	0:00/3:00
Rs: Carmel Valley Road between Del Mar Heights Road between SR-56 WB off-ramp	0.56	30/30	1:08/ 1:08	-	1:08/ 1:08
Total Travel Time					15:06/ 23:25

TABLE 13
YEAR 2030 TRAVEL TIME STUDY – ROUTE L6
SB I-5 DEL MAR HEIGHTS ROAD TO EB SR-56 THRU CARMEL COUNTRY ROAD

Local Route- L6	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)
Int: Del Mar Heights Road/ I-5 SB ramps	-	-	-	2:29/ 3:18	2:29/ 3:18
Int: Del Mar Heights Road/ I-5 NB ramps	-	-	-	0:43/ 0:18	0:43/ 0:18
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:27/ 0:13	0:27/ 0:13
Int: El Camino Real/ Del Mar Heights Road	-	-	-	0:26/ 0:26	0:26/ 0:26
Int: Signature Point Dwy/ Del Mar Heights Road	-	-	-	0:29/ 1:00	0:29/ 1:00
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	0:17/ 0:36	0:17/ 0:36
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Country Road	0.82	30/25	1:39/ 1:58	-	1:39/ 1:58
Int: Townsgate Drive/ Carmel Country Road	-	-	-	1:11/ 0:41	1:11/ 0:41
Int: Carmel Creek Road/ Carmel Country Road	-	-	-	0:50/ 1:28	0:50/ 1:28
Int: Carmel Country Road/ Del Mar Trails Road	-	-	-	0:08/ 0:10	0:08/ 0:10
Int: Carmel Country Road/ SR-56 WB & EB ramps	-	-	-	1:00/ 1:20	1:00/ 1:20
Carmel Country Road ramp meter to SR-56 EB	-	-	-	0:00/ 5:00	0:00/5:00
Rs: Carmel Country Road between Del Mar Heights Road between SR-56 EB ramps	1.33	40/40	2:00/ 2:00	-	2:00/ 2:00
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:45
Total Travel Time					**12:48/ 22:13**

TABLE 14
YEAR 2030 TRAVEL TIME STUDY – ROUTE L7
SB I-5 DEL MAR HEIGHTS ROAD TO EB SR-56 THRU CARMEL CREEK ROAD

Local Route- L7	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)
Int: Del Mar Heights Road/ I-5 SB ramps	-	-	-	2:29/ 3:18	2:29/ 3:18
Int: Del Mar Heights Road/ I-5 NB ramps	-	-	-	0:43/ 0:18	0:43/ 0:18
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:27/ 0:13	0:27/ 0:13
Int: El Camino Real/ Del Mar Heights Road	-	-	-	0:26/ 0:26	0:26/ 0:26
Int: Signature Point Dwy/ Del Mar Heights Road	-	-	-	0:29/ 1:00	0:29/ 1:00
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	0:17/ 0:36	0:17/ 0:36
Rs: Del Mar Heights Road between I-5 SB ramps and Carmel Country Road	0.82	30/25	1:39/ 1:58	-	1:39/ 1:58
Int: Townsgate Drive/ Carmel Country Road	-	-	-	1:11/ 0:41	1:11/ 0:41
Int: Carmel Creek Road/ Carmel Country Road	-	-	-	0:50/ 1:28	0:50/ 1:28
Rs: Carmel Country Road between Del Mar Heights Road and Carmel Creek Road	0.62	35/35	1:03/ 1:03	-	1:03/ 1:03
Int: Carmel Creek Road/ SR-56 WB & EB ramps	-	-	-	1:19/ 1:18	1:19/ 1:18
Rs: Carmel Creek Road between Country Road between SR-56 EB ramps	0.70	35/35	1:12/ 1:12	-	1:12/ 1:12
Carmel Creek Road ramp meter to SR-56 EB	-	-	-	0:00/ 5:00	0:00/ 5:00
Fwy: Carmel Creek Road to Carmel Country Road	0.95	65/ 20	-	-	0:53/ 2:51
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:45
Total Travel Time					14:07/ 25:07

TABLE 15
YEAR 2030 TRAVEL TIME STUDY – ROUTE L8
SB I-5 FROM DEL MAR HEIGHTS ROAD TO EB SR-56 THRU EL CAMINO REAL

Local Route- L8	Length (mile)	No Build (Run E)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)
Int: Del Mar Heights Road/ I-5 SB ramps	-	-	-	2:29/ 3:18	2:29/ 3:18
Int: Del Mar Heights Road/ I-5 NB ramps	-	-	-	0:43/ 0:18	0:43/ 0:18
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:27/ 0:13	0:27/ 0:13
Int: El Camino Real/ Del Mar Heights Road	-	-	-	0:26/ 0:26	0:26/ 0:26
Rs: Del Mar Heights Road between I-5 SB ramps and El Camino Real	0.51	30/20	1:01/ 1:11	-	1:01/ 1:11
Int: Townsgate Drive/ El Camino Real	-	-	-	0:06/ 0:11	0:06/ 0:11
Int: High Bluff Drive / El Camino Real	-	-	-	0:22/ 0:30	0:22/ 0:30
Int: Valley Centre Dr/ El Camino Real	-	-	-	0:33/ 0:22	0:33/ 0:22
Rs: El Camino Real between Del Mar Heights Road and Carmel Valley Road	1.47	30/30	2:56/ 2:56	-	2:56/ 2:56
Int: Carmel Valley Road / SR-56 WB off-ramp	-	-	-	0:46/ 0:20	0:46/ 0:20
Int: Carmel Valley Road / SR-56 EB on ramp	-	-	-	1:02/ 3:14	1:02/ 3:14
Fwy: Carmel Creek Road to Carmel Country Road	0.95	65/ 20	-	-	0:53/ 2:51
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:45
Total Travel Time					**12:53/ 19:35**

Footnotes:

b. Year 2030 ramp meter delays assumed as 3:00 in the PM peak hour for the Carmel Valley Road and 5:00 for El Camino Real, Carmel Country Road and Carmel Creek Road to EB SR-56 to be more conservative.

General Notes:

a. LLG developed a freeway LOS scheme based on freeway speed and volume to capacity ratios.

LOS	V/C	Speed
A	<0.41	
B	0.62	>=65
C	0.8	
D	0.92	50-64
E	1	30-49
F(0)	1.25	20-29
F(1)	1.35	15-19
F(2)	1.45	11-15
F(3)	>1.46	>10

TABLE 16
YEAR 2030 TRAVEL TIME STUDY – ROUTE F2
SB I-5 FROM DEL MAR HEIGHTS ROAD TO EB SR-56 CARMEL VALLEY ROAD

Freeway Route – F2	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min:sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)	Segment Travel Time	Intersection Delay	Total Travel Time
Fwy: Del Mar Heights Road to Carmel Valley Road	1.51/ 0.93	50/ 65	-	-	1:49/ 1:24	30/ 50	-	-	1:51/ 1:07
SB I-5 to EB SR-56 Freeway to freeway connector [a]	0.75	-	-	-	-	45/ 45	-	-	1:00/ 1:00
Int: I-5 SB Ramps/ Carmel Valley Road	-	-	-	3:16/ 3:26	3:16/ 3:26	-	-	-	-
Int: I-5 NB ramps/ Carmel Valley Road	-	-	-	2:34/ 2:20	2:34/ 2:20	-	-	-	-
Int: Old El Camino Real/ Carmel Valley Road	-	-	-	0:21/ 0:21	0:21/ 0:21	-	-	-	-
Int: SR-56 EB on-ramp/ Carmel Valley Road	-	-	-	0:09/3:39	0:09/3:39	-	-	-	-
Rs: EB Carmel Valley Road between El Camino Real and I-5 NB Ramps	0.21	30/10	0:25/1:16	-	0:25/ 1:16	-	-	-	-
Fwy: El Camino Real to Carmel Creek Road	0.79/ 0.54	65/ 20	-	-	0:44/ 2:22	65/ 65	-	-	0:30/ 0:30
Fwy: Carmel Creek Road to Carmel Country Road	0.95	65/ 20	-	-	0:53/ 2:51	65/ 50	-	-	0:53/ 1:08
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:45	65/ 50	-	-	1:09/ 1:30
Total Travel Time					**11:20/ 21:24**		-		**5:23/ 5:15**

TABLE 17
YEAR 2030 TRAVEL TIME STUDY – ROUTE L5
SB I-5 FROM DEL MAR HEIGHTS ROAD TO EB SR-56 CARMEL VALLEY ROAD

Local Route - L5	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)	Segment Travel Time	Intersection Delay	Total Travel Time
Int: Del Mar Heights Road/ I-5 SB ramps	-	-	-	2:29/ 3:18	2:29/ 3:18	-	-	0:50/ 0:28	0:50/ 0:28
Int: Del Mar Heights Road/ I-5 NB ramps	-	-	-	0:43/ 0:18	0:43/ 0:18	-	-	0:28/ 0:25	0:28/ 0:25
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:27/ 0:13	0:27/ 0:13	-	-	0:27/ 0:20	0:27/ 0:20
Int: El Camino Real/ Del Mar Heights Road	-	-	-	0:26/ 0:26	0:26/ 0:26	-	-	0:13/ 0:16	0:13/ 0:16
Int: Signature Point Dwy/ Del Mar Heights Road	-	-	-	0:29/ 1:00	0:29/ 1:00	-	-	0:44/ 0:40	0:44/ 0:40
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	0:17/ 0:36	0:17/ 0:36	-	-	0:14/ 0:21	0:14/ 0:21
Int: Carmel Canyon Road/ Del Mar Heights Road	-	-	-	0:30/ 0:24	0:30/ 0:24	-	-	0:30/ 0:20	0:30/ 0:20
Int: Carmel Valley Road / Del Mar Heights Road	-	-	-	0:50/ 0:50	0:50/ 0:50	-	-	0:50/ 0:50	0:50/ 0:50
Rs: Del Mar Heights Road between I-5 SB ramps and Carmel Valley Road	3.39	30/25	6:47/8:08	-	6:47/8:08	30/30	6:47/6:47	-	6:47/6:47
Int: Carmel Valley Road / SR-56 WB & EB ramps	-	-	-	1:00/ 1:04	1:00/ 1:04	-	-	1:00/ 1:04	1:00/ 1:04
Carmel Valley Road ramp meter to EB SR-56[b]	-	-	-	0:00/ 3:00	0:00/ 3:00	-	-	0:00/ 3:00	0:00/ 3:00
Rs: Carmel Valley Road between Del Mar Heights Road between SR-56 WB off-ramp	0.56	30/30	1:08/ 1:08	-	1:08/ 1:08	30/30	1:08/ 1:08	-	1:08/ 1:08
Total Travel Time					**15:06/ 20:25**		-		**13:11/ 15:39**

TABLE 18
YEAR 2030 TRAVEL TIME STUDY – ROUTE L6
SB I-5 DEL MAR HEIGHTS ROAD TO EB SR-56 THRU CARMEL COUNTRY ROAD

Local Route- L6	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)	Segment Travel Time	Intersection Delay	Total Travel Time
Int: Del Mar Heights Road/ I-5 SB ramps	-	-	-	2:29/ 3:18	2:29/ 3:18	-	-	0:50/ 0:28	0:50/ 0:28
Int: Del Mar Heights Road/ I-5 NB ramps	-	-	-	0:43/ 0:18	0:43/ 0:18	-	-	0:28/ 0:25	0:28/ 0:25
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:27/ 0:13	0:27/ 0:13	-	-	0:27/ 0:20	0:27/ 0:20
Int: El Camino Real/ Del Mar Heights Road	-	-	-	0:26/ 0:26	0:26/ 0:26	-	-	0:13/ 0:16	0:13/ 0:16
Int: Signature Point Dwy/ Del Mar Heights Road	-	-	-	0:29/ 1:00	0:29/ 1:00	-	-	0:44/ 0:40	0:44/ 0:40
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	0:17/ 0:36	0:17/ 0:36	-	-	0:14/ 0:21	0:14/ 0:21
Rs: Del Mar Heights Road between I-5 NB ramps and Carmel Country Road	0.82	30/25	1:39/ 1:58	-	1:39/ 1:58	35/35	1:23/ 1:23	-	1:23/ 1:23
Int: Townsgate Drive/ Carmel Country Road	-	-	-	1:11/ 0:41	1:11/ 0:41	-	-	0:58/ 0:37	0:58/ 0:37
Int: Carmel Creek Road/ Carmel Country Road	-	-	-	0:50/ 1:28	0:50/ 1:28	-	-	0:42/ 0:47	0:42/ 0:47
Int: Carmel Country Road/ Del Mar Trails Road	-	-	-	0:12/ 0:10	0:12/ 0:10	-	-	0:11/ 0:10	0:11/ 0:10
Int: Carmel Country Road/ SR-56 WB & EB ramps	-	-	-	0:50/ 2:13	0:50/ 2:13	-	-	0:53/ 0:58	0:53/ 0:58
Carmel Country Road ramp meter to EB SR-56	-	-	-	0:00/ 5:00	0:00/ 5:00	-	-	0:00/ 5:00	0:00/ 5:00
Rs: Carmel Country Road between Del Mar Heights Road between SR-56 EB ramps	1.33	40/40	2:00/ 2:00	-	2:00/ 2:00	40/40	2:00/ 2:00	-	2:00/ 2:00
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:45	65/ 50	-	-	1:09/ 1:30
Total Travel Time					**12:42/ 23:06**		-		**10:12/ 14:55**

TABLE 19
YEAR 2030 TRAVEL TIME STUDY – ROUTE L7
SB I-5 DEL MAR HEIGHTS ROAD TO EB SR-56 THRU CARMEL CREEK ROAD

Local Route- L7	Length (mile)	Aux Lane F(2)				Build G(5)			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)	Segment Travel Time	Intersection Delay	Total Travel Time
Int: Del Mar Heights Road/ I-5 SB ramps	-	-	-	2:29/ 3:18	2:29/ 3:18	-	-	0:50/ 0:28	0:50/ 0:28
Int: Del Mar Heights Road/ I-5 NB ramps	-	-	-	0:43/ 0:18	0:43/ 0:18	-	-	0:28/ 0:25	0:28/ 0:25
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:27/ 0:13	0:27/ 0:13	-	-	0:27/ 0:20	0:27/ 0:20
Int: El Camino Real/ Del Mar Heights Road	-	-	-	0:26/ 0:26	0:26/ 0:26	-	-	0:13/ 0:16	0:13/ 0:16
Int: Signature Point Dwy/ Del Mar Heights Road	-	-	-	0:29/ 1:00	0:29/ 1:00	-	-	0:44/ 0:40	0:44/ 0:40
Int: Carmel Country Road/ Del Mar Heights Road	-	-	-	0:17/ 0:36	0:17/ 0:36	-	-	0:14/ 0:21	0:14/ 0:21
Rs: Del Mar Heights Road between I-5 SB ramps and Carmel Country Road	0.82	30/25	1:39/ 1:58	-	1:39/ 1:58	30/25	1:39/ 1:58	-	1:39/ 1:58
Int: Townsgate Drive/ Carmel Country Road	-	-	-	1:11/ 0:41	1:11/ 0:41	-	-	0:58/ 0:37	0:58/ 0:37
Int: Carmel Creek Road/ Carmel Country Road	-	-	-	0:50/ 1:28	0:50/ 1:28	-	-	0:42/ 0:47	0:42/ 0:47
Rs: Carmel Country Road between Del Mar Heights Road and Carmel Creek Road	0.62	35/35	1:03/ 1:03	-	1:03/ 1:03	35/35	1:03/ 1:03	-	1:03/ 1:03
Int: Carmel Creek Road/ SR-56 WB & EB ramps	-	-	-	1:24/ 1:11	1:24/ 1:11	-	-	1:14/ 1:15	1:14/ 1:15
Rs: Carmel Creek Road between Country Road between SR-56 EB ramps	0.70	35/35	1:12/ 1:12	-	1:16/ 1:16	35/35	1:12/ 1:12	-	1:12/ 1:12
Carmel Creek Road ramp meter to EB SR-56	-	-	-	0:00/ 5:00	0:00/ 5:00	-	-	0:00/ 5:00	0:00/ 5:00
Fwy: Carmel Creek Road to Carmel Country Road	0.95	65/ 20	-	-	0:53/ 2:51	65/ 50	-	-	0:53/ 1:08
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:45	65/ 50	-	-	1:09/ 1:30
Total Travel Time					**14:12/ 25:04**		-		**11:30/ 16:25**

TABLE 20
YEAR 2030 TRAVEL TIME STUDY – ROUTE L8
SB I-5 DEL MAR HEIGHTS ROAD TO EB SR-56 THRU EL CAMINO REAL

Local Route- L8	Length (mile)	Aux Lane F(2)				Build G(5) [c]			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min: sec)	Total Travel Time (min: sec)	Freeway Speed	Segment Travel Time	Intersection Delay	Total Travel Time
Int: Del Mar Heights Road/ I-5 SB ramps	-	-	-	2:29/ 3:18	2:29/ 3:18			0:50/ 0:28	0:50/ 0:28
Int: Del Mar Heights Road/ I-5 NB ramps	-	-	-	0:43/ 0:18	0:43/ 0:18			0:28/ 0:25	0:28/ 0:25
Int: High Bluff Drive/ Del Mar Heights Road	-	-	-	0:27/ 0:13	0:27/ 0:13			0:27/ 0:20	0:27/ 0:20
Int: El Camino Real/ Del Mar Heights Road	-	-	-	0:26/ 0:26	0:26/ 0:26			0:13/ 0:16	0:13/ 0:16
Rs: Del Mar Heights Road between I-5 SB ramps and El Camino Real	0.51	30/20	1:01/ 1:11	-	1:01/ 1:11	30/20	1:01/ 1:11	-	1:01/ 1:11
Int: Townsgate Drive/ El Camino Real	-	-	-	0:06/ 0:11	0:06/ 0:11			0:12/0:07	0:12/0:07
Int: High Bluff Drive / El Camino Real	-	-	-	0:22/ 0:30	0:22/ 0:30			0:25/0:30	0:25/0:30
Int: Valley Centre Dr/ El Camino Real	-	-	-	0:33/ 0:22	0:33/ 0:22			0:27/0:22	0:27/0:22
Rs: El Camino Real between Del Mar Heights Road and Carmel Valley Road	1.47	30/30	2:56/ 2:56	-	2:56/ 2:56	30/30	2:56/ 2:56	-	2:56/ 2:56
Int: Carmel Valley Road / SR-56 WB off-ramp	-	-	-	0:46/ 0:42	0:46/ 0:42			0:33/0:26	0:33/0:26
Int: Carmel Valley Road / SR-56 EB on ramp	-	-	-	1:02/ 5:05	1:02/ 5:05			1:02/3:54	1:02/3:54
Fwy: Carmel Creek Road to Carmel Country Road	0.95	65/ 20	-	-	0:53/ 2:51	65/ 50	-	-	0:53/ 1:08
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:54	65/ 50	-	-	1:09/ 1:30
Total Travel Time					**12:53/ 21:48**				**10:36/13:33**

Footnotes:

a. This analysis does not assume ramp meter at the proposed SB I-5 to EB SR 56 direct connector.

b. Year 2030 ramp meter delays assumed as 3:00 in the PM peak hour for the Carmel Valley Road and 5:00 for Carmel Country Road and Carmel Creek Road to EB SR-56 to be conservative.

General Notes:

a. LLG developed a freeway LOS scheme based on freeway speed and volume to capacity ratios.

LOS	V/C	Speed
A	<0.41	
B	0.62	>=65
C	0.8	
D	0.92	50-64
E	1	30-49
F(0)	1.25	20-29
F(1)	1.35	15-19
F(2)	1.45	11-15
F(3)	>1.46	>10

TABLE 21
YEAR 2030 TRAVEL TIME STUDY – ROUTE F2
SB I-5 FROM DEL MAR HEIGHTS ROAD TO EB SR-56 CARMEL VALLEY ROAD

Freeway Route – F2	Length (mile)	Conventional Hybrid Alternative				Hybrid with Flyover Alternative			
		Freeway Speed/ Roadway Speed (mph)	Segment Travel Time (min: sec)	Intersection Delay (min:sec)	Total Travel Time (min: sec)	Freeway Speed/ Roadway Speed (mph)	Segment Travel Time	Intersection Delay	Total Travel Time
Fwy: Del Mar Heights Road to Carmel Valley Road	1.51/ 0.93	50/ 65	-	-	1:49/ 1:24	1.51/ 0.93	50/ 65	-	1:49/ 1:24
Int: I-5 SB Ramps/ Carmel Valley Road	-	-	-	4:27/ 4:50	4:27/ 4:50	-	-	4:27/ 4:50	4:27/ 4:50
Int: I-5 NB ramps/ Carmel Valley Road	-	-	-	2:50/ 3:12	2:50/ 3:12	-	-	2:11/ 2:33	2:11/ 2:33
Int: Old El Camino Real/ Carmel Valley Road	-	-	-	0:21/ 0:21	0:21/ 0:21	-	-	-	-
Int: SR-56 EB on-ramp/ Carmel Valley Road	-	-	-	0:09/3:39	0:09/3:39	-	-	-	-
Rs: EB Carmel Valley Road between El Camino Real and I-5 NB Ramps	0.21	30/10	0:25/1:16	-	0:25/ 1:16	30/10	0:25/1:16	-	0:25/ 1:16
Fwy: El Camino Real to Carmel Creek Road	0.79	65/ 20	-	-	0:44/ 2:22	65/ 30	-	-	0:44/ 1:35
Fwy: Carmel Creek Road to Carmel Country Road	0.95	65/ 20	-	-	0:53/ 2:51	65/ 20	-	-	0:53/ 2:51
Fwy: Carmel Country Road to Carmel Valley Road	1.25	65/ 20	-	-	1:09/ 3:45	65/ 20	-	-	1:09/ 3:45
Total Travel Time					**12:47/ 23:40**		-		**11:28/ 18:14**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.94		1.00	0.99		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3337		1770	3511		1770	1863	1583		1822	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1770	3337		1770	3511		1770	1863	1583		1822	
Volume (vph)	30	416	257	240	536	30	257	140	200	50	270	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	452	279	261	583	33	279	152	217	54	293	43
RTOR Reduction (vph)	0	70	0	0	3	0	0	0	179	0	4	0
Lane Group Flow (vph)	33	661	0	261	613	0	279	152	38	0	386	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	5.2	30.0		22.0	46.8		21.0	21.0	21.0		31.0	
Effective Green, g (s)	5.2	30.0		22.0	46.8		21.0	21.0	21.0		31.0	
Actuated g/C Ratio	0.04	0.25		0.18	0.39		0.18	0.18	0.18		0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	77	834		325	1369		310	326	277		471	
v/s Ratio Prot	0.02	c0.20		c0.15	0.17		c0.16	0.08			c0.21	
v/s Ratio Perm									0.02			
v/c Ratio	0.43	0.79		0.80	0.45		0.90	0.47	0.14		0.82	
Uniform Delay, d1	56.0	42.1		46.9	27.0		48.5	44.5	41.8		41.9	
Progression Factor	1.00	1.00		1.00	1.00		1.22	1.31	3.71		0.41	
Incremental Delay, d2	3.8	7.6		13.3	1.1		26.3	3.8	0.8		10.1	
Delay (s)	59.8	49.7		60.3	28.1		85.4	62.0	156.0		27.3	
Level of Service	E	D		E	C		F	E	F		C	
Approach Delay (s)		50.2			37.7			103.6			27.3	
Approach LOS		D			D			F			C	

Intersection Summary			
HCM Average Control Delay	55.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.95		1.00	0.98		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3356		1770	3486		1770	1863	1583		1834	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3356		1770	3486		1770	1863	1583		1834	
Volume (vph)	40	576	303	100	537	60	368	200	120	30	300	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	626	329	109	584	65	400	217	130	33	326	33
RTOR Reduction (vph)	0	54	0	0	6	0	0	0	96	0	3	0
Lane Group Flow (vph)	43	901	0	109	643	0	400	217	34	0	389	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	7.2	30.8		12.2	35.8		31.0	31.0	31.0		30.0	
Effective Green, g (s)	7.2	30.8		12.2	35.8		31.0	31.0	31.0		30.0	
Actuated g/C Ratio	0.06	0.26		0.10	0.30		0.26	0.26	0.26		0.25	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	106	861		180	1040		457	481	409		459	
v/s Ratio Prot	0.02	c0.27		c0.06	0.18		c0.23	0.12			c0.21	
v/s Ratio Perm									0.02			
v/c Ratio	0.41	1.05		0.61	0.62		0.88	0.45	0.08		0.85	
Uniform Delay, d1	54.3	44.6		51.6	36.2		42.6	37.4	33.7		42.8	
Progression Factor	1.00	1.00		1.00	1.00		1.30	1.38	3.36		0.81	
Incremental Delay, d2	2.5	43.4		5.7	2.8		15.4	2.2	0.3		15.2	
Delay (s)	56.9	88.0		57.3	39.0		70.9	53.6	113.6		50.0	
Level of Service	E	F		E	D		E	D	F		D	
Approach Delay (s)		86.7			41.6			73.3			50.0	
Approach LOS		F			D			E			D	

Intersection Summary			
HCM Average Control Delay	66.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	0.95					0.95	0.91	0.95
Frt		0.95		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3352		3433	3539					1681	1610	1504
Flt Permitted		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3352		3433	3539					1681	1610	1504
Volume (vph)	0	640	350	730	906	0	0	0	0	968	0	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	696	380	793	985	0	0	0	0	1052	0	163
RTOR Reduction (vph)	0	59	0	0	0	0	0	0	0	0	0	102
Lane Group Flow (vph)	0	1017	0	793	985	0	0	0	0	526	526	61
Turn Type				Prot						Split		Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Actuated Green, G (s)		50.2		33.8	88.0					24.0	24.0	24.0
Effective Green, g (s)		50.2		33.8	88.0					24.0	24.0	24.0
Actuated g/C Ratio		0.42		0.28	0.73					0.20	0.20	0.20
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1402		967	2595					336	322	301
v/s Ratio Prot		c0.30		c0.23	0.28					0.31	c0.33	
v/s Ratio Perm												0.04
v/c Ratio		0.73		0.82	0.38					1.57	1.63	0.20
Uniform Delay, d1		29.1		40.3	5.9					48.0	48.0	40.0
Progression Factor		0.50		1.13	0.22					1.00	1.00	1.00
Incremental Delay, d2		2.7		3.4	0.2					268.5	298.8	1.5
Delay (s)		17.2		48.8	11.5					316.5	346.8	41.5
Level of Service		B		D	A					F	F	D
Approach Delay (s)		17.2			22.6			0.0			292.8	
Approach LOS		B			C			A			F	

Intersection Summary			
HCM Average Control Delay	101.9	HCM Level of Service	F
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	165.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	0.95					0.95	0.91	0.95
Frt		0.95		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3354		3433	3539					1681	1610	1504
Flt Permitted		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3354		3433	3539					1681	1610	1504
Volume (vph)	0	840	450	600	640	0	0	0	0	1168	0	180
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	913	489	652	696	0	0	0	0	1270	0	196
RTOR Reduction (vph)	0	56	0	0	0	0	0	0	0	0	0	101
Lane Group Flow (vph)	0	1346	0	652	696	0	0	0	0	635	635	95
Turn Type				Prot						Split		Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Actuated Green, G (s)		60.6		26.4	91.0					21.0	21.0	21.0
Effective Green, g (s)		60.6		26.4	91.0					21.0	21.0	21.0
Actuated g/C Ratio		0.50		0.22	0.76					0.18	0.18	0.18
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1694		755	2684					294	282	263
v/s Ratio Prot		c0.40		c0.19	0.20					0.38	c0.39	
v/s Ratio Perm												0.06
v/c Ratio		0.79		0.86	0.26					2.16	2.25	0.36
Uniform Delay, d1		24.5		45.1	4.4					49.5	49.5	43.6
Progression Factor		0.69		0.91	0.55					1.00	1.00	1.00
Incremental Delay, d2		2.9		8.2	0.2					533.1	574.6	3.8
Delay (s)		19.9		49.0	2.6					682.6	624.1	47.4
Level of Service		B		D	A					F	F	D
Approach Delay (s)		19.9			25.1			0.0			529.0	
Approach LOS		B			C			A			F	

Intersection Summary			
HCM Average Control Delay	198.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	162.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.95	1.00	0.95	0.91	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.85	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			3539	1583	1681	1441	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			3539	1583	1681	1441	1504			
Volume (vph)	120	1488	0	0	1386	1228	250	0	900	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	1617	0	0	1507	1335	272	0	978	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	484	0	15	15	0	0	0
Lane Group Flow (vph)	130	1617	0	0	1507	851	272	474	474	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2			
Actuated Green, G (s)	6.3	70.0			59.7	59.7	42.0	42.0	42.0			
Effective Green, g (s)	6.3	70.0			59.7	59.7	42.0	42.0	42.0			
Actuated g/C Ratio	0.05	0.58			0.50	0.50	0.35	0.35	0.35			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	180	2064			1761	788	588	504	526			
v/s Ratio Prot	0.04	c0.46			0.43		0.16	c0.33				
v/s Ratio Perm						c0.54			0.32			
v/c Ratio	0.72	0.78			0.86	1.08	0.46	0.94	0.90			
Uniform Delay, d1	56.0	19.2			26.4	30.2	30.2	37.8	37.0			
Progression Factor	0.79	1.39			0.58	3.60	1.00	1.00	1.00			
Incremental Delay, d2	1.3	0.3			2.4	45.7	0.6	25.9	18.5			
Delay (s)	45.3	27.0			17.6	154.4	30.8	63.7	55.5			
Level of Service	D	C			B	F	C	E	E			
Approach Delay (s)		28.3			81.9			53.4			0.0	
Approach LOS		C			F			D			A	

