APPENDIX D:
Turning Movement Volume Worksheets

VOLUME DEVELOPMENT SHEET

A1A (Ocean Dr.) & Hallandale Beach Blvd.
AM PEAK HOUR

Description	A1A (Ocean Dr.) Southbound				Hallandale Beach Blvd. Westbound			A1A (Ocean Dr.) Northbound				Hallandale Beach Blvd. Eastbound		
	U-Turn	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	Left	Through	Right
2005 Existing Traffic	20	0	436	324	5	7	4	3	17	303	4	361	13	452
Peak Season Category Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
2005 Peak Season	**22**	**0**	**475**	**353**	**5**	**8**	**4**	**3**	**19**	**330**	**4**	**393**	**14**	**493**
Annual Growth Rate	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Background Growth	0	0	10	7	0	0	0	0	0	7	0	8	0	10
2009 Background Traffic	22	0	485	360	5	8	4	3	19	337	4	401	14	503
2009 Diverted Traffic	72	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Traffic	125	0	37	188	0	0	0	0	0	10	0	43	0	0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009 Total Traffic	**219**	**0**	**522**	**548**	**5**	**8**	**4**	**3**	**19**	**347**	**4**	**444**	**14**	**503**

VOLUME DEVELOPMENT SHEET

A1A (Ocean Dr.) & Hallandale Beach Blvd.
PM PEAK HOUR

Description	A1A (Ocean Dr.) Southbound				Hallandale Beach Blvd. Westbound			A1A (Ocean Dr.) Northbound				Hallandale Beach Blvd. Eastbound		
	U-Turn	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	Left	Through	Right
2005 Existing Traffic	26	6	481	388	12	13	9	4	46	558	2	407	9	591
Peak Season Category Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
2005 Peak Season	**28**	**7**	**524**	**423**	**13**	**14**	**10**	**4**	**50**	**608**	**2**	**444**	**10**	**644**
Annual Growth Rate	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Background Growth	1	0	11	9	0	0	0	0	1	12	0	9	0	13
2009 Background Traffic	29	7	535	432	13	14	10	4	51	620	2	453	10	657
2009 Diverted Traffic	84	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Traffic	97	0	17	88	0	0	0	0	0	33	0	138	0	0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009 Total Traffic	**210**	**7**	**552**	**520**	**13**	**14**	**10**	**4**	**51**	**653**	**2**	**591**	**10**	**657**

VOLUME DEVELOPMENT SHEET

A1A @ SB U-Turn Lane
AM PEAK HOUR

Description	A1A @ SB U-Turn Lane Southbound				0 Westbound			A1A @ SB U-Turn Lane Northbound				0 Eastbound		
	U-Turn	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	Left	Through	Right
2005 Existing Traffic	65	0	780	0	0	0	0	0	0	687	0	0	0	0
Peak Season Category Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
2005 Peak Season	**71**	**0**	**850**	**0**	**0**	**0**	**0**	**0**	**0**	**749**	**0**	**0**	**0**	**0**
Annual Growth Rate	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Background Growth	1	0	17	0	0	0	0	0	0	15	0	0	0	0
2009 Background Traffic	72	0	867	0	0	0	0	0	0	764	0	0	0	0
2009 Diverted Traffic	-72	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009 Total Traffic	**0**	**0**	**867**	**0**	**0**	**0**	**0**	**0**	**0**	**764**	**0**	**0**	**0**	**0**

VOLUME DEVELOPMENT SHEET

A1A @ SB U-Turn Lane
PM PEAK HOUR

Description	A1A @ SB U-Turn Lane Southbound				0 Westbound			A1A @ SB U-Turn Lane Northbound				0 Eastbound		
	U-Turn	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	Left	Through	Right
2005 Existing Traffic	75	0	901	0	0	0	0	0	0	1000	0	0	0	0
Peak Season Category Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
2005 Peak Season	**82**	**0**	**982**	**0**	**0**	**0**	**0**	**0**	**0**	**1090**	**0**	**0**	**0**	**0**
Annual Growth Rate	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Background Growth	2	0	20	0	0	0	0	0	0	22	0	0	0	0
2009 Background Traffic	84	0	1002	0	0	0	0	0	0	1112	0	0	0	0
2009 Diverted Traffic	-84	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By Traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009 Total Traffic	**0**	**0**	**1002**	**0**	**0**	**0**	**0**	**0**	**0**	**1112**	**0**	**0**	**0**	**0**

