

Alternative 3

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
3: Avenue 48 & Jefferson Street

6/7/2010

Lane Group	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
Storage Length (ft)	200		200	200		0	300		200	300		150
Storage Lanes	1		1	1		0	2		1	2		1
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
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor			0.98		0.99				0.98			0.98
Frnt			0.850		0.955				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	3322	0	3400	5036	1568	3400	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	3505	1529	1752	3322	0	3400	5036	1530	3400	5036	1529
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			344		100				142			76
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2632			1220			1091			2684	
Travel Time (s)		59.8			27.7			24.8			61.0	
Volume (vph)	41	633	499	123	593	252	342	788	122	284	774	63
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83
Adj. Flow (vph)	49	754	594	137	659	280	398	916	142	342	933	76
Lane Group Flow (vph)	49	754	594	137	939	0	398	916	142	342	933	76
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phases	7	4	4	3	8		5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	9.0	25.0	25.0	11.0	27.0	0.0	14.0	21.0	21.0	13.0	20.0	20.0
Total Split (%)	12.9%	35.7%	35.7%	15.7%	38.6%	0.0%	20.0%	30.0%	30.0%	18.6%	28.6%	28.6%
Maximum Green (s)	4.0	20.0	20.0	6.0	22.0		9.0	16.0	16.0	8.0	15.0	15.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
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
Recall Mode	None	None	None	None	None		None	None	None	None	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		11.0	11.0		11.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)	5.0	20.2	20.2	7.0	25.9		10.0	17.0	17.0	9.0	16.0	16.0
Actuated g/C Ratio	0.07	0.29	0.29	0.10	0.37		0.14	0.25	0.25	0.13	0.23	0.23
v/c Ratio	0.40	0.74	0.86	0.77	0.72		0.81	0.74	0.29	0.77	0.80	0.18
Control Delay	41.9	27.1	24.4	61.4	21.5		43.9	28.5	6.2	43.2	31.7	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	41.9	27.1	24.4	61.4	21.5		43.9	28.5	6.2	43.2	31.7	7.4
LOS	D	C	C	E	C		D	C	A	D	C	A
Approach Delay		26.5			26.6			30.6			33.3	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	21	151	99	59	172		87	133	0	74	139	0
Queue Length 95th (ft)	49	192	#243	#147	#248		#142	167	35	#116	166	26
Internal Link Dist (ft)		2552			1140			1011			2604	
Turn Bay Length (ft)	200		200	200			300		200	300		150
Base Capacity (vph)	121	1052	700	177	1304		492	1237	483	442	1165	412
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.72	0.85	0.77	0.72		0.81	0.74	0.29	0.77	0.80	0.18

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 69.2

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 29.4

Intersection LOS: C

Intersection Capacity Utilization 66.1%

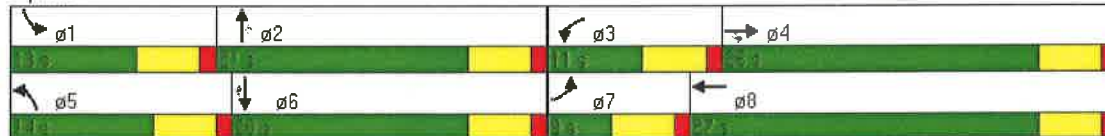
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Avenue 48 & Jefferson Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
6: Fred Waring Drive & Jefferson Street