Intersection Summary			
HCM Average Control Delay	59.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	165.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.95	1.00	0.95	0.91	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.90	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	3433	3539			3539	1583	1681	1496	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	3433	3539			3539	1583	1681	1496	1504			
Volume (vph)	100	1908	0	0	660	1056	580	0	720	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	2074	0	0	717	1148	630	0	783	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	530	0	1	1	0	0	0
Lane Group Flow (vph)	109	2074	0	0	717	618	477	495	439	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2			
Actuated Green, G (s)	8.9	66.5			53.6	53.6	45.5	45.5	45.5			
Effective Green, g (s)	8.9	66.5			53.6	53.6	45.5	45.5	45.5			
Actuated g/C Ratio	0.07	0.55			0.45	0.45	0.38	0.38	0.38			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	255	1961			1581	707	637	567	570			
v/s Ratio Prot	0.03	c0.59			0.20		0.28	c0.33				
v/s Ratio Perm						0.39			0.29			
v/c Ratio	0.43	1.06			0.45	0.87	0.75	0.87	0.77			
Uniform Delay, d1	53.1	26.8			23.0	30.2	32.3	34.6	32.7			
Progression Factor	1.18	1.03			0.33	5.14	1.00	1.00	1.00			
Incremental Delay, d2	0.1	27.4			0.7	11.4	4.8	13.9	6.2			
Delay (s)	62.7	55.0			8.4	166.5	37.1	48.4	38.9			
Level of Service	E	E			A	F	D	D	D			
Approach Delay (s)		55.4			105.7			41.6			0.0	
Approach LOS		E			F			D			A	

Intersection Summary			
HCM Average Control Delay	69.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	162.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	1.00		0.92	
Flt Protected	0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1770	5085	5071		1684	
Flt Permitted	0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1770	5085	5071		1684	
Volume (vph)	60	2328	2568	50	35	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	2530	2791	54	38	50
RTOR Reduction (vph)	0	0	1	0	39	0
Lane Group Flow (vph)	65	2530	2844	0	49	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Actuated Green, G (s)	8.2	85.0	72.8		27.0	
Effective Green, g (s)	8.2	85.0	72.8		27.0	
Actuated g/C Ratio	0.07	0.71	0.61		0.22	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	121	3602	3076		379	
v/s Ratio Prot	0.04	c0.50	c0.56		c0.03	
v/s Ratio Perm						
v/c Ratio	0.54	0.70	0.92		0.13	
Uniform Delay, d1	54.1	10.2	21.1		37.1	
Progression Factor	1.03	0.69	1.00		1.00	
Incremental Delay, d2	2.4	0.6	6.1		0.7	
Delay (s)	57.9	7.7	27.2		37.8	
Level of Service	E	A	C		D	
Approach Delay (s)		8.9	27.2		37.8	
Approach LOS		A	C		D	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	1.00		0.94	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	5085	5061		1699	
Flt Permitted	0.95	1.00	1.00		0.97	
Satd. Flow (perm)	1770	5085	5061		1699	
Volume (vph)	60	2568	1691	55	28	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	2791	1838	60	30	27
RTOR Reduction (vph)	0	0	2	0	20	0
Lane Group Flow (vph)	65	2791	1896	0	37	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Actuated Green, G (s)	8.4	82.0	69.6		30.0	
Effective Green, g (s)	8.4	82.0	69.6		30.0	
Actuated g/C Ratio	0.07	0.68	0.58		0.25	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	124	3475	2935		425	
v/s Ratio Prot	0.04	c0.55	0.37		c0.02	
v/s Ratio Perm						
v/c Ratio	0.52	0.80	0.65		0.09	
Uniform Delay, d1	53.9	13.3	16.9		34.5	
Progression Factor	1.00	0.66	1.00		1.00	
Incremental Delay, d2	1.0	0.5	1.1		0.4	
Delay (s)	54.8	9.3	18.0		34.9	
Level of Service	D	A	B		C	
Approach Delay (s)		10.3	18.0		34.9	
Approach LOS		B	B		C	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1674	1504	1681	1690	1583	1770	5085	1583	1770	5065	
Flt Permitted	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1674	1504	1681	1690	1583	1770	5085	1583	1770	5065	
Volume (vph)	50	30	30	640	20	150	70	1179	170	150	1132	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	33	33	696	22	163	76	1282	185	163	1230	33
RTOR Reduction (vph)	0	0	31	0	0	99	0	0	112	0	2	0
Lane Group Flow (vph)	43	44	2	350	368	64	76	1282	73	163	1261	0
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	7.0	7.0	7.0	47.2	47.2	47.2	9.0	33.9	33.9	15.9	40.8	
Effective Green, g (s)	7.0	7.0	7.0	47.2	47.2	47.2	9.0	33.9	33.9	15.9	40.8	
Actuated g/C Ratio	0.06	0.06	0.06	0.39	0.39	0.39	0.08	0.28	0.28	0.13	0.34	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	98	98	88	661	665	623	133	1437	447	235	1722	
v/s Ratio Prot	0.03	c0.03		0.21	c0.22		0.04	c0.25		c0.09	0.25	
v/s Ratio Perm			0.00			0.04			0.05			
v/c Ratio	0.44	0.45	0.02	0.53	0.55	0.10	0.57	0.89	0.16	0.69	0.73	
Uniform Delay, d1	54.6	54.6	53.3	27.9	28.2	23.0	53.6	41.3	32.4	49.7	34.8	
Progression Factor	1.00	1.00	1.00	1.03	1.03	1.21	1.00	1.00	1.00	1.51	0.62	
Incremental Delay, d2	3.1	3.2	0.1	0.2	0.3	0.0	5.8	8.8	0.8	7.2	2.3	
Delay (s)	57.7	57.9	53.4	29.0	29.4	27.9	59.5	50.1	33.2	82.3	24.1	
Level of Service	E	E	D	C	C	C	E	D	C	F	C	
Approach Delay (s)		56.6			29.0			48.5			30.7	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM Average Control Delay	38.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
27: Valley Center Drive & El Camino Real

7/17/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	1504	1681	1706	1583	1770	5085	1583	1770	5040	
Flt Permitted	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	1504	1681	1706	1583	1770	5085	1583	1770	5040	
Volume (vph)	110	80	80	520	80	280	80	1176	240	230	1589	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	87	87	565	87	304	87	1278	261	250	1727	109
RTOR Reduction (vph)	0	0	78	0	0	219	0	0	179	0	6	0
Lane Group Flow (vph)	103	104	9	317	335	85	87	1278	82	250	1830	0
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	12.4	12.4	12.4	33.6	33.6	33.6	8.6	37.8	37.8	20.2	49.4	
Effective Green, g (s)	12.4	12.4	12.4	33.6	33.6	33.6	8.6	37.8	37.8	20.2	49.4	
Actuated g/C Ratio	0.10	0.10	0.10	0.28	0.28	0.28	0.07	0.32	0.32	0.17	0.41	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	174	174	155	471	478	443	127	1602	499	298	2075	
v/s Ratio Prot	0.06	c0.06		0.19	c0.20		0.05	0.25		c0.14	c0.36	
v/s Ratio Perm			0.01			0.05			0.05			
v/c Ratio	0.59	0.60	0.06	0.67	0.70	0.19	0.69	0.80	0.16	0.84	0.88	
Uniform Delay, d1	51.4	51.4	48.5	38.3	38.7	32.9	54.4	37.6	29.7	48.3	32.6	
Progression Factor	1.00	1.00	1.00	1.11	1.11	2.39	1.00	1.00	1.00	1.22	0.53	
Incremental Delay, d2	5.3	5.4	0.2	2.6	3.2	0.1	14.2	4.2	0.7	14.6	4.6	
Delay (s)	56.7	56.8	48.7	45.2	46.2	78.6	68.6	41.8	30.4	73.7	21.8	
Level of Service	E	E	D	D	D	E	E	D	C	E	C	
Approach Delay (s)		54.4			56.2			41.4			28.0	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM Average Control Delay	39.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.97	0.91	1.00	0.97	0.95			0.86	0.86
Frt				1.00	1.00	0.85	1.00	1.00			0.97	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433	5085	1583	3433	3539			4675	1362
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433	5085	1583	3433	3539			4675	1362
Volume (vph)	0	0	0	890	1568	329	400	1085	0	0	1142	650
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	967	1704	358	435	1179	0	0	1241	707
RTOR Reduction (vph)	0	0	0	0	0	74	0	0	0	0	4	4
Lane Group Flow (vph)	0	0	0	967	1704	284	435	1179	0	0	1512	428
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				33.0	33.0	33.0	17.6	79.0			57.4	57.4
Effective Green, g (s)				33.0	33.0	33.0	17.6	79.0			57.4	57.4
Actuated g/C Ratio				0.28	0.28	0.28	0.15	0.66			0.48	0.48
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				944	1398	435	504	2330			2236	651
v/s Ratio Prot				0.28	c0.34		c0.13	0.33			c0.32	
v/s Ratio Perm						0.18						0.31
v/c Ratio				1.02	1.22	0.65	0.86	0.51			0.68	0.66
Uniform Delay, d1				43.5	43.5	38.4	50.0	10.5			24.1	23.8
Progression Factor				1.00	1.00	1.00	0.90	1.68			1.00	1.00
Incremental Delay, d2				35.6	105.2	3.5	6.9	0.3			1.7	5.1
Delay (s)				79.1	148.7	41.9	52.1	18.0			25.8	28.9
Level of Service				E	F	D	D	B			C	C
Approach Delay (s)		0.0			113.9			27.2			26.5	
Approach LOS		A			F			C			C	

Intersection Summary			
HCM Average Control Delay	66.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.97	0.91	1.00	0.97	0.95			0.86	0.86
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433	5085	1583	3433	3539			4795	1362
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433	5085	1583	3433	3539			4795	1362
Volume (vph)	0	0	0	300	736	246	500	1240	0	0	1672	510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	800	267	543	1348	0	0	1817	554
RTOR Reduction (vph)	0	0	0	0	0	99	0	0	0	0	1	7
Lane Group Flow (vph)	0	0	0	326	800	168	543	1348	0	0	1843	520
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				17.0	17.0	17.0	22.6	95.0			68.4	68.4
Effective Green, g (s)				17.0	17.0	17.0	22.6	95.0			68.4	68.4
Actuated g/C Ratio				0.14	0.14	0.14	0.19	0.79			0.57	0.57
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				486	720	224	647	2802			2733	776
v/s Ratio Prot				0.09	c0.16		c0.16	0.38			c0.38	
v/s Ratio Perm						0.11						0.38
v/c Ratio				0.67	1.11	0.75	0.84	0.48			0.67	0.67
Uniform Delay, d1				48.8	51.5	49.5	46.9	4.2			18.0	18.0
Progression Factor				1.00	1.00	1.00	1.04	1.61			1.00	1.00
Incremental Delay, d2				3.6	68.3	13.2	0.9	0.1			1.4	4.6
Delay (s)				52.5	119.8	62.7	49.8	6.8			19.4	22.5
Level of Service				D	F	E	D	A			B	C
Approach Delay (s)		0.0			93.1			19.2			20.1	
Approach LOS		A			F			B			C	

Intersection Summary			
HCM Average Control Delay	37.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	132.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3176	1441					6068		1770	5085	
Flt Permitted	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3176	1441					6068		1770	5085	
Volume (vph)	900	1088	375	0	0	0	0	585	320	162	1870	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	978	1183	408	0	0	0	0	636	348	176	2033	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	37	0	0	0	0
Lane Group Flow (vph)	723	1438	404	0	0	0	0	947	0	176	2033	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	45.0	45.0	45.0					48.0		15.0	67.0	
Effective Green, g (s)	45.0	45.0	45.0					48.0		15.0	67.0	
Actuated g/C Ratio	0.38	0.38	0.38					0.40		0.12	0.56	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	604	1191	540					2427		221	2839	
v/s Ratio Prot	0.45	c0.45						0.16		c0.10	c0.40	
v/s Ratio Perm			0.28									
v/c Ratio	1.20	1.21	0.75					0.39		0.80	0.72	
Uniform Delay, d1	37.5	37.5	32.6					25.6		51.0	19.5	
Progression Factor	0.70	0.70	0.69					0.92		1.02	0.86	
Incremental Delay, d2	100.0	99.2	4.0					0.4		10.1	0.8	
Delay (s)	126.4	125.5	26.6					23.8		62.2	17.7	
Level of Service	F	F	C					C		E	B	
Approach Delay (s)		110.0			0.0			23.8			21.2	
Approach LOS		F			A			C			C	

Intersection Summary			
HCM Average Control Delay	61.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.91		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3201	1441					5836		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3201	1441					5836		1770	5085	
Volume (vph)	800	1498	298	0	0	0	0	940	1378	409	1563	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	870	1628	324	0	0	0	0	1022	1498	445	1699	0
RTOR Reduction (vph)	0	0	19	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	835	1663	305	0	0	0	0	2507	0	445	1699	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	37.0	37.0	37.0					47.0		24.0	75.0	
Effective Green, g (s)	37.0	37.0	37.0					47.0		24.0	75.0	
Actuated g/C Ratio	0.31	0.31	0.31					0.39		0.20	0.62	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	496	987	444					2286		354	3178	
v/s Ratio Prot	0.52	c0.52						c0.43		c0.25	0.33	
v/s Ratio Perm			0.21									
v/c Ratio	1.68	1.68	0.69					2.33dr		1.26	0.53	
Uniform Delay, d1	41.5	41.5	36.4					36.5		48.0	12.7	
Progression Factor	0.78	0.78	0.75					1.05		1.30	0.80	
Incremental Delay, d2	312.7	310.8	2.6					44.2		131.6	0.5	
Delay (s)	344.9	343.0	29.9					82.5		194.1	10.6	
Level of Service	F	F	C					F		F	B	
Approach Delay (s)		307.6			0.0			82.5			48.7	
Approach LOS		F			A			F			D	

Intersection Summary			
HCM Average Control Delay	157.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	132.9%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	1812		1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	1812		1770	3539	1583	3433	3539	1583
Volume (vph)	54	142	160	220	555	123	380	550	354	465	237	450
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	154	174	239	603	134	413	598	385	505	258	489
RTOR Reduction (vph)	0	0	116	0	7	0	0	0	245	0	0	106
Lane Group Flow (vph)	59	154	58	239	730	0	413	598	140	505	258	383
Turn Type	Prot		Perm	Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4						2			6
Actuated Green, G (s)	10.0	40.0	40.0	18.0	48.0		29.0	25.7	43.7	20.3	17.0	27.0
Effective Green, g (s)	10.0	40.0	40.0	18.0	48.0		29.0	25.7	43.7	20.3	17.0	27.0
Actuated g/C Ratio	0.08	0.33	0.33	0.15	0.40		0.24	0.21	0.36	0.17	0.14	0.22
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	148	1180	528	266	725		428	758	629	581	501	409
v/s Ratio Prot	0.03	0.04		c0.14	c0.40		c0.23	0.17	0.03	0.15	0.07	c0.08
v/s Ratio Perm			0.04						0.06			0.16
v/c Ratio	0.40	0.13	0.11	0.90	1.01		0.96	0.79	0.22	0.87	0.51	0.94
Uniform Delay, d1	52.1	27.9	27.7	50.1	36.0		45.0	44.6	26.4	48.6	47.7	45.7
Progression Factor	0.87	0.81	2.14	1.00	1.00		1.23	1.59	2.13	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.0	0.1	29.9	35.3		25.0	5.0	0.1	13.1	3.8	28.7
Delay (s)	46.7	22.6	59.3	80.0	71.3		80.5	76.0	56.4	61.6	51.4	74.3
Level of Service	D	C	E	E	E		F	E	E	E	D	E
Approach Delay (s)		42.8			73.4			72.0			64.5	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM Average Control Delay	67.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	1786		1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	1786		1770	3539	1583	3433	3539	1583
Volume (vph)	100	300	163	82	273	104	330	770	120	687	463	270
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	326	177	89	297	113	359	837	130	747	503	293
RTOR Reduction (vph)	0	0	132	0	12	0	0	0	79	0	0	150
Lane Group Flow (vph)	109	326	45	89	398	0	359	837	51	747	503	143
Turn Type	Prot		Perm	Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4						2			6
Actuated Green, G (s)	8.0	30.3	30.3	7.0	29.3		29.1	40.0	47.0	26.7	37.6	45.6
Effective Green, g (s)	8.0	30.3	30.3	7.0	29.3		29.1	40.0	47.0	26.7	37.6	45.6
Actuated g/C Ratio	0.07	0.25	0.25	0.06	0.24		0.24	0.33	0.39	0.22	0.31	0.38
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	118	894	400	103	436		429	1180	673	764	1109	654
v/s Ratio Prot	c0.06	0.09		0.05	c0.22		0.20	c0.24	0.00	c0.22	0.14	0.01
v/s Ratio Perm			0.03						0.03			0.08
v/c Ratio	0.92	0.36	0.11	0.86	0.91		0.84	0.71	0.08	0.98	0.45	0.22
Uniform Delay, d1	55.7	36.9	34.5	56.0	44.1		43.2	34.9	22.9	46.4	33.0	25.2
Progression Factor	0.73	0.97	1.60	1.00	1.00		1.57	0.79	0.46	1.00	1.00	1.00
Incremental Delay, d2	51.9	0.2	0.1	48.2	23.2		4.9	1.2	0.0	26.8	1.3	0.2
Delay (s)	92.6	36.1	55.2	104.2	67.3		72.6	28.9	10.6	73.2	34.3	25.3
Level of Service	F	D	E	F	E		E	C	B	E	C	C
Approach Delay (s)		51.7			73.9			38.9			51.4	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	50.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	0.95	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3411		3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3411		3433	3539	
Volume (vph)	954	0	319	0	0	0	0	330	105	267	350	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1037	0	347	0	0	0	0	359	114	290	380	0
RTOR Reduction (vph)	0	0	224	0	0	0	0	23	0	0	0	0
Lane Group Flow (vph)	519	518	123	0	0	0	0	450	0	290	380	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	39.1	39.1	39.1					53.9		15.0	72.9	
Effective Green, g (s)	39.1	39.1	39.1					53.9		15.0	72.9	
Actuated g/C Ratio	0.33	0.33	0.33					0.45		0.12	0.61	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	548	548	516					1532		429	2150	
v/s Ratio Prot	c0.31	0.31						c0.13		c0.08	0.11	
v/s Ratio Perm			0.08									
v/c Ratio	0.95	0.95	0.24					0.29		0.68	0.18	
Uniform Delay, d1	39.4	39.4	29.6					21.0		50.2	10.4	
Progression Factor	1.00	1.00	1.00					1.00		0.49	1.68	
Incremental Delay, d2	25.6	25.3	0.2					0.5		3.4	0.1	
Delay (s)	65.0	64.7	29.8					21.5		27.9	17.5	
Level of Service	E	E	C					C		C	B	
Approach Delay (s)		56.1			0.0			21.5			22.0	
Approach LOS		E			A			C			C	

Intersection Summary			
HCM Average Control Delay	40.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	0.95	
Frt	1.00	1.00	0.85					0.91		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3238		3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3238		3433	3539	
Volume (vph)	1416	0	111	0	0	0	0	80	105	633	75	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1539	0	121	0	0	0	0	87	114	688	82	0
RTOR Reduction (vph)	0	0	52	0	0	0	0	90	0	0	0	0
Lane Group Flow (vph)	770	769	69	0	0	0	0	111	0	688	82	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	56.0	56.0	56.0					25.6		26.4	56.0	
Effective Green, g (s)	56.0	56.0	56.0					25.6		26.4	56.0	
Actuated g/C Ratio	0.47	0.47	0.47					0.21		0.22	0.47	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	784	784	739					691		755	1652	
v/s Ratio Prot	c0.46	0.46						c0.03		c0.20	0.02	
v/s Ratio Perm			0.04									
v/c Ratio	0.98	0.98	0.09					0.16		0.91	0.05	
Uniform Delay, d1	31.5	31.5	17.8					38.5		45.7	17.5	
Progression Factor	1.00	1.00	1.00					1.00		0.67	1.01	
Incremental Delay, d2	27.6	27.3	0.1					0.5		13.9	0.1	
Delay (s)	59.1	58.8	17.9					39.0		44.3	17.7	
Level of Service	E	E	B					D		D	B	
Approach Delay (s)		55.9			0.0			39.0			41.5	
Approach LOS		E			A			D			D	

Intersection Summary			
HCM Average Control Delay	50.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.89		1.00	0.91		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1663		3433	1693		1770	3396		1770	3515	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1663		3433	1693		1770	3396		1770	3515	
Volume (vph)	20	60	150	320	90	140	80	756	280	100	626	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	65	163	348	98	152	87	822	304	109	680	33
RTOR Reduction (vph)	0	91	0	0	57	0	0	24	0	0	2	0
Lane Group Flow (vph)	22	137	0	348	193	0	87	1102	0	109	711	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.0	15.7		14.0	26.7		9.7	61.8		12.5	64.6	
Effective Green, g (s)	3.0	15.7		14.0	26.7		9.7	61.8		12.5	64.6	
Actuated g/C Ratio	0.02	0.13		0.12	0.22		0.08	0.52		0.10	0.54	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	44	218		401	377		143	1749		184	1892	
v/s Ratio Prot	0.01	c0.08		c0.10	0.11		0.05	c0.32		c0.06	c0.20	
v/s Ratio Perm												
v/c Ratio	0.50	0.63		0.87	0.51		0.61	0.63		0.59	0.38	
Uniform Delay, d1	57.8	49.4		52.1	40.9		53.3	20.9		51.3	16.0	
Progression Factor	1.00	1.00		1.12	1.51		1.09	0.86		1.08	0.47	
Incremental Delay, d2	8.7	5.5		16.9	1.1		5.9	1.4		2.8	0.3	
Delay (s)	66.4	54.9		75.1	63.0		63.9	19.5		58.4	7.8	
Level of Service	E	D		E	E		E	B		E	A	
Approach Delay (s)		55.9			70.0			22.7			14.6	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.91		1.00	0.90		1.00	0.94		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1703		3433	1676		1770	3316		1770	3512	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1703		3433	1676		1770	3316		1770	3512	
Volume (vph)	30	90	120	270	50	100	100	717	520	160	736	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	98	130	293	54	109	109	779	565	174	800	43
RTOR Reduction (vph)	0	42	0	0	62	0	0	106	0	0	3	0
Lane Group Flow (vph)	33	186	0	293	101	0	109	1238	0	174	840	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.6	19.1		9.0	24.5		11.8	60.0		15.9	64.1	
Effective Green, g (s)	3.6	19.1		9.0	24.5		11.8	60.0		15.9	64.1	
Actuated g/C Ratio	0.03	0.16		0.08	0.20		0.10	0.50		0.13	0.53	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	271		257	342		174	1658		235	1876	
v/s Ratio Prot	0.02	c0.11		c0.09	0.06		0.06	c0.37		c0.10	0.24	
v/s Ratio Perm												
v/c Ratio	0.62	0.69		1.14	0.30		0.63	0.75		0.74	0.45	
Uniform Delay, d1	57.5	47.6		55.5	40.4		52.0	23.9		50.1	17.1	
Progression Factor	1.00	1.00		1.33	0.65		0.74	1.68		0.98	0.59	
Incremental Delay, d2	20.6	7.0		98.6	0.5		5.2	2.4		8.8	0.6	
Delay (s)	78.1	54.6		172.4	26.6		43.7	42.5		58.0	10.7	
Level of Service	E	D		F	C		D	D		E	B	
Approach Delay (s)		57.6			120.3			42.6			18.8	
Approach LOS		E			F			D			B	

Intersection Summary			
HCM Average Control Delay	47.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
33: SR 56 Westbound Off Ramp & Carmel Country Road

7/17/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor				0.97		1.00		0.95	1.00	0.97	0.95	
Frt				1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433		1583		3539	1583	3433	3539	
Flt Permitted				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433		1583		3539	1583	3433	3539	
Volume (vph)	0	0	0	170	0	436	0	680	1000	700	686	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	185	0	474	0	739	1087	761	746	0
RTOR Reduction (vph)	0	0	0	0	0	332	0	0	5	0	0	0
Lane Group Flow (vph)	0	0	0	185	0	142	0	739	1082	761	746	0
Turn Type				custom		custom			custom	Prot		
Protected Phases								2		1	6	
Permitted Phases				8		8			2 8			
Actuated Green, G (s)				36.0		36.0		43.0	83.0	29.0	76.0	
Effective Green, g (s)				36.0		36.0		43.0	83.0	29.0	76.0	
Actuated g/C Ratio				0.30		0.30		0.36	0.69	0.24	0.63	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				1030		475		1268	1095	830	2241	
v/s Ratio Prot								0.21		c0.22	0.21	
v/s Ratio Perm				0.05		0.09			c0.68			
v/c Ratio				0.18		0.30		0.58	0.99	0.92	0.33	
Uniform Delay, d1				31.1		32.3		31.2	18.0	44.3	10.2	
Progression Facto				1.00		1.00		0.83	0.81	0.85	1.22	
Incremental Delay, d2				0.1		0.4		1.1	17.6	13.6	0.4	
Delay (s)				31.2		32.7		27.1	32.2	51.5	12.9	
Level of Service				C		C		C	C	D	B	
Approach Delay (s)		0.0			32.2			30.1			32.4	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM Average Control Delay	31.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor				0.97		1.00		0.95	1.00	0.97	0.95	
Frt				1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433		1583		3539	1583	3433	3539	
Flt Permitted				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433		1583		3539	1583	3433	3539	
Volume (vph)	0	0	0	50	0	387	0	1130	500	450	776	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	54	0	421	0	1228	543	489	843	0
RTOR Reduction (vph)	0	0	0	0	0	302	0	0	10	0	0	0
Lane Group Flow (vph)	0	0	0	54	0	119	0	1228	533	489	843	0
Turn Type				custom		custom			custom	Prot		
Protected Phases								2		1	6	
Permitted Phases				8		8			2 8			
Actuated Green, G (s)				18.6		18.6		68.3	90.9	21.1	93.4	
Effective Green, g (s)				18.6		18.6		68.3	90.9	21.1	93.4	
Actuated g/C Ratio				0.16		0.16		0.57	0.76	0.18	0.78	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				532		245		2014	1199	604	2755	
v/s Ratio Prot								c0.35		c0.14	0.24	
v/s Ratio Perm				0.02		0.08			c0.34			
v/c Ratio				0.10		0.49		0.61	0.44	0.81	0.31	
Uniform Delay, d1				43.5		46.3		17.1	5.3	47.5	3.9	
Progression Factor				1.00		1.00		1.88	2.00	0.96	1.71	
Incremental Delay, d2				0.1		1.5		1.2	0.2	6.5	0.2	
Delay (s)				43.6		47.9		33.2	10.9	52.2	6.8	
Level of Service				D		D		C	B	D	A	
Approach Delay (s)		0.0			47.4			26.3			23.5	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
34: SR 56 Eastbound Ramps & Carmel Country Road

7/17/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3539	1583	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3539	1583	3433	3539	
Volume (vph)	310	0	400	0	0	0	0	1370	180	536	320	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	0	435	0	0	0	0	1489	196	583	348	0
RTOR Reduction (vph)	0	0	371	0	0	0	0	0	68	0	0	0
Lane Group Flow (vph)	169	168	64	0	0	0	0	1489	128	583	348	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	17.6	17.6	17.6					60.7	60.7	29.7	94.4	
Effective Green, g (s)	17.6	17.6	17.6					60.7	60.7	29.7	94.4	
Actuated g/C Ratio	0.15	0.15	0.15					0.51	0.51	0.25	0.79	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	247	247	232					1790	801	850	2784	
v/s Ratio Prot	c0.10	0.10						c0.42		c0.17	0.10	
v/s Ratio Perm			0.04						0.08			
v/c Ratio	0.68	0.68	0.28					0.83	0.16	0.69	0.12	
Uniform Delay, d1	48.6	48.5	45.5					25.3	15.9	40.9	3.0	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.12	0.97	
Incremental Delay, d2	7.6	7.5	0.6					4.7	0.4	2.2	0.1	
Delay (s)	56.2	56.0	46.2					30.0	16.4	47.9	3.0	
Level of Service	E	E	D					C	B	D	A	
Approach Delay (s)		50.5			0.0			28.4			31.1	
Approach LOS		D			A			C			C	

Intersection Summary			
HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1693	1583					3539	1583	3433	3539	
Flt Permitted	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1693	1583					3539	1583	3433	3539	
Volume (vph)	1030	50	675	0	0	0	0	60	70	466	360	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1120	54	734	0	0	0	0	65	76	507	391	0
RTOR Reduction (vph)	0	0	248	0	0	0	0	0	49	0	0	0
Lane Group Flow (vph)	571	603	486	0	0	0	0	65	27	507	391	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	47.5	47.5	47.5					42.0	42.0	18.5	64.5	
Effective Green, g (s)	47.5	47.5	47.5					42.0	42.0	18.5	64.5	
Actuated g/C Ratio	0.40	0.40	0.40					0.35	0.35	0.15	0.54	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	665	670	627					1239	554	529	1902	
v/s Ratio Prot	0.34	c0.36						0.02		c0.15	c0.11	
v/s Ratio Perm			0.31						0.02			
v/c Ratio	0.86	0.90	0.77					0.05	0.05	0.96	0.21	
Uniform Delay, d1	33.2	34.0	31.6					25.8	25.8	50.4	14.4	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.90	0.41	
Incremental Delay, d2	10.7	15.2	5.9					0.1	0.2	28.0	0.2	
Delay (s)	43.9	49.2	37.5					25.9	25.9	73.1	6.2	
Level of Service	D	D	D					C	C	E	A	
Approach Delay (s)		43.1			0.0			25.9			44.0	
Approach LOS		D			A			C			D	