APPENDIX E:
Intersection Analysis Worksheets – Existing Condition

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
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	0.95	0.95	1.00		1.00	1.00	1.00	0.95			1.00	0.95
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00			1.00	1.00
Flt Protected	0.95	0.96	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1681	1691	1583		1830	1583	1770	3533			1770	3539
Flt Permitted	0.95	0.96	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	1681	1691	1583		1830	1583	1770	3533			1770	3539
Volume (vph)	393	14	493	5	8	4	22	330	4	22	0	475
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	418	15	524	5	9	4	23	351	4	23	0	505
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	0	0
Lane Group Flow (vph)	211	222	524	0	14	0	23	355	0	0	23	505
Turn Type	Split		Free	Split		Perm	Prot			Prot	Prot	
Protected Phases	4	4		8	8		5	2		1	1	6
Permitted Phases			Free			8						
Actuated Green, G (s)	15.4	15.4	85.7		2.3	2.3	2.5	43.0			2.5	43.0
Effective Green, g (s)	17.4	17.4	85.7		4.3	4.3	4.0	44.0			4.0	44.0
Actuated g/C Ratio	0.20	0.20	1.00		0.05	0.05	0.05	0.51			0.05	0.51
Clearance Time (s)	6.0	6.0			6.0	6.0	5.5	5.0			5.5	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	341	343	1583		92	79	83	1814			83	1817
v/s Ratio Prot	0.13	c0.13			0.01		0.01	0.10			0.01	0.14
v/s Ratio Perm			c0.33			0.00						
v/c Ratio	0.62	0.65	0.33		0.15	0.00	0.28	0.20			0.28	0.28
Uniform Delay, d1	31.1	31.3	0.0		39.0	38.7	39.5	11.3			39.5	11.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.3	4.2	0.6		0.8	0.0	1.8	0.2			1.8	0.4
Delay (s)	34.5	35.5	0.6		39.7	38.7	41.3	11.5			41.3	12.2
Level of Service	C	D	A		D	D	D	B			D	B
Approach Delay (s)		16.1			39.5			13.3				8.0
Approach LOS		B			D			B				A

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	4.0
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	↱
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Volume (vph)	353
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	376
RTOR Reduction (vph)	0
Lane Group Flow (vph)	376
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	85.7
Effective Green, g (s)	85.7
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1583
v/s Ratio Prot	
v/s Ratio Perm	0.24
v/c Ratio	0.24
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	0.4
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑↑			↑↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	728	0	71	850
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	774	0	76	904
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1227	258			774	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1227	258			774	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	155	741			837	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	258	258	258	76	301	301	301
Volume Left	0	0	0	76	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	837	1700	1700	1700
Volume to Capacity	0.15	0.15	0.15	0.09	0.18	0.18	0.18
Queue Length 95th (ft)	0	0	0	7	0	0	0
Control Delay (s)	0.0	0.0	0.0	9.7	0.0	0.0	0.0
Lane LOS				A			
Approach Delay (s)	0.0			0.7			
Approach LOS							