6/7/2010

Lane Group	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
Storage Length (ft)	225		100	225		100	200		100	200		100
Storage Lanes	2		1	2		1	2		1	2		1
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
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frnt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	5036	1568	3400	5036	1568	3400	5036	1568	3400	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	5036	1530	3400	5036	1530	3400	5036	1530	3400	5036	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			188			217			213			220
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1265			1319			2632			886	
Travel Time (s)		28.8			30.0			59.8			20.1	
Volume (vph)	157	1118	201	216	789	182	200	681	322	249	858	220
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.90	0.90	0.90	0.84	0.84	0.84	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	174	1242	223	257	939	217	217	740	350	274	943	242
Lane Group Flow (vph)	174	1242	223	257	939	217	217	740	350	274	943	242
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phases	7	4	4	3	8	8	5	2	2	1	6	6
Minimum Initial (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
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	11.0	22.0	22.0	10.0	21.0	21.0	10.0	23.0	23.0	10.0	23.0	23.0
Total Split (%)	16.9%	33.8%	33.8%	15.4%	32.3%	32.3%	15.4%	35.4%	35.4%	15.4%	35.4%	35.4%
Maximum Green (s)	6.0	17.0	17.0	5.0	16.0	16.0	5.0	18.0	18.0	5.0	18.0	18.0
Yellow 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
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
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
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	7.0	18.0	18.0	6.0	17.0	17.0	6.0	19.0	19.0	6.0	19.0	19.0
Actuated g/C Ratio	0.11	0.28	0.28	0.09	0.26	0.26	0.09	0.29	0.29	0.09	0.29	0.29
v/c Ratio	0.48	0.89	0.40	0.82	0.71	0.39	0.69	0.50	0.59	0.87	0.64	0.40
Control Delay	32.0	32.5	7.3	52.1	25.4	5.6	41.9	20.5	12.4	59.1	22.4	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
6: Fred Waring Drive & Jefferson Street

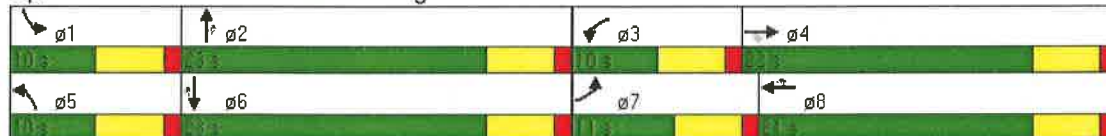
6/7/2010

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	32.0	32.5	7.3	52.1	25.4	5.6	41.9	20.5	12.4	59.1	22.4	6.1
LOS	C	C	A	D	C	A	D	C	B	E	C	A
Approach Delay	29.0		27.2				21.9		26.6			
Approach LOS	C		C				C		C			
Queue Length 50th (ft)	34	172	10	52	123	0	43	88	42	56	118	6
Queue Length 95th (ft)	61	#251	57	#97	150	37	#87	121	116	#119	158	53
Internal Link Dist (ft)	1185		1239				2552		806			
Turn Bay Length (ft)	225		100	225		100	200		100	200		100
Base Capacity (vph)	366	1395	560	314	1317	560	314	1472	598	314	1472	603
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.89	0.40	0.82	0.71	0.39	0.69	0.50	0.59	0.87	0.64	0.40

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 26.4 Intersection LOS: C
 Intersection Capacity Utilization 63.4% ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Fred Waring Drive & Jefferson Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
9: Avenue 48 & Washington Street

6/7/2010

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↖	↖↖↖		↖	↖↖↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225	0		0	200	
Storage Lanes	1	0		0	1	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	0.97	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor			0.99			
Frts		0.850	0.967			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3400	1568	4837	0	1752	5036
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3400	1568	4837	0	1752	5036
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		243	93			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30			30
Link Distance (ft)	2592		902			2717
Travel Time (s)	58.9		20.5			61.8
Volume (vph)	619	224	1612	458	440	1713
Confl. Peds. (#/hr)		10		10		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	673	243	1752	498	478	1862
Lane Group Flow (vph)	673	243	2250	0	478	1862
Turn Type		Prot			Prot	
Protected Phases	4	4	2		1	6
Permitted Phases						
Detector Phases	4	4	2		1	6
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	21.0	21.0	21.0		9.0	21.0
Total Split (s)	22.0	22.0	49.0	0.0	29.0	78.0
Total Split (%)	22.0%	22.0%	49.0%	0.0%	29.0%	78.0%
Maximum Green (s)	17.0	17.0	44.0		24.0	73.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	18.0	18.0	45.0		25.0	74.0
Actuated g/C Ratio	0.18	0.18	0.45		0.25	0.74
v/c Ratio	1.10	0.50	1.01		1.09	0.50
Control Delay	106.0	8.8	48.5		106.9	5.9
Queue Delay	0.0	0.0	0.0		0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 9: Avenue 48 & Washington Street

