



Pastor Gary Duran
Family Worship Center
1307 I Street
Sanger, California 93657

May 14, 2018

Subject: Addendum 1 - Traffic Impact Study
Proposed Church
Northwest of the Intersection of Bethel and North Avenues
Sanger, California

Dear Pastor Duran:

1.0 INTRODUCTION

This report presents supplemental information and traffic analyses as a result of City comments on the project. Peters Engineering Group previously prepared a traffic impact study for the proposed church and presented the results in a report dated April 12, 2018 (TIS). The City of Sanger provided comments in a letter dated May 3, 2018.

2.0 PROJECT DESCRIPTION

The proposed church project is described in the TIS. After review of the TIS, City staff discussed the project with Peters Engineering Group and it has been determined that the mitigated condition should consider a raised median to prevent left-turn movements at the southern driveways of the proposed church and the existing St. Mary's Catholic Church. The reason for the median is minimize safety and congestion concerns related to the proximity of the driveways to North Avenue and the potential for collisions related to the offset of the driveways. A two-way left-turn lane (TWLTL) is considered north of the median to allow full access to the northern church driveways. The TWLTL would connect to the existing left-turn lane on the northbound approach to Cherry Avenue.

3.0 LANE CONFIGURATIONS AND INTERSECTION CONTROL

The lane configurations and intersection control at the study intersections are illustrated in Figure 1, Proposed Lane Configurations.

4.0 PROJECT TRIP ASSIGNMENT

The Sunday peak-hour Project trips at the study intersections are presented in Figure 2, Sunday Peak-Hour Project Traffic Volumes.

5.0 EXISTING-PLUS-PROJECT TRAFFIC VOLUMES

Existing-Plus-Project traffic volumes are presented in Figure 3, Existing-Plus-Project Peak-Hour Traffic Volumes.

6.0 CUMULATIVE YEAR 2038 TRAFFIC VOLUMES

Cumulative With-Project traffic volumes are presented in Figure 4, Cumulative 2038 With-Project Peak-Hour Traffic Volumes.

7.0 INTERSECTION ANALYSES

Tables 1 and 2 present the results of the intersection analyses for existing-plus-Project conditions (opening day, which assumes improvements by Tract 5490 have been constructed at the intersection of Bethel and North Avenues). For all-way stop-controlled intersections, the overall intersection level of service and the average delay per vehicle are presented. For one-way and two-way stop-controlled intersections an overall intersection level of service is not defined by the 2010 *Highway Capacity Manual*. Therefore, for one-way and two-way stop-controlled intersections the level of service and average delay per vehicle for the approach with the greatest delay is reported. Delays and the associated levels of service that are below the significance criteria threshold are presented in bold type. The intersection analysis sheets are attached.

Table 1
Intersection LOS Summary – Opening-Day With-Project Sunday Peak Hours

Intersection	Control	A.M.		P.M.	
		Delay (sec)	LOS	Delay (sec)	LOS
Bethel / Cherry	Two-way stop	17.9	C	26.5	D
Bethel / North Access / St. Mary's	Two-way stop	12.6	B	18.7	C
Bethel / South Site Access	Right-in/Right-out	9.4	A	10.4	B
Bethel / North	All-way stop	10.0	A	12.4	B

Table 2
Intersection LOS Summary – 2038 With-Project Sunday Peak Hours

Intersection	Control	A.M.		P.M.	
		Delay (sec)	LOS	Delay (sec)	LOS
Bethel / Cherry	Two-way stop	33.9	D	91.7	F
Bethel / North Access / St. Mary's	Two-way stop	20.9	C	49.8	E
Bethel / South Site Access	Right-in/Right-out	10.4	B	12.5	B
Bethel / North	All-way stop	14.1	B	28.6	D

The results of the intersection operational analyses include an estimate of the 95th-percentile queue lengths. The existing storage capacity and the calculated 95th-percentile queue lengths are presented in Table 3. A key to descriptors in the tables is presented below the table.

Table 8
Intersection Queuing Summary - Sunday Peak Hours

Intersection Approach	95 th -Percentile Queue Length (feet)			
	Opening Day		2038	
	A.M.	P.M.	A.M.	P.M.
Bethel / Cherry				
Eastbound LTR	10	15	25	55
Westbound LTR	5	8	13	18
Northbound L	0	0	0	3
Northbound TR	DNS	DNS	DNS	DNS
Southbound L	10	13	13	18
Southbound TR	DNS	DNS	DNS	DNS
Bethel / North Access / St. Mary's				
Eastbound LTR	3	33	3	88
Westbound LTR	3	8	3	13
Northbound L	3	0	8	0
Northbound TR	DNS	DNS	DNS	DNS
Southbound L	0	3	0	3
Southbound TR	DNS	DNS	DNS	DNS
Bethel / South Access				
Eastbound R	0	8	0	10
Northbound T	DNS	DNS	DNS	DNS
Southbound TR	DNS	DNS	DNS	DNS
Bethel / North				
Eastbound LTR	18	18	43	50
Westbound L	10	23	20	58
Westbound TR	20	45	38	168
Northbound L	0	0	3	3
Northbound TR	25	43	68	173
Southbound L	13	30	35	103
Southbound T	13	30	33	105
Southbound R	3	3	5	5

Key to Table 3

- L: Left-turn lane
- R: Right-turn lane
- TR: Shared through/right lane
- LTR: Shared left/through/right lane
- DNS: Does not stop

8.0 DISCUSSION

8.1 Opening-Day Conditions

The opening-day conditions are based on the existing-plus-Project traffic volumes and include improvements to be constructed by Tract 5490 at the intersection of Bethel and North Avenues. The results of the analyses indicate that the study intersections will operate at

acceptable levels of service, with the exception that the eastbound approach to the intersection of Bethel Avenue and Cherry Avenue is expected to operate at LOS D for approximately 15 minutes during the Sunday p.m. peak hour. The results are nearly identical to those presented in the TIS; therefore, the discussion and conclusions presented in the TIS relative to the existing-plus-Project conditions remain valid.