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	24.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
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	0.95	0.95	1.00		1.00	1.00	1.00	0.95			1.00	0.95
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00			1.00	1.00
Flt Protected	0.95	0.95	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1681	1689	1583		1819	1583	1770	3538			1770	3539
Flt Permitted	0.95	0.95	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	1681	1689	1583		1819	1583	1770	3538			1770	3539
Volume (vph)	444	10	644	13	14	10	54	608	2	28	7	524
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	477	11	692	14	15	11	58	654	2	30	8	563
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	0	0	0	0
Lane Group Flow (vph)	239	249	692	0	29	1	58	656	0	0	38	563
Turn Type	Split		Free	Split		Perm	Prot			Prot	Prot	
Protected Phases	4	4		8	8		5	2		1	1	6
Permitted Phases			Free			8						
Actuated Green, G (s)	18.5	18.5	96.4		4.1	4.1	5.3	46.8			4.5	46.0
Effective Green, g (s)	20.5	20.5	96.4		6.1	6.1	6.8	47.8			6.0	47.0
Actuated g/C Ratio	0.21	0.21	1.00		0.06	0.06	0.07	0.50			0.06	0.49
Clearance Time (s)	6.0	6.0			6.0	6.0	5.5	5.0			5.5	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	357	359	1583		115	100	125	1754			110	1725
v/s Ratio Prot	0.14	c0.15			0.02		0.03	0.19			0.02	0.16
v/s Ratio Perm			c0.44			0.00						
v/c Ratio	0.67	0.69	0.44		0.25	0.01	0.46	0.37			0.35	0.33
Uniform Delay, d1	34.8	35.0	0.0		43.0	42.3	43.0	15.0			43.3	15.1
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	4.7	5.7	0.9		1.2	0.0	2.7	0.6			1.9	0.5
Delay (s)	39.6	40.8	0.9		44.1	42.3	45.8	15.7			45.2	15.6
Level of Service	D	D	A		D	D	D	B			D	B
Approach Delay (s)		17.1			43.6			18.1				10.1
Approach LOS		B			D			B				B

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	96.4	Sum of lost time (s)	4.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	↱
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Volume (vph)	423
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	455
RTOR Reduction (vph)	0
Lane Group Flow (vph)	455
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	96.4
Effective Green, g (s)	96.4
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1583
v/s Ratio Prot	
v/s Ratio Perm	0.29
v/c Ratio	0.29
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.5
Delay (s)	0.5
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑↑			↑↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1062	0	82	982
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	1142	0	88	1056
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1670	381			1142	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1670	381			1142	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			85	
cM capacity (veh/h)	74	617			608	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	381	381	381	88	352	352	352
Volume Left	0	0	0	88	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	608	1700	1700	1700
Volume to Capacity	0.22	0.22	0.22	0.15	0.21	0.21	0.21
Queue Length 95th (ft)	0	0	0	13	0	0	0
Control Delay (s)	0.0	0.0	0.0	11.9	0.0	0.0	0.0
Lane LOS				B			
Approach Delay (s)	0.0			0.9			
Approach LOS							

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

BROWARD COUNTY FLORIDA

BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	C-051	**Initial Operation Date**	UNKNOWN
Controller Type	2070 W/P-EMPT	**System Number**	3051
Modification Number	12	**Modification Date**	02/25/03
Drawing/Project No	DES. GRP. 1		
Intersection	SR A1A and HALLANDALE BEACH BLVD.		

Controller Phase	1	2	3	4	5	6	7	8
Face Number								
Direction	SBL	NB	WB	EB	NBL	SB		
Initial Green(MIN)	5	7	6	6	5	7		
Vehicle Ext.(GAP)	1.5	0.0	2.0	2.0	1.5	0.0		
Maximum Green I	15	50	25	25	15	50		
Maximum Green II								
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.0		
All Red Clearance	1.5	1.0	2.0	2.0	1.5	1.0		
Phase Recall	OFF	MAX	OFF	OFF	OFF	MAX		
Detector Delay								
Walk		7		7		7		
Pedestrian Clearance		30		26		30		
Permissive	NO				NO			
Flash Operation	RED	YELLOW	RED	RED	RED	YELLOW		
Green Return	7	1	3	5	8	2		

Attachment

Channel/Drop **16 / 3** **IP Address**

NOTES:

1. **DUAL MODE PREEMPTION, FIREHOUSE & BRIDGE. FIREHOUSE TAKES PRIORITY. SEE SPECIAL PROGRAMMING SHEETS FOR PREEMPTION TIMING.**
2. **NO DETECTION NORTH/SOUTH, SIGNAL OPERATES SEMI-ACTUATED.**
3. **MOD. 12 REFLECTS INTERSECTION REBUILT UNDER FDOT CONTRACT.**