6/7/2010

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	106.0	8.8	48.5		106.9	5.9
LOS	F	A	D		F	A
Approach Delay	80.2		48.5			26.5
Approach LOS	F		D			C
Queue Length 50th (ft)	~252	0	~510		~346	150
Queue Length 95th (ft)	#364	65	#640		#542	177
Internal Link Dist (ft)	2512		822			2637
Turn Bay Length (ft)	225				200	
Base Capacity (vph)	612	482	2228		438	3727
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	1.10	0.50	1.01		1.09	0.50

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 44.5

Intersection LOS: D

Intersection Capacity Utilization 93.6%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 9: Avenue 48 & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
10: Fred Waring Drive & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	400		1000	150		150	200		125	200		100
Storage Lanes	2		1	2		1	2		1	2		1
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
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frnt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	5036	1568	3400	5036	1568	3400	5036	1568	3400	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	5036	1517	3400	5036	1517	3400	5036	1517	3400	5036	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			305			307			115			90
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2635			1603			3324			2303	
Travel Time (s)		59.9			36.4			75.5			52.3	
Volume (vph)	354	1235	611	255	866	396	545	1276	181	557	1700	220
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	385	1342	664	277	941	430	592	1387	197	605	1848	239
Lane Group Flow (vph)	385	1342	664	277	941	430	592	1387	197	605	1848	239
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phases	7	4	4	3	8	8	5	2	2	1	6	6
Minimum Initial (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
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	17.0	32.0	32.0	13.0	28.0	28.0	22.0	41.0	41.0	24.0	43.0	43.0
Total Split (%)	15.5%	29.1%	29.1%	11.8%	25.5%	25.5%	20.0%	37.3%	37.3%	21.8%	39.1%	39.1%
Maximum Green (s)	12.0	27.0	27.0	8.0	23.0	23.0	17.0	36.0	36.0	19.0	38.0	38.0
Yellow 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
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
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
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	13.0	28.0	28.0	9.0	24.0	24.0	18.0	37.0	37.0	20.0	39.0	39.0
Actuated g/C Ratio	0.12	0.25	0.25	0.08	0.22	0.22	0.16	0.34	0.34	0.18	0.35	0.35
v/c Ratio	0.96	1.05	1.08	1.00	0.86	0.75	1.06	0.82	0.34	0.98	1.04	0.40
Control Delay	84.4	78.6	82.7	90.1	38.9	25.8	80.2	34.0	16.0	78.4	49.6	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 10: Fred Waring Drive & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	84.4	78.6	82.7	90.1	38.9	25.8	80.2	34.0	16.0	78.4	49.6	7.1
LOS	F	E	F	F	D	C	F	C	B	E	D	A
Approach Delay	80.6			44.1			44.9			52.3		
Approach LOS	F			D			D			D		
Queue Length 50th (ft)	141	~378	~354	88	247	203	~229	362	89	197	~523	37
Queue Length 95th (ft)	#237	#473	#581	#183	#308	311	m#323	m421	m108	#329	#598	m21
Internal Link Dist (ft)	2555			1523			3244			2223		
Turn Bay Length (ft)	400		1000	150		150	200		125	200		100
Base Capacity (vph)	402	1282	614	278	1099	571	556	1694	587	618	1785	596
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	1.05	1.08	1.00	0.86	0.75	1.06	0.82	0.34	0.98	1.04	0.40

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 94 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 56.6

Intersection LOS: E

Intersection Capacity Utilization 92.9%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

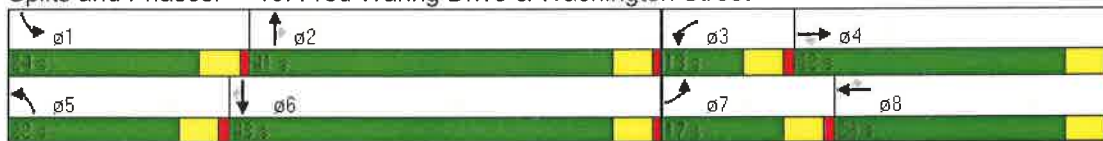
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Fred Waring Drive & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
13: SR-111 & Jefferson Street