8.2 Cumulative (Year 2038) With-Project Conditions

The results of the year 2038 With-Project conditions analyses are similar to those presented in the TIS, with the exception that the delays at the proposed northern site access will be greater than previously calculated because left turns out from the proposed southern access will not be allowed as a result of the proposed median. Therefore, the discussion and conclusions presented in the TIS relative to the cumulative year 2038 with-Project conditions remain valid, with the added recommendation that another driveway be added to the Project site plan to give motorists exiting the site options to disperse and minimize delays. A driveway connecting to Lily Avenue near Walton Avenue appears to be feasible with respect to the proposed site plan.

8.3 Discussion of Ultimate Bethel Avenue Cross Section

The City of Sanger General Plan designates Bethel Avenue north of North Avenue as a four-lane arterial. City of Sanger Standard Detail ST-3 suggests that an arterial street may have either a TWLTL or a 16-foot-wide median, and both configurations are expected to be suitable on Bethel Avenue between North Avenue and Cherry Avenue.

The configuration analyzed herein and previously discussed with City staff includes a median on Bethel Avenue extending from North Avenue to a point slightly north of the southern driveways of both churches. North of the median the analysis includes a TWLTL connecting to the existing northbound-to-westbound left-turn lane at Cherry Avenue. The TWLTL should connect to the dedicated left-turn lane at Cherry Avenue in accordance with Figure 3B-7(CA) of the California Manual on Uniform Traffic Control Devices (CMUTCD) for unlimited storage.

The proposed configuration will prevent left turns in and out of the southern driveways of both churches while providing full access (including left turns in and out) at the northern driveways. It is recommended that the proposed northern driveway be aligned with the existing St. Mary's Catholic Church driveway. It is also recommended that the north end of the median terminate at a point that is north of southern driveways, while providing at least 100 feet of storage for the northbound-to-eastbound left turn into the northern driveway of the proposed church.

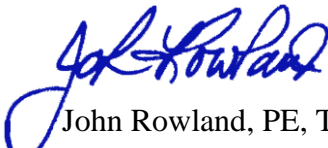
9.0 CONCLUSIONS AND RECOMMENDATIONS

Standard traffic engineering principles and methods were employed for these traffic analyses. The conclusions of the TIS remain applicable, with the exception that the following recommendations supersede any previous recommendations related to the configuration of Bethel Avenue between North and Cherry Avenues:

- It is recommended that the proposed northern driveway be aligned with the existing St. Mary’s Catholic Church driveway.
- Another driveway for the proposed should be considered to give motorists options to disperse and minimize delays. A driveway connecting to Lily Avenue near Walton Avenue appears to be feasible with respect to the proposed site plan.
- A median should be constructed on Bethel Avenue extending from North Avenue to a point slightly north of the southern driveways of both churches. The north end of the median should terminate at a point that is north of southern driveways, while providing at least 100 feet of storage for the northbound-to-eastbound left turn into the northern driveway of the proposed church.
- A TWLTL should be installed on Bethel Avenue north of the proposed median and connecting to the existing northbound-to-westbound left-turn lane at Cherry Avenue in accordance with Figure 3B-7(CA) of the CMUTCD for unlimited storage.
- The proposed configuration will prevent left turns in and out of the southern driveways of both churches while providing full access (including left turns in and out) at the northern driveways.

Thank you for the opportunity to continue to work with you on this project. Please feel free to contact me if you have any questions.