Intersection Summary			
HCM Average Control Delay	42.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0	4.0	4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frt		1.00	0.85		1.00	0.85				1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)		3539	1583		3539	1583				1681	1610	1504
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)		3539	1583		3539	1583				1681	1610	1504
Volume (vph)	0	1180	790	0	1000	1250	0	0	0	1047	0	550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1283	859	0	1087	1359	0	0	0	1138	0	598
RTOR Reduction (vph)	0	0	315	0	0	400	0	0	0	0	0	82
Lane Group Flow (vph)	0	1283	544	0	1087	959	0	0	0	569	569	516
Turn Type			Perm			Perm				Split		Perm
Protected Phases		4			8					6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)		57.0	57.0		57.0	57.0				25.0	25.0	25.0
Effective Green, g (s)		57.0	57.0		57.0	57.0				25.0	25.0	25.0
Actuated g/C Ratio		0.63	0.63		0.63	0.63				0.28	0.28	0.28
Clearance Time (s)		4.0	4.0		4.0	4.0				4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	3.0
Lane Grp Cap (vph)		2241	1003		2241	1003				467	447	418
v/s Ratio Prot		0.36			0.31					0.34	c0.35	
v/s Ratio Perm			0.34			c0.61						0.34
v/c Ratio		0.57	0.54		0.49	0.96				1.22	1.27	1.24
Uniform Delay, d1		9.5	9.2		8.7	15.3				32.5	32.5	32.5
Progression Factor		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		1.1	2.1		0.8	19.6				116.4	139.4	125.1
Delay (s)		10.6	11.3		9.5	34.9				148.9	171.9	157.6
Level of Service		B	B		A	C				F	F	F
Approach Delay (s)		10.9			23.6			0.0			159.4	
Approach LOS		B			C			A			F	

Intersection Summary			
HCM Average Control Delay	56.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0	4.0	4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frt		1.00	0.85		1.00	0.85				1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)		3539	1583		3539	1583				1681	1610	1504
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)		3539	1583		3539	1583				1681	1610	1504
Volume (vph)	0	1310	600	0	1140	800	0	0	0	1197	0	400
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1424	652	0	1239	870	0	0	0	1301	0	435
RTOR Reduction (vph)	0	0	246	0	0	329	0	0	0	0	0	55
Lane Group Flow (vph)	0	1424	406	0	1239	541	0	0	0	651	650	380
Turn Type			Perm			Perm				Split		Perm
Protected Phases		4			8					6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)		56.0	56.0		56.0	56.0				26.0	26.0	26.0
Effective Green, g (s)		56.0	56.0		56.0	56.0				26.0	26.0	26.0
Actuated g/C Ratio		0.62	0.62		0.62	0.62				0.29	0.29	0.29
Clearance Time (s)		4.0	4.0		4.0	4.0				4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	3.0
Lane Grp Cap (vph)		2202	985		2202	985				486	465	434
v/s Ratio Prot		c0.40			0.35					0.39	c0.40	
v/s Ratio Perm			0.26			0.34						0.25
v/c Ratio		0.65	0.41		0.56	0.55				1.34	1.40	0.88
Uniform Delay, d1		10.7	8.6		9.9	9.8				32.0	32.0	30.5
Progression Factor		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		1.5	1.3		1.0	2.2				166.2	191.7	21.2
Delay (s)		12.2	9.9		10.9	12.0				198.2	223.7	51.7
Level of Service		B	A		B	B				F	F	D
Approach Delay (s)		11.5			11.4			0.0			171.1	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	58.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.85	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	1504	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	1504	1504			
Volume (vph)	500	1727	0	0	1850	1171	400	0	1200	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	1877	0	0	2011	1273	435	0	1304	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	509	0	5	5	0	0	0
Lane Group Flow (vph)	543	1877	0	0	2011	764	435	647	647	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2			
Actuated Green, G (s)	17.0	65.0			44.0	44.0	47.0	47.0	47.0			
Effective Green, g (s)	17.0	65.0			44.0	44.0	47.0	47.0	47.0			
Actuated g/C Ratio	0.14	0.54			0.37	0.37	0.39	0.39	0.39			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	486	1917			1865	580	1345	589	589			
v/s Ratio Prot	c0.16	0.53			0.40		0.13	c0.43				
v/s Ratio Perm						c0.48			0.43			
v/c Ratio	1.12	0.98			1.08	1.32	0.32	1.10	1.10			
Uniform Delay, d1	51.5	26.8			38.0	38.0	25.4	36.5	36.5			
Progression Factor	1.00	1.00			1.44	2.94	1.00	1.00	1.00			
Incremental Delay, d2	77.0	16.2			38.4	146.4	0.6	66.6	66.6			
Delay (s)	128.5	43.0			93.1	258.2	26.1	103.1	103.1			
Level of Service	F	D			F	F	C	F	F			
Approach Delay (s)		62.2			157.1			83.8			0.0	
Approach LOS		E			F			F			A	

Intersection Summary			
HCM Average Control Delay	109.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.85	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	1504	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	1504	1504			
Volume (vph)	790	1717	0	0	1340	847	600	0	1000	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	859	1866	0	0	1457	921	652	0	1087	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	320	0	17	17	0	0	0
Lane Group Flow (vph)	859	1866	0	0	1457	601	652	526	527	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2			
Actuated Green, G (s)	34.4	79.0			40.6	40.6	33.0	33.0	33.0			
Effective Green, g (s)	34.4	79.0			40.6	40.6	33.0	33.0	33.0			
Actuated g/C Ratio	0.29	0.66			0.34	0.34	0.28	0.28	0.28			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	984	2330			1720	536	944	414	414			
v/s Ratio Prot	c0.25	0.53			0.29		0.19	0.35				
v/s Ratio Perm						c0.38			c0.35			
v/c Ratio	0.87	0.80			0.85	1.12	0.69	1.27	1.27			
Uniform Delay, d1	40.7	14.8			36.8	39.7	38.9	43.5	43.5			
Progression Factor	1.00	1.00			1.01	1.66	1.00	1.00	1.00			
Incremental Delay, d2	8.6	3.0			0.5	57.0	4.1	139.9	140.9			
Delay (s)	49.4	17.8			37.5	123.0	43.1	183.4	184.4			
Level of Service	D	B			D	F	D	F	F			
Approach Delay (s)		27.8			70.6			131.1			0.0	
Approach LOS		C			E			F			A	

Intersection Summary			
HCM Average Control Delay	68.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5047		3433	3274		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5047		3433	3274		1770	1863	1583
Volume (vph)	80	1485	882	210	2102	110	359	30	30	120	70	400
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1614	959	228	2285	120	390	33	33	130	76	435
RTOR Reduction (vph)	0	0	126	0	5	0	0	28	0	0	0	9
Lane Group Flow (vph)	87	1614	833	228	2400	0	390	38	0	130	76	426
Turn Type	Prot		pm+ov	Prot			Prot			Prot		pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Actuated Green, G (s)	23.8	54.4	73.9	19.9	50.5		19.5	16.4		13.3	10.2	34.0
Effective Green, g (s)	23.8	54.4	73.9	19.9	50.5		19.5	16.4		13.3	10.2	34.0
Actuated g/C Ratio	0.20	0.45	0.62	0.17	0.42		0.16	0.14		0.11	0.08	0.28
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	351	2305	1028	294	2124		558	447		196	158	501
v/s Ratio Prot	0.05	0.32	c0.13	0.13	c0.48		0.11	0.01		0.07	0.04	c0.17
v/s Ratio Perm			0.39									0.10
v/c Ratio	0.25	0.70	0.81	0.78	1.13		0.70	0.08		0.66	0.48	0.85
Uniform Delay, d1	40.6	26.3	17.7	47.9	34.8		47.5	45.2		51.2	52.4	40.6
Progression Factor	1.01	1.03	0.96	0.97	0.89		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.2	0.5	1.2	59.2		3.8	0.1		8.2	2.3	13.1
Delay (s)	41.1	27.1	17.5	47.9	90.3		51.3	45.3		59.4	54.7	53.7
Level of Service	D	C	B	D	F		D	D		E	D	D
Approach Delay (s)		24.1			86.6			50.4			54.9	
Approach LOS		C			F			D			D	

Intersection Summary			
HCM Average Control Delay	54.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5018		3433	3177		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5018		3433	3177		1770	1863	1583
Volume (vph)	210	1658	359	10	1551	150	726	70	150	40	40	200
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	1802	390	11	1686	163	789	76	163	43	43	217
RTOR Reduction (vph)	0	0	86	0	10	0	0	99	0	0	0	3
Lane Group Flow (vph)	228	1802	304	11	1839	0	789	140	0	43	43	214
Turn Type	Prot		pm+ov	Prot			Prot			Prot		pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Actuated Green, G (s)	26.0	75.6	93.6	1.6	51.2		18.0	21.2		5.6	8.8	34.8
Effective Green, g (s)	26.0	75.6	93.6	1.6	51.2		18.0	21.2		5.6	8.8	34.8
Actuated g/C Ratio	0.22	0.63	0.78	0.01	0.43		0.15	0.18		0.05	0.07	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	384	3204	1288	24	2141		515	561		83	137	512
v/s Ratio Prot	c0.13	0.35	0.04	0.01	c0.37		c0.23	0.04		0.02	0.02	c0.09
v/s Ratio Perm			0.16									0.04
v/c Ratio	0.59	0.56	0.24	0.46	0.86		1.53	0.25		0.52	0.31	0.42
Uniform Delay, d1	42.3	12.7	3.6	58.8	31.1		51.0	42.6		55.9	52.7	34.4
Progression Factor	0.94	1.03	1.53	0.89	0.80		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.0	9.8	3.5		249.1	0.2		5.4	1.3	0.6
Delay (s)	40.3	13.3	5.5	61.8	28.4		300.1	42.8		61.3	54.1	35.0
Level of Service	D	B	A	E	C		F	D		E	D	C
Approach Delay (s)		14.6			28.6			240.3			41.4	
Approach LOS		B			C			F			D	

Intersection Summary			
HCM Average Control Delay	62.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	4954		3433	5017		3433	5085	1583	3433	4747	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	4954		3433	5017		3433	5085	1583	3433	4747	
Volume (vph)	340	1055	220	130	1842	180	190	210	100	170	640	510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	1147	239	141	2002	196	207	228	109	185	696	554
RTOR Reduction (vph)	0	27	0	0	9	0	0	0	30	0	119	0
Lane Group Flow (vph)	370	1359	0	141	2189	0	207	228	79	185	1131	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	18.4	56.3		8.7	46.6		8.0	28.6	37.3	10.4	31.0	
Effective Green, g (s)	18.4	56.3		8.7	46.6		8.0	28.6	37.3	10.4	31.0	
Actuated g/C Ratio	0.15	0.47		0.07	0.39		0.07	0.24	0.31	0.09	0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	526	2324		249	1948		229	1212	545	298	1226	
v/s Ratio Prot	c0.11	0.27		0.04	c0.44		c0.06	0.04	0.01	0.05	c0.24	
v/s Ratio Perm									0.04			
v/c Ratio	0.70	0.58		0.57	1.12		0.90	0.19	0.14	0.62	1.05dr	
Uniform Delay, d1	48.2	23.3		53.8	36.7		55.6	36.4	29.8	52.9	43.3	
Progression Factor	1.17	1.10		0.98	0.93		1.31	1.03	0.83	1.00	1.00	
Incremental Delay, d2	3.1	0.8		2.2	61.4		33.8	0.3	0.1	4.0	12.8	
Delay (s)	59.7	26.4		54.9	95.5		106.4	37.8	25.0	56.9	56.1	
Level of Service	E	C		D	F		F	D	C	E	E	
Approach Delay (s)		33.4			93.1			61.3			56.2	
Approach LOS		C			F			E			E	

Intersection Summary			
HCM Average Control Delay	64.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	4952		3433	4938		3433	5085	1583	3433	4686	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	4952		3433	4938		3433	5085	1583	3433	4686	
Volume (vph)	360	1318	280	180	1131	270	300	930	140	190	300	330
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	1433	304	196	1229	293	326	1011	152	207	326	359
RTOR Reduction (vph)	0	27	0	0	33	0	0	0	15	0	112	0
Lane Group Flow (vph)	391	1710	0	196	1489	0	326	1011	137	207	573	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	8.0	53.0		8.0	53.0		15.6	31.8	39.8	11.2	27.4	
Effective Green, g (s)	8.0	53.0		8.0	53.0		15.6	31.8	39.8	11.2	27.4	
Actuated g/C Ratio	0.07	0.44		0.07	0.44		0.13	0.26	0.33	0.09	0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	229	2187		229	2181		446	1348	578	320	1070	
v/s Ratio Prot	c0.11	c0.35		0.06	0.30		c0.09	c0.20	0.02	0.06	0.12	
v/s Ratio Perm									0.07			
v/c Ratio	1.71	0.78		0.86	0.68		0.73	0.75	0.24	0.65	0.54	
Uniform Delay, d1	56.0	28.6		55.4	26.8		50.2	40.5	29.1	52.5	40.7	
Progression Factor	1.23	0.84		1.03	0.82		1.19	1.45	1.52	1.00	1.00	
Incremental Delay, d2	334.3	2.5		21.4	1.4		4.3	2.7	0.1	4.5	1.9	
Delay (s)	403.2	26.4		78.6	23.4		64.1	61.4	44.4	56.9	42.6	
Level of Service	F	C		E	C		E	E	D	E	D	
Approach Delay (s)		95.7			29.7			60.2			46.0	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	61.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99			0.96	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5077		1681	1555			1795	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99			0.96	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5077		1681	1555			1795	1583
Volume (vph)	30	955	340	330	1772	20	310	10	230	30	10	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1038	370	359	1926	22	337	11	250	33	11	76
RTOR Reduction (vph)	0	0	211	0	0	0	0	86	0	0	0	72
Lane Group Flow (vph)	33	1038	159	359	1948	0	261	251	0	0	44	4
Turn Type	Prot		Perm	Prot			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	5.3	51.7	51.7	29.2	75.6		16.0	16.0			7.1	7.1
Effective Green, g (s)	5.3	51.7	51.7	29.2	75.6		16.0	16.0			7.1	7.1
Actuated g/C Ratio	0.04	0.43	0.43	0.24	0.63		0.13	0.13			0.06	0.06
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	78	2191	682	431	3199		224	207			106	94
v/s Ratio Prot	0.02	0.20		c0.20	c0.38		0.16	c0.16			c0.02	
v/s Ratio Perm			0.10									0.00
v/c Ratio	0.42	0.47	0.23	0.83	0.61		1.17	1.21			0.42	0.05
Uniform Delay, d1	55.9	24.4	21.6	43.1	13.3		52.0	52.0			54.4	53.3
Progression Factor	0.74	1.17	3.24	0.84	1.33		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.1	0.6	0.7	4.4	0.3		112.0	132.0			2.6	0.2
Delay (s)	44.2	29.2	70.8	40.6	18.0		164.0	184.0			57.1	53.5
Level of Service	D	C	E	D	B		F	F			E	D
Approach Delay (s)		40.2			21.5			175.3			54.8	
Approach LOS		D			C			F			D	

Intersection Summary			
HCM Average Control Delay	49.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99			0.97	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5072		1681	1543			1803	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99			0.97	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5072		1681	1543			1803	1583
Volume (vph)	70	1188	400	310	1121	20	420	20	650	20	10	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	1291	435	337	1218	22	457	22	380	22	11	43
RTOR Reduction (vph)	0	0	289	0	1	0	0	133	0	0	0	41
Lane Group Flow (vph)	76	1291	146	337	1239	0	393	333	0	0	33	2
Turn Type	Prot		Perm	Prot			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	9.3	34.3	34.3	29.2	54.2		34.0	34.0			6.5	6.5
Effective Green, g (s)	9.3	34.3	34.3	29.2	54.2		34.0	34.0			6.5	6.5
Actuated g/C Ratio	0.08	0.29	0.29	0.24	0.45		0.28	0.28			0.05	0.05
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	137	1453	452	431	2291		476	437			98	86
v/s Ratio Prot	0.04	c0.25		c0.19	0.24		c0.23	0.22			c0.02	
v/s Ratio Perm			0.09									0.00
v/c Ratio	0.55	0.89	0.32	0.78	0.54		0.83	0.76			0.34	0.03
Uniform Delay, d1	53.4	41.0	33.7	42.4	23.9		40.2	39.3			54.7	53.8
Progression Factor	0.84	1.32	3.45	1.35	1.15		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.3	6.0	1.3	5.5	0.6		15.0	11.9			2.0	0.1
Delay (s)	48.0	60.0	117.4	62.8	28.0		55.3	51.2			56.7	53.9
Level of Service	D	E	F	E	C		E	D			E	D
Approach Delay (s)		73.4			35.4			53.1			55.1	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM Average Control Delay	55.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.96		1.00	0.92		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	4800		3433	4906		3433	3249		1770	3240	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	4800		3433	4906		3433	3249		1770	3240	
Volume (vph)	190	642	383	200	1139	350	593	200	240	200	310	400
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	698	416	217	1238	380	645	217	261	217	337	435
RTOR Reduction (vph)	0	89	0	0	46	0	0	173	0	0	122	0
Lane Group Flow (vph)	207	1026	0	217	1572	0	645	306	0	217	650	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.9	43.0		12.0	45.1		18.0	30.0		19.0	31.0	
Effective Green, g (s)	9.9	43.0		12.0	45.1		18.0	30.0		19.0	31.0	
Actuated g/C Ratio	0.08	0.36		0.10	0.38		0.15	0.25		0.16	0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	283	1720		343	1844		515	812		280	837	
v/s Ratio Prot	c0.06	0.21		0.06	c0.32		c0.19	0.09		0.12	c0.20	
v/s Ratio Perm												
v/c Ratio	0.73	0.60		0.63	0.85		1.25	0.38		0.78	0.78	
Uniform Delay, d1	53.8	31.4		51.9	34.4		51.0	37.3		48.4	41.3	
Progression Factor	1.37	0.53		0.93	1.47		1.22	1.35		1.00	1.00	
Incremental Delay, d2	7.7	1.2		3.6	4.9		120.1	0.5		12.6	7.0	
Delay (s)	81.5	18.0		51.7	55.6		182.4	50.8		61.0	48.3	
Level of Service	F	B		D	E		F	D		E	D	
Approach Delay (s)		27.9			55.1			126.4			51.1	
Approach LOS		C			E			F			D	

Intersection Summary			
HCM Average Control Delay	62.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.96		1.00	0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	4742		3433	4860		3433	3379		1770	3285	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	4742		3433	4860		3433	3379		1770	3285	
Volume (vph)	240	609	499	200	666	280	555	300	130	200	250	230
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	662	542	217	724	304	603	326	141	217	272	250
RTOR Reduction (vph)	0	106	0	0	63	0	0	40	0	0	139	0
Lane Group Flow (vph)	261	1098	0	217	965	0	603	427	0	217	383	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.0	40.2		12.8	44.0		18.0	33.8		17.2	33.0	
Effective Green, g (s)	9.0	40.2		12.8	44.0		18.0	33.8		17.2	33.0	
Actuated g/C Ratio	0.08	0.34		0.11	0.37		0.15	0.28		0.14	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	257	1589		366	1782		515	952		254	903	
v/s Ratio Prot	c0.08	c0.23		0.06	c0.20		c0.18	c0.13		0.12	0.12	
v/s Ratio Perm												
v/c Ratio	1.02	0.85dr		0.59	0.54		1.17	0.45		0.85	0.42	
Uniform Delay, d1	55.5	34.5		51.1	30.0		51.0	35.4		50.2	35.7	
Progression Factor	1.17	1.00		0.98	1.87		1.01	1.34		1.00	1.00	
Incremental Delay, d2	43.6	1.3		2.5	1.2		91.8	1.1		23.3	1.5	
Delay (s)	108.5	35.9		52.4	57.2		143.5	48.5		73.5	37.2	
Level of Service	F	D		D	E		F	D		E	D	
Approach Delay (s)		48.8			56.3			102.0			47.8	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM Average Control Delay	63.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5001		1770	5085	3433	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5001		1770	5085	3433	1583
Volume (vph)	1042	130	130	1269	100	210
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1133	141	141	1379	109	228
RTOR Reduction (vph)	13	0	0	0	0	14
Lane Group Flow (vph)	1261	0	141	1379	109	214
Turn Type			Prot			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases						2
Actuated Green, G (s)	50.0		10.0	64.0	48.0	58.0
Effective Green, g (s)	50.0		10.0	64.0	48.0	58.0
Actuated g/C Ratio	0.42		0.08	0.53	0.40	0.48
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2084		148	2712	1373	818
v/s Ratio Prot	c0.25		c0.08	0.27	0.03	c0.02
v/s Ratio Perm						0.11
v/c Ratio	0.61		0.95	0.51	0.08	0.26
Uniform Delay, d1	27.3		54.8	17.9	22.3	18.3
Progression Factor	1.06		1.00	1.00	0.95	1.40
Incremental Delay, d2	1.1		59.4	0.7	0.1	0.1
Delay (s)	30.0		114.2	18.6	21.3	25.7
Level of Service	C		F	B	C	C
Approach Delay (s)	30.0			27.5	24.3	
Approach LOS	C			C	C	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5011		1770	5085	3433	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5011		1770	5085	3433	1583
Volume (vph)	459	50	140	846	100	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	499	54	152	920	109	76
RTOR Reduction (vph)	11	0	0	0	0	34
Lane Group Flow (vph)	542	0	152	920	109	42
Turn Type			Prot			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases						2
Actuated Green, G (s)	41.0		15.0	60.0	52.0	67.0
Effective Green, g (s)	41.0		15.0	60.0	52.0	67.0
Actuated g/C Ratio	0.34		0.12	0.50	0.43	0.56
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1712		221	2543	1488	937
v/s Ratio Prot	0.11		c0.09	c0.18	c0.03	0.01
v/s Ratio Perm						0.02
v/c Ratio	0.32		0.69	0.36	0.07	0.05
Uniform Delay, d1	29.2		50.3	18.3	19.9	12.0
Progression Factor	0.81		1.00	1.00	0.57	0.59
Incremental Delay, d2	0.3		8.6	0.4	0.1	0.0
Delay (s)	24.0		58.8	18.7	11.4	7.1
Level of Service	C		E	B	B	A
Approach Delay (s)	24.0			24.4	9.6	
Approach LOS	C			C	A	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	360	750	522	220	520	60	839	385	400	270	879	930
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	815	567	239	565	65	912	418	435	293	955	1011
RTOR Reduction (vph)	0	0	268	0	0	56	0	0	20	0	0	2
Lane Group Flow (vph)	391	815	299	239	565	9	912	418	415	293	955	1009
Turn Type	Prot		Perm	Prot		Perm	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	30.0	35.4	35.4	11.6	17.0	17.0	26.0	42.6	54.2	14.4	31.0	61.0
Effective Green, g (s)	30.0	35.4	35.4	11.6	17.0	17.0	26.0	42.6	54.2	14.4	31.0	61.0
Actuated g/C Ratio	0.25	0.29	0.29	0.10	0.14	0.14	0.22	0.36	0.45	0.12	0.26	0.51
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	858	1044	467	332	501	224	744	1256	768	412	914	857
v/s Ratio Prot	0.11	0.23		0.07	c0.16		c0.27	0.12	0.05	0.09	0.27	c0.29
v/s Ratio Perm			0.19			0.01			0.21			0.34
v/c Ratio	0.46	0.78	0.64	0.72	1.13	0.04	1.23	0.33	0.54	0.71	1.04	1.18
Uniform Delay, d1	38.1	38.7	36.8	52.6	51.5	44.5	47.0	28.3	23.9	50.8	44.5	29.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	3.9	3.0	7.3	80.2	0.1	113.4	0.7	0.8	5.7	42.2	91.9
Delay (s)	38.5	42.6	39.8	59.9	131.7	44.5	160.4	29.0	24.7	56.5	86.7	121.4
Level of Service	D	D	D	E	F	D	F	C	C	E	F	F
Approach Delay (s)		40.8			105.4			95.8			98.3	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	83.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	540	410	399	290	530	120	446	545	430	100	353	280
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	587	446	434	315	576	130	485	592	467	109	384	304
RTOR Reduction (vph)	0	0	299	0	0	103	0	0	70	0	0	23
Lane Group Flow (vph)	587	446	135	315	576	27	485	592	397	109	384	281
Turn Type	Prot		Perm	Prot		Perm	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	23.4	29.5	29.5	15.9	22.0	22.0	19.4	38.1	54.0	6.4	25.1	48.5
Effective Green, g (s)	23.4	29.5	29.5	15.9	22.0	22.0	19.4	38.1	54.0	6.4	25.1	48.5
Actuated g/C Ratio	0.22	0.28	0.28	0.15	0.21	0.21	0.18	0.36	0.51	0.06	0.24	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	759	986	441	515	735	329	629	1273	867	207	839	785
v/s Ratio Prot	c0.17	0.13		0.09	c0.16		c0.14	0.17	c0.07	0.03	0.11	0.08
v/s Ratio Perm			0.09			0.02			0.18			0.10
v/c Ratio	0.77	0.45	0.31	0.61	0.78	0.08	0.77	0.47	0.46	0.53	0.46	0.36
Uniform Delay, d1	38.8	31.5	30.1	42.1	39.7	33.8	41.1	26.1	16.6	48.3	34.6	18.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.3	0.4	2.2	5.5	0.1	5.8	1.2	0.4	2.4	1.8	0.3
Delay (s)	43.7	31.9	30.5	44.3	45.2	33.9	47.0	27.3	17.0	50.7	36.4	18.9
Level of Service	D	C	C	D	D	C	D	C	B	D	D	B
Approach Delay (s)		36.2			43.5			30.3			31.7	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	35.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	105.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0		4.0	4.0	
Lane Util. Factor				1.00		1.00		0.91		1.00	0.91	
Frt				1.00		0.85		0.96		1.00	1.00	
Flt Protected				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)				1770		1583		4901		1770	5085	
Flt Permitted				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)				1770		1583		4901		1770	5085	
Volume (vph)	0	0	0	350	0	90	0	600	190	110	1000	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	380	0	98	0	652	207	120	1087	0
RTOR Reduction (vph)	0	0	0	0	0	73	0	29	0	0	0	0
Lane Group Flow (vph)	0	0	0	380	0	25	0	830	0	120	1087	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)				30.4		30.4		64.3		13.3	81.6	
Effective Green, g (s)				30.4		30.4		64.3		13.3	81.6	
Actuated g/C Ratio				0.25		0.25		0.54		0.11	0.68	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				448		401		2626		196	3458	
v/s Ratio Prot				c0.21				0.17		c0.07	c0.21	
v/s Ratio Perm						0.02						
v/c Ratio				0.85		0.06		0.32		0.61	0.31	
Uniform Delay, d1				42.6		34.0		15.6		50.9	7.8	
Progression Factor				1.40		1.00		1.17		1.14	0.68	
Incremental Delay, d2				10.2		0.0		0.3		3.8	0.2	
Delay (s)				69.7		34.0		18.4		62.0	5.5	
Level of Service				E		C		B		E	A	
Approach Delay (s)		0.0			62.4			18.4			11.1	
Approach LOS		A			E			B			B	