6/7/2010

Lane Group	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
Storage Length (ft)	250		0	200		0	300		250	175		200
Storage Lanes	2		1	2		0	2		1	2		1
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor			0.97		0.99				0.97			0.97
Frts			0.850		0.971				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3505	1568	3400	3382	0	3400	5036	1568	3400	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3505	1517	3400	3382	0	3400	5036	1517	3400	5036	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			461		31				173			203
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		840			1276			2684			2668	
Travel Time (s)		19.1			29.0			61.0			60.6	
Volume (vph)	269	1111	456	107	1030	247	399	462	159	448	589	187
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	292	1208	496	116	1120	268	434	502	173	487	640	203
Lane Group Flow (vph)	292	1208	496	116	1388	0	434	502	173	487	640	203
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	21.0	47.0	47.0	21.0	47.0	0.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (%)	19.1%	42.7%	42.7%	19.1%	42.7%	0.0%	19.1%	19.1%	19.1%	19.1%	19.1%	19.1%
Maximum Green (s)	16.0	42.0	42.0	16.0	42.0		16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0	0	0	0	0
Act Effct Green (s)	17.0	43.0	43.0	17.0	43.0		17.0	17.0	17.0	17.0	17.0	17.0
Actuated g/C Ratio	0.15	0.39	0.39	0.15	0.39		0.15	0.15	0.15	0.15	0.15	0.15
v/c Ratio	0.56	0.88	0.57	0.22	1.04		0.83	0.65	0.45	0.93	0.82	0.50
Control Delay	68.6	16.9	2.2	42.0	67.0		59.5	48.0	10.4	52.3	47.6	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	16.9	2.2	42.0	67.0		59.5	48.0	10.4	52.3	47.6	16.9
LOS	E	B	A	D	E		E	D	B	D	D	B
Approach Delay		20.8			65.1			46.6			44.7	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	113	63	1	37	~549		155	123	0	127	178	71
Queue Length 95th (ft)	m159	#158	0	64	#688		#230	162	61	#266	#224	109

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 13: SR-111 & Jefferson Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	760		1196		2604		2588					
Turn Bay Length (ft)	250			200			300		250	175		200
Base Capacity (vph)	525	1370	874	525	1341		525	778	381	525	778	406
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.88	0.57	0.22	1.04		0.83	0.65	0.45	0.93	0.82	0.50

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 59 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 105

Control Type: Pretimed

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 42.2

Intersection LOS: D

Intersection Capacity Utilization 83.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

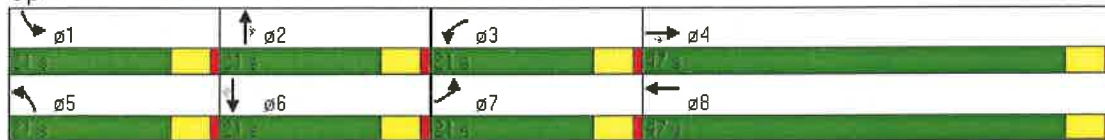
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: SR-111 & Jefferson Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 14: SR-111 & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (ft)	350		225	550		0	450		175	225		0
Storage Lanes	2		1	2		0	2		1	2		0
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
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor			0.97		0.99				0.97		1.00	
Frt			0.850		0.941				0.850		0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3310	4903	1527	3310	4556	0	3310	4903	1527	3310	4796	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3310	4903	1478	3310	4556	0	3310	4903	1478	3310	4796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			305		153				147		23	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		930			1266			2658			671	
Travel Time (s)		21.1			28.8			60.4			15.3	
Volume (vph)	309	1263	572	180	852	549	422	798	135	680	1318	180
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	336	1373	622	196	926	597	459	867	147	739	1433	196
Lane Group Flow (vph)	336	1373	622	196	1523	0	459	867	147	739	1629	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Detector Phases	7	4	4	3	8		5	2	2	1	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	21.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	15.0	32.0	32.0	21.0	38.0	0.0	18.0	28.0	28.0	29.0	39.0	0.0
Total Split (%)	13.6%	29.1%	29.1%	19.1%	34.5%	0.0%	16.4%	25.5%	25.5%	26.4%	35.5%	0.0%
Maximum Green (s)	10.0	27.0	27.0	16.0	33.0		13.0	23.0	23.0	24.0	34.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		5.0	5.0	5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0	0	0			0	0		0	
Act Effct Green (s)	11.0	32.1	32.1	12.9	34.0		14.0	24.0	24.0	25.0	35.0	
Actuated g/C Ratio	0.10	0.29	0.29	0.12	0.31		0.13	0.22	0.22	0.23	0.32	
v/c Ratio	1.02	0.96	0.96	0.51	1.06dr		1.09	0.81	0.34	0.98	1.06	
Control Delay	82.0	42.6	39.9	60.1	42.8		115.7	47.8	8.1	49.5	69.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 14: SR-111 & Washington Street