PETERS ENGINEERING GROUP

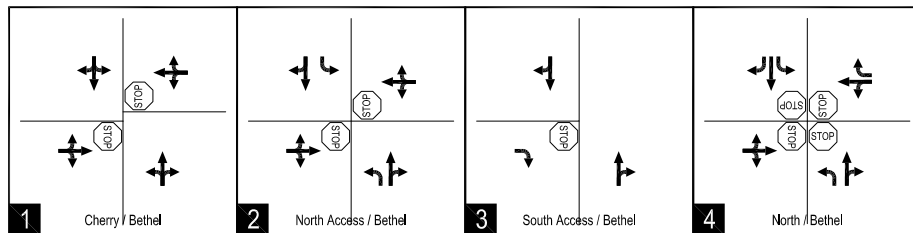
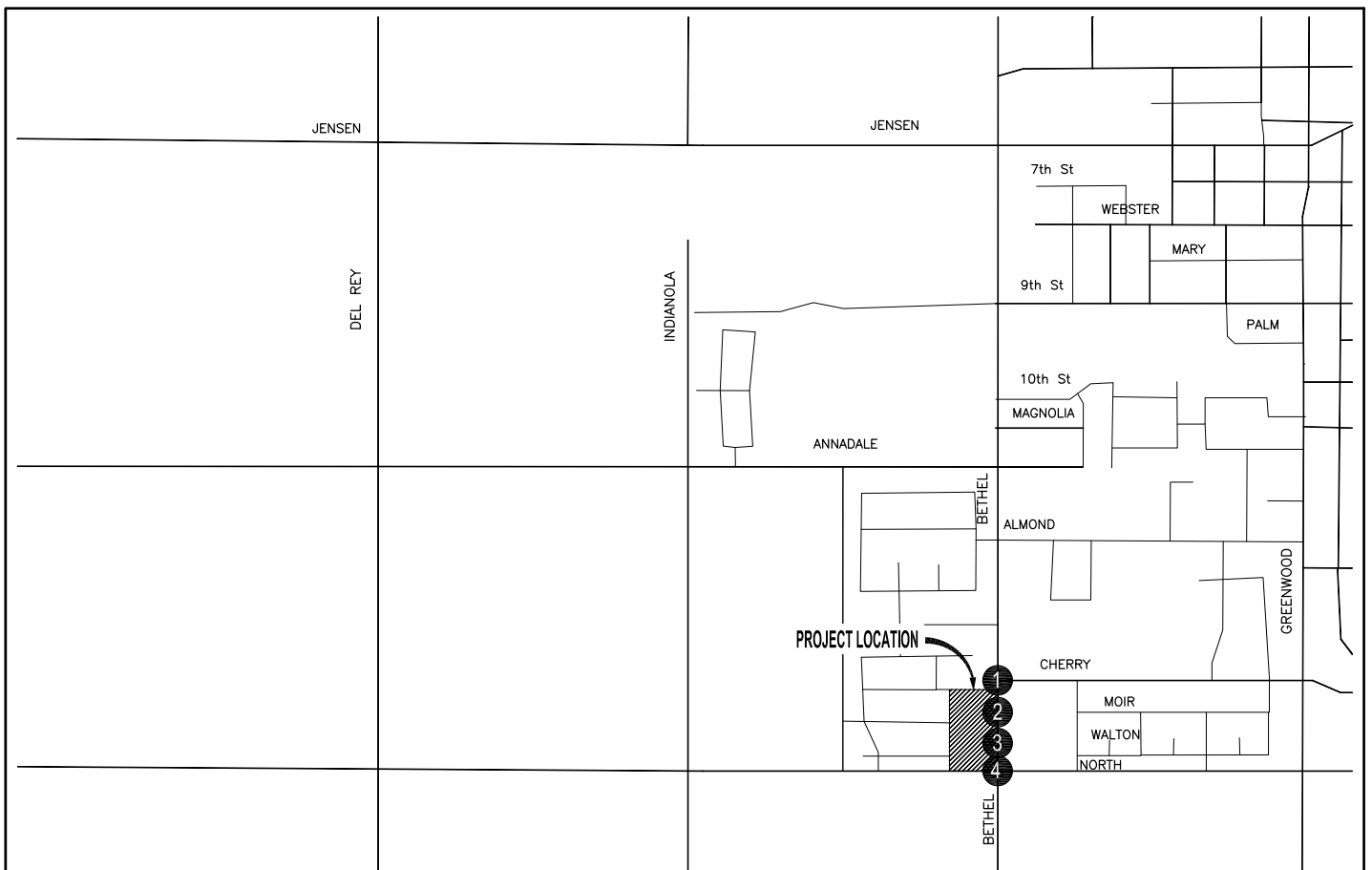