Intersection Summary			
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0		4.0	4.0	
Lane Util. Factor				1.00		1.00		0.91		1.00	0.91	
Frt				1.00		0.85		0.98		1.00	1.00	
Flt Protected				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)				1770		1583		4987		1770	5085	
Flt Permitted				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)				1770		1583		4987		1770	5085	
Volume (vph)	0	0	0	340	0	140	0	1620	240	120	700	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	370	0	152	0	1761	261	130	761	0
RTOR Reduction (vph)	0	0	0	0	0	118	0	13	0	0	0	0
Lane Group Flow (vph)	0	0	0	370	0	34	0	2009	0	130	761	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)				26.5		26.5		65.6		15.9	85.5	
Effective Green, g (s)				26.5		26.5		65.6		15.9	85.5	
Actuated g/C Ratio				0.22		0.22		0.55		0.13	0.71	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				391		350		2726		235	3623	
v/s Ratio Prot				c0.21				c0.40		c0.07	0.15	
v/s Ratio Perm						0.02						
v/c Ratio				0.95		0.10		0.74		0.55	0.21	
Uniform Delay, d1				46.0		37.2		20.7		48.7	5.8	
Progression Factor				1.49		1.00		0.35		0.81	1.80	
Incremental Delay, d2				28.0		0.1		0.9		2.1	0.1	
Delay (s)				96.8		37.3		8.2		41.7	10.6	
Level of Service				F		D		A		D	B	
Approach Delay (s)		0.0			79.5			8.2			15.1	
Approach LOS		A			E			A			B	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1754		1770	3525		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1754		1770	3525		1770	3539	1583
Volume (vph)	170	100	130	60	330	210	150	733	20	100	593	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	109	141	65	359	228	163	797	22	109	645	163
RTOR Reduction (vph)	0	0	33	0	15	0	0	2	0	0	0	131
Lane Group Flow (vph)	185	109	108	65	572	0	163	817	0	109	645	32
Turn Type	Prot		pm+ov	Prot			Prot			Prot		Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	17.2	59.4	73.8	6.4	48.6		14.4	27.8		10.4	23.8	23.8
Effective Green, g (s)	17.2	59.4	73.8	6.4	48.6		14.4	27.8		10.4	23.8	23.8
Actuated g/C Ratio	0.14	0.50	0.62	0.05	0.40		0.12	0.23		0.09	0.20	0.20
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	254	922	1026	94	710		212	817		153	702	314
v/s Ratio Prot	c0.10	0.06	0.01	0.04	c0.33		c0.09	c0.23		0.06	0.18	
v/s Ratio Perm			0.06									0.02
v/c Ratio	0.73	0.12	0.10	0.69	0.80		0.77	1.00		0.71	0.92	0.10
Uniform Delay, d1	49.2	16.3	9.5	55.8	31.5		51.2	46.1		53.3	47.2	39.4
Progression Factor	0.88	1.18	2.65	1.00	1.00		1.03	1.00		0.99	1.19	2.54
Incremental Delay, d2	9.6	0.1	0.0	19.7	6.6		15.3	31.6		10.7	14.8	0.5
Delay (s)	53.0	19.2	25.2	75.5	38.1		68.3	77.7		63.7	70.8	100.5
Level of Service	D	B	C	E	D		E	E		E	E	F
Approach Delay (s)		35.5			41.9			76.1			75.2	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	62.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1730		1770	3532		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1730		1770	3532		1770	3539	1583
Volume (vph)	250	190	300	30	100	90	260	755	10	140	699	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	207	326	33	109	98	283	821	11	152	760	109
RTOR Reduction (vph)	0	0	41	0	31	0	0	1	0	0	0	72
Lane Group Flow (vph)	272	207	285	33	176	0	283	831	0	152	760	37
Turn Type	Prot		pm+ov	Prot			Prot			Prot		Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	18.0	33.9	61.2	2.4	18.3		27.3	52.0		15.7	40.4	40.4
Effective Green, g (s)	18.0	33.9	61.2	2.4	18.3		27.3	52.0		15.7	40.4	40.4
Actuated g/C Ratio	0.15	0.28	0.51	0.02	0.15		0.23	0.43		0.13	0.34	0.34
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	266	526	860	35	264		403	1531		232	1191	533
v/s Ratio Prot	c0.15	0.11	0.08	0.02	c0.10		c0.16	0.24		0.09	c0.21	
v/s Ratio Perm			0.10									0.02
v/c Ratio	1.02	0.39	0.33	0.94	0.67		0.70	0.54		0.66	0.64	0.07
Uniform Delay, d1	51.0	34.8	17.3	58.7	48.0		42.6	25.2		49.6	33.6	27.0
Progression Factor	1.02	0.89	0.93	1.00	1.00		1.11	1.03		0.95	1.15	2.05
Incremental Delay, d2	60.0	0.5	0.2	128.2	6.3		5.4	1.4		5.1	2.0	0.2
Delay (s)	112.2	31.5	16.4	186.9	54.3		52.6	27.3		52.0	40.6	55.5
Level of Service	F	C	B	F	D		D	C		D	D	E
Approach Delay (s)		52.7			72.5			33.7			43.9	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	44.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3334		3433	4990		1770	5043	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	3334		3433	4990		1770	5043	
Volume (vph)	10	110	272	110	190	120	289	700	100	130	1180	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	120	296	120	207	130	314	761	109	141	1283	76
RTOR Reduction (vph)	0	0	257	0	90	0	0	11	0	0	4	0
Lane Group Flow (vph)	11	120	39	120	247	0	314	859	0	141	1355	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	1.5	16.0	16.0	13.2	27.7		16.4	61.1		13.7	58.4	
Effective Green, g (s)	1.5	16.0	16.0	13.2	27.7		16.4	61.1		13.7	58.4	
Actuated g/C Ratio	0.01	0.13	0.13	0.11	0.23		0.14	0.51		0.11	0.49	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	22	248	211	195	770		469	2541		202	2454	
v/s Ratio Prot	0.01	c0.06		c0.07	0.07		c0.09	c0.17		0.08	c0.27	
v/s Ratio Perm			0.02									
v/c Ratio	0.50	0.48	0.19	0.62	0.32		0.67	0.34		0.70	0.55	
Uniform Delay, d1	58.9	48.2	46.2	51.0	38.3		49.2	17.5		51.2	21.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.19	0.59		1.00	0.97	
Incremental Delay, d2	16.8	1.5	0.4	5.7	0.2		2.2	0.2		9.2	0.8	
Delay (s)	75.6	49.7	46.7	56.6	38.6		60.8	10.6		60.4	21.8	
Level of Service	E	D	D	E	D		E	B		E	C	
Approach Delay (s)		48.2			43.3			23.9			25.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	29.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3253		3433	5046		1770	5070	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	3253		3433	5046		1770	5070	
Volume (vph)	50	180	549	140	120	140	286	1650	90	130	970	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	196	597	152	130	152	311	1793	98	141	1054	22
RTOR Reduction (vph)	0	0	161	0	104	0	0	5	0	0	2	0
Lane Group Flow (vph)	54	196	436	152	178	0	311	1886	0	141	1074	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	6.9	32.9	32.9	11.9	37.9		14.3	48.2		11.0	44.9	
Effective Green, g (s)	6.9	32.9	32.9	11.9	37.9		14.3	48.2		11.0	44.9	
Actuated g/C Ratio	0.06	0.27	0.27	0.10	0.32		0.12	0.40		0.09	0.37	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	102	511	434	176	1027		409	2027		162	1897	
v/s Ratio Prot	0.03	0.11		c0.09	0.05		0.09	c0.37		c0.08	0.21	
v/s Ratio Perm			c0.28									
v/c Ratio	0.53	0.38	1.00	0.86	0.17		0.76	0.93		0.87	0.57	
Uniform Delay, d1	55.0	35.3	43.6	53.3	29.7		51.2	34.3		53.8	29.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.07	1.10		1.06	0.97	
Incremental Delay, d2	4.9	0.5	44.3	32.8	0.1		6.9	7.9		34.4	1.1	
Delay (s)	59.9	35.8	87.8	86.0	29.8		61.6	45.6		91.7	29.9	
Level of Service	E	D	F	F	C		E	D		F	C	
Approach Delay (s)		74.0			49.5			47.8			37.1	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3337		1770	3461		1770	1863	1583		1822	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1770	3337		1770	3461		1770	1863	1583		1822	
Volume (vph)	30	416	257	240	536	92	257	78	200	50	270	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	452	279	261	583	100	279	85	217	54	293	43
RTOR Reduction (vph)	0	70	0	0	10	0	0	0	179	0	4	0
Lane Group Flow (vph)	33	661	0	261	673	0	279	85	38	0	386	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	5.2	30.0		22.0	46.8		21.0	21.0	21.0		31.0	
Effective Green, g (s)	5.2	30.0		22.0	46.8		21.0	21.0	21.0		31.0	
Actuated g/C Ratio	0.04	0.25		0.18	0.39		0.18	0.18	0.18		0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	77	834		325	1350		310	326	277		471	
v/s Ratio Prot	0.02	c0.20		c0.15	0.19		c0.16	0.05			c0.21	
v/s Ratio Perm									0.02			
v/c Ratio	0.43	0.79		0.80	0.50		0.90	0.26	0.14		0.82	
Uniform Delay, d1	56.0	42.1		46.9	27.7		48.5	42.8	41.8		41.9	
Progression Factor	1.00	1.00		1.00	1.00		1.33	1.42	4.05		0.31	
Incremental Delay, d2	3.8	7.6		13.3	1.3		25.7	1.5	0.8		10.1	
Delay (s)	59.8	49.7		60.3	29.0		90.0	62.4	170.1		23.2	
Level of Service	E	D		E	C		F	E	F		C	
Approach Delay (s)		50.2			37.7			115.8			23.2	
Approach LOS		D			D			F			C	

Intersection Summary			
HCM Average Control Delay	56.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.95		1.00	0.97		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	3356		1770	3435		1770	1863	1583		1834	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	3356		1770	3435		1770	1863	1583		1834	
Volume (vph)	40	576	303	100	537	131	368	129	120	30	300	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	626	329	109	584	142	400	140	130	33	326	33
RTOR Reduction (vph)	0	54	0	0	16	0	0	0	94	0	3	0
Lane Group Flow (vph)	43	901	0	109	710	0	400	140	36	0	389	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	7.2	30.8		12.2	35.8		33.0	33.0	33.0		28.0	
Effective Green, g (s)	7.2	30.8		12.2	35.8		33.0	33.0	33.0		28.0	
Actuated g/C Ratio	0.06	0.26		0.10	0.30		0.28	0.28	0.28		0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	106	861		180	1025		487	512	435		428	
v/s Ratio Prot	0.02	c0.27		c0.06	0.21		c0.23	0.08			c0.21	
v/s Ratio Perm									0.02			
v/c Ratio	0.41	1.05		0.61	0.69		0.82	0.27	0.08		0.91	
Uniform Delay, d1	54.3	44.6		51.6	37.2		40.7	34.1	32.3		44.8	
Progression Factor	1.00	1.00		1.00	1.00		1.43	1.53	3.80		0.77	
Incremental Delay, d2	2.5	43.4		5.7	3.8		10.1	0.9	0.2		22.9	
Delay (s)	56.9	88.0		57.3	41.1		68.4	53.2	122.9		57.3	
Level of Service	E	F		E	D		E	D	F		E	
Approach Delay (s)		86.7			43.2			75.8			57.3	
Approach LOS		F			D			E			E	

Intersection Summary			
HCM Average Control Delay	67.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	0.95					0.97	0.95	0.95
Frt		0.95		1.00	1.00					1.00	0.85	0.85
Flt Protected		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3352		3433	3539					3433	1504	1504
Flt Permitted		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3352		3433	3539					3433	1504	1504
Volume (vph)	0	640	350	730	906	0	0	0	0	968	0	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	696	380	793	985	0	0	0	0	1052	0	163
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	62	63
Lane Group Flow (vph)	0	1016	0	793	985	0	0	0	0	1052	19	19
Turn Type				Prot						Split		Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Actuated Green, G (s)		49.7		30.3	84.0					28.0	28.0	28.0
Effective Green, g (s)		49.7		30.3	84.0					28.0	28.0	28.0
Actuated g/C Ratio		0.41		0.25	0.70					0.23	0.23	0.23
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1388		867	2477					801	351	351
v/s Ratio Prot		c0.30		c0.23	0.28					c0.31	0.01	
v/s Ratio Perm												0.01
v/c Ratio		0.73		0.91	0.40					1.31	0.05	0.05
Uniform Delay, d1		29.6		43.6	7.5					46.0	35.7	35.7
Progression Factor		0.60		0.70	1.40					1.00	1.00	1.00
Incremental Delay, d2		2.9		11.6	0.4					149.9	0.3	0.3
Delay (s)		20.6		42.3	10.9					195.9	36.0	36.0
Level of Service		C		D	B					F	D	D
Approach Delay (s)		20.6			24.9			0.0			174.4	
Approach LOS		C			C			A			F	

Intersection Summary			
HCM Average Control Delay	68.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	165.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	0.95					0.97	0.95	0.95
Frt		0.95		1.00	1.00					1.00	0.85	0.85
Flt Protected		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3354		3433	3539					3433	1504	1504
Flt Permitted		1.00		0.95	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3354		3433	3539					3433	1504	1504
Volume (vph)	0	840	450	600	640	0	0	0	0	1168	0	180
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	913	489	652	696	0	0	0	0	1270	0	196
RTOR Reduction (vph)	0	59	0	0	0	0	0	0	0	0	71	71
Lane Group Flow (vph)	0	1343	0	652	696	0	0	0	0	1270	27	27
Turn Type				Prot						Split		Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Actuated Green, G (s)		58.0		17.0	79.0					33.0	33.0	33.0
Effective Green, g (s)		58.0		17.0	79.0					33.0	33.0	33.0
Actuated g/C Ratio		0.48		0.14	0.66					0.28	0.28	0.28
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1621		486	2330					944	414	414
v/s Ratio Prot		c0.40		c0.19	0.20					c0.37	0.02	
v/s Ratio Perm												0.02
v/c Ratio		0.83		1.34	0.30					1.35	0.07	0.07
Uniform Delay, d1		26.7		51.5	8.7					43.5	32.1	32.1
Progression Factor		0.75		0.86	2.18					1.00	1.00	1.00
Incremental Delay, d2		3.6		163.5	0.2					162.5	0.3	0.3
Delay (s)		23.6		207.8	19.3					206.0	32.4	32.4
Level of Service		C		F	B					F	C	C
Approach Delay (s)		23.6			110.4			0.0			182.8	
Approach LOS		C			F			A			F	

Intersection Summary			
HCM Average Control Delay	106.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	171.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.95	0.88	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			3539	2787	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			3539	2787	1681	1681	2787			
Volume (vph)	120	1488	0	0	1386	1228	250	0	1840	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	1617	0	0	1507	1335	272	0	2000	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	378	0	0	2	0	0	0
Lane Group Flow (vph)	130	1617	0	0	1507	957	136	136	1998	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	7	4			8		2	2	16			
Permitted Phases						8			2 16			
Actuated Green, G (s)	8.0	44.0			86.0	86.0	14.0	14.0	64.0			
Effective Green, g (s)	8.0	44.0			86.0	86.0	14.0	14.0	64.0			
Actuated g/C Ratio	0.07	0.37			0.72	0.72	0.12	0.12	0.53			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	229	1298			2536	1997	196	196	1579			
v/s Ratio Prot	0.04	c0.46			0.43		0.08	0.08	c0.53			
v/s Ratio Perm						0.34			0.19			
v/c Ratio	0.57	1.25			0.59	0.48	0.69	0.69	1.27			
Uniform Delay, d1	54.3	38.0			8.4	7.3	50.9	50.9	28.0			
Progression Factor	1.12	1.12			0.05	4.17	1.00	1.00	1.00			
Incremental Delay, d2	0.3	111.2			0.7	0.6	10.2	10.2	124.7			
Delay (s)	60.9	154.0			1.1	31.2	61.1	61.1	152.7			
Level of Service	E	F			A	C	E	E	F			
Approach Delay (s)		147.0			15.2			141.7			0.0	
Approach LOS		F			B			F			A	

Intersection Summary			
HCM Average Control Delay	90.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	165.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.95	0.88	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			3539	2787	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			3539	2787	1681	1681	2787			
Volume (vph)	100	1908	0	0	660	1056	580	0	1783	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	2074	0	0	717	1148	630	0	1938	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	383	0	0	2	0	0	0
Lane Group Flow (vph)	109	2074	0	0	717	765	315	315	1936	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	7	4			8		2	2	16			
Permitted Phases						8			2 16			
Actuated Green, G (s)	8.0	57.0			80.0	80.0	20.0	20.0	51.0			
Effective Green, g (s)	8.0	57.0			80.0	80.0	20.0	20.0	51.0			
Actuated g/C Ratio	0.07	0.48			0.67	0.67	0.17	0.17	0.42			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	229	1681			2359	1858	280	280	1277			
v/s Ratio Prot	0.03	c0.59			0.20		0.19	0.19	c0.39			
v/s Ratio Perm						0.27			0.30			
v/c Ratio	0.48	1.23			0.30	0.41	1.12	1.12	1.52			
Uniform Delay, d1	54.0	31.5			8.4	9.2	50.0	50.0	34.5			
Progression Factor	1.07	1.08			0.11	5.36	1.00	1.00	1.00			
Incremental Delay, d2	0.1	105.7			0.3	0.6	91.7	91.7	236.2			
Delay (s)	58.1	139.8			1.2	49.9	141.7	141.7	270.7			
Level of Service	E	F			A	D	F	F	F			
Approach Delay (s)		135.7			31.2			239.1			0.0	
Approach LOS		F			C			F			A	

Intersection Summary			
HCM Average Control Delay	146.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	171.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	0.86		1.00	
Frt	1.00	1.00	1.00		0.92	
Flt Protected	0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1770	5085	6390		1684	
Flt Permitted	0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1770	5085	6390		1684	
Volume (vph)	60	3268	2568	50	35	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	3552	2791	54	38	50
RTOR Reduction (vph)	0	0	2	0	39	0
Lane Group Flow (vph)	65	3552	2843	0	49	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Actuated Green, G (s)	8.2	85.0	72.8		27.0	
Effective Green, g (s)	8.2	85.0	72.8		27.0	
Actuated g/C Ratio	0.07	0.71	0.61		0.22	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	121	3602	3877		379	
v/s Ratio Prot	0.04	c0.70	0.45		c0.03	
v/s Ratio Perm						
v/c Ratio	0.54	0.99	0.73		0.13	
Uniform Delay, d1	54.1	16.9	16.7		37.1	
Progression Factor	0.99	1.12	1.00		1.00	
Incremental Delay, d2	0.4	2.3	1.3		0.7	
Delay (s)	53.8	21.4	18.0		37.8	
Level of Service	D	C	B		D	
Approach Delay (s)		21.9	18.0		37.8	
Approach LOS		C	B		D	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	0.86		1.00	
Frt	1.00	1.00	1.00		0.94	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	5085	6377		1699	
Flt Permitted	0.95	1.00	1.00		0.97	
Satd. Flow (perm)	1770	5085	6377		1699	
Volume (vph)	60	3631	1691	55	28	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	3947	1838	60	30	27
RTOR Reduction (vph)	0	0	4	0	23	0
Lane Group Flow (vph)	65	3947	1894	0	35	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Actuated Green, G (s)	7.0	92.0	81.0		20.0	
Effective Green, g (s)	7.0	92.0	81.0		20.0	
Actuated g/C Ratio	0.06	0.77	0.68		0.17	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	103	3899	4304		283	
v/s Ratio Prot	0.04	c0.78	0.30		c0.02	
v/s Ratio Perm						
v/c Ratio	0.63	1.01	0.44		0.12	
Uniform Delay, d1	55.2	14.0	9.0		42.5	
Progression Factor	1.01	0.95	1.00		1.00	
Incremental Delay, d2	1.1	7.9	0.3		0.9	
Delay (s)	57.1	21.3	9.3		43.4	
Level of Service	E	C	A		D	
Approach Delay (s)		21.9	9.3		43.4	
Approach LOS		C	A		D	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1674	1504	1681	1690	1583	1770	5085	1583	1770	5065	
Flt Permitted	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1674	1504	1681	1690	1583	1770	5085	1583	1770	5065	
Volume (vph)	50	30	30	640	20	150	70	1179	170	150	1132	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	33	33	696	22	163	76	1282	185	163	1230	33
RTOR Reduction (vph)	0	0	31	0	0	98	0	0	112	0	2	0
Lane Group Flow (vph)	43	44	2	350	368	65	76	1282	73	163	1261	0
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	7.0	7.0	7.0	48.0	48.0	48.0	8.8	33.9	33.9	15.1	40.2	
Effective Green, g (s)	7.0	7.0	7.0	48.0	48.0	48.0	8.8	33.9	33.9	15.1	40.2	
Actuated g/C Ratio	0.06	0.06	0.06	0.40	0.40	0.40	0.07	0.28	0.28	0.13	0.34	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	98	98	88	672	676	633	130	1437	447	223	1697	
v/s Ratio Prot	0.03	c0.03		0.21	c0.22		0.04	c0.25		c0.09	0.25	
v/s Ratio Perm			0.00			0.04			0.05			
v/c Ratio	0.44	0.45	0.02	0.52	0.54	0.10	0.58	0.89	0.16	0.73	0.74	
Uniform Delay, d1	54.6	54.6	53.3	27.3	27.6	22.5	53.8	41.3	32.4	50.5	35.3	
Progression Factor	1.00	1.00	1.00	0.99	0.99	0.94	1.00	1.00	1.00	1.43	0.87	
Incremental Delay, d2	3.1	3.2	0.1	0.2	0.2	0.0	6.6	8.8	0.8	9.9	2.5	
Delay (s)	57.7	57.9	53.4	27.3	27.6	21.1	60.4	50.1	33.2	82.3	33.4	
Level of Service	E	E	D	C	C	C	E	D	C	F	C	
Approach Delay (s)		56.6			26.3			48.6			39.0	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	1504	1681	1706	1583	1770	5085	1583	1770	5040	
Flt Permitted	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	1504	1681	1706	1583	1770	5085	1583	1770	5040	
Volume (vph)	110	80	80	520	80	280	80	1176	240	230	1589	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	87	87	565	87	304	87	1278	261	250	1727	109
RTOR Reduction (vph)	0	0	78	0	0	219	0	0	179	0	6	0
Lane Group Flow (vph)	103	104	9	317	335	85	87	1278	82	250	1830	0
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	12.4	12.4	12.4	33.6	33.6	33.6	8.6	37.8	37.8	20.2	49.4	
Effective Green, g (s)	12.4	12.4	12.4	33.6	33.6	33.6	8.6	37.8	37.8	20.2	49.4	
Actuated g/C Ratio	0.10	0.10	0.10	0.28	0.28	0.28	0.07	0.32	0.32	0.17	0.41	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	174	174	155	471	478	443	127	1602	499	298	2075	
v/s Ratio Prot	0.06	c0.06		0.19	c0.20		0.05	0.25		c0.14	c0.36	
v/s Ratio Perm			0.01			0.05			0.05			
v/c Ratio	0.59	0.60	0.06	0.67	0.70	0.19	0.69	0.80	0.16	0.84	0.88	
Uniform Delay, d1	51.4	51.4	48.5	38.3	38.7	32.9	54.4	37.6	29.7	48.3	32.6	
Progression Factor	1.00	1.00	1.00	1.14	1.14	2.39	1.00	1.00	1.00	1.22	0.53	
Incremental Delay, d2	5.3	5.4	0.2	2.3	2.8	0.1	14.2	4.2	0.7	14.6	4.6	
Delay (s)	56.7	56.8	48.7	46.1	46.9	78.7	68.6	41.8	30.4	73.7	22.0	
Level of Service	E	E	D	D	D	E	E	D	C	E	C	
Approach Delay (s)		54.4			56.7			41.4			28.2	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.81	0.81	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1433	5972	1583	3433	3539			3539	2787
Flt Permitted				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1433	5972	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	890	1568	329	400	1085	0	0	1142	650
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	967	1704	358	435	1179	0	0	1241	707
RTOR Reduction (vph)	0	0	0	0	0	38	0	0	0	0	0	5
Lane Group Flow (vph)	0	0	0	512	2159	320	435	1179	0	0	1241	702
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				46.0	46.0	46.0	16.0	66.0			46.0	46.0
Effective Green, g (s)				46.0	46.0	46.0	16.0	66.0			46.0	46.0
Actuated g/C Ratio				0.38	0.38	0.38	0.13	0.55			0.38	0.38
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				549	2289	607	458	1946			1357	1068
v/s Ratio Prot				0.36	c0.36		c0.13	0.33			c0.35	
v/s Ratio Perm						0.20						0.25
v/c Ratio				0.93	0.94	0.53	0.95	0.61			0.91	0.66
Uniform Delay, d1				35.5	35.7	28.6	51.6	18.2			35.1	30.5
Progression Factor				1.00	1.00	1.00	1.19	0.87			1.00	1.00
Incremental Delay, d2				22.9	8.8	0.8	25.3	1.1			11.0	3.2
Delay (s)				58.5	44.5	29.4	86.7	17.1			46.2	33.7
Level of Service				E	D	C	F	B			D	C
Approach Delay (s)		0.0			45.1			35.8			41.6	
Approach LOS		A			D			D			D	

Intersection Summary			
HCM Average Control Delay	41.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.81	0.81	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1433	5999	1583	3433	3539			3539	2787
Flt Permitted				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1433	5999	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	300	736	246	500	1240	0	0	1672	510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	800	267	543	1348	0	0	1817	554
RTOR Reduction (vph)	0	0	0	0	0	88	0	0	0	0	0	45
Lane Group Flow (vph)	0	0	0	216	910	179	543	1348	0	0	1817	509
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				20.0	20.0	20.0	24.4	92.0			63.6	63.6
Effective Green, g (s)				20.0	20.0	20.0	24.4	92.0			63.6	63.6
Actuated g/C Ratio				0.17	0.17	0.17	0.20	0.77			0.53	0.53
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				239	1000	264	698	2713			1876	1477
v/s Ratio Prot				0.15	c0.15		c0.16	0.38			c0.51	
v/s Ratio Perm						0.11						0.18
v/c Ratio				0.90	0.91	0.68	0.78	0.50			0.97	0.34
Uniform Delay, d1				49.1	49.1	47.0	45.2	5.3			27.2	16.2
Progression Factor				1.00	1.00	1.00	1.07	1.41			1.00	1.00
Incremental Delay, d2				33.5	12.0	6.7	0.5	0.1			14.6	0.6
Delay (s)				82.6	61.1	53.7	49.1	7.5			41.8	16.9
Level of Service				F	E	D	D	A			D	B
Approach Delay (s)		0.0			63.0			19.4			36.0	
Approach LOS		A			E			B			D	

Intersection Summary			
HCM Average Control Delay	37.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	155.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.97	0.86	0.86					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3433	4806	1362					6068		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	3433	4806	1362					6068		1770	5085	
Volume (vph)	900	2028	375	0	0	0	0	585	320	162	1870	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	978	2204	408	0	0	0	0	636	348	176	2033	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	32	0	0	0	0
Lane Group Flow (vph)	978	2204	408	0	0	0	0	952	0	176	2033	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	68.0	68.0	68.0					25.0		15.0	44.0	
Effective Green, g (s)	68.0	68.0	68.0					25.0		15.0	44.0	
Actuated g/C Ratio	0.57	0.57	0.57					0.21		0.12	0.37	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1945	2723	772					1264		221	1865	
v/s Ratio Prot	0.28	c0.46						0.16		0.10	c0.40	
v/s Ratio Perm			0.30									
v/c Ratio	0.50	0.81	0.53					0.95dr		0.80	1.09	
Uniform Delay, d1	15.8	20.8	16.1					44.6		51.0	38.0	
Progression Factor	0.46	0.45	0.45					1.28		1.07	1.18	
Incremental Delay, d2	0.1	0.5	0.2					3.5		7.3	44.5	
Delay (s)	7.2	9.9	7.5					60.4		61.9	89.5	
Level of Service	A	A	A					E		E	F	
Approach Delay (s)		8.9			0.0			60.4			87.3	
Approach LOS		A			A			E			F	

Intersection Summary			
HCM Average Control Delay	41.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.97	0.86	0.86					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.91		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3433	4806	1362					5836		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	3433	4806	1362					5836		1770	5085	
Volume (vph)	800	2561	298	0	0	0	0	940	1378	409	1563	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	870	2784	324	0	0	0	0	1022	1498	445	1699	0
RTOR Reduction (vph)	0	0	8	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	870	2784	316	0	0	0	0	2514	0	445	1699	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	49.0	49.0	49.0					39.0		20.0	63.0	
Effective Green, g (s)	49.0	49.0	49.0					39.0		20.0	63.0	
Actuated g/C Ratio	0.41	0.41	0.41					0.32		0.17	0.52	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1402	1962	556					1897		295	2670	
v/s Ratio Prot	0.25	c0.58						c0.43		c0.25	0.33	
v/s Ratio Perm			0.23									
v/c Ratio	0.62	1.42	0.57					2.83dr		1.51	0.64	
Uniform Delay, d1	28.1	35.5	27.4					40.5		50.0	20.3	
Progression Factor	0.87	0.86	0.87					0.45		1.40	0.87	
Incremental Delay, d2	0.1	188.8	0.1					146.7		234.2	0.4	
Delay (s)	24.5	219.4	23.9					164.7		304.4	18.1	
Level of Service	C	F	C					F		F	B	
Approach Delay (s)		160.9			0.0			164.7			77.5	
Approach LOS		F			A			F			E	

Intersection Summary			
HCM Average Control Delay	141.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	155.0%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	1776		1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	1776		1770	3539	1583	3433	3539	1583
Volume (vph)	54	142	160	283	556	248	280	416	354	465	237	450
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	154	174	308	603	270	304	452	385	505	258	489
RTOR Reduction (vph)	0	0	125	0	13	0	0	0	189	0	0	123
Lane Group Flow (vph)	59	154	49	308	860	0	304	452	196	505	258	366
Turn Type	Prot		Perm	Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4						2			6
Actuated Green, G (s)	10.7	34.1	34.1	23.9	47.3		24.6	25.7	49.6	20.3	21.4	32.1
Effective Green, g (s)	10.7	34.1	34.1	23.9	47.3		24.6	25.7	49.6	20.3	21.4	32.1
Actuated g/C Ratio	0.09	0.28	0.28	0.20	0.39		0.20	0.21	0.41	0.17	0.18	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	158	1006	450	353	700		363	758	707	581	631	476
v/s Ratio Prot	0.03	0.04		c0.17	c0.48		c0.17	0.13	0.06	0.15	0.07	c0.07
v/s Ratio Perm			0.03						0.07			0.16
v/c Ratio	0.37	0.15	0.11	0.87	1.23		0.84	0.60	0.28	0.87	0.41	0.77
Uniform Delay, d1	51.5	32.1	31.7	46.6	36.4		45.8	42.5	23.3	48.6	43.7	40.5
Progression Factor	0.76	0.97	2.69	1.00	1.00		1.24	1.47	0.54	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1	0.1	20.4	115.0		11.9	2.6	0.2	13.1	2.0	7.3
Delay (s)	40.4	31.2	85.6	67.0	151.4		68.6	64.9	12.8	61.6	45.7	47.9
Level of Service	D	C	F	E	F		E	E	B	E	D	D
Approach Delay (s)		57.1			129.3			48.3			53.0	
Approach LOS		E			F			D			D	