Submitted By _____ **Approved By** _____

BROWARD COUNTY
DATA BASE TIMING PLAN DETAIL

AUG 2,2005 CONTROLLER NO. 3051 SECTION NO. 18
SR A1A & HALLANDALE BCH BLVD

PATTERN NUMBER	ENTRY OFFSET	CYCLE LENGTH	PHASE DURATIONS NS	WB	EB	NSL	NBL	SBL
1	7	110	45	15	30	20	0	0
→ 2	64	130 (AM)	45	20	45	20	0	0
3	76	130	45	20	45	20	0	0
→ 4	85	140 (PM)	48	20	49	23	0	0
5	65	130	45	20	45	20	0	0

FIXED INTERVALS:

	NS	WB	EB	NSL	NBL	SBL
MG	7	4	7	5	5	5
FDW	30	0	0	0	0	0
YEL	4	4	4	4	4	4
AR	1	2	2	2	2	2
GRN RETURN	1,2	3	5	7,8	8	7
COMMAND	YLD	F1	F1	F1&2	F2	F1

TOD PATTERN IMPLEMENTATION TIMES FOR SECTION 18

DAY	TIME	PAT. #
SAT	0: 0	1
SAT	6:57	TOD
SAT	7: 0	1
SAT	7: 1	TOD
SAT	10: 0	1
SAT	12: 0	1
SAT	17: 0	1
SAT	18: 0	1
SUN	21: 0	1
SUN	0: 0	1
SUN	6:45	5
SUN	6:57	TOD
SUN	7: 1	TOD
SUN	12: 0	5
SUN	16: 0	5
SUN	18: 0	1
SUN	20: 0	1
M-F	0: 0	1
M-F	5:45	2
M-F	6: 4	TOD
M-F	6: 9	TOD →
M-F	9: 0	3
M-F	11: 0	3
M-F	11:30	3
M-F	15: 4	4 →
M-F	18: 0	4
M-F	18:30	4
M-F	19: 0	4
M-F	20: 0	3
M-F	22: 0	1

APPENDIX F:
Intersection Analysis Worksheets – Future without Project Traffic

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
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	0.95	0.95	1.00		1.00	1.00	1.00	0.95			1.00	0.95
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00			1.00	1.00
Flt Protected	0.95	0.96	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1681	1691	1583		1830	1583	1770	3533			1770	3539
Flt Permitted	0.95	0.96	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	1681	1691	1583		1830	1583	1770	3533			1770	3539
Volume (vph)	401	14	503	5	8	4	22	337	4	22	0	485
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	427	15	535	5	9	4	23	359	4	23	0	516
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	0	0
Lane Group Flow (vph)	215	227	535	0	14	0	23	363	0	0	23	516
Turn Type	Split		Free	Split		Perm	Prot			Prot	Prot	
Protected Phases	4	4		8	8		5	2		1	1	6
Permitted Phases			Free			8						
Actuated Green, G (s)	15.6	15.6	85.7		2.2	2.2	2.5	42.9			2.5	42.9
Effective Green, g (s)	17.6	17.6	85.7		4.2	4.2	4.0	43.9			4.0	43.9
Actuated g/C Ratio	0.21	0.21	1.00		0.05	0.05	0.05	0.51			0.05	0.51
Clearance Time (s)	6.0	6.0			6.0	6.0	5.5	5.0			5.5	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	345	347	1583		90	78	83	1810			83	1813
v/s Ratio Prot	0.13	c0.13			0.01		0.01	0.10			0.01	0.15
v/s Ratio Perm			c0.34			0.00						
v/c Ratio	0.62	0.65	0.34		0.16	0.00	0.28	0.20			0.28	0.28
Uniform Delay, d1	31.0	31.3	0.0		39.1	38.8	39.5	11.4			39.5	11.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.5	4.4	0.6		0.8	0.0	1.8	0.2			1.8	0.4
Delay (s)	34.5	35.6	0.6		39.9	38.8	41.3	11.6			41.3	12.3
Level of Service	C	D	A		D	D	D	B			D	B
Approach Delay (s)		16.2			39.6			13.4				8.1
Approach LOS		B			D			B				A