John Rowland, PE, TE



Attachments: Figures
Intersection Analyses

FIGURES





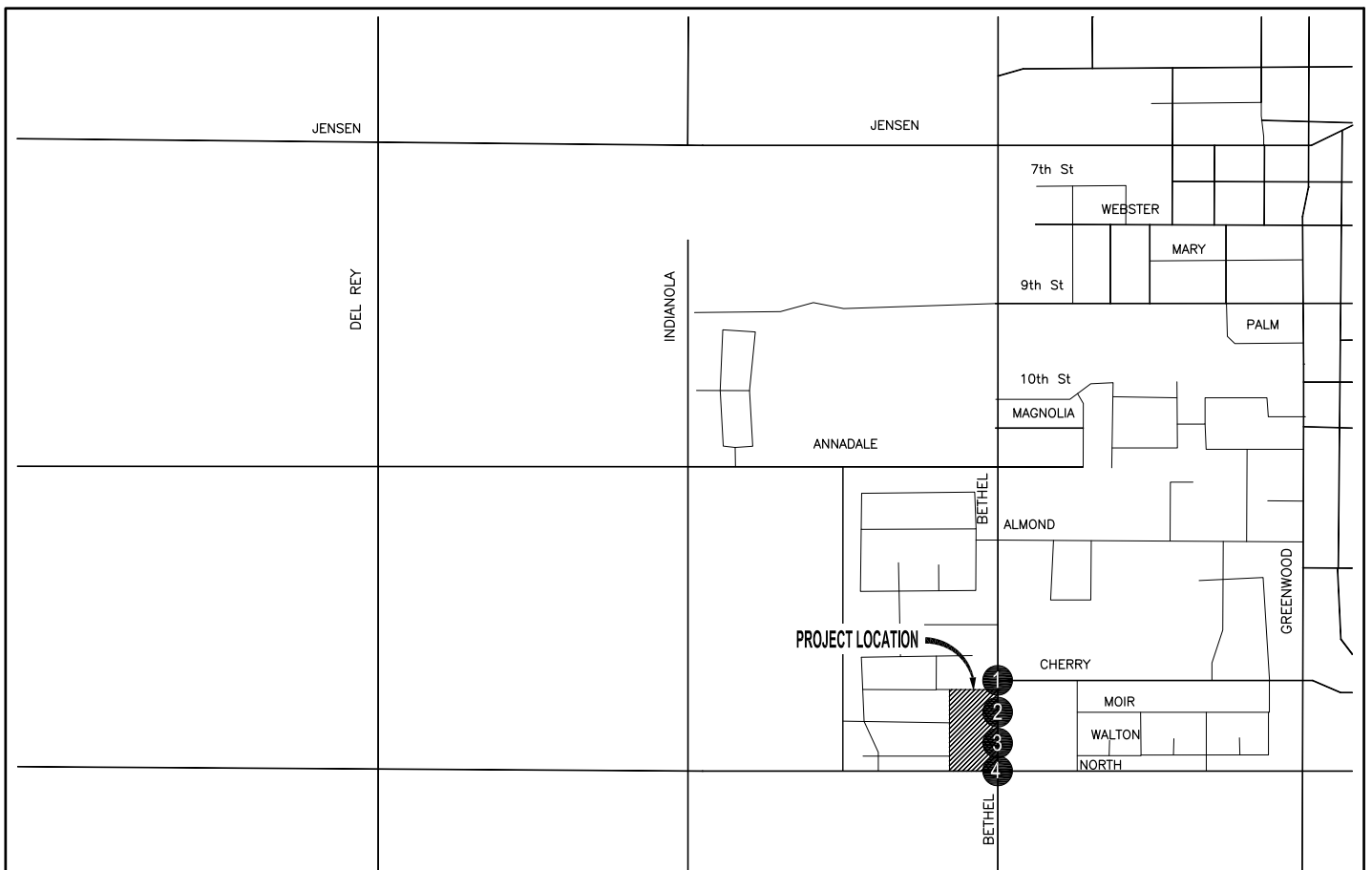
LEGEND

- STUDY AREA INTERSECTIONS
- PROJECT SITE
- STOP SIGN
- DIRECTION OF TRAVEL

Proposed Church
Sanger, California

PROPOSED LANE CONFIGURATIONS AND INTERSECTION CONTROL





	← 72(7)		↙ 53(5) ↘ 23(2)		↙ 23(2) ↘ 2(25)		↙ 1(10) ↘ 3(37) ↘ 3(36)	↖ 34(3)
	↖ 3(0)		↖ 7(79) ↘ 2(25)		↖ 5(58) ↘ 79(7)		↖ 9(1) ↘ 36(3)	
1	Cherry / Bethel	2	North Access / Bethel	3	South Access / Bethel	4	North / Bethel	

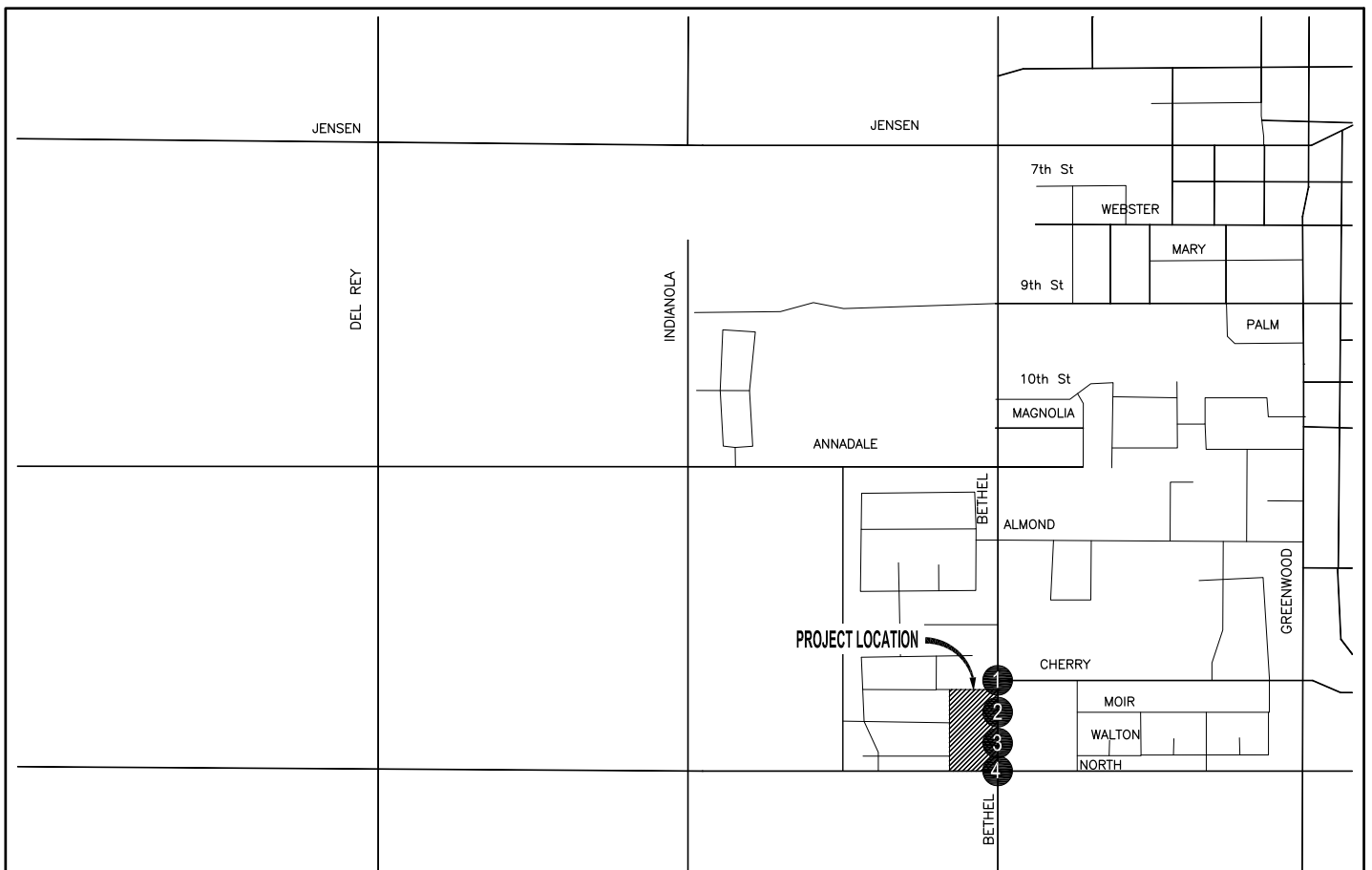
LEGEND

- STUDY AREA INTERSECTIONS
- PROJECT SITE
- XX - AM Peak Hour Volumes
- (YY) - PM Peak Hour Volumes

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SUNDAY PROJECT PEAK HOUR TRAFFIC VOLUMES