Intersection Summary			
HCM Average Control Delay	74.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	1730		1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	1730		1770	3539	1583	3433	3539	1583
Volume (vph)	100	300	163	153	273	246	310	738	120	687	463	270
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	326	177	166	297	267	337	802	130	747	503	293
RTOR Reduction (vph)	0	0	136	0	27	0	0	0	57	0	0	149
Lane Group Flow (vph)	109	326	41	166	537	0	337	802	73	747	503	144
Turn Type	Prot		Perm	Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4						2			6
Actuated Green, G (s)	9.7	28.0	28.0	12.0	30.3		27.2	35.1	47.1	28.9	36.8	46.5
Effective Green, g (s)	9.7	28.0	28.0	12.0	30.3		27.2	35.1	47.1	28.9	36.8	46.5
Actuated g/C Ratio	0.08	0.23	0.23	0.10	0.25		0.23	0.29	0.39	0.24	0.31	0.39
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	143	826	369	177	437		401	1035	674	827	1085	666
v/s Ratio Prot	0.06	0.09		c0.09	c0.31		0.19	c0.23	0.01	c0.22	0.14	0.02
v/s Ratio Perm			0.03						0.04			0.07
v/c Ratio	0.76	0.39	0.11	0.94	1.23		0.84	0.77	0.11	0.90	0.46	0.22
Uniform Delay, d1	54.0	38.8	36.2	53.6	44.8		44.3	38.8	23.1	44.2	33.6	24.6
Progression Factor	0.75	1.01	1.69	1.00	1.00		1.66	0.44	0.02	1.00	1.00	1.00
Incremental Delay, d2	17.5	0.3	0.1	49.3	121.8		7.9	2.9	0.0	13.1	1.4	0.2
Delay (s)	57.9	39.4	61.3	102.9	166.6		81.7	20.2	0.4	57.3	35.0	24.7
Level of Service	E	D	E	F	F		F	C	A	E	D	C
Approach Delay (s)		49.0			152.1			34.5			43.9	
Approach LOS		D			F			C			D	

Intersection Summary			
HCM Average Control Delay	60.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	0.95	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3411		3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3411		3433	3539	
Volume (vph)	720	0	240	0	0	0	0	330	105	267	413	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	0	261	0	0	0	0	359	114	290	449	0
RTOR Reduction (vph)	0	0	189	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	392	391	72	0	0	0	0	452	0	290	449	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	33.2	33.2	33.2					59.9		14.9	78.8	
Effective Green, g (s)	33.2	33.2	33.2					59.9		14.9	78.8	
Actuated g/C Ratio	0.28	0.28	0.28					0.50		0.12	0.66	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	465	465	438					1703		426	2324	
v/s Ratio Prot	c0.23	0.23						c0.13		c0.08	0.13	
v/s Ratio Perm			0.05									
v/c Ratio	0.84	0.84	0.16					0.27		0.68	0.19	
Uniform Delay, d1	40.9	40.9	32.9					17.3		50.3	8.1	
Progression Factor	1.00	1.00	1.00					1.00		0.60	1.87	
Incremental Delay, d2	13.1	12.9	0.2					0.4		3.7	0.2	
Delay (s)	54.0	53.8	33.1					17.7		33.7	15.3	
Level of Service	D	D	C					B		C	B	
Approach Delay (s)		48.7			0.0			17.7			22.5	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	0.95	
Frt	1.00	1.00	0.85					0.91		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3238		3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3238		3433	3539	
Volume (vph)	1088	0	85	0	0	0	0	80	105	633	146	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1183	0	92	0	0	0	0	87	114	688	159	0
RTOR Reduction (vph)	0	0	56	0	0	0	0	83	0	0	0	0
Lane Group Flow (vph)	592	591	36	0	0	0	0	118	0	688	159	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	47.1	47.1	47.1					32.8		28.1	64.9	
Effective Green, g (s)	47.1	47.1	47.1					32.8		28.1	64.9	
Actuated g/C Ratio	0.39	0.39	0.39					0.27		0.23	0.54	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	660	660	621					885		804	1914	
v/s Ratio Prot	c0.35	0.35						c0.04		c0.20	0.04	
v/s Ratio Perm			0.02									
v/c Ratio	0.90	0.90	0.06					0.13		0.86	0.08	
Uniform Delay, d1	34.2	34.1	22.7					32.9		44.0	13.2	
Progression Factor	1.00	1.00	1.00					1.00		0.65	1.05	
Incremental Delay, d2	14.8	14.7	0.0					0.3		7.7	0.1	
Delay (s)	49.0	48.8	22.7					33.2		36.2	14.0	
Level of Service	D	D	C					C		D	B	
Approach Delay (s)		47.0			0.0			33.2			32.1	
Approach LOS		D			A			C			C	

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.89		1.00	0.91		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1663		3433	1693		1770	3404		1770	3515	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1663		3433	1693		1770	3404		1770	3515	
Volume (vph)	20	60	150	320	90	140	142	818	280	100	626	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	65	163	348	98	152	154	889	304	109	680	33
RTOR Reduction (vph)	0	91	0	0	57	0	0	21	0	0	3	0
Lane Group Flow (vph)	22	137	0	348	193	0	154	1172	0	109	710	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.4	15.7		13.0	26.3		17.6	62.7		12.6	57.7	
Effective Green, g_e (s)	2.4	15.7		13.0	26.3		17.6	62.7		12.6	57.7	
Actuated g/C Ratio	0.02	0.13		0.11	0.22		0.15	0.52		0.10	0.48	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	35	218		372	371		260	1779		186	1690	
v/s Ratio Prot	0.01	c0.08		c0.10	0.11		c0.09	c0.34		0.06	0.20	
v/s Ratio Perm												
v/c Ratio	0.63	0.63		0.94	0.52		0.59	0.66		0.59	0.42	
Uniform Delay, d1	58.4	49.4		53.1	41.3		47.8	20.9		51.2	20.3	
Progression Factor	1.00	1.00		1.12	1.51		1.03	0.73		1.14	0.56	
Incremental Delay, d2	30.3	5.5		29.3	1.2		2.9	1.6		2.6	0.4	
Delay (s)	88.7	54.9		88.5	63.5		52.2	16.9		60.9	11.8	
Level of Service	F	D		F	E		D	B		E	B	
Approach Delay (s)		57.9			78.1			20.9			18.3	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.91		1.00	0.90		1.00	0.94		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1703		3433	1676		1770	3328		1770	3512	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1703		3433	1676		1770	3328		1770	3512	
Volume (vph)	30	90	120	270	50	100	171	788	520	160	736	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	98	130	293	54	109	186	857	565	174	800	43
RTOR Reduction (vph)	0	43	0	0	63	0	0	88	0	0	3	0
Lane Group Flow (vph)	33	185	0	293	100	0	186	1334	0	174	840	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.6	19.3		7.0	22.7		17.9	61.1		16.6	59.8	
Effective Green, g (s)	3.6	19.3		7.0	22.7		17.9	61.1		16.6	59.8	
Actuated g/C Ratio	0.03	0.16		0.06	0.19		0.15	0.51		0.14	0.50	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	274		200	317		264	1695		245	1750	
v/s Ratio Prot	0.02	c0.11		c0.09	c0.06		c0.11	c0.40		0.10	0.24	
v/s Ratio Perm												
v/c Ratio	0.62	0.68		1.46	0.31		0.70	0.79		0.71	0.48	
Uniform Delay, d1	57.5	47.4		56.5	41.9		48.5	24.1		49.4	19.8	
Progression Factor	1.00	1.00		1.30	0.65		0.73	1.43		1.13	0.48	
Incremental Delay, d2	20.6	6.5		234.0	0.6		5.4	2.4		6.7	0.7	
Delay (s)	78.1	53.9		307.8	27.8		40.9	36.9		62.7	10.2	
Level of Service	E	D		F	C		D	D		E	B	
Approach Delay (s)		56.9			207.7			37.4			19.2	
Approach LOS		E			F			D			B	

Intersection Summary			
HCM Average Control Delay	56.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor				0.97		1.00		0.95	1.00	0.97	0.95	
Frt				1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433		1583		3539	1583	3433	3539	
Flt Permitted				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433		1583		3539	1583	3433	3539	
Volume (vph)	0	0	0	170	0	436	0	805	1188	700	686	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	185	0	474	0	875	1291	761	746	0
RTOR Reduction (vph)	0	0	0	0	0	326	0	0	1	0	0	0
Lane Group Flow (vph)	0	0	0	185	0	148	0	875	1290	761	746	0
Turn Type				custom		custom			custom	Prot		
Protected Phases								2		1	6	
Permitted Phases				8		8			2 8			
Actuated Green, G (s)				16.0		16.0		70.0	90.0	22.0	96.0	
Effective Green, g (s)				16.0		16.0		70.0	90.0	22.0	96.0	
Actuated g/C Ratio				0.13		0.13		0.58	0.75	0.18	0.80	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				458		211		2064	1187	629	2831	
v/s Ratio Prot								0.25		c0.22	0.21	
v/s Ratio Perm				0.05		0.09			c0.81			
v/c Ratio				0.40		0.70		0.42	1.09	1.21	0.26	
Uniform Delay, d1				47.6		49.7		13.8	15.0	49.0	3.0	
Progression Factor				1.00		1.00		0.50	0.75	0.76	0.88	
Incremental Delay, d2				0.6		10.1		0.3	45.7	107.3	0.2	
Delay (s)				48.2		59.8		7.2	56.9	144.4	2.9	
Level of Service				D		E		A	E	F	A	
Approach Delay (s)		0.0			56.6			36.8			74.3	
Approach LOS		A			E			D			E	

Intersection Summary			
HCM Average Control Delay	52.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor				0.97		1.00		0.95	1.00	0.97	0.95	
Frt				1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433		1583		3539	1583	3433	3539	
Flt Permitted				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433		1583		3539	1583	3433	3539	
Volume (vph)	0	0	0	50	0	387	0	1272	713	450	776	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	54	0	421	0	1383	775	489	843	0
RTOR Reduction (vph)	0	0	0	0	0	257	0	0	8	0	0	0
Lane Group Flow (vph)	0	0	0	54	0	164	0	1383	767	489	843	0
Turn Type				custom		custom			custom	Prot		
Protected Phases								2		1	6	
Permitted Phases				8		8			2 8			
Actuated Green, G (s)				26.1		26.1		61.1	91.2	20.8	85.9	
Effective Green, g (s)				26.1		26.1		61.1	91.2	20.8	85.9	
Actuated g/C Ratio				0.22		0.22		0.51	0.76	0.17	0.72	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				747		344		1802	1203	595	2533	
v/s Ratio Prot								c0.39		c0.14	0.24	
v/s Ratio Perm				0.02		0.10			c0.48			
v/c Ratio				0.07		0.48		0.77	0.64	0.82	0.33	
Uniform Delay, d1				37.3		41.0		23.7	6.7	47.8	6.4	
Progression Factor				1.00		1.00		1.52	0.88	1.01	1.83	
Incremental Delay, d2				0.0		1.0		1.2	0.4	6.6	0.3	
Delay (s)				37.4		42.0		37.3	6.3	55.1	11.9	
Level of Service				D		D		D	A	E	B	
Approach Delay (s)		0.0			41.5			26.2			27.7	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	1583					3539	1583	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	1583					3539	1583	3433	3539	
Volume (vph)	623	5	395	0	0	0	0	1370	180	536	320	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	677	5	429	0	0	0	0	1489	196	583	348	0
RTOR Reduction (vph)	0	0	320	0	0	0	0	0	75	0	0	0
Lane Group Flow (vph)	339	343	109	0	0	0	0	1489	121	583	348	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	30.5	30.5	30.5					52.8	52.8	24.7	81.5	
Effective Green, g (s)	30.5	30.5	30.5					52.8	52.8	24.7	81.5	
Actuated g/C Ratio	0.25	0.25	0.25					0.44	0.44	0.21	0.68	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	427	429	402					1557	697	707	2404	
v/s Ratio Prot	0.20	c0.20						c0.42		c0.17	0.10	
v/s Ratio Perm			0.07						0.08			
v/c Ratio	0.79	0.80	0.27					0.96	0.17	0.82	0.14	
Uniform Delay, d1	41.8	41.9	35.8					32.5	20.4	45.6	6.8	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.86	1.05	
Incremental Delay, d2	9.8	10.0	0.4					14.5	0.5	7.6	0.1	
Delay (s)	51.6	51.9	36.2					47.0	20.9	46.6	7.3	
Level of Service	D	D	D					D	C	D	A	
Approach Delay (s)		45.8			0.0			44.0			31.9	
Approach LOS		D			A			D			C	

Intersection Summary			
HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1691	1583					3539	1583	3433	3539	
Flt Permitted	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1691	1583					3539	1583	3433	3539	
Volume (vph)	1384	50	675	0	0	0	0	600	70	466	360	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1504	54	734	0	0	0	0	652	76	507	391	0
RTOR Reduction (vph)	0	0	240	0	0	0	0	0	49	0	0	0
Lane Group Flow (vph)	758	800	494	0	0	0	0	652	27	507	391	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	50.0	50.0	50.0					42.0	42.0	16.0	62.0	
Effective Green, g (s)	50.0	50.0	50.0					42.0	42.0	16.0	62.0	
Actuated g/C Ratio	0.42	0.42	0.42					0.35	0.35	0.13	0.52	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	700	705	660					1239	554	458	1828	
v/s Ratio Prot	0.45	c0.47						c0.18		c0.15	0.11	
v/s Ratio Perm			0.31						0.02			
v/c Ratio	1.08	1.13	0.75					0.53	0.05	1.11	0.21	
Uniform Delay, d1	35.0	35.0	29.7					31.1	25.8	52.0	15.8	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.90	0.34	
Incremental Delay, d2	58.7	77.5	4.7					1.6	0.2	73.7	0.3	
Delay (s)	93.7	112.5	34.3					32.7	25.9	120.7	5.6	
Level of Service	F	F	C					C	C	F	A	
Approach Delay (s)		81.2			0.0			32.0			70.6	
Approach LOS		F			A			C			E	

Intersection Summary			
HCM Average Control Delay	69.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor					1.00	0.88	1.00	0.95			1.00	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					1790	2787	1770	3539			1863	1583
Flt Permitted					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)					1790	2787	1770	3539			1863	1583
Volume (vph)	0	0	0	20	5	284	25	530	0	0	492	809
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	22	5	309	27	576	0	0	535	879
RTOR Reduction (vph)	0	0	0	0	0	289	0	0	0	0	0	181
Lane Group Flow (vph)	0	0	0	0	27	20	27	576	0	0	535	698
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)					7.6	7.6	5.1	104.4			95.3	95.3
Effective Green, g (s)					7.6	7.6	5.1	104.4			95.3	95.3
Actuated g/C Ratio					0.06	0.06	0.04	0.87			0.79	0.79
Clearance Time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)					3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					113	177	75	3079			1480	1257
v/s Ratio Prot					c0.02		c0.02	0.16			0.29	
v/s Ratio Perm						0.01						c0.44
v/c Ratio					0.24	0.11	0.36	0.19			0.36	0.56
Uniform Delay, d1					53.4	53.0	55.9	1.2			3.6	4.5
Progression Factor					1.00	1.00	1.02	0.25			1.00	1.00
Incremental Delay, d2					1.1	0.3	1.9	0.1			0.7	1.8
Delay (s)					54.5	53.3	59.1	0.4			4.3	6.3
Level of Service					D	D	E	A			A	A
Approach Delay (s)		0.0			53.4			3.0			5.5	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor					1.00	0.88	1.00	0.95			1.00	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					1782	2787	1770	3539			1863	1583
Flt Permitted					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)					1782	2787	1770	3539			1863	1583
Volume (vph)	0	0	0	100	10	546	70	925	0	0	420	523
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	109	11	593	76	1005	0	0	457	568
RTOR Reduction (vph)	0	0	0	0	0	188	0	0	0	0	0	205
Lane Group Flow (vph)	0	0	0	0	120	405	76	1005	0	0	457	363
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)					22.1	22.1	9.3	89.9			76.6	76.6
Effective Green, g (s)					22.1	22.1	9.3	89.9			76.6	76.6
Actuated g/C Ratio					0.18	0.18	0.08	0.75			0.64	0.64
Clearance Time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)					3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					328	513	137	2651			1189	1010
v/s Ratio Prot					0.07		c0.04	c0.28			0.25	
v/s Ratio Perm						c0.15						0.23
v/c Ratio					0.37	0.79	0.55	0.38			0.38	0.36
Uniform Delay, d1					42.8	46.7	53.4	5.3			10.4	10.2
Progression Factor					1.00	1.00	1.11	0.18			1.00	1.00
Incremental Delay, d2					0.7	8.1	2.6	0.2			0.9	1.0
Delay (s)					43.5	54.8	62.1	1.2			11.3	11.2
Level of Service					D	D	E	A			B	B
Approach Delay (s)		0.0			52.9			5.5			11.2	
Approach LOS		A			D			A			B	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	1.00	
Frt	1.00	1.00	0.85					0.93		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1583					3281		3433	1863	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1686	1583					3281		3433	1863	
Volume (vph)	495	3	27	0	0	0	0	55	52	312	200	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	538	3	29	0	0	0	0	60	57	339	217	0
RTOR Reduction (vph)	0	0	23	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	269	272	6	0	0	0	0	93	0	339	217	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	23.0	23.0	23.0					69.4		15.6	89.0	
Effective Green, g (s)	23.0	23.0	23.0					69.4		15.6	89.0	
Actuated g/C Ratio	0.19	0.19	0.19					0.58		0.13	0.74	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	322	323	303					1898		446	1382	
v/s Ratio Prot	0.16	c0.16						0.03		c0.10	c0.12	
v/s Ratio Perm			0.00									
v/c Ratio	0.84	0.84	0.02					0.05		0.76	0.16	
Uniform Delay, d1	46.7	46.7	39.3					11.0		50.4	4.5	
Progression Factor	1.00	1.00	1.00					1.00		0.94	1.13	
Incremental Delay, d2	16.8	17.7	0.0					0.0		7.1	0.2	
Delay (s)	63.5	64.5	39.4					11.0		54.6	5.3	
Level of Service	E	E	D					B		D	A	
Approach Delay (s)		62.7			0.0			11.0			35.4	
Approach LOS		E			A			B			D	

Intersection Summary			
HCM Average Control Delay	45.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	1.00	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1583					3393		3433	1863	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1686	1583					3393		3433	1863	
Volume (vph)	915	5	100	0	0	0	0	80	30	384	136	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	995	5	109	0	0	0	0	87	33	417	148	0
RTOR Reduction (vph)	0	0	73	0	0	0	0	20	0	0	0	0
Lane Group Flow (vph)	498	502	36	0	0	0	0	100	0	417	148	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	40.0	40.0	40.0					48.6		19.4	72.0	
Effective Green, g (s)	40.0	40.0	40.0					48.6		19.4	72.0	
Actuated g/C Ratio	0.33	0.33	0.33					0.40		0.16	0.60	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	560	562	528					1374		555	1118	
v/s Ratio Prot	0.30	c0.30						0.03		c0.12	c0.08	
v/s Ratio Perm			0.02									
v/c Ratio	0.89	0.89	0.07					0.07		0.75	0.13	
Uniform Delay, d1	37.9	38.0	27.3					21.9		48.0	10.4	
Progression Factor	1.00	1.00	1.00					1.00		0.98	1.61	
Incremental Delay, d2	15.8	16.4	0.1					0.1		5.4	0.2	
Delay (s)	53.7	54.4	27.3					22.0		52.6	17.0	
Level of Service	D	D	C					C		D	B	
Approach Delay (s)		51.5			0.0			22.0			43.3	
Approach LOS		D			A			C			D	

Intersection Summary			
HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0	4.0	4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frt		1.00	0.85		1.00	0.85				1.00	0.97	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.96	1.00
Satd. Flow (prot)		3539	1583		3539	1583				1681	1582	1504
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.96	1.00
Satd. Flow (perm)		3539	1583		3539	1583				1681	1582	1504
Volume (vph)	0	1180	790	0	1000	1250	0	0	0	820	0	550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1283	859	0	1087	1359	0	0	0	891	0	598
RTOR Reduction (vph)	0	0	353	0	0	449	0	0	0	0	9	64
Lane Group Flow (vph)	0	1283	506	0	1087	910	0	0	0	438	491	437
Turn Type			Perm			Perm				Split		Perm
Protected Phases		4			8					6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)		53.0	53.0		53.0	53.0				29.0	29.0	29.0
Effective Green, g (s)		53.0	53.0		53.0	53.0				29.0	29.0	29.0
Actuated g/C Ratio		0.59	0.59		0.59	0.59				0.32	0.32	0.32
Clearance Time (s)		4.0	4.0		4.0	4.0				4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	3.0
Lane Grp Cap (vph)		2084	932		2084	932				542	510	485
v/s Ratio Prot		0.36			0.31					0.29	c0.31	
v/s Ratio Perm			0.32			c0.58						0.29
v/c Ratio		0.62	0.54		0.52	0.98				0.90	0.96	0.90
Uniform Delay, d1		11.9	11.2		11.0	17.9				29.1	30.0	29.1
Progression Factor		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		1.4	2.3		0.9	24.4				20.6	31.4	22.5
Delay (s)		13.3	13.4		11.9	42.3				49.7	61.4	51.7
Level of Service		B	B		B	D				D	E	D
Approach Delay (s)		13.4			28.8			0.0			54.3	
Approach LOS		B			C			A			D	

Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0				4.0	4.0	4.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frt		1.00	0.85		1.00	0.85				1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)		3539	1583		3539	1583				1681	1610	1504
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)		3539	1583		3539	1583				1681	1610	1504
Volume (vph)	0	1310	600	0	1140	800	0	0	0	880	0	400
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1424	652	0	1239	870	0	0	0	957	0	435
RTOR Reduction (vph)	0	0	326	0	0	435	0	0	0	0	0	23
Lane Group Flow (vph)	0	1424	326	0	1239	435	0	0	0	479	478	412
Turn Type			Perm			Perm				Split		Perm
Protected Phases		4			8					6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)		45.0	45.0		45.0	45.0				37.0	37.0	37.0
Effective Green, g (s)		45.0	45.0		45.0	45.0				37.0	37.0	37.0
Actuated g/C Ratio		0.50	0.50		0.50	0.50				0.41	0.41	0.41
Clearance Time (s)		4.0	4.0		4.0	4.0				4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	3.0
Lane Grp Cap (vph)		1770	792		1770	792				691	662	618
v/s Ratio Prot		c0.40			0.35					0.28	c0.30	
v/s Ratio Perm			0.21			0.27						0.27
v/c Ratio		0.80	0.41		0.70	0.55				0.69	0.72	0.67
Uniform Delay, d1		18.8	14.2		17.3	15.5				21.8	22.2	21.5
Progression Factor		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		4.0	1.6		2.3	2.7				5.7	6.7	5.6
Delay (s)		22.8	15.7		19.6	18.2				27.5	28.9	27.1
Level of Service		C	B		B	B				C	C	C
Approach Delay (s)		20.6			19.1			0.0			27.9	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.85	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	1504	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	1504	1504			
Volume (vph)	500	1500	0	0	1850	800	400	0	1200	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	1630	0	0	2011	870	435	0	1304	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	389	0	11	11	0	0	0
Lane Group Flow (vph)	543	1630	0	0	2011	481	435	641	641	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2			
Actuated Green, G (s)	18.0	65.0			43.0	43.0	47.0	47.0	47.0			
Effective Green, g (s)	18.0	65.0			43.0	43.0	47.0	47.0	47.0			
Actuated g/C Ratio	0.15	0.54			0.36	0.36	0.39	0.39	0.39			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	515	1917			1822	567	1345	589	589			
v/s Ratio Prot	c0.16	0.46			c0.40		0.13	c0.43				
v/s Ratio Perm						0.30			0.43			
v/c Ratio	1.05	0.85			1.10	0.85	0.32	1.09	1.09			
Uniform Delay, d1	51.0	23.4			38.5	35.5	25.4	36.5	36.5			
Progression Factor	1.00	1.00			1.42	2.58	1.00	1.00	1.00			
Incremental Delay, d2	54.8	5.0			51.8	8.6	0.6	63.4	63.4			
Delay (s)	105.8	28.3			106.6	100.0	26.1	99.9	99.9			
Level of Service	F	C			F	F	C	F	F			
Approach Delay (s)		47.7			104.6			81.4			0.0	
Approach LOS		D			F			F			A	

Intersection Summary			
HCM Average Control Delay	80.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.85	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	1504	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	1504	1504			
Volume (vph)	790	1400	0	0	1340	600	600	0	1000	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	859	1522	0	0	1457	652	652	0	1087	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	403	0	16	16	0	0	0
Lane Group Flow (vph)	859	1522	0	0	1457	249	652	527	528	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2			
Actuated Green, G (s)	28.0	66.0			34.0	34.0	46.0	46.0	46.0			
Effective Green, g (s)	28.0	66.0			34.0	34.0	46.0	46.0	46.0			
Actuated g/C Ratio	0.23	0.55			0.28	0.28	0.38	0.38	0.38			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	801	1946			1441	449	1316	577	577			
v/s Ratio Prot	c0.25	0.43			c0.29		0.19	0.35				
v/s Ratio Perm						0.16			c0.35			
v/c Ratio	1.07	0.78			1.01	0.56	0.50	0.91	0.92			
Uniform Delay, d1	46.0	21.3			43.0	36.6	28.2	35.1	35.1			
Progression Factor	1.00	1.00			1.27	3.29	1.00	1.00	1.00			
Incremental Delay, d2	53.0	3.2			20.2	2.7	1.3	21.3	21.5			
Delay (s)	99.0	24.5			74.7	123.0	29.5	56.4	56.6			
Level of Service	F	C			E	F	C	E	E			
Approach Delay (s)		51.4			89.6			46.4			0.0	
Approach LOS		D			F			D			A	

Intersection Summary			
HCM Average Control Delay	63.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5041		3433	3274		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5041		3433	3274		1770	1863	1583
Volume (vph)	80	1300	840	210	1800	110	290	30	30	120	70	400
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1413	913	228	1957	120	315	33	33	130	76	435
RTOR Reduction (vph)	0	0	134	0	5	0	0	29	0	0	0	17
Lane Group Flow (vph)	87	1413	779	228	2072	0	315	37	0	130	76	418
Turn Type	Prot		pm+ov	Prot			Prot			Prot		pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Actuated Green, G (s)	21.0	55.4	73.9	19.9	54.3		18.5	15.4		13.3	10.2	31.2
Effective Green, g (s)	21.0	55.4	73.9	19.9	54.3		18.5	15.4		13.3	10.2	31.2
Actuated g/C Ratio	0.18	0.46	0.62	0.17	0.45		0.15	0.13		0.11	0.08	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	310	2348	1028	294	2281		529	420		196	158	464
v/s Ratio Prot	0.05	0.28	c0.12	0.13	c0.41		0.09	0.01		0.07	0.04	c0.16
v/s Ratio Perm			0.37									0.11
v/c Ratio	0.28	0.60	0.76	0.78	0.91		0.60	0.09		0.66	0.48	0.90
Uniform Delay, d1	42.9	24.1	16.6	47.9	30.5		47.3	46.1		51.2	52.4	42.9
Progression Factor	0.98	1.10	1.00	0.92	1.06		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4	1.0	5.3	3.0		1.8	0.1		8.2	2.3	20.3
Delay (s)	42.3	26.7	17.6	49.5	35.3		49.1	46.2		59.4	54.7	63.2
Level of Service	D	C	B	D	D		D	D		E	D	E
Approach Delay (s)		23.8			36.7			48.6			61.4	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5009		3433	3177		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5009		3433	3177		1770	1863	1583
Volume (vph)	210	1400	300	10	1350	150	680	70	150	40	40	210
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	1522	326	11	1467	163	739	76	163	43	43	228
RTOR Reduction (vph)	0	0	76	0	10	0	0	93	0	0	0	5
Lane Group Flow (vph)	228	1522	250	11	1620	0	739	146	0	43	43	223
Turn Type	Prot		pm+ov	Prot			Prot			Prot		pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Actuated Green, G (s)	20.5	64.5	92.2	2.9	46.9		27.7	31.0		5.6	8.9	29.4
Effective Green, g (s)	20.5	64.5	92.2	2.9	46.9		27.7	31.0		5.6	8.9	29.4
Actuated g/C Ratio	0.17	0.54	0.77	0.02	0.39		0.23	0.26		0.05	0.07	0.24
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	302	2733	1269	43	1958		792	821		83	138	441
v/s Ratio Prot	c0.13	0.30	0.05	0.01	c0.32		c0.22	0.05		0.02	0.02	c0.09
v/s Ratio Perm			0.11									0.05
v/c Ratio	0.75	0.56	0.20	0.26	0.83		0.93	0.18		0.52	0.31	0.51
Uniform Delay, d1	47.4	18.3	3.8	57.5	32.9		45.2	34.6		55.9	52.6	39.0
Progression Factor	0.92	1.08	1.47	0.84	1.11		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.5	0.4	0.0	2.3	3.1		17.7	0.1		5.4	1.3	0.9
Delay (s)	48.9	20.2	5.6	50.8	39.4		63.0	34.7		61.3	53.9	39.9
Level of Service	D	C	A	D	D		E	C		E	D	D
Approach Delay (s)		21.1			39.5			56.1			44.8	
Approach LOS		C			D			E			D	