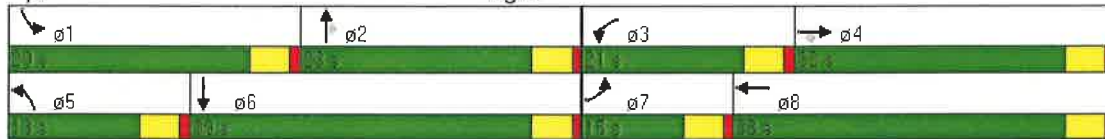
6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	82.0	42.6	39.9	60.1	42.8		115.7	47.8	8.1	49.5	69.9	
LOS	F	D	D	E	D		F	D	A	D	E	
Approach Delay		47.6			44.7			65.0			63.6	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	~123	369	345	75	~153		~188	214	0	279	~469	
Queue Length 95th (ft)	m#154	m#466	m#388	m110	#481		#291	265	52	m#381	m#565	
Internal Link Dist (ft)		850			1186			2578			591	
Turn Bay Length (ft)	350		225	550			450		175	225		
Base Capacity (vph)	331	1432	648	512	1514		421	1070	437	752	1542	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	1.02	0.96	0.96	0.38	1.01		1.09	0.81	0.34	0.98	1.06	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 103 (94%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 55.0 Intersection LOS: E
 Intersection Capacity Utilization 95.1% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 14: SR-111 & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
17: Avenue 48 & Adams Street

6/7/2010

Lane Group	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
Storage Length (ft)	200		0	150		150	0		0	125		0
Storage Lanes	1		0	1		1	0		0	1		1
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
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		1.00				0.98		0.99				0.98
Frt		0.995				0.850		0.966				0.850
Flt Protected	0.950			0.950				0.993		0.950	0.963	
Satd. Flow (prot)	1752	3482	0	1752	3505	1568	0	1753	0	1665	1688	1568
Flt Permitted	0.950			0.950				0.993		0.950	0.963	
Satd. Flow (perm)	1752	3482	0	1752	3505	1529	0	1753	0	1665	1688	1529
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				342		20				258
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2592			2628			875			3025	
Travel Time (s)		58.9			59.7			19.9			68.8	
Volume (vph)	248	466	16	9	428	315	19	85	35	455	60	240
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84	0.93	0.93	0.93
Adj. Flow (vph)	258	485	17	10	465	342	23	101	42	489	65	258
Lane Group Flow (vph)	258	502	0	10	465	342	0	166	0	270	284	258
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases						8						1
Detector Phases	7	4		3	8	8	2	2		1	1	1
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	9.0		21.0	21.0	21.0
Total Split (s)	16.0	28.0	0.0	9.0	21.0	21.0	12.0	12.0	0.0	21.0	21.0	21.0
Total Split (%)	22.9%	40.0%	0.0%	12.9%	30.0%	30.0%	17.1%	17.1%	0.0%	30.0%	30.0%	30.0%
Maximum Green (s)	11.0	23.0		4.0	16.0	16.0	7.0	7.0		16.0	16.0	16.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	None		Max	Max	Max
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0				0	0	0
Act Effct Green (s)	11.9	29.2		5.0	15.0	15.0		8.0		17.0	17.0	17.0
Actuated g/C Ratio	0.18	0.43		0.07	0.22	0.22		0.12		0.25	0.25	0.25
v/c Ratio	0.84	0.33		0.09	0.60	0.57		0.74		0.65	0.67	0.45
Control Delay	53.8	14.2		34.0	27.3	7.0		48.3		32.1	33.1	6.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 17: Avenue 48 & Adams Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	53.8	14.2		34.0	27.3	7.0		48.3		32.1	33.1	6.1
LOS	D	B		C	C	A		D		C	C	A
Approach Delay		27.6			18.9			48.3			24.2	
Approach LOS		C			B			D			C	
Queue Length 50th (ft)	107	65		4	92	0		61		108	114	0
Queue Length 95th (ft)	#231	124		18	136	59		#138		#208	#222	52
Internal Link Dist (ft)		2512			2548			795			2945	
Turn Bay Length (ft)	200			150		150				125		
Base Capacity (vph)	309	1499		117	852	630		224		417	422	576
Starvation Cap Reductn	0	0		0	0	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.83	0.33		0.09	0.55	0.54		0.74		0.65	0.67	0.45