1	Cherry / Bethel	2	North Access / Bethel	3	South Access / Bethel	4	North / Bethel

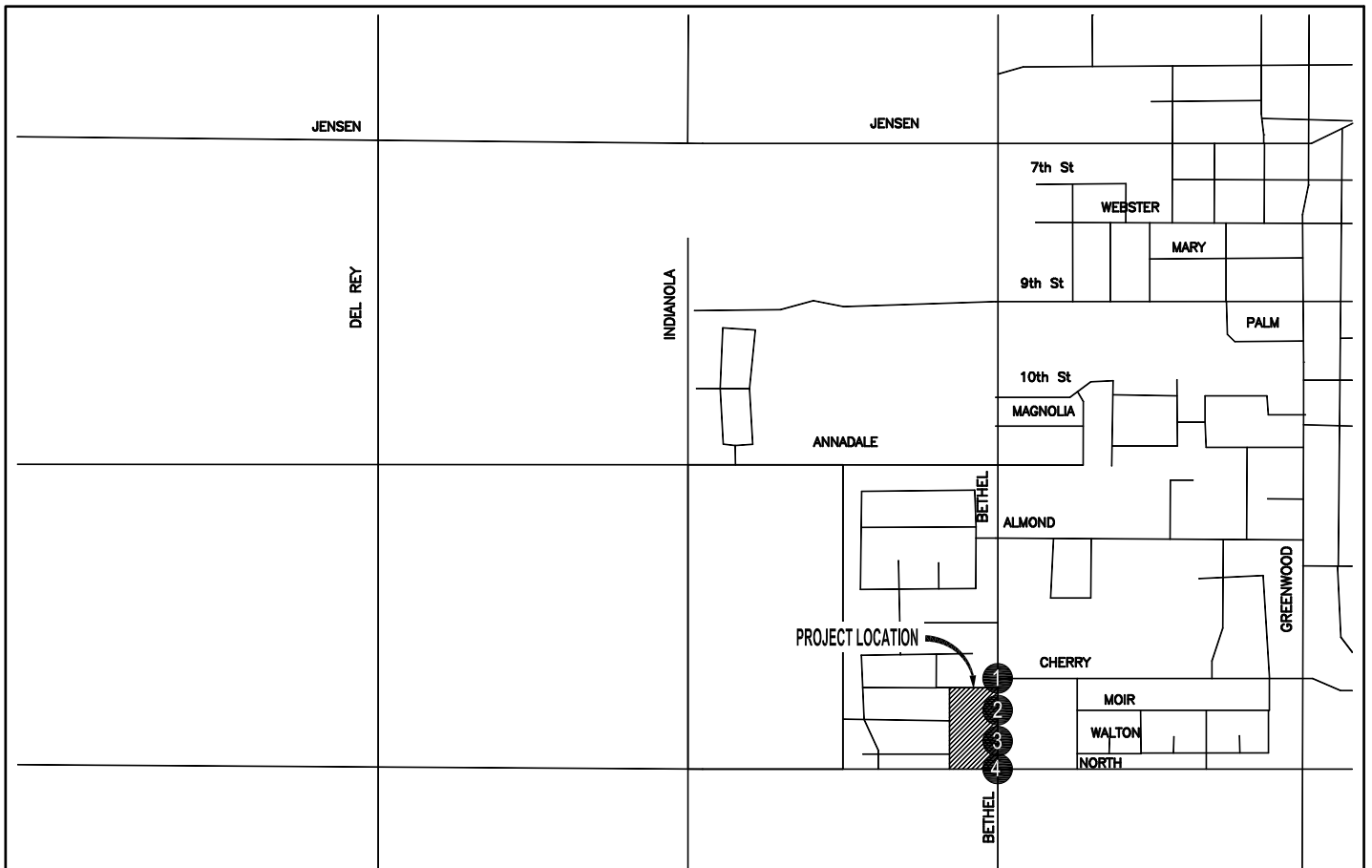
LEGEND

- STUDY AREA INTERSECTIONS
- PROJECT SITE
- XX - AM Peak Hour Volumes
- (YY) - PM Peak Hour Volumes

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EXISTING PLUS PROJECT SUNDAY PEAK HOUR TRAFFIC VOLUMES





1		2		3		4	
	Cherry / Bethel		North Access / Bethel		South Access / Bethel		North / Bethel

LEGEND

- STUDY AREA INTERSECTIONS
- PROJECT SITE
- XX - AM Peak Hour Volumes
- (YY) - PM Peak Hour Volumes

Proposed Church
Sanger, California

CUMULATIVE 2038 WITH PROJECT SUNDAY PEAK HOUR TRAFFIC VOLUMES



INTERSECTION ANALYSES



Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	16	3	11	6	4	23	5	133	11	100	240	11
Future Vol, veh/h	16	3	11	6	4	23	5	133	11	100	240	11
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	160	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	83	83	83	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	3	13	7	5	26	6	160	13	149	358	16

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	869	861	376	862	862	177	380	0	0	178	0	0
Stage 1	670	670	-	184	184	-	-	-	-	-	-	-
Stage 2	199	191	-	678	678	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	272	293	670	275	293	866	1178	-	-	1398	-	-
Stage 1	446	455	-	818	747	-	-	-	-	-	-	-
Stage 2	803	742	-	442	452	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	236	258	664	242	258	858	1172	-	-	1391	-	-
Mov Cap-2 Maneuver	236	258	-	242	258	-	-	-	-	-	-	-
Stage 1	442	404	-	810	740	-	-	-	-	-	-	-
Stage 2	766	735	-	382	402	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	12.9	0.3	2.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	313	492	1391	-
HCM Lane V/C Ratio	0.005	-	-	0.109	0.076	0.107	-
HCM Control Delay (s)	8.1	-	-	17.9	12.9	7.9	-
HCM Lane LOS	A	-	-	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0.4	-