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	4.0
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Volume (vph)	360
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	383
RTOR Reduction (vph)	0
Lane Group Flow (vph)	383
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	85.7
Effective Green, g (s)	85.7
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1583
v/s Ratio Prot	
v/s Ratio Perm	0.24
v/c Ratio	0.24
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.4
Delay (s)	0.4
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑↑		↑	↑↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	743	0	72	867
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	790	0	77	922
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1251	263			790	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1251	263			790	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	149	735			826	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	263	263	263	77	307	307	307
Volume Left	0	0	0	77	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	826	1700	1700	1700
Volume to Capacity	0.15	0.15	0.15	0.09	0.18	0.18	0.18
Queue Length 95th (ft)	0	0	0	8	0	0	0
Control Delay (s)	0.0	0.0	0.0	9.8	0.0	0.0	0.0
Lane LOS				A			
Approach Delay (s)	0.0			0.8			
Approach LOS							

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
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	0.95	0.95	1.00		1.00	1.00	1.00	0.95			1.00	0.95
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00			1.00	1.00
Flt Protected	0.95	0.95	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1681	1689	1583		1819	1583	1770	3538			1770	3539
Flt Permitted	0.95	0.95	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	1681	1689	1583		1819	1583	1770	3538			1770	3539
Volume (vph)	453	10	657	13	14	10	55	620	2	29	7	535
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	487	11	706	14	15	11	59	667	2	31	8	575
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	0	0	0	0
Lane Group Flow (vph)	244	254	706	0	29	1	59	669	0	0	39	575
Turn Type	Split		Free	Split		Perm	Prot			Prot	Prot	
Protected Phases	4	4		8	8		5	2		1	1	6
Permitted Phases			Free			8						
Actuated Green, G (s)	18.8	18.8	96.8		4.1	4.1	5.3	46.8			4.6	46.1
Effective Green, g (s)	20.8	20.8	96.8		6.1	6.1	6.8	47.8			6.1	47.1
Actuated g/C Ratio	0.21	0.21	1.00		0.06	0.06	0.07	0.49			0.06	0.49
Clearance Time (s)	6.0	6.0			6.0	6.0	5.5	5.0			5.5	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	361	363	1583		115	100	124	1747			112	1722
v/s Ratio Prot	0.15	c0.15			0.02		0.03	0.19			0.02	0.16
v/s Ratio Perm			c0.45			0.00						
v/c Ratio	0.68	0.70	0.45		0.25	0.01	0.48	0.38			0.35	0.33
Uniform Delay, d1	34.9	35.1	0.0		43.2	42.5	43.3	15.3			43.4	15.2
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	4.9	5.8	0.9		1.2	0.0	2.9	0.6			1.9	0.5
Delay (s)	39.9	40.9	0.9		44.3	42.5	46.1	15.9			45.3	15.8
Level of Service	D	D	A		D	D	D	B			D	B
Approach Delay (s)		17.2			43.8			18.4				10.2
Approach LOS		B			D			B				B

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	96.8	Sum of lost time (s)	4.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	↱
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Volume (vph)	432
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	465
RTOR Reduction (vph)	0
Lane Group Flow (vph)	465
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	96.8
Effective Green, g (s)	96.8
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1583
v/s Ratio Prot	
v/s Ratio Perm	0.29
v/c Ratio	0.29
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.5
Delay (s)	0.5
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑↑			↑↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	1083	0	84	1002
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	1165	0	90	1077
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1704	388			1165	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1704	388			1165	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			85	
cM capacity (veh/h)	70	610			596	

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	388	388	388	90	359	359	359
Volume Left	0	0	0	90	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	596	1700	1700	1700
Volume to Capacity	0.23	0.23	0.23	0.15	0.21	0.21	0.21
Queue Length 95th (ft)	0	0	0	13	0	0	0
Control Delay (s)	0.0	0.0	0.0	12.1	0.0	0.0	0.0
Lane LOS				B			
Approach Delay (s)	0.0			0.9			
Approach LOS							

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX G:
Intersection Analysis Worksheets – Future with Project Traffic