Intersection Summary			
HCM Average Control Delay	35.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	4931		3433	5005		3433	5085	1583	3433	4747	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	4931		3433	5005		3433	5085	1583	3433	4747	
Volume (vph)	340	870	220	130	1540	180	190	210	100	170	640	510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	946	239	141	1674	196	207	228	109	185	696	554
RTOR Reduction (vph)	0	37	0	0	12	0	0	0	50	0	119	0
Lane Group Flow (vph)	370	1148	0	141	1858	0	207	228	59	185	1131	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	14.9	56.3		8.7	50.1		8.0	28.6	37.3	10.4	31.0	
Effective Green, g (s)	14.9	56.3		8.7	50.1		8.0	28.6	37.3	10.4	31.0	
Actuated g/C Ratio	0.12	0.47		0.07	0.42		0.07	0.24	0.31	0.09	0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	426	2313		249	2090		229	1212	545	298	1226	
v/s Ratio Prot	c0.11	0.23		0.04	c0.37		c0.06	0.04	0.01	0.05	c0.24	
v/s Ratio Perm									0.03			
v/c Ratio	0.87	0.50		0.57	0.89		0.90	0.19	0.11	0.62	1.05d	
Uniform Delay, d1	51.6	22.0		53.8	32.4		55.6	36.4	29.5	52.9	43.3	
Progression Factor	1.31	0.58		0.97	0.86		1.39	0.74	0.56	1.00	1.00	
Incremental Delay, d2	14.1	0.6		2.4	5.0		33.8	0.3	0.1	4.0	12.8	
Delay (s)	81.4	13.5		54.6	33.0		111.4	27.3	16.7	56.9	56.1	
Level of Service	F	B		D	C		F	C	B	E	E	
Approach Delay (s)		29.7			34.5			57.2			56.2	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM Average Control Delay	41.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

d Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	4926		3433	4914		3433	5085	1583	3433	4686	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	4926		3433	4914		3433	5085	1583	3433	4686	
Volume (vph)	360	1060	280	180	930	270	300	930	140	190	300	330
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	1152	304	196	1011	293	326	1011	152	207	326	359
RTOR Reduction (vph)	0	39	0	0	42	0	0	0	21	0	164	0
Lane Group Flow (vph)	391	1417	0	196	1262	0	326	1011	131	207	521	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	16.9	49.8		11.2	44.1		15.6	31.8	43.0	11.2	27.4	
Effective Green, g (s)	16.9	49.8		11.2	44.1		15.6	31.8	43.0	11.2	27.4	
Actuated g/C Ratio	0.14	0.42		0.09	0.37		0.13	0.26	0.36	0.09	0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	483	2044		320	1806		446	1348	620	320	1070	
v/s Ratio Prot	c0.11	c0.29		0.06	0.26		c0.09	c0.20	0.02	0.06	0.11	
v/s Ratio Perm									0.06			
v/c Ratio	0.81	0.69		0.61	0.70		0.73	0.75	0.21	0.65	0.49	
Uniform Delay, d1	50.0	28.8		52.3	32.3		50.2	40.5	26.7	52.5	40.2	
Progression Factor	1.45	0.51		1.15	0.93		1.22	1.48	1.38	1.00	1.00	
Incremental Delay, d2	8.8	1.8		2.9	1.9		4.4	2.8	0.1	4.5	1.6	
Delay (s)	81.0	16.4		63.1	32.1		65.4	62.7	36.9	56.9	41.8	
Level of Service	F	B		E	C		E	E	D	E	D	
Approach Delay (s)		30.1			36.1			60.7			45.3	
Approach LOS		C			D			E			D	

Intersection Summary			
HCM Average Control Delay	42.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99			0.96	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5075		1681	1548			1795	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99			0.96	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5075		1681	1548			1795	1583
Volume (vph)	30	770	340	330	1470	20	310	10	230	30	10	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	837	370	359	1598	22	337	11	250	33	11	76
RTOR Reduction (vph)	0	0	250	0	1	0	0	105	0	0	0	71
Lane Group Flow (vph)	33	837	120	359	1619	0	277	216	0	0	44	5
Turn Type	Prot		Perm	Prot			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	5.4	38.8	38.8	29.0	62.4		29.0	29.0			7.2	7.2
Effective Green, g (s)	5.4	38.8	38.8	29.0	62.4		29.0	29.0			7.2	7.2
Actuated g/C Ratio	0.05	0.32	0.32	0.24	0.52		0.24	0.24			0.06	0.06
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	80	1644	512	428	2639		406	374			108	95
v/s Ratio Prot	0.02	0.16		c0.20	c0.32		c0.16	0.14			c0.02	
v/s Ratio Perm			0.08									0.00
v/c Ratio	0.41	0.51	0.23	0.84	0.61		0.68	0.58			0.41	0.05
Uniform Delay, d1	55.8	32.9	29.7	43.3	20.3		41.3	40.1			54.3	53.2
Progression Factor	0.67	1.29	4.48	1.00	1.22		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.0	1.0	0.9	8.1	0.6		9.0	6.3			2.5	0.2
Delay (s)	40.4	43.5	134.2	51.2	25.3		50.3	46.4			56.8	53.4
Level of Service	D	D	F	D	C		D	D			E	D
Approach Delay (s)		70.5			30.0			48.2			54.6	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM Average Control Delay	46.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99			0.97	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5069		1681	1543			1803	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99			0.97	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5069		1681	1543			1803	1583
Volume (vph)	70	930	400	310	920	20	420	20	350	20	10	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	1011	435	337	1000	22	457	22	380	22	11	43
RTOR Reduction (vph)	0	0	311	0	2	0	0	133	0	0	0	41
Lane Group Flow (vph)	76	1011	124	337	1020	0	393	333	0	0	33	2
Turn Type	Prot		Perm	Prot			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	9.3	34.3	34.3	29.2	54.2		34.0	34.0			6.5	6.5
Effective Green, g (s)	9.3	34.3	34.3	29.2	54.2		34.0	34.0			6.5	6.5
Actuated g/C Ratio	0.08	0.29	0.29	0.24	0.45		0.28	0.28			0.05	0.05
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	137	1453	452	431	2289		476	437			98	86
v/s Ratio Prot	0.04	c0.20		c0.19	0.20		c0.23	0.22			c0.02	
v/s Ratio Perm			0.08									0.00
v/c Ratio	0.55	0.70	0.28	0.78	0.45		0.83	0.76			0.34	0.03
Uniform Delay, d1	53.4	38.2	33.2	42.4	22.6		40.2	39.3			54.7	53.8
Progression Factor	0.99	0.99	2.41	1.14	1.33		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.7	2.1	1.2	7.0	0.5		15.0	11.9			2.0	0.1
Delay (s)	56.8	39.9	81.3	55.3	30.5		55.3	51.2			56.7	53.9
Level of Service	E	D	F	E	C		E	D			E	D
Approach Delay (s)		52.6			36.7			53.1			55.1	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.96		1.00	0.92		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	4867		3433	4897		3433	3249		1770	3240	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	4867		3433	4897		3433	3249		1770	3240	
Volume (vph)	190	600	240	200	1070	350	360	200	240	200	310	400
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	652	261	217	1163	380	391	217	261	217	337	435
RTOR Reduction (vph)	0	60	0	0	49	0	0	173	0	0	128	0
Lane Group Flow (vph)	207	853	0	217	1494	0	391	306	0	217	644	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.9	43.0		12.0	45.1		17.1	30.0		19.0	31.9	
Effective Green, g (s)	9.9	43.0		12.0	45.1		17.1	30.0		19.0	31.9	
Actuated g/C Ratio	0.08	0.36		0.10	0.38		0.14	0.25		0.16	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	283	1744		343	1840		489	812		280	861	
v/s Ratio Prot	c0.06	0.18		0.06	c0.30		0.11	0.09		c0.12	c0.20	
v/s Ratio Perm												
v/c Ratio	0.73	0.49		0.63	0.81		0.80	0.38		0.78	0.75	
Uniform Delay, d1	53.8	30.0		51.9	33.6		49.8	37.3		48.4	40.4	
Progression Factor	1.44	0.42		0.94	1.41		1.16	1.05		1.00	1.00	
Incremental Delay, d2	8.1	0.8		3.6	3.8		6.2	0.9		12.6	5.9	
Delay (s)	86.3	13.6		52.4	51.2		64.2	39.9		61.0	46.3	
Level of Service	F	B		D	D		E	D		E	D	
Approach Delay (s)		26.8			51.3			50.8			49.5	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	4867		3433	4848		3433	3379		1770	3285	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	4867		3433	4848		3433	3379		1770	3285	
Volume (vph)	240	750	300	200	620	280	400	300	130	200	250	230
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	815	326	217	674	304	435	326	141	217	272	250
RTOR Reduction (vph)	0	58	0	0	66	0	0	38	0	0	134	0
Lane Group Flow (vph)	261	1083	0	217	912	0	435	429	0	217	388	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.1	40.4		12.6	38.9		20.5	31.7		19.3	30.5	
Effective Green, g (s)	14.1	40.4		12.6	38.9		20.5	31.7		19.3	30.5	
Actuated g/C Ratio	0.12	0.34		0.10	0.32		0.17	0.26		0.16	0.25	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	403	1639		360	1572		586	893		285	835	
v/s Ratio Prot	c0.08	c0.22		0.06	0.19		c0.13	c0.13		0.12	0.12	
v/s Ratio Perm												
v/c Ratio	0.65	0.66		0.60	0.58		0.74	0.48		0.76	0.47	
Uniform Delay, d1	50.6	34.0		51.3	33.8		47.2	37.2		48.1	37.9	
Progression Factor	1.42	0.57		1.09	0.95		1.24	0.96		1.00	1.00	
Incremental Delay, d2	2.5	1.5		2.8	1.5		4.2	1.5		11.4	1.9	
Delay (s)	74.2	21.0		58.9	33.5		62.7	37.3		59.5	39.7	
Level of Service	E	C		E	C		E	D		E	D	
Approach Delay (s)		30.9			38.1			49.5			45.5	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	39.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4998		1770	5085	3433	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4998		1770	5085	3433	1583
Volume (vph)	1000	130	130	1200	100	210
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1087	141	141	1304	109	228
RTOR Reduction (vph)	14	0	0	0	0	15
Lane Group Flow (vph)	1214	0	141	1304	109	213
Turn Type			Prot			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases						2
Actuated Green, G (s)	49.0		11.0	64.0	48.0	59.0
Effective Green, g (s)	49.0		11.0	64.0	48.0	59.0
Actuated g/C Ratio	0.41		0.09	0.53	0.40	0.49
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2041		162	2712	1373	831
v/s Ratio Prot	c0.24		c0.08	0.26	0.03	c0.02
v/s Ratio Perm						0.11
v/c Ratio	0.59		0.87	0.48	0.08	0.26
Uniform Delay, d1	27.7		53.8	17.6	22.3	17.7
Progression Factor	1.05		1.00	1.00	0.93	1.51
Incremental Delay, d2	1.1		36.4	0.6	0.1	0.1
Delay (s)	30.2		90.2	18.2	20.9	26.9
Level of Service	C		F	B	C	C
Approach Delay (s)	30.2			25.2	24.9	
Approach LOS	C			C	C	

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5001		1770	5085	3433	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	5001		1770	5085	3433	1583
Volume (vph)	400	50	140	800	100	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	435	54	152	870	109	76
RTOR Reduction (vph)	13	0	0	0	0	34
Lane Group Flow (vph)	476	0	152	870	109	42
Turn Type			Prot			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases						2
Actuated Green, G (s)	41.0		15.0	60.0	52.0	67.0
Effective Green, g (s)	41.0		15.0	60.0	52.0	67.0
Actuated g/C Ratio	0.34		0.12	0.50	0.43	0.56
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1709		221	2543	1488	937
v/s Ratio Prot	0.10		c0.09	c0.17	c0.03	0.01
v/s Ratio Perm						0.02
v/c Ratio	0.28		0.69	0.34	0.07	0.05
Uniform Delay, d1	28.7		50.3	18.1	19.9	12.0
Progression Factor	0.70		1.00	1.00	0.46	0.59
Incremental Delay, d2	0.3		8.6	0.4	0.1	0.0
Delay (s)	20.4		58.8	18.5	9.2	7.1
Level of Service	C		E	B	A	A
Approach Delay (s)	20.4			24.5	8.4	
Approach LOS	C			C	A	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	360	750	480	220	520	60	770	410	400	270	920	930
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	815	522	239	565	65	837	446	435	293	1000	1011
RTOR Reduction (vph)	0	0	257	0	0	56	0	0	20	0	0	2
Lane Group Flow (vph)	391	815	265	239	565	9	837	446	415	293	1000	1009
Turn Type	Prot		Perm	Prot		Perm	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	30.0	35.4	35.4	11.6	17.0	17.0	25.0	42.6	54.2	14.4	32.0	62.0
Effective Green, g (s)	30.0	35.4	35.4	11.6	17.0	17.0	25.0	42.6	54.2	14.4	32.0	62.0
Actuated g/C Ratio	0.25	0.29	0.29	0.10	0.14	0.14	0.21	0.36	0.45	0.12	0.27	0.52
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	858	1044	467	332	501	224	715	1256	768	412	944	871
v/s Ratio Prot	0.11	0.23		0.07	c0.16		c0.24	0.13	0.05	0.09	0.28	c0.29
v/s Ratio Perm			0.17			0.01			0.21			0.35
v/c Ratio	0.46	0.78	0.57	0.72	1.13	0.04	1.17	0.36	0.54	0.71	1.06	1.16
Uniform Delay, d1	38.1	38.7	35.8	52.6	51.5	44.5	47.5	28.6	23.9	50.8	44.0	29.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	3.9	1.6	7.3	80.2	0.1	91.3	0.8	0.8	5.7	46.3	84.1
Delay (s)	38.5	42.6	37.4	59.9	131.7	44.5	138.8	29.3	24.7	56.5	90.3	113.1
Level of Service	D	D	D	E	F	D	F	C	C	E	F	F
Approach Delay (s)		40.1			105.4			81.5			96.0	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	78.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
15: Del Mar Heights Road & Carmel Valley Road

9/10/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	540	410	340	290	530	120	400	580	430	100	380	280
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	587	446	370	315	576	130	435	630	467	109	413	304
RTOR Reduction (vph)	0	0	267	0	0	103	0	0	70	0	0	23
Lane Group Flow (vph)	587	446	103	315	576	27	435	630	397	109	413	281
Turn Type	Prot		Perm	Prot		Perm	Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	23.4	29.5	29.5	16.0	22.1	22.1	18.0	38.3	54.3	6.5	26.8	50.2
Effective Green, g (s)	23.4	29.5	29.5	16.0	22.1	22.1	18.0	38.3	54.3	6.5	26.8	50.2
Actuated g/C Ratio	0.22	0.28	0.28	0.15	0.21	0.21	0.17	0.36	0.51	0.06	0.25	0.47
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	756	982	439	517	736	329	581	1275	868	210	892	807
v/s Ratio Prot	c0.17	0.13		0.09	c0.16		c0.13	c0.18	0.07	0.03	0.12	0.08
v/s Ratio Perm			0.06			0.02			0.18			0.10
v/c Ratio	0.78	0.45	0.23	0.61	0.78	0.08	0.75	0.49	0.46	0.52	0.46	0.35
Uniform Delay, d1	39.0	31.7	29.7	42.2	39.8	33.9	42.0	26.5	16.6	48.4	33.7	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	0.3	0.3	2.0	5.4	0.1	5.3	1.4	0.4	2.2	1.7	0.3
Delay (s)	44.0	32.1	29.9	44.3	45.3	34.0	47.3	27.8	17.0	50.5	35.4	18.0
Level of Service	D	C	C	D	D	C	D	C	B	D	D	B
Approach Delay (s)		36.5			43.5			30.0			31.0	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	35.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	106.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0		4.0	4.0	
Lane Util. Factor				1.00		1.00		0.91		1.00	0.91	
Frt				1.00		0.85		0.96		1.00	1.00	
Flt Protected				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)				1770		1583		4901		1770	5085	
Flt Permitted				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)				1770		1583		4901		1770	5085	
Volume (vph)	0	0	0	350	0	90	0	600	190	110	1000	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	380	0	98	0	652	207	120	1087	0
RTOR Reduction (vph)	0	0	0	0	0	73	0	29	0	0	0	0
Lane Group Flow (vph)	0	0	0	380	0	25	0	830	0	120	1087	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)				30.4		30.4		64.1		13.5	81.6	
Effective Green, g (s)				30.4		30.4		64.1		13.5	81.6	
Actuated g/C Ratio				0.25		0.25		0.53		0.11	0.68	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				448		401		2618		199	3458	
v/s Ratio Prot				c0.21				0.17		c0.07	c0.21	
v/s Ratio Perm						0.02						
v/c Ratio				0.85		0.06		0.32		0.60	0.31	
Uniform Delay, d1				42.6		34.0		15.7		50.7	7.8	
Progression Factor				1.39		1.00		1.42		1.00	1.49	
Incremental Delay, d2				10.2		0.0		0.3		3.6	0.2	
Delay (s)				69.5		34.0		22.5		54.1	11.8	
Level of Service				E		C		C		D	B	
Approach Delay (s)		0.0			62.2			22.5			16.0	
Approach LOS		A			E			C			B	

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0		4.0	4.0	
Lane Util. Factor				1.00		1.00		0.91		1.00	0.91	
Frt				1.00		0.85		0.98		1.00	1.00	
Flt Protected				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)				1770		1583		4987		1770	5085	
Flt Permitted				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)				1770		1583		4987		1770	5085	
Volume (vph)	0	0	0	340	0	140	0	1620	240	120	700	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	370	0	152	0	1761	261	130	761	0
RTOR Reduction (vph)	0	0	0	0	0	119	0	13	0	0	0	0
Lane Group Flow (vph)	0	0	0	370	0	33	0	2009	0	130	761	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)				26.1		26.1		66.2		15.7	85.9	
Effective Green, g (s)				26.1		26.1		66.2		15.7	85.9	
Actuated g/C Ratio				0.22		0.22		0.55		0.13	0.72	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				385		344		2751		232	3640	
v/s Ratio Prot				c0.21				c0.40		c0.07	0.15	
v/s Ratio Perm						0.02						
v/c Ratio				0.96		0.10		0.73		0.56	0.21	
Uniform Delay, d1				46.4		37.5		20.2		48.9	5.7	
Progression Factor				1.44		1.00		0.14		1.03	1.19	
Incremental Delay, d2				30.1		0.1		1.0		2.5	0.1	
Delay (s)				97.2		37.6		3.8		53.2	6.9	
Level of Service				F		D		A		D	A	
Approach Delay (s)		0.0			79.8			3.8			13.6	
Approach LOS		A			E			A			B	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1754		1770	3519		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1754		1770	3519		1770	3539	1583
Volume (vph)	170	100	130	60	330	210	150	500	20	100	450	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	109	141	65	359	228	163	543	22	109	489	163
RTOR Reduction (vph)	0	0	40	0	15	0	0	2	0	0	0	131
Lane Group Flow (vph)	185	109	101	65	572	0	163	563	0	109	489	32
Turn Type	Prot		pm+ov	Prot			Prot			Prot		Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	17.2	59.4	73.8	6.4	48.6		14.4	27.7		10.5	23.8	23.8
Effective Green, g (s)	17.2	59.4	73.8	6.4	48.6		14.4	27.7		10.5	23.8	23.8
Actuated g/C Ratio	0.14	0.50	0.62	0.05	0.40		0.12	0.23		0.09	0.20	0.20
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	254	922	1026	94	710		212	812		155	702	314
v/s Ratio Prot	c0.10	0.06	0.01	0.04	c0.33		c0.09	c0.16		0.06	0.14	
v/s Ratio Perm			0.05									0.02
v/c Ratio	0.73	0.12	0.10	0.69	0.80		0.77	0.69		0.70	0.70	0.10
Uniform Delay, d1	49.2	16.3	9.5	55.8	31.5		51.2	42.3		53.2	44.7	39.4
Progression Factor	0.71	1.28	3.75	1.00	1.00		1.05	1.00		1.06	1.20	2.57
Incremental Delay, d2	9.6	0.1	0.0	19.7	6.6		15.3	4.8		10.4	4.3	0.5
Delay (s)	44.7	20.9	35.6	75.5	38.1		69.0	46.9		66.8	57.9	101.8
Level of Service	D	C	D	E	D		E	D		E	E	F
Approach Delay (s)		35.8			41.9			51.9			68.5	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	51.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1730		1770	3530		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1730		1770	3530		1770	3539	1583
Volume (vph)	250	190	300	30	100	90	260	600	10	140	500	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	207	326	33	109	98	283	652	11	152	543	109
RTOR Reduction (vph)	0	0	61	0	28	0	0	1	0	0	0	72
Lane Group Flow (vph)	272	207	265	33	179	0	283	662	0	152	543	37
Turn Type	Prot		pm+ov	Prot			Prot			Prot		Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	21.7	36.3	59.3	3.6	18.2		23.0	49.5		14.6	41.1	41.1
Effective Green, g (s)	21.7	36.3	59.3	3.6	18.2		23.0	49.5		14.6	41.1	41.1
Actuated g/C Ratio	0.18	0.30	0.49	0.03	0.15		0.19	0.41		0.12	0.34	0.34
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	320	564	835	53	262		339	1456		215	1212	542
v/s Ratio Prot	c0.15	0.11	0.06	0.02	c0.10		c0.16	c0.19		0.09	0.15	
v/s Ratio Perm			0.11									0.02
v/c Ratio	0.85	0.37	0.32	0.62	0.68		0.83	0.45		0.71	0.45	0.07
Uniform Delay, d1	47.6	32.8	18.2	57.5	48.2		46.7	25.5		50.6	30.6	26.6
Progression Factor	1.00	0.88	0.77	1.00	1.00		1.08	1.03		0.84	1.19	2.28
Incremental Delay, d2	18.3	0.4	0.2	20.6	7.2		16.0	1.0		8.2	1.0	0.2
Delay (s)	65.8	29.2	14.2	78.1	55.3		66.4	27.3		50.7	37.4	60.8
Level of Service	E	C	B	E	E		E	C		D	D	E
Approach Delay (s)		35.5			58.5			39.0			43.1	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	40.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3334		3433	4990		1770	5043	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	3334		3433	4990		1770	5043	
Volume (vph)	10	110	230	110	190	120	220	700	100	130	1180	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	120	250	120	207	130	239	761	109	141	1283	76
RTOR Reduction (vph)	0	0	217	0	90	0	0	11	0	0	4	0
Lane Group Flow (vph)	11	120	33	120	247	0	239	859	0	141	1355	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	1.5	15.8	15.8	13.2	27.5		13.8	60.4		14.6	61.2	
Effective Green, g (s)	1.5	15.8	15.8	13.2	27.5		13.8	60.4		14.6	61.2	
Actuated g/C Ratio	0.01	0.13	0.13	0.11	0.23		0.12	0.50		0.12	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	22	245	208	195	764		395	2512		215	2572	
v/s Ratio Prot	0.01	c0.06		c0.07	0.07		0.07	0.17		c0.08	c0.27	
v/s Ratio Perm			0.02									
v/c Ratio	0.50	0.49	0.16	0.62	0.32		0.61	0.34		0.66	0.53	
Uniform Delay, d1	58.9	48.4	46.2	51.0	38.5		50.5	17.9		50.3	19.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.94	1.44		1.10	1.24	
Incremental Delay, d2	16.8	1.5	0.4	5.7	0.2		1.3	0.2		6.4	0.7	
Delay (s)	75.6	49.9	46.6	56.6	38.7		48.7	25.9		61.7	25.1	
Level of Service	E	D	D	E	D		D	C		E	C	
Approach Delay (s)		48.5			43.4			30.8			28.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3253		3433	5046		1770	5070	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	3253		3433	5046		1770	5070	
Volume (vph)	50	180	490	140	120	140	240	1650	90	130	970	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	196	533	152	130	152	261	1793	98	141	1054	22
RTOR Reduction (vph)	0	0	166	0	107	0	0	5	0	0	2	0
Lane Group Flow (vph)	54	196	367	152	175	0	261	1886	0	141	1074	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	6.9	30.4	30.4	11.9	35.4		13.6	50.4		11.3	48.1	
Effective Green, g (s)	6.9	30.4	30.4	11.9	35.4		13.6	50.4		11.3	48.1	
Actuated g/C Ratio	0.06	0.25	0.25	0.10	0.30		0.11	0.42		0.09	0.40	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	102	472	401	176	960		389	2119		167	2032	
v/s Ratio Prot	0.03	0.11		c0.09	0.05		0.08	c0.37		c0.08	0.21	
v/s Ratio Perm			c0.23									
v/c Ratio	0.53	0.42	0.92	0.86	0.18		0.67	0.89		0.84	0.53	
Uniform Delay, d1	55.0	37.4	43.6	53.3	31.5		51.1	32.2		53.5	27.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.16	0.77		0.97	1.05	
Incremental Delay, d2	4.9	0.6	25.1	32.8	0.1		4.0	5.4		28.5	0.9	
Delay (s)	59.9	38.0	68.7	86.0	31.6		63.3	30.3		80.6	29.5	
Level of Service	E	D	E	F	C		E	C		F	C	
Approach Delay (s)		60.4			50.7			34.3			35.5	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM Average Control Delay	40.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.93		1.00	0.97		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3299		1770	3424		1770	1863	1583		1811	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1770	3299		1770	3424		1770	1863	1583		1811	
Volume (vph)	30	290	240	240	330	92	230	78	200	97	223	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	315	261	261	359	100	250	85	217	105	242	43
RTOR Reduction (vph)	0	112	0	0	18	0	0	0	175	0	4	0
Lane Group Flow (vph)	33	464	0	261	441	0	250	85	42	0	386	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	5.2	29.9		22.1	46.8		23.0	23.0	23.0		29.0	
Effective Green, g (s)	5.2	29.9		22.1	46.8		23.0	23.0	23.0		29.0	
Actuated g/C Ratio	0.04	0.25		0.18	0.39		0.19	0.19	0.19		0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	77	822		326	1335		339	357	303		438	
v/s Ratio Prot	0.02	c0.14		c0.15	0.13		c0.14	0.05			c0.21	
v/s Ratio Perm									0.03			
v/c Ratio	0.43	0.56		0.80	0.33		0.74	0.24	0.14		0.88	
Uniform Delay, d1	56.0	39.4		46.8	25.6		45.7	41.1	40.3		43.8	
Progression Factor	1.00	1.00		1.00	1.00		1.30	1.41	4.05		0.41	
Incremental Delay, d2	3.8	2.8		13.1	0.7		11.6	1.3	0.8		19.0	
Delay (s)	59.8	42.2		60.0	26.3		70.7	59.3	163.8		37.2	
Level of Service	E	D		E	C		E	E	F		D	
Approach Delay (s)		43.1			38.5			105.6			37.2	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM Average Control Delay	55.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.94		1.00	0.96		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3321		1770	3409		1770	1863	1583		1821	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1770	3321		1770	3409		1770	1863	1583		1821	
Volume (vph)	40	400	280	100	400	131	350	129	120	80	250	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	435	304	109	435	142	380	140	130	87	272	33
RTOR Reduction (vph)	0	100	0	0	24	0	0	0	96	0	3	0
Lane Group Flow (vph)	43	639	0	109	553	0	380	140	34	0	389	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	7.2	30.8		12.2	35.8		31.0	31.0	31.0		30.0	
Effective Green, g (s)	7.2	30.8		12.2	35.8		31.0	31.0	31.0		30.0	
Actuated g/C Ratio	0.06	0.26		0.10	0.30		0.26	0.26	0.26		0.25	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	106	852		180	1017		457	481	409		455	
v/s Ratio Prot	0.02	c0.19		c0.06	0.16		c0.21	0.08			c0.21	
v/s Ratio Perm									0.02			
v/c Ratio	0.41	0.75		0.61	0.54		0.83	0.29	0.08		0.85	
Uniform Delay, d1	54.3	41.1		51.6	35.3		42.0	35.7	33.7		42.9	
Progression Factor	1.00	1.00		1.00	1.00		1.43	1.52	3.85		0.83	
Incremental Delay, d2	2.5	6.0		5.7	2.1		12.5	1.1	0.3		17.2	
Delay (s)	56.9	47.1		57.3	37.4		72.4	55.5	130.0		52.7	
Level of Service	E	D		E	D		E	E	F		D	
Approach Delay (s)		47.6			40.5			80.3			52.7	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM Average Control Delay	54.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	0.95					0.95	0.91	0.95
Frt		0.95		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3352		3433	3539					1681	1610	1504
Flt Permitted		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3352		3433	3539					1681	1610	1504
Volume (vph)	0	640	350	1107	906	0	0	0	0	380	0	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	696	380	1203	985	0	0	0	0	413	0	163
RTOR Reduction (vph)	0	61	0	0	0	0	0	0	0	0	0	130
Lane Group Flow (vph)	0	1015	0	1203	985	0	0	0	0	207	206	33
Turn Type				Prot						Split		Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Actuated Green, G (s)		48.0		36.0	88.0					24.0	24.0	24.0
Effective Green, g (s)		48.0		36.0	88.0					24.0	24.0	24.0
Actuated g/C Ratio		0.40		0.30	0.73					0.20	0.20	0.20
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1341		1030	2595					336	322	301
v/s Ratio Prot		c0.30		c0.35	0.28					0.12	c0.13	
v/s Ratio Perm												0.02
v/c Ratio		0.76		1.17	0.38					0.62	0.64	0.11
Uniform Delay, d1		31.0		42.0	5.9					43.8	44.0	39.3
Progression Factor		0.62		1.30	1.66					1.00	1.00	1.00
Incremental Delay, d2		3.4		79.7	0.2					8.2	9.4	0.7
Delay (s)		22.6		134.2	10.0					52.0	53.4	40.0
Level of Service		C		F	A					D	D	D
Approach Delay (s)		22.6			78.3			0.0			49.1	
Approach LOS		C			E			A			D	