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	2	1	0	10	24	136	28	11	187	53
Future Vol, veh/h	5	0	2	1	0	10	24	136	28	11	187	53
Conflicting Peds, #/hr	0	0	0	5	0	5	0	0	5	5	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	71	71	83	83	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	0	2	1	0	11	27	192	39	13	225	60

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	558	573	260	559	583	221	286	0	0	236	0	0
Stage 1	282	282	-	271	271	-	-	-	-	-	-	-
Stage 2	276	291	-	288	312	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	440	430	779	440	424	819	1276	-	-	1331	-	-
Stage 1	725	678	-	735	685	-	-	-	-	-	-	-
Stage 2	730	672	-	720	658	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	420	412	775	422	406	811	1270	-	-	1325	-	-
Mov Cap-2 Maneuver	420	412	-	422	406	-	-	-	-	-	-	-
Stage 1	707	670	-	713	665	-	-	-	-	-	-	-
Stage 2	698	652	-	706	650	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.6		9.9		0.8		0.3	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1270	-	-	483	748	1325	-
HCM Lane V/C Ratio	0.021	-	-	0.016	0.017	0.01	-
HCM Control Delay (s)	7.9	0	-	12.6	9.9	7.7	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	5	0	241	177	23
Future Vol, veh/h	0	5	0	241	177	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	6	0	274	201	26

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	214	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-
Pot Cap-1 Maneuver	0	826	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	826	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 826	-	-
HCM Lane V/C Ratio	- 0.007	-	-
HCM Control Delay (s)	- 9.4	-	-
HCM Lane LOS	- A	-	-
HCM 95th %tile Q(veh)	- 0	-	-

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	32	49	13	10	45	110	6	118	10	76	76	16
Future Vol, veh/h	32	49	13	10	45	110	6	118	10	76	76	16
Peak Hour Factor	0.85	0.85	0.85	0.78	0.78	0.78	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	58	15	13	58	141	7	144	12	86	86	18
Number of Lanes	0	1	0	0	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	1
HCM Control Delay	10.4	9.5	10.7	9.9
HCM LOS	B	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	34%	18%	0%	100%	0%	0%
Vol Thru, %	0%	92%	52%	82%	0%	0%	100%	0%
Vol Right, %	0%	8%	14%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	128	94	55	110	76	76	16
LT Vol	6	0	32	10	0	76	0	0
Through Vol	0	118	49	45	0	0	76	0
RT Vol	0	10	13	0	110	0	0	16
Lane Flow Rate	7	156	111	71	141	86	86	18
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.013	0.26	0.191	0.119	0.206	0.155	0.143	0.027
Departure Headway (Hd)	6.549	5.987	6.22	6.053	5.257	6.481	5.975	5.267
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	547	601	577	593	683	554	600	679
Service Time	4.282	3.72	3.956	3.783	2.988	4.213	3.708	3
HCM Lane V/C Ratio	0.013	0.26	0.192	0.12	0.206	0.155	0.143	0.027
HCM Control Delay	9.4	10.8	10.4	9.6	9.4	10.4	9.7	8.1
HCM Lane LOS	A	B	B	A	A	B	A	A
HCM 95th-tile Q	0	1	0.7	0.4	0.8	0.5	0.5	0.1

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	18	4	7	4	1	32	12	295	33	115	260	12
Future Vol, veh/h	18	4	7	4	1	32	12	295	33	115	260	12
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	160	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	86	86	86	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	5	8	5	1	36	14	343	38	155	351	16

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1089	1089	369	1077	1078	372	373	0	0	386	0	0
Stage 1	675	675	-	395	395	-	-	-	-	-	-	-
Stage 2	414	414	-	682	683	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	193	215	677	197	219	674	1185	-	-	1172	-	-
Stage 1	444	453	-	630	605	-	-	-	-	-	-	-
Stage 2	616	593	-	440	449	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	160	182	671	168	186	668	1179	-	-	1166	-	-
Mov Cap-2 Maneuver	160	182	-	168	186	-	-	-	-	-	-	-
Stage 1	437	391	-	620	595	-	-	-	-	-	-	-
Stage 2	572	583	-	371	387	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	26.5		13.2		0.3		2.5	
HCM LOS	D		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1179	-	-	200	480	1166	-
HCM Lane V/C Ratio	0.012	-	-	0.165	0.088	0.133	-
HCM Control Delay (s)	8.1	-	-	26.5	13.2	8.6	-
HCM Lane LOS	A	-	-	D	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.3	0.5	-

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	79	0	25	9	0	36	7	231	28	30	218	5
Future Vol, veh/h	79	0	25	9	0	36	7	231	28	30	218	5
Conflicting Peds, #/hr	0	0	0	5	0	5	0	0	5	5	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	75	75	75	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	0	28	10	0	41	9	308	37	34	248	6

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	690	688	256	688	672	337	253	0	0	350	0	0
Stage 1	319	319	-	350	350	-	-	-	-	-	-	-
Stage 2	371	369	-	338	322	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	359	369	783	360	377	705	1312	-	-	1209	-	-
Stage 1	693	653	-	666	633	-	-	-	-	-	-	-
Stage 2	649	621	-	676	651	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	327	354	779	334	362	698	1306	-	-	1203	-	-
Mov Cap-2 Maneuver	327	354	-	334	362	-	-	-	-	-	-	-
Stage 1	688	635	-	658	626	-	-	-	-	-	-	-
Stage 2	604	614	-	630	633	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.7		11.9		0.2		1	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1306	-	-	380	573	1203	-
HCM Lane V/C Ratio	0.007	-	-	0.311	0.089	0.028	-
HCM Control Delay (s)	7.8	-	-	18.7	11.9	8.1	-
HCM Lane LOS	A	-	-	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0.3	0.1	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	58	0	266	271	2
Future Vol, veh/h	0	58	0	266	271	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	75	75	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	66	0	355	308	2