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 68

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 56.8%

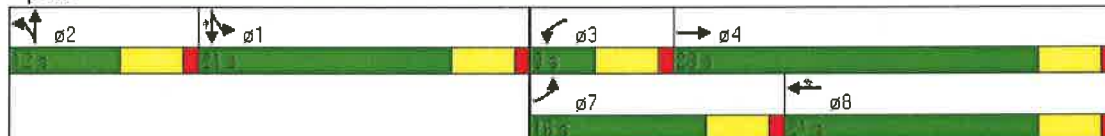
ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Avenue 48 & Adams Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
18: Fred Waring Drive & Adams Street

6/7/2010

Lane Group	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
Storage Length (ft)	100		100	100		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
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
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		1.00				0.97			0.97
Frts			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	3455	0	1752	1845	1568	1752	1845	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	3505	1523	1752	3455	0	1752	1845	1523	1752	1845	1523
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			49		8				127			37
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1822			2648			2644			683	
Travel Time (s)		41.4			60.2			60.1			15.5	
Volume (vph)	23	665	65	130	789	60	453	117	117	142	137	34
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	723	71	141	858	65	492	127	127	154	149	37
Lane Group Flow (vph)	25	723	71	141	923	0	492	127	127	154	149	37
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phases	7	4	4	3	8		5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	9.0	25.0	25.0	12.0	28.0	0.0	31.0	34.0	34.0	19.0	22.0	22.0
Total Split (%)	10.0%	27.8%	27.8%	13.3%	31.1%	0.0%	34.4%	37.8%	37.8%	21.1%	24.4%	24.4%
Maximum Green (s)	4.0	20.0	20.0	7.0	23.0		26.0	29.0	29.0	14.0	17.0	17.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
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
Recall Mode	None	Max	Max	None	Max		None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effect Green (s)	5.0	21.1	21.1	8.0	29.7		26.1	26.5	26.5	12.6	12.9	12.9
Actuated g/C Ratio	0.06	0.25	0.25	0.10	0.35		0.31	0.31	0.31	0.15	0.15	0.15
v/c Ratio	0.26	0.82	0.17	0.84	0.75		0.90	0.22	0.22	0.59	0.53	0.14
Control Delay	47.5	40.2	13.3	79.3	31.4		51.2	22.8	5.3	43.5	39.9	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 18: Fred Waring Drive & Adams Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	47.5	40.2	13.3	79.3	31.4		51.2	22.8	5.3	43.5	39.9	11.7
LOS	D	D	B	E	C		D	C	A	D	D	B
Approach Delay		38.1			37.8			38.5			38.5	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	13	193	9	76	210		248	50	0	77	74	0
Queue Length 95th (ft)	39	#311	44	#193	#410		#464	94	37	143	131	25
Internal Link Dist (ft)		1742			2568			2564			603	
Turn Bay Length (ft)	100		100	100			100			100		100
Base Capacity (vph)	98	877	418	167	1223		557	632	605	304	373	337
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.82	0.17	0.84	0.75		0.88	0.20	0.21	0.51	0.40	0.11