Intersection Summary			
HCM Average Control Delay	58.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	0.95					0.95	0.91	0.95
Frt		0.95		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3354		3433	3539					1681	1610	1504
Flt Permitted		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3354		3433	3539					1681	1610	1504
Volume (vph)	0	840	450	999	640	0	0	0	0	349	0	180
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	913	489	1086	696	0	0	0	0	379	0	196
RTOR Reduction (vph)	0	59	0	0	0	0	0	0	0	0	0	162
Lane Group Flow (vph)	0	1343	0	1086	696	0	0	0	0	190	189	34
Turn Type				Prot						Split		Perm
Protected Phases		4		3	8					6	6	
Permitted Phases												6
Actuated Green, G (s)		58.0		29.0	91.0					21.0	21.0	21.0
Effective Green, g (s)		58.0		29.0	91.0					21.0	21.0	21.0
Actuated g/C Ratio		0.48		0.24	0.76					0.18	0.18	0.18
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1621		830	2684					294	282	263
v/s Ratio Prot		c0.40		c0.32	0.20					0.11	c0.12	
v/s Ratio Perm												0.02
v/c Ratio		0.83		1.31	0.26					0.65	0.67	0.13
Uniform Delay, d1		26.7		45.5	4.4					46.0	46.3	41.8
Progression Factor		0.81		0.82	1.77					1.00	1.00	1.00
Incremental Delay, d2		3.7		144.4	0.1					10.5	12.0	1.0
Delay (s)		25.4		181.8	7.9					56.5	58.3	42.8
Level of Service		C		F	A					E	E	D
Approach Delay (s)		25.4			113.9			0.0			52.4	
Approach LOS		C			F			A			D	

Intersection Summary			
HCM Average Control Delay	71.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.95	0.88	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			3539	2787	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			3539	2787	1681	1681	2787			
Volume (vph)	120	900	0	0	1763	270	250	0	1840	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	978	0	0	1916	293	272	0	2000	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	92	0	0	4	0	0	0
Lane Group Flow (vph)	130	978	0	0	1916	201	136	136	1996	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	7	4			8		2	2	16			
Permitted Phases						8			2 16			
Actuated Green, G (s)	27.0	32.0			67.4	67.4	13.6	13.6	76.0			
Effective Green, g (s)	27.0	32.0			67.4	67.4	13.6	13.6	76.0			
Actuated g/C Ratio	0.22	0.27			0.56	0.56	0.11	0.11	0.63			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	772	944			1988	1565	191	191	1858			
v/s Ratio Prot	0.04	c0.28			c0.54		0.08	0.08	c0.56			
v/s Ratio Perm						0.07			0.16			
v/c Ratio	0.17	1.04			0.96	0.13	0.71	0.71	1.07			
Uniform Delay, d1	37.5	44.0			25.1	12.4	51.3	51.3	22.0			
Progression Factor	1.05	1.11			1.61	2.85	1.00	1.00	1.00			
Incremental Delay, d2	0.1	34.0			11.7	0.1	11.8	11.8	44.0			
Delay (s)	39.5	82.8			52.2	35.5	63.1	63.1	66.0			
Level of Service	D	F			D	D	E	E	E			
Approach Delay (s)		77.7			50.0			65.5			0.0	
Approach LOS		E			D			E			A	

Intersection Summary			
HCM Average Control Delay	61.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.95	0.88	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3433	3539			3539	2787	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3433	3539			3539	2787	1681	1681	2787			
Volume (vph)	100	1089	0	0	1059	420	580	0	1783	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	1184	0	0	1151	457	630	0	1938	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	190	0	0	4	0	0	0
Lane Group Flow (vph)	109	1184	0	0	1151	267	315	315	1934	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	7	4			8		2	2	16			
Permitted Phases						8			2 16			
Actuated Green, G (s)	18.0	37.0			70.0	70.0	20.0	20.0	71.0			
Effective Green, g (s)	18.0	37.0			70.0	70.0	20.0	20.0	71.0			
Actuated g/C Ratio	0.15	0.31			0.58	0.58	0.17	0.17	0.59			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	515	1091			2064	1626	280	280	1742			
v/s Ratio Prot	0.03	c0.33			0.33		0.19	0.19	c0.47			
v/s Ratio Perm						0.10			0.22			
v/c Ratio	0.21	1.09			0.56	0.16	1.12	1.12	1.11			
Uniform Delay, d1	44.8	41.5			15.4	11.5	50.0	50.0	24.5			
Progression Factor	1.19	1.18			0.26	0.48	1.00	1.00	1.00			
Incremental Delay, d2	0.1	48.3			1.0	0.2	91.7	91.7	58.5			
Delay (s)	53.3	97.4			5.1	5.8	141.7	141.7	83.0			
Level of Service	D	F			A	A	F	F	F			
Approach Delay (s)		93.6			5.3			97.4			0.0	
Approach LOS		F			A			F			A	

Intersection Summary			
HCM Average Control Delay	69.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	0.86		1.00	
Frt	1.00	1.00	1.00		0.92	
Flt Protected	0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1770	5085	6384		1684	
Flt Permitted	0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1770	5085	6384		1684	
Volume (vph)	60	2680	1987	50	35	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	2913	2160	54	38	50
RTOR Reduction (vph)	0	0	2	0	38	0
Lane Group Flow (vph)	65	2913	2212	0	50	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Actuated Green, G (s)	8.2	84.0	71.8		28.0	
Effective Green, g (s)	8.2	84.0	71.8		28.0	
Actuated g/C Ratio	0.07	0.70	0.60		0.23	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	121	3560	3820		393	
v/s Ratio Prot	0.04	c0.57	0.35		c0.03	
v/s Ratio Perm						
v/c Ratio	0.54	0.82	0.58		0.13	
Uniform Delay, d1	54.1	12.6	14.8		36.3	
Progression Factor	1.00	1.02	1.00		1.00	
Incremental Delay, d2	0.4	0.2	0.6		0.7	
Delay (s)	54.3	13.1	15.5		37.0	
Level of Service	D	B	B		D	
Approach Delay (s)		14.0	15.5		37.0	
Approach LOS		B	B		D	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	0.86		1.00	
Frt	1.00	1.00	0.99		0.94	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1770	5085	6373		1699	
Flt Permitted	0.95	1.00	1.00		0.97	
Satd. Flow (perm)	1770	5085	6373		1699	
Volume (vph)	60	2812	1454	55	28	25
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	3057	1580	60	30	27
RTOR Reduction (vph)	0	0	3	0	20	0
Lane Group Flow (vph)	65	3057	1637	0	37	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Actuated Green, G (s)	8.0	82.0	70.0		30.0	
Effective Green, g (s)	8.0	82.0	70.0		30.0	
Actuated g/C Ratio	0.07	0.68	0.58		0.25	
Clearance Time (s)	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	118	3475	3718		425	
v/s Ratio Prot	0.04	c0.60	0.26		c0.02	
v/s Ratio Perm						
v/c Ratio	0.55	0.88	0.44		0.09	
Uniform Delay, d1	54.3	15.1	14.0		34.5	
Progression Factor	1.00	1.20	1.00		1.00	
Incremental Delay, d2	0.5	0.3	0.4		0.4	
Delay (s)	54.5	18.5	14.4		34.9	
Level of Service	D	B	B		C	
Approach Delay (s)		19.2	14.4		34.9	
Approach LOS		B	B		C	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1674	1504	1681	1690	1583	1770	5085	1583	1770	5065	
Flt Permitted	0.95	0.99	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1674	1504	1681	1690	1583	1770	5085	1583	1770	5065	
Volume (vph)	50	30	30	688	20	150	70	1110	170	150	1090	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	33	33	748	22	163	76	1207	185	163	1185	33
RTOR Reduction (vph)	0	0	31	0	0	90	0	0	127	0	2	0
Lane Group Flow (vph)	43	44	2	375	395	73	76	1207	58	163	1216	0
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	7.0	7.0	7.0	53.9	53.9	53.9	8.5	28.5	28.5	14.6	34.6	
Effective Green, g (s)	7.0	7.0	7.0	53.9	53.9	53.9	8.5	28.5	28.5	14.6	34.6	
Actuated g/C Ratio	0.06	0.06	0.06	0.45	0.45	0.45	0.07	0.24	0.24	0.12	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	98	98	88	755	759	711	125	1208	376	215	1460	
v/s Ratio Prot	0.03	c0.03		0.22	c0.23		0.04	c0.24		c0.09	0.24	
v/s Ratio Perm			0.00			0.05			0.04			
v/c Ratio	0.44	0.45	0.02	0.50	0.52	0.10	0.61	1.00	0.16	0.76	0.83	
Uniform Delay, d1	54.6	54.6	53.3	23.4	23.8	19.1	54.1	45.7	36.2	51.0	40.0	
Progression Factor	1.00	1.00	1.00	1.01	1.01	0.90	1.00	1.00	1.00	1.50	0.55	
Incremental Delay, d2	3.1	3.2	0.1	0.0	0.1	0.0	8.1	25.7	0.9	12.3	4.9	
Delay (s)	57.7	57.9	53.4	23.6	23.9	17.1	62.2	71.4	37.1	88.9	26.9	
Level of Service	E	E	D	C	C	B	E	E	D	F	C	
Approach Delay (s)		56.6			22.6			66.6			34.2	
Approach LOS		E			C			E			C	

Intersection Summary			
HCM Average Control Delay	44.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.91	0.95	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	1504	1681	1705	1583	1770	5085	1583	1770	5038	
Flt Permitted	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	1504	1681	1705	1583	1770	5085	1583	1770	5038	
Volume (vph)	110	80	80	576	80	280	80	1130	240	230	1530	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	87	87	626	87	304	87	1228	261	250	1663	109
RTOR Reduction (vph)	0	0	78	0	0	228	0	0	171	0	6	0
Lane Group Flow (vph)	103	104	9	347	366	76	87	1228	90	250	1766	0
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	12.3	12.3	12.3	30.0	30.0	30.0	8.8	41.5	41.5	20.2	52.9	
Effective Green, g (s)	12.3	12.3	12.3	30.0	30.0	30.0	8.8	41.5	41.5	20.2	52.9	
Actuated g/C Ratio	0.10	0.10	0.10	0.25	0.25	0.25	0.07	0.35	0.35	0.17	0.44	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	172	172	154	420	426	396	130	1759	547	298	2221	
v/s Ratio Prot	0.06	c0.06		0.21	c0.21		0.05	0.24		c0.14	c0.35	
v/s Ratio Perm			0.01			0.05			0.06			
v/c Ratio	0.60	0.60	0.06	0.83	0.86	0.19	0.67	0.70	0.17	0.84	0.80	
Uniform Delay, d1	51.5	51.5	48.6	42.5	43.0	35.5	54.2	33.8	27.2	48.3	28.9	
Progression Factor	1.00	1.00	1.00	1.15	1.14	2.30	1.00	1.00	1.00	1.34	0.67	
Incremental Delay, d2	5.5	5.9	0.2	8.1	10.4	0.1	12.3	2.3	0.6	15.4	2.5	
Delay (s)	57.0	57.4	48.8	56.9	59.6	81.6	66.5	36.2	27.9	80.3	21.9	
Level of Service	E	E	D	E	E	F	E	D	C	F	C	
Approach Delay (s)		54.7			65.3			36.5			29.1	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM Average Control Delay	40.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.97	0.91	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433	5085	1583	3433	3539			3539	2787
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433	5085	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	890	939	260	400	1085	0	0	1100	698
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	967	1021	283	435	1179	0	0	1196	759
RTOR Reduction (vph)	0	0	0	0	0	55	0	0	0	0	0	20
Lane Group Flow (vph)	0	0	0	967	1021	228	435	1179	0	0	1196	739
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				37.5	37.5	37.5	18.3	74.5			52.2	52.2
Effective Green, g (s)				37.5	37.5	37.5	18.3	74.5			52.2	52.2
Actuated g/C Ratio				0.31	0.31	0.31	0.15	0.62			0.44	0.44
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				1073	1589	495	524	2197			1539	1212
v/s Ratio Prot				c0.28	0.20		c0.13	0.33			c0.34	
v/s Ratio Perm						0.14						0.27
v/c Ratio				0.90	0.64	0.46	0.83	0.54			0.78	0.61
Uniform Delay, d1				39.5	35.5	33.1	49.3	12.9			28.9	26.1
Progression Factor				1.00	1.00	1.00	1.02	1.47			1.00	1.00
Incremental Delay, d2				10.4	0.9	0.7	4.7	0.4			3.9	2.3
Delay (s)				49.9	36.4	33.8	55.2	19.4			32.9	28.4
Level of Service				D	D	C	E	B			C	C
Approach Delay (s)		0.0			41.8			29.1			31.1	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.97	0.91	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433	5085	1583	3433	3539			3539	2787
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433	5085	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	300	443	200	500	1240	0	0	1613	566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	482	217	543	1348	0	0	1753	615
RTOR Reduction (vph)	0	0	0	0	0	100	0	0	0	0	0	13
Lane Group Flow (vph)	0	0	0	326	482	117	543	1348	0	0	1753	602
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				15.8	15.8	15.8	22.1	96.2			70.1	70.1
Effective Green, g (s)				15.8	15.8	15.8	22.1	96.2			70.1	70.1
Actuated g/C Ratio				0.13	0.13	0.13	0.18	0.80			0.58	0.58
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				452	670	208	632	2837			2067	1628
v/s Ratio Prot				c0.09	0.09		c0.16	0.38			c0.50	
v/s Ratio Perm						0.07						0.22
v/c Ratio				0.72	0.72	0.56	0.86	0.48			0.85	0.37
Uniform Delay, d1				50.0	50.0	48.9	47.4	3.8			20.6	13.2
Progression Factor				1.00	1.00	1.00	1.03	1.61			1.00	1.00
Incremental Delay, d2				5.6	3.7	3.5	1.2	0.1			4.6	0.6
Delay (s)				55.6	53.7	52.3	49.9	6.2			25.1	13.9
Level of Service				E	D	D	D	A			C	B
Approach Delay (s)		0.0			54.0			18.7			22.2	
Approach LOS		A			D			B			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	143.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3192	1441					6068		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3192	1441					6068		1770	5085	
Volume (vph)	900	1440	375	0	0	0	0	585	320	120	1870	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	978	1565	408	0	0	0	0	636	348	130	2033	0
RTOR Reduction (vph)	0	0	2	0	0	0	0	51	0	0	0	0
Lane Group Flow (vph)	850	1693	406	0	0	0	0	933	0	130	2033	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	53.0	53.0	53.0					41.6		13.4	59.0	
Effective Green, g (s)	53.0	53.0	53.0					41.6		13.4	59.0	
Actuated g/C Ratio	0.44	0.44	0.44					0.35		0.11	0.49	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	711	1410	636					2104		198	2500	
v/s Ratio Prot	0.53	c0.53						0.15		0.07	c0.40	
v/s Ratio Perm			0.28									
v/c Ratio	1.20	1.20	0.64					0.44		0.66	0.81	
Uniform Delay, d1	33.5	33.5	26.1					30.3		51.1	25.8	
Progression Factor	0.61	0.62	0.50					0.51		1.12	0.96	
Incremental Delay, d2	95.9	94.4	1.2					0.6		4.1	1.6	
Delay (s)	116.4	115.2	14.2					15.9		61.5	26.5	
Level of Service	F	F	B					B		E	C	
Approach Delay (s)		101.6			0.0			15.9			28.6	
Approach LOS		F			A			B			C	

Intersection Summary			
HCM Average Control Delay	61.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	121.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.91		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3204	1441					5836		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3204	1441					5836		1770	5085	
Volume (vph)	800	1742	298	0	0	0	0	940	1378	350	1563	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	870	1893	324	0	0	0	0	1022	1498	380	1699	0
RTOR Reduction (vph)	0	0	19	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	870	1893	305	0	0	0	0	2499	0	380	1699	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	37.0	37.0	37.0					47.0		24.0	75.0	
Effective Green, g (s)	37.0	37.0	37.0					47.0		24.0	75.0	
Actuated g/C Ratio	0.31	0.31	0.31					0.39		0.20	0.62	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	496	988	444					2286		354	3178	
v/s Ratio Prot	0.54	c0.59						c0.43		c0.21	0.33	
v/s Ratio Perm			0.21									
v/c Ratio	1.75	1.92	0.69					2.30dr		1.07	0.53	
Uniform Delay, d1	41.5	41.5	36.4					36.5		48.0	12.7	
Progression Factor	0.61	0.61	0.53					1.05		1.22	1.11	
Incremental Delay, d2	343.2	413.9	2.1					42.8		56.3	0.3	
Delay (s)	368.5	439.3	21.3					81.1		114.9	14.4	
Level of Service	F	F	C					F		F	B	
Approach Delay (s)		375.4			0.0			81.1			32.8	
Approach LOS		F			A			F			C	

Intersection Summary			
HCM Average Control Delay	186.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	143.1%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	1783		1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	1783		1770	3539	1583	3433	3539	1583
Volume (vph)	54	142	160	283	555	221	280	416	330	347	220	498
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	154	174	308	603	240	304	452	359	377	239	541
RTOR Reduction (vph)	0	0	120	0	12	0	0	0	207	0	0	123
Lane Group Flow (vph)	59	154	54	308	831	0	304	452	152	377	239	418
Turn Type	Prot		Perm	Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4						2			6
Actuated Green, G (s)	11.0	37.0	37.0	21.0	47.0		24.7	29.7	50.7	16.3	21.3	32.3
Effective Green, g (s)	11.0	37.0	37.0	21.0	47.0		24.7	29.7	50.7	16.3	21.3	32.3
Actuated g/C Ratio	0.09	0.31	0.31	0.18	0.39		0.21	0.25	0.42	0.14	0.18	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	162	1091	488	310	698		364	876	722	466	628	479
v/s Ratio Prot	0.03	0.04		c0.17	c0.47		c0.17	0.13	0.04	0.11	0.07	c0.08
v/s Ratio Perm			0.03						0.06			0.18
v/c Ratio	0.36	0.14	0.11	0.99	1.19		0.84	0.52	0.21	0.81	0.38	0.87
Uniform Delay, d1	51.2	30.0	29.7	49.4	36.5		45.7	38.9	22.0	50.3	43.5	41.9
Progression Factor	0.90	0.76	1.89	1.00	1.00		1.18	1.63	1.48	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	0.1	49.1	99.5		10.9	1.5	0.1	10.0	1.8	16.0
Delay (s)	47.1	22.7	56.3	98.5	136.0		64.9	64.9	32.5	60.3	45.3	57.9
Level of Service	D	C	E	F	F		E	E	C	E	D	E
Approach Delay (s)		41.5			126.0			54.5			56.1	
Approach LOS		D			F			D			E	

Intersection Summary			
HCM Average Control Delay	75.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	1736		1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	1736		1770	3539	1583	3433	3539	1583
Volume (vph)	100	300	163	153	273	228	310	738	94	558	440	326
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	326	177	166	297	248	337	802	102	607	478	354
RTOR Reduction (vph)	0	0	133	0	25	0	0	0	58	0	0	150
Lane Group Flow (vph)	109	326	44	166	520	0	337	802	44	607	478	204
Turn Type	Prot		Perm	Prot			Prot		pm+ov	Prot		pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases			4						2			6
Actuated Green, G (s)	9.7	30.0	30.0	10.0	30.3		28.0	42.0	52.0	22.0	36.0	45.7
Effective Green, g (s)	9.7	30.0	30.0	10.0	30.3		28.0	42.0	52.0	22.0	36.0	45.7
Actuated g/C Ratio	0.08	0.25	0.25	0.08	0.25		0.23	0.35	0.43	0.18	0.30	0.38
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	143	885	396	148	438		413	1239	739	629	1062	656
v/s Ratio Prot	0.06	0.09		c0.09	c0.30		c0.19	c0.23	0.00	c0.18	0.14	0.03
v/s Ratio Perm			0.03						0.02			0.10
v/c Ratio	0.76	0.37	0.11	1.12	1.19		0.82	0.65	0.06	0.97	0.45	0.31
Uniform Delay, d1	54.0	37.2	34.7	55.0	44.8		43.6	32.8	19.8	48.6	34.0	26.1
Progression Factor	0.76	1.03	1.68	1.00	1.00		1.57	0.83	0.17	1.00	1.00	1.00
Incremental Delay, d2	17.7	0.2	0.1	110.4	105.4		4.8	1.0	0.0	27.1	1.4	0.3
Delay (s)	58.6	38.5	58.5	165.4	150.3		73.0	28.1	3.5	75.8	35.4	26.4
Level of Service	E	D	E	F	F		E	C	A	E	D	C
Approach Delay (s)		47.9			153.8			38.3			50.2	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	64.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	0.95	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3382		3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3382		3433	3539	
Volume (vph)	720	0	240	0	0	0	0	307	129	250	413	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	0	261	0	0	0	0	334	140	272	449	0
RTOR Reduction (vph)	0	0	194	0	0	0	0	33	0	0	0	0
Lane Group Flow (vph)	392	391	67	0	0	0	0	441	0	272	449	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	c 6	
Permitted Phases			4									
Actuated Green, G (s)	31.0	31.0	31.0					62.8		14.2	81.0	
Effective Green, g (s)	31.0	31.0	31.0					62.8		14.2	81.0	
Actuated g/C Ratio	0.26	0.26	0.26					0.52		0.12	0.68	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	434	434	409					1770		406	2389	
v/s Ratio Prot	c0.23	0.23						c0.13		c0.08	0.13	
v/s Ratio Perm			0.04									
v/c Ratio	0.90	0.90	0.16					0.25		0.67	0.19	
Uniform Delay, d1	43.0	43.0	34.5					15.7		50.7	7.3	
Progression Factor	1.00	1.00	1.00					1.00		0.51	2.21	
Incremental Delay, d2	21.7	21.4	0.2					0.3		3.3	0.1	
Delay (s)	64.8	64.4	34.7					16.0		29.2	16.2	
Level of Service	E	E	C					B		C	B	
Approach Delay (s)		57.1			0.0			16.0			21.1	
Approach LOS		E			A			B			C	

Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	0.95	
Frt	1.00	1.00	0.85					0.89		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3167		3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3167		3433	3539	
Volume (vph)	1088	0	85	0	0	0	0	55	130	610	151	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1183	0	92	0	0	0	0	60	141	663	164	0
RTOR Reduction (vph)	0	0	52	0	0	0	0	97	0	0	0	0
Lane Group Flow (vph)	592	591	40	0	0	0	0	104	0	663	164	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	44.1	44.1	44.1					37.8		26.1	67.9	
Effective Green, g (s)	44.1	44.1	44.1					37.8		26.1	67.9	
Actuated g/C Ratio	0.37	0.37	0.37					0.32		0.22	0.57	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	618	618	582					998		747	2002	
v/s Ratio Prot	c0.35	0.35						c0.03		c0.19	0.05	
v/s Ratio Perm			0.03									
v/c Ratio	0.96	0.96	0.07					0.10		0.89	0.08	
Uniform Delay, d1	37.0	37.0	24.6					29.1		45.5	11.9	
Progression Factor	1.00	1.00	1.00					1.00		0.65	1.48	
Incremental Delay, d2	25.8	25.5	0.1					0.2		10.6	0.1	
Delay (s)	62.9	62.5	24.7					29.3		40.1	17.6	
Level of Service	E	E	C					C		D	B	
Approach Delay (s)		60.0			0.0			29.3			35.7	
Approach LOS		E			A			C			D	

Intersection Summary			
HCM Average Control Delay	48.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.89		1.00	0.91		1.00	0.95		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1655		3433	1693		1770	3373		1770	3511	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1655		3433	1693		1770	3373		1770	3511	
Volume (vph)	20	60	173	320	90	140	142	612	280	100	547	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	65	188	348	98	152	154	665	304	109	595	33
RTOR Reduction (vph)	0	103	0	0	56	0	0	34	0	0	3	0
Lane Group Flow (vph)	22	150	0	348	194	0	154	935	0	109	625	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.4	16.6		14.0	28.2		17.3	60.8		12.6	56.1	
Effective Green, g (s)	2.4	16.6		14.0	28.2		17.3	60.8		12.6	56.1	
Actuated g/C Ratio	0.02	0.14		0.12	0.24		0.14	0.51		0.10	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	35	229		401	398		255	1709		186	1641	
v/s Ratio Prot	0.01	c0.09		c0.10	0.11		c0.09	c0.28		0.06	0.18	
v/s Ratio Perm												
v/c Ratio	0.63	0.65		0.87	0.49		0.60	0.55		0.59	0.38	
Uniform Delay, d1	58.4	49.0		52.1	39.7		48.1	20.2		51.2	20.7	
Progression Factor	1.00	1.00		1.13	1.57		0.91	0.76		1.21	0.49	
Incremental Delay, d2	30.3	6.5		17.0	0.9		3.6	1.1		2.9	0.4	
Delay (s)	88.7	55.5		75.9	63.3		47.6	16.5		64.7	10.5	
Level of Service	F	E		E	E		D	B		E	B	
Approach Delay (s)		58.2			70.6			20.7			18.5	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.91		1.00	0.90		1.00	0.93		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1690		3433	1676		1770	3304		1770	3507	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1690		3433	1676		1770	3304		1770	3507	
Volume (vph)	30	90	145	270	50	100	171	651	520	160	610	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	98	158	293	54	109	186	708	565	174	663	43
RTOR Reduction (vph)	0	50	0	0	61	0	0	113	0	0	4	0
Lane Group Flow (vph)	33	206	0	293	102	0	186	1160	0	174	702	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.0	20.0		9.0	26.0		15.9	59.9		15.1	59.1	
Effective Green, g (s)	3.0	20.0		9.0	26.0		15.9	59.9		15.1	59.1	
Actuated g/C Ratio	0.02	0.17		0.08	0.22		0.13	0.50		0.13	0.49	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	44	282		257	363		235	1649		223	1727	
v/s Ratio Prot	0.02	c0.12		c0.09	0.06		c0.11	c0.35		0.10	0.20	
v/s Ratio Perm												
v/c Ratio	0.75	0.73		1.14	0.28		0.79	0.70		0.78	0.41	
Uniform Delay, d1	58.1	47.4		55.5	39.2		50.4	23.2		50.8	19.3	
Progression Factor	1.00	1.00		1.31	0.65		0.74	1.41		1.13	0.50	
Incremental Delay, d2	51.4	9.3		98.7	0.4		11.7	1.7		13.1	0.6	
Delay (s)	109.5	56.8		171.4	26.1		48.9	34.3		70.6	10.2	
Level of Service	F	E		F	C		D	C		E	B	
Approach Delay (s)		62.8			119.4			36.2			22.1	
Approach LOS		E			F			D			C	

Intersection Summary			
HCM Average Control Delay	47.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor				0.97		1.00		0.95	1.00	0.97	0.95	
Frt				1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433		1583		3539	1583	3433	3539	
Flt Permitted				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433		1583		3539	1583	3433	3539	
Volume (vph)	0	0	0	170	0	230	0	805	1212	770	560	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	185	0	250	0	875	1317	837	609	0
RTOR Reduction (vph)	0	0	0	0	0	217	0	0	1	0	0	0
Lane Group Flow (vph)	0	0	0	185	0	33	0	875	1316	837	609	0
Turn Type				custom		custom			custom	Prot		
Protected Phases								2		1	6	
Permitted Phases				8		8			2 8			
Actuated Green, G (s)				16.0		16.0		66.0	86.0	26.0	96.0	
Effective Green, g (s)				16.0		16.0		66.0	86.0	26.0	96.0	
Actuated g/C Ratio				0.13		0.13		0.55	0.72	0.22	0.80	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				458		211		1946	1134	744	2831	
v/s Ratio Prot								0.25		c0.24	0.17	
v/s Ratio Perm				0.05		0.02			c0.83			
v/c Ratio				0.40		0.16		0.45	1.16	1.12	0.22	
Uniform Delay, d1				47.6		46.0		16.1	17.0	47.0	2.9	
Progression Factor				1.00		1.00		0.89	0.88	0.76	1.00	
Incremental Delay, d2				0.6		0.4		0.4	77.1	71.6	0.2	
Delay (s)				48.2		46.4		14.7	92.0	107.1	3.0	
Level of Service				D		D		B	F	F	A	
Approach Delay (s)		0.0			47.2			61.1			63.5	
Approach LOS		A			D			E			E	