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	309	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-
Pot Cap-1 Maneuver	0	731	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	731	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 731	-	-
HCM Lane V/C Ratio	- 0.09	-	-
HCM Control Delay (s)	- 10.4	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.3	-	-

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	25	50	4	5	73	146	4	141	8	141	151	21
Future Vol, veh/h	25	50	4	5	73	146	4	141	8	141	151	21
Peak Hour Factor	0.85	0.85	0.85	0.62	0.62	0.62	0.78	0.78	0.78	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	59	5	8	118	235	5	181	10	152	162	23
Number of Lanes	0	1	0	0	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	1
HCM Control Delay	11.9	12.1	13.6	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	32%	6%	0%	100%	0%	0%
Vol Thru, %	0%	95%	63%	94%	0%	0%	100%	0%
Vol Right, %	0%	5%	5%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	149	79	78	146	141	151	21
LT Vol	4	0	25	5	0	141	0	0
Through Vol	0	141	50	73	0	0	151	0
RT Vol	0	8	4	0	146	0	0	21
Lane Flow Rate	5	191	93	126	235	152	162	23
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.011	0.366	0.192	0.232	0.387	0.3	0.298	0.037
Departure Headway (Hd)	7.452	6.903	7.449	6.648	5.909	7.122	6.614	5.902
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	477	518	484	537	605	502	539	602
Service Time	5.248	4.699	5.149	4.432	3.693	4.908	4.4	3.688
HCM Lane V/C Ratio	0.01	0.369	0.192	0.235	0.388	0.303	0.301	0.038
HCM Control Delay	10.3	13.7	11.9	11.5	12.4	13	12.2	8.9
HCM Lane LOS	B	B	B	B	B	B	B	A
HCM 95th-tile Q	0	1.7	0.7	0.9	1.8	1.2	1.2	0.1

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	20	4	13	7	5	28	6	235	13	122	375	13
Future Vol, veh/h	20	4	13	7	5	28	6	235	13	122	375	13
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	160	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	83	83	83	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	5	15	8	6	32	7	283	16	182	560	19

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1268	1257	579	1258	1258	301	584	0	0	304	0	0
Stage 1	939	939	-	310	310	-	-	-	-	-	-	-
Stage 2	329	318	-	948	948	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	145	171	515	148	171	739	991	-	-	1257	-	-
Stage 1	317	343	-	700	659	-	-	-	-	-	-	-
Stage 2	684	654	-	313	339	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	118	144	510	123	144	732	986	-	-	1251	-	-
Mov Cap-2 Maneuver	118	144	-	123	144	-	-	-	-	-	-	-
Stage 1	313	292	-	692	651	-	-	-	-	-	-	-
Stage 2	641	646	-	254	288	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	33.9		18.7		0.2		2	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	986	-	-	166	308	1251	-
HCM Lane V/C Ratio	0.007	-	-	0.253	0.148	0.146	-
HCM Control Delay (s)	8.7	-	-	33.9	18.7	8.4	-
HCM Lane LOS	A	-	-	D	C	A	-
HCM 95th %tile Q(veh)	0	-	-	1	0.5	0.5	-

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	2	1	0	10	79	242	28	11	319	53
Future Vol, veh/h	7	0	2	1	0	10	79	242	28	11	319	53
Conflicting Peds, #/hr	0	0	0	5	0	5	0	0	5	5	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	71	71	83	83	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	2	1	0	11	90	341	39	13	384	60

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	992	1006	419	992	1016	371	445	0	0	385	0	0
Stage 1	441	441	-	545	545	-	-	-	-	-	-	-
Stage 2	551	565	-	447	471	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	225	241	634	225	238	675	1115	-	-	1173	-	-
Stage 1	595	577	-	523	519	-	-	-	-	-	-	-
Stage 2	519	508	-	591	560	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	200	212	631	202	209	669	1110	-	-	1167	-	-
Mov Cap-2 Maneuver	200	212	-	202	209	-	-	-	-	-	-	-
Stage 1	534	568	-	467	463	-	-	-	-	-	-	-
Stage 2	455	454	-	577	552	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	20.9		11.7		1.6		0.2	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1110	-	-	236	553	1167	-	-
HCM Lane V/C Ratio	0.081	-	-	0.043	0.023	0.011	-	-
HCM Control Delay (s)	8.5	0	-	20.9	11.7	8.1	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	0.1	0	-	-

Intersection

Int Delay, s/veh 0.1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	5	0	372	318	23
Future Vol, veh/h	0	5	0	372	318	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	6	0	423	361	26

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	-	374	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	672	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	672	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt NBT EBLn1 SBT SBR

Capacity (veh/h)	-	672	-	-
HCM Lane V/C Ratio	-	0.008	-	-
HCM Control Delay (s)	-	10.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	51	73	23	15	67	147	11	184	18	135	135	28
Future Vol, veh/h	51	73	23	15	67	147	11	184	18	135	135	28
Peak Hour Factor	0.85	0.85	0.85	0.78	0.78	0.78	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	86	27	19	86	188	13	224	22	153	153	32
Number of Lanes	0	1	0	0	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	1
HCM Control Delay	14.7	12.6	16.7	13.2
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	35%	18%	0%	100%	0%	0%
Vol Thru, %	0%	91%	50%	82%	0%	0%	100%	0%
Vol Right, %	0%	9%	16%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	202	147	82	147	135	135	28
LT Vol	11	0	51	15	0	135	0	0
Through Vol	0	184	73	67	0	0	135	0
RT Vol	0	18	23	0	147	0	0	28
Lane Flow Rate	13	246	173	105	188	153	153	32
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.029	0.496	0.365	0.216	0.345	0.326	0.304	0.057
Departure Headway (Hd)	7.824	7.247	7.608	7.392	6.588	7.644	7.133	6.418
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	457	498	472	486	545	471	503	557
Service Time	5.573	4.996	5.361	5.139	4.335	5.39	4.879	4.164
HCM Lane V/C Ratio	0.028	0.494	0.367	0.216	0.345	0.325	0.304	0.057
HCM Control Delay	10.8	17	14.7	12.2	12.8	14.1	13	9.6
HCM Lane LOS	B	C	B	B	B	B	B	A
HCM 95th-tile Q	0.1	2.7	1.7	0.8	1.5	1.4	1.3	0.2