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
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	0.95	0.95	1.00		1.00	1.00	1.00	0.95			1.00	0.95
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00			1.00	1.00
Flt Protected	0.95	0.96	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1681	1690	1583		1830	1583	1770	3534			1770	3539
Flt Permitted	0.95	0.96	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	1681	1690	1583		1830	1583	1770	3534			1770	3539
Volume (vph)	444	14	503	5	8	4	22	347	4	219	0	522
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	472	15	535	5	9	4	23	369	4	233	0	555
RTOR Reduction (vph)	0	0	0	0	0	4	0	1	0	0	0	0
Lane Group Flow (vph)	237	250	535	0	14	0	23	372	0	0	233	555
Turn Type	Split		Free	Split		Perm	Prot			Prot	Prot	
Protected Phases	4	4		8	8		5	2		1	1	6
Permitted Phases			Free			8						
Actuated Green, G (s)	19.2	19.2	103.5		2.6	2.6	2.9	44.4			14.8	56.3
Effective Green, g (s)	21.2	21.2	103.5		4.6	4.6	4.4	45.4			16.3	57.3
Actuated g/C Ratio	0.20	0.20	1.00		0.04	0.04	0.04	0.44			0.16	0.55
Clearance Time (s)	6.0	6.0			6.0	6.0	5.5	5.0			5.5	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	344	346	1583		81	70	75	1550			279	1959
v/s Ratio Prot	0.14	c0.15			0.01		0.01	0.11			c0.13	0.16
v/s Ratio Perm			0.34			0.00						
v/c Ratio	0.69	0.72	0.34		0.17	0.00	0.31	0.24			0.84	0.28
Uniform Delay, d1	38.1	38.4	0.0		47.6	47.3	48.1	18.2			42.3	12.2
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	5.7	7.3	0.6		1.0	0.0	2.3	0.4			19.0	0.4
Delay (s)	43.8	45.7	0.6		48.6	47.3	50.4	18.6			61.2	12.6
Level of Service	D	D	A		D	D	D	B			E	B
Approach Delay (s)		21.6			48.3			20.4				15.8
Approach LOS		C			D			C				B

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	103.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	↱
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Volume (vph)	548
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	583
RTOR Reduction (vph)	0
Lane Group Flow (vph)	583
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	103.5
Effective Green, g (s)	103.5
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1583
v/s Ratio Prot	
v/s Ratio Perm	c0.37
v/c Ratio	0.37
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	0.7
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	30	1007	7	0	1289
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	32	1071	7	0	1371
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			850			
pX, platoon unblocked						
vC, conflicting volume	1532	361			1079	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1532	361			1079	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	107	636			642	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	32	429	429	222	457	457	457
Volume Left	0	0	0	0	0	0	0
Volume Right	32	0	0	7	0	0	0
cSH	636	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.05	0.25	0.25	0.13	0.27	0.27	0.27
Queue Length 95th (ft)	4	0	0	0	0	0	0
Control Delay (s)	11.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.0	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	107	954	0	0	1080
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	114	1015	0	0	1149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1398	338			1015	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1398	338			1015	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	83			100	
cM capacity (veh/h)	132	658			679	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	114	406	406	203	383	383	383
Volume Left	0	0	0	0	0	0	0
Volume Right	114	0	0	0	0	0	0
cSH	658	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.17	0.24	0.24	0.12	0.23	0.23	0.23
Queue Length 95th (ft)	16	0	0	0	0	0	0
Control Delay (s)	11.6	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.6	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	273	0	1037	1016	64
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	290	0	1103	1081	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1483	394	1149			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1483	394	1149			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	52	100			
cM capacity (veh/h)	116	605	604			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	290	368	368	368	432	432	284
Volume Left	0	0	0	0	0	0	0
Volume Right	290	0	0	0	0	0	68
cSH	605	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.48	0.22	0.22	0.22	0.25	0.25	0.17
Queue Length 95th (ft)	65	0	0	0	0	0	0
Control Delay (s)	16.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C						
Approach Delay (s)	16.3	0.0			0.0		
Approach LOS	C						