Intersection Summary			
HCM Average Control Delay	60.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor				0.97		1.00		0.95	1.00	0.97	0.95	
Frt				1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433		1583		3539	1583	3433	3539	
Flt Permitted				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433		1583		3539	1583	3433	3539	
Volume (vph)	0	0	0	50	0	250	0	1272	737	525	600	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	54	0	272	0	1383	801	571	652	0
RTOR Reduction (vph)	0	0	0	0	0	223	0	0	11	0	0	0
Lane Group Flow (vph)	0	0	0	54	0	49	0	1383	790	571	652	0
Turn Type				custom		custom			custom	Prot		
Protected Phases								2		1	6	
Permitted Phases				8		8			2 8			
Actuated Green, G (s)				21.7		21.7		61.9	87.6	24.4	90.3	
Effective Green, g (s)				21.7		21.7		61.9	87.6	24.4	90.3	
Actuated g/C Ratio				0.18		0.18		0.52	0.73	0.20	0.75	
Clearance Time (s)				4.0		4.0		4.0		4.0	4.0	
Vehicle Extension (s)				3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)				621		286		1826	1156	698	2663	
v/s Ratio Prot								c0.39		c0.17	0.18	
v/s Ratio Perm				0.02		0.03			c0.50			
v/c Ratio				0.09		0.17		0.76	0.68	0.82	0.24	
Uniform Delay, d1				40.9		41.6		23.1	8.7	45.7	4.5	
Progression Factor				1.00		1.00		1.14	0.59	1.11	1.63	
Incremental Delay, d2				0.1		0.3		1.5	0.8	6.1	0.2	
Delay (s)				41.0		41.8		27.7	6.0	56.6	7.5	
Level of Service				D		D		C	A	E	A	
Approach Delay (s)		0.0			41.7			19.8			30.4	
Approach LOS		A			D			B			C	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3539	1583	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3539	1583	3433	3539	
Volume (vph)	647	0	400	0	0	0	0	1370	180	410	320	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	703	0	435	0	0	0	0	1489	196	446	348	0
RTOR Reduction (vph)	0	0	348	0	0	0	0	0	79	0	0	0
Lane Group Flow (vph)	352	351	87	0	0	0	0	1489	117	446	348	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	24.0	24.0	24.0					64.6	64.6	19.4	88.0	
Effective Green, g (s)	24.0	24.0	24.0					64.6	64.6	19.4	88.0	
Actuated g/C Ratio	0.20	0.20	0.20					0.54	0.54	0.16	0.73	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	336	336	317					1905	852	555	2595	
v/s Ratio Prot	c0.21	0.21						c0.42		c0.13	0.10	
v/s Ratio Perm			0.05						0.07			
v/c Ratio	1.05	1.04	0.27					0.78	0.14	0.80	0.13	
Uniform Delay, d1	48.0	48.0	40.6					22.1	13.8	48.5	4.7	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.86	1.49	
Incremental Delay, d2	62.1	61.2	0.5					3.3	0.3	8.1	0.1	
Delay (s)	110.1	109.2	41.1					25.4	14.1	49.6	7.2	
Level of Service	F	F	D					C	B	D	A	
Approach Delay (s)		83.5			0.0			24.0			31.0	
Approach LOS		F			A			C			C	

Intersection Summary			
HCM Average Control Delay	44.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1691	1583					3539	1583	3433	3539	
Flt Permitted	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1691	1583					3539	1583	3433	3539	
Volume (vph)	1409	50	675	0	0	0	0	600	70	290	360	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1532	54	734	0	0	0	0	652	76	315	391	0
RTOR Reduction (vph)	0	0	159	0	0	0	0	0	56	0	0	0
Lane Group Flow (vph)	773	813	575	0	0	0	0	652	20	315	391	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	61.0	61.0	61.0					32.1	32.1	14.9	51.0	
Effective Green, g (s)	61.0	61.0	61.0					32.1	32.1	14.9	51.0	
Actuated g/C Ratio	0.51	0.51	0.51					0.27	0.27	0.12	0.42	
Clearance Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	855	860	805					947	423	426	1504	
v/s Ratio Prot	0.46	c0.48						c0.18		c0.09	0.11	
v/s Ratio Perm			0.36						0.01			
v/c Ratio	0.90	0.95	0.71					0.69	0.05	0.74	0.26	
Uniform Delay, d1	26.8	27.9	22.8					39.5	32.6	50.7	22.3	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.87	0.47	
Incremental Delay, d2	12.8	18.6	3.0					4.1	0.2	6.5	0.4	
Delay (s)	39.7	46.5	25.8					43.5	32.8	50.8	10.9	
Level of Service	D	D	C					D	C	D	B	
Approach Delay (s)		37.7			0.0			42.4			28.7	
Approach LOS		D			A			D			C	

Intersection Summary			
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor					1.00	0.88	1.00	0.95			1.00	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					1790	2787	1770	3539			1863	1583
Flt Permitted					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)					1790	2787	1770	3539			1863	1583
Volume (vph)	0	0	0	20	6	215	25	555	0	0	450	850
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	22	6	234	27	603	0	0	489	924
RTOR Reduction (vph)	0	0	0	0	0	220	0	0	0	0	0	189
Lane Group Flow (vph)	0	0	0	0	27	14	27	603	0	0	489	735
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)					7.4	7.4	5.1	104.6			95.5	95.5
Effective Green, g (s)					7.4	7.4	5.1	104.6			95.5	95.5
Actuated g/C Ratio					0.06	0.06	0.04	0.87			0.80	0.80
Clearance Time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)					3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					110	172	75	3085			1483	1260
v/s Ratio Prot					c0.02		c0.02	0.17			0.26	
v/s Ratio Perm						0.01						c0.46
v/c Ratio					0.25	0.08	0.36	0.20			0.33	0.58
Uniform Delay, d1					53.6	53.1	55.9	1.2			3.4	4.7
Progression Factor					1.00	1.00	0.96	0.23			1.00	1.00
Incremental Delay, d2					1.2	0.2	1.9	0.1			0.6	2.0
Delay (s)					54.8	53.3	55.4	0.4			4.0	6.7
Level of Service					D	D	E	A			A	A
Approach Delay (s)		0.0			53.5			2.7			5.7	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor					1.00	0.88	1.00	0.95			1.00	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					1782	2787	1770	3539			1863	1583
Flt Permitted					0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)					1782	2787	1770	3539			1863	1583
Volume (vph)	0	0	0	100	10	500	70	960	0	0	361	550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	109	11	543	76	1043	0	0	392	598
RTOR Reduction (vph)	0	0	0	0	0	176	0	0	0	0	0	207
Lane Group Flow (vph)	0	0	0	0	120	367	76	1043	0	0	392	391
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)					20.3	20.3	9.2	91.7			78.5	78.5
Effective Green, g (s)					20.3	20.3	9.2	91.7			78.5	78.5
Actuated g/C Ratio					0.17	0.17	0.08	0.76			0.65	0.65
Clearance Time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)					3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					301	471	136	2704			1219	1036
v/s Ratio Prot					0.07		c0.04	c0.29			0.21	
v/s Ratio Perm						c0.13						0.25
v/c Ratio					0.40	0.78	0.56	0.39			0.32	0.38
Uniform Delay, d1					44.4	47.7	53.4	4.7			9.1	9.5
Progression Factor					1.00	1.00	1.00	0.45			1.00	1.00
Incremental Delay, d2					0.9	8.0	2.7	0.2			0.7	1.1
Delay (s)					45.3	55.7	55.9	2.3			9.8	10.6
Level of Service					D	E	E	A			A	B
Approach Delay (s)		0.0			53.8			6.0			10.3	
Approach LOS		A			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	1.00	
Frt	1.00	1.00	0.85					0.93		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1583					3281		3433	1863	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1686	1583					3281		3433	1863	
Volume (vph)	520	3	27	0	0	0	0	55	52	270	200	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	565	3	29	0	0	0	0	60	57	293	217	0
RTOR Reduction (vph)	0	0	23	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	283	286	6	0	0	0	0	93	0	293	217	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	24.1	24.1	24.1					69.8		14.1	87.9	
Effective Green, g (s)	24.1	24.1	24.1					69.8		14.1	87.9	
Actuated g/C Ratio	0.20	0.20	0.20					0.58		0.12	0.73	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	338	339	318					1908		403	1365	
v/s Ratio Prot	0.17	c0.17						0.03		c0.09	c0.12	
v/s Ratio Perm			0.00									
v/c Ratio	0.84	0.84	0.02					0.05		0.73	0.16	
Uniform Delay, d1	46.1	46.1	38.5					10.8		51.1	4.9	
Progression Factor	1.00	1.00	1.00					1.00		0.95	0.95	
Incremental Delay, d2	16.3	16.9	0.0					0.0		6.2	0.2	
Delay (s)	62.4	63.0	38.5					10.9		54.7	4.9	
Level of Service	E	E	D					B		D	A	
Approach Delay (s)		61.5			0.0			10.9			33.5	
Approach LOS		E			A			B			C	

Intersection Summary			
HCM Average Control Delay	45.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	1.00	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1583					3393		3433	1863	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1686	1583					3393		3433	1863	
Volume (vph)	950	5	100	0	0	0	0	80	30	325	136	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1033	5	109	0	0	0	0	87	33	353	148	0
RTOR Reduction (vph)	0	0	71	0	0	0	0	19	0	0	0	0
Lane Group Flow (vph)	517	521	38	0	0	0	0	101	0	353	148	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	42.0	42.0	42.0					49.5		16.5	70.0	
Effective Green, g (s)	42.0	42.0	42.0					49.5		16.5	70.0	
Actuated g/C Ratio	0.35	0.35	0.35					0.41		0.14	0.58	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	588	590	554					1400		472	1087	
v/s Ratio Prot	0.31	c0.31						0.03		c0.10	c0.08	
v/s Ratio Perm			0.02									
v/c Ratio	0.88	0.88	0.07					0.07		0.75	0.14	
Uniform Delay, d1	36.6	36.7	26.0					21.3		49.8	11.3	
Progression Factor	1.00	1.00	1.00					1.00		1.01	1.33	
Incremental Delay, d2	14.0	14.6	0.1					0.1		6.1	0.2	
Delay (s)	50.7	51.3	26.0					21.4		56.4	15.3	
Level of Service	D	D	C					C		E	B	
Approach Delay (s)		48.6			0.0			21.4			44.3	
Approach LOS		D			A			C			D	

Intersection Summary			
HCM Average Control Delay	45.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

TABLE A
YEAR 2030 EL CAMINO REAL TRAVEL TIME ANALYSES SUMMARY

Alternative	Direction	AM[a] (secs)	PM[a] (secs)
Existing	NB	***Base (0:00)***[b]	
	SB		
Aux. Lane	NB	0-30	120-180
	SB	30-60	0-30
Hybrid[c]	NB	0-30	120-180
	SB	30-60	0-30
Hybrid with Flyover[d]	NB	0-30	30-60
	SB	0-30	0-30
Direct Connector	NB	0-30	30-60
	SB	0-30	0-30

Footnotes:

a. Travel Time Savings conducted for NB and SB through movements at the SR 56 EB on-ramp/ El Camino Real intersection.

b. Existing is considered as Base (0:00) and travel times (seconds) shown in the alternatives represent the increase over Existing.

c. Hybrid Alternative is considered similar to the Auxiliary Lane Alternative

d. Hybrid with Flyover Alternative is considered similar to the Direct Connector Alternative.

TABLE B
EL CAMINO REAL TRAVEL TIME SAVINGS

Intersection	Control Type	Peak Hour	Approach	Existing		Auxiliary Lane (Run F2)		Direct Connectors Alternative (Run G5)		Δ[c]
				Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay	LOS	
SR 56 WB off-ramp/ El Camino Real	Signal	AM	NBT	17.3	B	23.2	C	20.1	C	3.1
			SBT	22.7	C	46.2	D	36.4	D	9.8
		PM	NBT	5.7	A	6.5	A	6.5	A	0.0
			SBT	30.6	C	41.1	D	26.7	C	14.4
SR 56 EB on-ramp/ El Camino Real	Signal	AM	NBT	20.2	C	49.4	D	40.7	D	8.7
			SBT	21.2	C	**75.2**	**E**	27.1	C	48.1
		PM	NBT	**22.1**	**C**	**198.3**	**F**	**81.1**	**F**	**117.2**
			SBT	6.5	A	19.9	B	14.6	B	5.3

Footnotes:

a. Approach delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes increase/ decrease in delay between the Auxiliary Lane and Direct Connector Alternative.

SIGNALIZED

DELAY/LOS THRESHOLDS

Delay	LOS
0.0 < 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
> 80.1	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.97	0.91	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433	5085	1583	3433	3539			3539	2787
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433	5085	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	291	1103	200	250	851	0	0	800	520
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	316	1199	217	272	925	0	0	870	565
RTOR Reduction (vph)	0	0	0	0	0	100	0	0	0	0	0	74
Lane Group Flow (vph)	0	0	0	316	1199	117	272	925	0	0	870	491
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				35.8	35.8	35.8	14.7	76.2			57.5	57.5
Effective Green, g (s)				35.8	35.8	35.8	14.7	76.2			57.5	57.5
Actuated g/C Ratio				0.30	0.30	0.30	0.12	0.64			0.48	0.48
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				1024	1517	472	421	2247			1696	1335
v/s Ratio Prot				0.09	c0.24		c0.08	0.26			c0.25	
v/s Ratio Perm						0.07						0.18
v/c Ratio				0.31	0.79	0.25	0.65	0.41			0.51	0.37
Uniform Delay, d1				32.5	38.7	31.9	50.2	10.8			21.6	19.8
Progression Factor				1.00	1.00	1.00	0.89	1.55			1.00	1.00
Incremental Delay, d2				0.2	2.9	0.3	3.0	0.5			1.1	0.8
Delay (s)				32.7	41.5	32.2	47.8	17.3			22.7	20.5
Level of Service				C	D	C	D	B			C	C
Approach Delay (s)		0.0			38.8			24.2			21.8	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.97		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3172	1441					6207		1770	5085	
Flt Permitted	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3172	1441					6207		1770	5085	
Volume (vph)	662	746	221	0	0	0	0	439	116	80	1011	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	720	811	240	0	0	0	0	477	126	87	1099	0
RTOR Reduction (vph)	0	0	11	0	0	0	0	37	0	0	0	0
Lane Group Flow (vph)	512	1019	229	0	0	0	0	566	0	87	1099	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	62.3	62.3	62.3					36.6		9.1	49.7	
Effective Green, g (s)	62.3	62.3	62.3					36.6		9.1	49.7	
Actuated g/C Ratio	0.52	0.52	0.52					0.31		0.08	0.41	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	836	1647	748					1893		134	2106	
v/s Ratio Prot	0.32	c0.32						0.09		c0.05	c0.22	
v/s Ratio Perm			0.16									
v/c Ratio	0.61	0.62	0.31					0.30		0.65	0.52	
Uniform Delay, d1	20.3	20.4	16.5					31.9		53.9	26.3	
Progression Factor	0.35	0.35	0.36					0.62		1.40	0.77	
Incremental Delay, d2	1.2	0.6	0.2					0.4		9.4	0.8	
Delay (s)	8.3	7.8	6.1					20.2		84.8	21.2	
Level of Service	A	A	A					C		F	C	
Approach Delay (s)		7.7			0.0			20.2			25.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.97	0.91	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433	5085	1583	3433	3539			3539	2787
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433	5085	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	122	600	150	824	1138	0	0	1158	330
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	133	652	163	896	1237	0	0	1259	359
RTOR Reduction (vph)	0	0	0	0	0	119	0	0	0	0	0	22
Lane Group Flow (vph)	0	0	0	133	652	44	896	1237	0	0	1259	337
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				17.0	17.0	17.0	35.6	95.0			55.4	55.4
Effective Green, g (s)				17.0	17.0	17.0	35.6	95.0			55.4	55.4
Actuated g/C Ratio				0.14	0.14	0.14	0.30	0.79			0.46	0.46
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				486	720	224	1018	2802			1634	1287
v/s Ratio Prot				0.04	c0.13		c0.26	0.35			c0.36	
v/s Ratio Perm						0.03						0.12
v/c Ratio				0.27	0.91	0.20	0.88	0.44			0.77	0.26
Uniform Delay, d1				46.0	50.7	45.5	40.2	4.0			27.0	19.8
Progression Factor				1.00	1.00	1.00	0.96	1.32			1.00	1.00
Incremental Delay, d2				0.3	14.9	0.4	7.4	0.4			3.6	0.5
Delay (s)				46.3	65.6	45.9	45.9	5.7			30.6	20.3
Level of Service				D	E	D	D	A			C	C
Approach Delay (s)		0.0			59.5			22.6			28.3	
Approach LOS		A			E			C			C	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3181	1441					6080		1770	5085	
Flt Permitted	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3181	1441					6080		1770	5085	
Volume (vph)	664	882	123	0	0	0	0	785	407	222	1058	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	722	959	134	0	0	0	0	853	442	241	1150	0
RTOR Reduction (vph)	0	0	68	0	0	0	0	51	0	0	0	0
Lane Group Flow (vph)	562	1119	66	0	0	0	0	1244	0	241	1150	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	35.0	35.0	35.0					52.7		20.3	77.0	
Effective Green, g (s)	35.0	35.0	35.0					52.7		20.3	77.0	
Actuated g/C Ratio	0.29	0.29	0.29					0.44		0.17	0.64	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	470	928	420					2670		299	3263	
v/s Ratio Prot	0.35	c0.35						c0.20		c0.14	0.23	
v/s Ratio Perm			0.05									
v/c Ratio	1.20	1.21	0.16					0.47		0.81	0.35	
Uniform Delay, d1	42.5	42.5	31.6					23.7		48.0	10.0	
Progression Factor	0.49	0.50	0.42					0.92		1.48	0.64	
Incremental Delay, d2	105.6	101.9	0.2					0.2		10.3	0.2	
Delay (s)	126.5	123.0	13.3					22.1		81.4	6.5	
Level of Service	F	F	B					C		F	A	
Approach Delay (s)		116.0			0.0			22.1			19.5	
Approach LOS		F			A			C			B	

Intersection Summary			
HCM Average Control Delay	59.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.81	0.81	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1433	5972	1583	3433	3539			3539	2787
Flt Permitted				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1433	5972	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	890	1568	329	400	1085	0	0	1142	650
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	967	1704	358	435	1179	0	0	1241	707
RTOR Reduction (vph)	0	0	0	0	0	38	0	0	0	0	0	5
Lane Group Flow (vph)	0	0	0	512	2159	320	435	1179	0	0	1241	702
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				46.0	46.0	46.0	16.0	66.0			46.0	46.0
Effective Green, g (s)				46.0	46.0	46.0	16.0	66.0			46.0	46.0
Actuated g/C Ratio				0.38	0.38	0.38	0.13	0.55			0.38	0.38
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				549	2289	607	458	1946			1357	1068
v/s Ratio Prot				0.36	c0.36		c0.13	0.33			c0.35	
v/s Ratio Perm						0.20						0.25
v/c Ratio				0.93	0.94	0.53	0.95	0.61			0.91	0.66
Uniform Delay, d1				35.5	35.7	28.6	51.6	18.2			35.1	30.5
Progression Factor				1.00	1.00	1.00	1.04	1.24			1.00	1.00
Incremental Delay, d2				22.9	8.8	0.8	18.1	0.7			11.0	3.2
Delay (s)				58.5	44.5	29.4	72.0	23.2			46.2	33.7
Level of Service				E	D	C	E	C			D	C
Approach Delay (s)		0.0			45.1			36.4			41.6	
Approach LOS		A			D			D			D	

Intersection Summary			
HCM Average Control Delay	41.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.86	0.86	0.88					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1522	4785	2787					6068		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1522	4785	2787					6068		1770	5085	
Volume (vph)	900	2028	375	0	0	0	0	585	320	162	2370	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	978	2204	408	0	0	0	0	636	348	176	2576	0
RTOR Reduction (vph)	0	0	1	0	0	0	0	30	0	0	0	0
Lane Group Flow (vph)	765	2417	407	0	0	0	0	954	0	176	2576	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	56.0	56.0	56.0					37.0		15.0	56.0	
Effective Green, g (s)	56.0	56.0	56.0					37.0		15.0	56.0	
Actuated g/C Ratio	0.47	0.47	0.47					0.31		0.12	0.47	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	710	2233	1301					1871		221	2373	
v/s Ratio Prot	0.50	c0.51						0.16		0.10	c0.51	
v/s Ratio Perm			0.15									
v/c Ratio	1.08	1.08	0.31					0.51		0.80	1.09	
Uniform Delay, d1	32.0	32.0	20.0					34.1		51.0	32.0	
Progression Factor	0.62	0.63	0.48					1.43		1.06	0.98	
Incremental Delay, d2	49.8	42.7	0.1					0.8		12.2	44.0	
Delay (s)	69.5	62.8	9.7					49.4		66.1	75.2	
Level of Service	E	E	A					D		E	E	
Approach Delay (s)		58.2			0.0			49.4			74.7	
Approach LOS		E			A			D			E	

Intersection Summary

HCM Average Control Delay	63.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: Carmel Valley Road & El Camino Real

9/17/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.81	0.81	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1433	5999	1583	3433	3539			3539	2787
Flt Permitted				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1433	5999	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	300	736	246	500	1240	0	0	1672	510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	800	267	543	1348	0	0	1817	554
RTOR Reduction (vph)	0	0	0	0	0	88	0	0	0	0	0	44
Lane Group Flow (vph)	0	0	0	216	910	179	543	1348	0	0	1817	510
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				20.0	20.0	20.0	24.2	92.0			63.8	63.8
Effective Green, g (s)				20.0	20.0	20.0	24.2	92.0			63.8	63.8
Actuated g/C Ratio				0.17	0.17	0.17	0.20	0.77			0.53	0.53
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				239	1000	264	692	2713			1882	1482
v/s Ratio Prot				0.15	c0.15		c0.16	0.38			c0.51	
v/s Ratio Perm						0.11						0.18
v/c Ratio				0.90	0.91	0.68	0.78	0.50			0.97	0.34
Uniform Delay, d1				49.1	49.1	47.0	45.4	5.3			27.0	16.1
Progression Factor				1.00	1.00	1.00	0.94	1.22			1.00	1.00
Incremental Delay, d2				33.5	12.0	6.7	0.6	0.1			14.0	0.6
Delay (s)				82.6	61.1	53.7	43.1	6.5			41.1	16.7
Level of Service				F	E	D	D	A			D	B
Approach Delay (s)		0.0			63.0			17.0			35.4	
Approach LOS		A			E			B			D	

Intersection Summary

HCM Average Control Delay	36.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	147.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.86	0.86	0.88					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.91		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1522	4806	2787					5836		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1522	4806	2787					5836		1770	5085	
Volume (vph)	800	2561	298	0	0	0	0	940	1378	409	1563	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	870	2784	324	0	0	0	0	1022	1498	445	1699	0
RTOR Reduction (vph)	0	0	14	0	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	870	2784	310	0	0	0	0	2514	0	445	1699	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	49.0	49.0	49.0					39.0		20.0	63.0	
Effective Green, g (s)	49.0	49.0	49.0					39.0		20.0	63.0	
Actuated g/C Ratio	0.41	0.41	0.41					0.32		0.17	0.52	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	621	1962	1138					1897		295	2670	
v/s Ratio Prot	0.57	c0.58						c0.43		c0.25	0.33	
v/s Ratio Perm			0.11									
v/c Ratio	1.40	1.42	0.27					2.83dr		1.51	0.64	
Uniform Delay, d1	35.5	35.5	23.6					40.5		50.0	20.3	
Progression Factor	0.72	0.72	0.74					1.27		1.38	0.96	
Incremental Delay, d2	185.4	190.1	0.1					146.7		234.3	0.4	
Delay (s)	210.9	215.6	17.7					198.3		303.5	19.9	
Level of Service	F	F	B					F		F	B	
Approach Delay (s)		198.4			0.0			198.3			78.7	
Approach LOS		F			A			F			E	

Intersection Summary			
HCM Average Control Delay	168.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	147.1%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.81	0.81	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1433	5940	1583	3433	3539			3539	2787
Flt Permitted				0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1433	5940	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	890	939	260	400	1085	0	0	1100	698
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	967	1021	283	435	1179	0	0	1196	759
RTOR Reduction (vph)	0	0	0	0	0	53	0	0	0	0	0	21
Lane Group Flow (vph)	0	0	0	484	1504	230	435	1179	0	0	1196	738
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				40.0	40.0	40.0	18.4	72.0			49.6	49.6
Effective Green, g (s)				40.0	40.0	40.0	18.4	72.0			49.6	49.6
Actuated g/C Ratio				0.33	0.33	0.33	0.15	0.60			0.41	0.41
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				478	1980	528	526	2123			1463	1152
v/s Ratio Prot				c0.34	0.25		c0.13	0.33			c0.34	
v/s Ratio Perm						0.15						0.27
v/c Ratio				1.01	0.86dl	0.43	0.83	0.56			0.82	0.64
Uniform Delay, d1				40.0	35.7	31.2	49.3	14.4			31.2	28.1
Progression Factor				1.00	1.00	1.00	1.00	1.37			1.00	1.00
Incremental Delay, d2				44.3	1.7	0.6	4.5	0.4			5.2	2.7
Delay (s)				84.3	37.4	31.8	53.6	20.1			36.4	30.8
Level of Service				F	D	C	D	C			D	C
Approach Delay (s)		0.0			46.7			29.2			34.2	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3192	1441					6068		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3192	1441					6068		1770	5085	
Volume (vph)	900	1440	375	0	0	0	0	585	320	120	1870	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	978	1565	408	0	0	0	0	636	348	130	2033	0
RTOR Reduction (vph)	0	0	2	0	0	0	0	51	0	0	0	0
Lane Group Flow (vph)	850	1693	406	0	0	0	0	933	0	130	2033	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	53.0	53.0	53.0					41.6		13.4	59.0	
Effective Green, g (s)	53.0	53.0	53.0					41.6		13.4	59.0	
Actuated g/C Ratio	0.44	0.44	0.44					0.35		0.11	0.49	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	711	1410	636					2104		198	2500	
v/s Ratio Prot	0.53	c0.53						0.15		0.07	c0.40	
v/s Ratio Perm			0.28									
v/c Ratio	1.20	1.20	0.64					0.44		0.66	0.81	
Uniform Delay, d1	33.5	33.5	26.1					30.3		51.1	25.8	
Progression Factor	0.59	0.60	0.54					1.33		1.05	0.99	
Incremental Delay, d2	98.6	95.9	1.6					0.6		3.9	1.5	
Delay (s)	118.5	115.9	15.8					40.7		57.5	27.1	
Level of Service	F	F	B					D		E	C	
Approach Delay (s)		102.8			0.0			40.7			28.9	
Approach LOS		F			A			D			C	

Intersection Summary			
HCM Average Control Delay	66.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				0.81	0.81	1.00	0.97	0.95			0.95	0.88
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1433	5960	1583	3433	3539			3539	2787
Flt Permitted				0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1433	5960	1583	3433	3539			3539	2787
Volume (vph)	0	0	0	300	443	200	500	1240	0	0	1613	566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	482	217	543	1348	0	0	1753	615
RTOR Reduction (vph)	0	0	0	0	0	99	0	0	0	0	0	13
Lane Group Flow (vph)	0	0	0	163	645	118	543	1348	0	0	1753	602
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				17.0	17.0	17.0	22.1	95.0			68.9	68.9
Effective Green, g (s)				17.0	17.0	17.0	22.1	95.0			68.9	68.9
Actuated g/C Ratio				0.14	0.14	0.14	0.18	0.79			0.57	0.57
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				203	844	224	632	2802			2032	1600
v/s Ratio Prot				c0.11	0.11		c0.16	0.38			c0.50	
v/s Ratio Perm						0.07						0.22
v/c Ratio				0.80	0.76	0.53	0.86	0.48			0.86	0.38
Uniform Delay, d1				49.9	49.6	47.8	47.4	4.2			21.6	13.9
Progression Factor				1.00	1.00	1.00	1.05	1.58			1.00	1.00
Incremental Delay, d2				20.0	4.2	2.2	1.2	0.1			5.1	0.7
Delay (s)				69.9	53.7	50.0	50.8	6.7			26.7	14.6
Level of Service				E	D	D	D	A			C	B
Approach Delay (s)		0.0			55.5			19.4			23.5	
Approach LOS		A			E			B			C	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	143.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.91		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3204	1441					5836		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3204	1441					5836		1770	5085	
Volume (vph)	800	1742	298	0	0	0	0	940	1378	350	1563	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	870	1893	324	0	0	0	0	1022	1498	380	1699	0
RTOR Reduction (vph)	0	0	19	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	870	1893	305	0	0	0	0	2499	0	380	1699	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	37.0	37.0	37.0					47.0		24.0	75.0	
Effective Green, g (s)	37.0	37.0	37.0					47.0		24.0	75.0	
Actuated g/C Ratio	0.31	0.31	0.31					0.39		0.20	0.62	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	496	988	444					2286		354	3178	
v/s Ratio Prot	0.54	c0.59						c0.43		c0.21	0.33	
v/s Ratio Perm			0.21									
v/c Ratio	1.75	1.92	0.69					2.30dr		1.07	0.53	
Uniform Delay, d1	41.5	41.5	36.4					36.5		48.0	12.7	
Progression Factor	0.66	0.66	0.59					1.05		1.21	1.12	
Incremental Delay, d2	345.2	414.9	3.1					42.8		55.2	0.3	
Delay (s)	372.6	442.3	24.5					81.1		113.1	14.6	
Level of Service	F	F	C					F		F	B	
Approach Delay (s)		378.8			0.0			81.1			32.6	
Approach LOS		F			A			F			C	

Intersection Summary

HCM Average Control Delay	187.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	143.1%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group