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	22	5	9	5	1	39	14	472	40	140	464	15
Future Vol, veh/h	22	5	9	5	1	39	14	472	40	140	464	15
Conflicting Peds, #/hr	5	0	5	5	0	5	5	0	5	5	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	160	-	-	130	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	86	86	86	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	6	10	6	1	44	16	549	47	189	627	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1653	1654	647	1638	1641	582	652	0	0	600	0	0
Stage 1	1021	1021	-	610	610	-	-	-	-	-	-	-
Stage 2	632	633	-	1028	1031	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	78	98	471	80	100	513	935	-	-	977	-	-
Stage 1	285	314	-	482	485	-	-	-	-	-	-	-
Stage 2	468	473	-	283	310	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	59	77	467	62	78	508	931	-	-	972	-	-
Mov Cap-2 Maneuver	59	77	-	62	78	-	-	-	-	-	-	-
Stage 1	279	252	-	471	474	-	-	-	-	-	-	-
Stage 2	417	463	-	217	249	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	91.7		21.9		0.2		2.2	
HCM LOS	F		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	931	-	-	79	264	972	-
HCM Lane V/C Ratio	0.017	-	-	0.518	0.194	0.195	-
HCM Control Delay (s)	8.9	-	-	91.7	21.9	9.6	-
HCM Lane LOS	A	-	-	F	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	0.7	0.7	-

Intersection

Int Delay, s/veh 5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	79	0	25	9	0	36	7	417	28	30	392	5
Future Vol, veh/h	79	0	25	9	0	36	7	417	28	30	392	5
Conflicting Peds, #/hr	0	0	0	5	0	5	0	0	5	5	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	75	75	75	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	0	28	10	0	41	9	556	37	34	445	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1135	1133	453	1134	1117	585	451	0	0	598	0	0
Stage 1	516	516	-	598	598	-	-	-	-	-	-	-
Stage 2	619	617	-	536	519	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	179	203	607	180	207	511	1109	-	-	979	-	-
Stage 1	542	534	-	489	491	-	-	-	-	-	-	-
Stage 2	476	481	-	529	533	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	158	193	604	164	197	506	1104	-	-	974	-	-
Mov Cap-2 Maneuver	158	193	-	164	197	-	-	-	-	-	-	-
Stage 1	538	515	-	483	485	-	-	-	-	-	-	-
Stage 2	432	475	-	484	514	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	49.8		16.8		0.1		0.6	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1104	-	-	192	357	974	-
HCM Lane V/C Ratio	0.008	-	-	0.616	0.143	0.035	-
HCM Control Delay (s)	8.3	-	-	49.8	16.8	8.8	-
HCM Lane LOS	A	-	-	E	C	A	-
HCM 95th %tile Q(veh)	0	-	-	3.5	0.5	0.1	-

Intersection

Int Delay, s/veh 0.7

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗		↑	↘	
Traffic Vol, veh/h	0	58	0	475	469	2
Future Vol, veh/h	0	58	0	475	469	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	75	75	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	66	0	633	533	2

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	-	534	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	546	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	546	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	12.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt NBT EBLn1 SBT SBR

Capacity (veh/h)	-	546	-	-
HCM Lane V/C Ratio	-	0.121	-	-
HCM Control Delay (s)	-	12.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection	
Intersection Delay, s/veh	28.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	↕
Traffic Vol, veh/h	44	74	7	7	108	215	7	229	14	226	243	30
Future Vol, veh/h	44	74	7	7	108	215	7	229	14	226	243	30
Peak Hour Factor	0.85	0.85	0.85	0.62	0.62	0.62	0.78	0.78	0.78	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	87	8	11	174	347	9	294	18	243	261	32
Number of Lanes	0	1	0	0	1	1	1	1	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	2	1
HCM Control Delay	19.8	28.5	38.8	25
HCM LOS	C	D	E	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	35%	6%	0%	100%	0%	0%
Vol Thru, %	0%	94%	59%	94%	0%	0%	100%	0%
Vol Right, %	0%	6%	6%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	243	125	115	215	226	243	30
LT Vol	7	0	44	7	0	226	0	0
Through Vol	0	229	74	108	0	0	243	0
RT Vol	0	14	7	0	215	0	0	30
Lane Flow Rate	9	312	147	185	347	243	261	32
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.024	0.795	0.412	0.454	0.776	0.624	0.634	0.072
Departure Headway (Hd)	9.757	9.192	10.081	8.806	8.054	9.25	8.731	8.006
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	366	393	356	408	447	389	413	446
Service Time	7.532	6.966	7.866	6.573	5.82	7.019	6.501	5.775
HCM Lane V/C Ratio	0.025	0.794	0.413	0.453	0.776	0.625	0.632	0.072
HCM Control Delay	12.8	39.6	19.8	18.7	33.7	26.3	25.5	11.4
HCM Lane LOS	B	E	C	C	D	D	D	B
HCM 95th-tile Q	0.1	6.9	2	2.3	6.7	4.1	4.2	0.2