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
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	0.95	0.95	1.00		1.00	1.00	1.00	0.95			1.00	0.95
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00			1.00	1.00
Flt Protected	0.95	0.95	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1681	1688	1583		1819	1583	1770	3538			1770	3539
Flt Permitted	0.95	0.95	1.00		0.98	1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	1681	1688	1583		1819	1583	1770	3538			1770	3539
Volume (vph)	591	10	657	13	14	10	55	653	2	210	7	552
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	635	11	706	14	15	11	59	702	2	226	8	594
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	0	0	0	0
Lane Group Flow (vph)	318	328	706	0	29	1	59	704	0	0	234	594
Turn Type	Split		Free	Split		Perm	Prot			Prot	Prot	
Protected Phases	4	4		8	8		5	2		1	1	6
Permitted Phases			Free			8						
Actuated Green, G (s)	27.2	27.2	117.4		4.6	4.6	7.8	45.3			17.8	55.3
Effective Green, g (s)	29.2	29.2	117.4		6.6	6.6	9.3	46.3			19.3	56.3
Actuated g/C Ratio	0.25	0.25	1.00		0.06	0.06	0.08	0.39			0.16	0.48
Clearance Time (s)	6.0	6.0			6.0	6.0	5.5	5.0			5.5	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	418	420	1583		102	89	140	1395			291	1697
v/s Ratio Prot	0.19	c0.19			0.02		0.03	c0.20			c0.13	0.17
v/s Ratio Perm			c0.45			0.00						
v/c Ratio	0.76	0.78	0.45		0.28	0.01	0.42	0.50			0.80	0.35
Uniform Delay, d1	40.9	41.1	0.0		53.1	52.3	51.5	26.9			47.2	19.1
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	8.0	9.1	0.9		1.5	0.0	2.0	1.3			14.8	0.6
Delay (s)	48.8	50.2	0.9		54.7	52.3	53.5	28.2			62.0	19.7
Level of Service	D	D	A		D	D	D	C			E	B
Approach Delay (s)		24.1			54.0			30.1				19.1
Approach LOS		C			D			C				B

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	117.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group	-		

Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Volume (vph)	520
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	559
RTOR Reduction (vph)	0
Lane Group Flow (vph)	559
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	117.4
Effective Green, g (s)	117.4
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	1583
v/s Ratio Prot	
v/s Ratio Perm	0.35
v/c Ratio	0.35
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.6
Delay (s)	0.6
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	14	1442	22	0	1288
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	15	1551	24	0	1385
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			1110			
pX, platoon unblocked	0.97	0.97			0.97	
vC, conflicting volume	2024	529			1574	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1993	450			1529	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	51	539			418	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	15	620	620	334	462	462	462
Volume Left	0	0	0	0	0	0	0
Volume Right	15	0	0	24	0	0	0
cSH	539	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.36	0.36	0.20	0.27	0.27	0.27
Queue Length 95th (ft)	2	0	0	0	0	0	0
Control Delay (s)	11.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.9	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	130	0	1456	1158	211
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	140	0	1566	1245	227
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1880	528	1472			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1880	528	1472			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	72	100			
cM capacity (veh/h)	63	495	454			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	140	522	522	522	498	498	476
Volume Left	0	0	0	0	0	0	0
Volume Right	140	0	0	0	0	0	227
cSH	495	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.28	0.31	0.31	0.31	0.29	0.29	0.28
Queue Length 95th (ft)	29	0	0	0	0	0	0
Control Delay (s)	15.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C						
Approach Delay (s)	15.1	0.0			0.0		
Approach LOS	C						

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	85	1361	0	0	1369
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	91	1463	0	0	1472
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1954	488			1463	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1954	488			1463	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	83			100	
cM capacity (veh/h)	56	526			457	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	91	585	585	293	491	491	491
Volume Left	0	0	0	0	0	0	0
Volume Right	91	0	0	0	0	0	0
cSH	526	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.17	0.34	0.34	0.17	0.29	0.29	0.29
Queue Length 95th (ft)	16	0	0	0	0	0	0
Control Delay (s)	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	13.3	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		