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 84.2

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 38.1

Intersection LOS: D

Intersection Capacity Utilization 74.5%

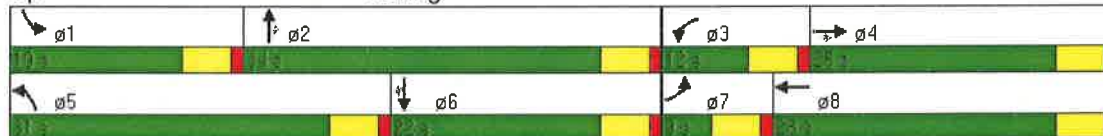
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 18: Fred Waring Drive & Adams Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
19: SR-111 & Adams Street

6/7/2010

Lane Group	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
Storage Length (ft)	575		200	400		150	150		150	150		150
Storage Lanes	2		1	2		1	2		1	2		1
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
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.97			0.98			0.97			0.97
Frnt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	5036	1568	3400	5036	1568	3400	3505	1568	3400	3505	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	5036	1517	3400	5036	1535	3400	3505	1528	3400	3505	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			217			125			67			187
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1285			1329			3025			2276	
Travel Time (s)		29.2			30.2			68.8			51.7	
Volume (vph)	235	1394	233	137	1190	158	217	425	62	304	380	172
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	1515	253	149	1293	172	236	462	67	330	413	187
Lane Group Flow (vph)	255	1515	253	149	1293	172	236	462	67	330	413	187
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phases	7	4	4	3	8	8	5	2	2	1	6	6
Minimum Initial (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
Minimum Split (s)	9.0	21.0	21.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	21.0	21.0
Total Split (s)	19.0	46.0	46.0	14.0	41.0	41.0	18.0	28.0	28.0	22.0	32.0	32.0
Total Split (%)	17.3%	41.8%	41.8%	12.7%	37.3%	37.3%	16.4%	25.5%	25.5%	20.0%	29.1%	29.1%
Maximum Green (s)	14.0	41.0	41.0	9.0	36.0	36.0	13.0	23.0	23.0	17.0	27.0	27.0
Yellow 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
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
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
Recall Mode	None	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0								5.0	5.0
Flash Dont Walk (s)		11.0	11.0								11.0	11.0
Pedestrian Calls (#/hr)		0	0								0	0
Act Effct Green (s)	13.7	42.4	42.4	9.6	38.3	38.3	12.9	26.0	26.0	16.0	29.1	29.1
Actuated g/C Ratio	0.12	0.39	0.39	0.09	0.35	0.35	0.12	0.24	0.24	0.15	0.26	0.26
v/c Ratio	0.60	0.78	0.35	0.50	0.74	0.28	0.59	0.56	0.16	0.67	0.45	0.35
Control Delay	43.4	24.9	8.9	37.5	30.8	14.6	52.4	40.5	9.7	45.5	34.8	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
22: Avenue 48 & Dune Palms Road

6/7/2010

Lane Group	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
Storage Length (ft)	275		0	150		0	0		0	150		0
Storage Lanes	2		0	1		0	0		0	1		1
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
Leading Detector (ft)	50	50		50	50		50	50		50		50
Trailing Detector (ft)	0	0		0	0		0	0		0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor					0.99							0.97
Frt					0.956							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	3400	3505	0	1845	3331	0	0	1845	0	3400	0	1568
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	3400	3505	0	1845	3331	0	0	1845	0	3400	0	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					119							131
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2628			2632			570			2692	
Travel Time (s)		59.7			59.8			13.0			61.2	
Volume (vph)	80	803	0	0	721	299	0	0	0	456	0	124
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	84	845	0	0	784	325	0	0	0	480	0	131
Lane Group Flow (vph)	84	845	0	0	1109	0	0	0	0	480	0	131
Turn Type	Prot			Prot			Split			Prot		custom
Protected Phases	7	4		3	8		2	2		1		
Permitted Phases												1
Detector Phases	7	4		3	8		2	2		1		1
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
Minimum Split (s)	9.0	21.0		9.0	9.0		9.0	9.0		9.0		9.0
Total Split (s)	9.0	26.0	0.0	9.0	26.0	0.0	10.0	10.0	0.0	15.0	0.0	15.0
Total Split (%)	15.0%	43.3%	0.0%	15.0%	43.3%	0.0%	16.7%	16.7%	0.0%	25.0%	0.0%	25.0%
Maximum Green (s)	4.0	21.0		4.0	21.0		5.0	5.0		10.0		10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0		1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Recall Mode	None	None		None	None		None	None		None		None
Walk Time (s)		5.0										
Flash Dont Walk (s)		11.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	5.1	23.8			19.2					10.7		10.7
Actuated g/C Ratio	0.11	0.55			0.45					0.25		0.25
v/c Ratio	0.23	0.43			0.71					0.57		0.27
Control Delay	22.2	6.0			12.3					19.0		5.9
Queue Delay	0.0	0.0			0.0					0.0		0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 22: Avenue 48 & Dune Palms Road

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	22.2	6.0			12.3					19.0		5.9
LOS	C	A			B					B		A
Approach Delay		7.4			12.3							
Approach LOS		A			B							
Queue Length 50th (ft)	11	53			115					65		0
Queue Length 95th (ft)	28	78			177					105		33
Internal Link Dist (ft)		2548			2552			490			2612	
Turn Bay Length (ft)	275									150		
Base Capacity (vph)	370	2087			1684					892		496
Starvation Cap Reductn	0	0			0					0		0
Spillback Cap Reductn	0	0			0					0		0
Storage Cap Reductn	0	0			0					0		0
Reduced v/c Ratio	0.23	0.40			0.66					0.54		0.26

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 42.9

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 11.5

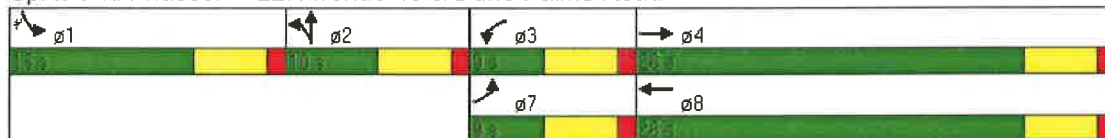
Intersection LOS: B

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 22: Avenue 48 & Dune Palms Road



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
23: Fred Waring Drive & Dune Palms Road

6/7/2010

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor	1.00					0.97
Frt	0.983					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3434	0	1752	3505	1752	1568
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3434	0	1752	3505	1752	1523
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	24					221
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	2648			1375	2640	
Travel Time (s)	60.2			31.3	60.0	
Volume (vph)	1298	168	151	1098	166	186
Confl. Peds. (#/hr)		10				10
Peak Hour Factor	0.84	0.84	0.80	0.80	0.78	0.78
Adj. Flow (vph)	1545	200	189	1372	213	238
Lane Group Flow (vph)	1745	0	189	1372	213	238
Turn Type			Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phases	4		3	8	2	2
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		9.0	21.0	21.0	21.0
Total Split (s)	53.0	0.0	16.0	69.0	21.0	21.0
Total Split (%)	58.9%	0.0%	17.8%	76.7%	23.3%	23.3%
Maximum Green (s)	48.0		11.0	64.0	16.0	16.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		None	Max	None	None
Walk Time (s)	5.0			5.0	5.0	5.0
Flash Dont Walk (s)	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	49.3		11.8	65.1	15.1	15.1
Actuated g/C Ratio	0.56		0.13	0.74	0.17	0.17
v/c Ratio	0.90		0.81	0.53	0.71	0.53
Control Delay	26.0		64.2	6.1	48.0	10.8
Queue Delay	0.0		0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 23: Fred Waring Drive & Dune Palms Road

6/7/2010

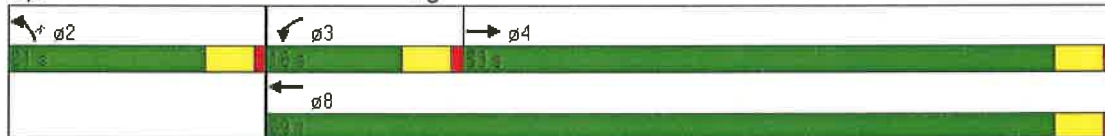


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	26.0		64.2	6.1	48.0	10.8
LOS	C		E	A	D	B
Approach Delay	26.0			13.2	28.4	
Approach LOS	C			B	C	
Queue Length 50th (ft)	446		106	156	113	8
Queue Length 95th (ft)	494		#178	163	158	45
Internal Link Dist (ft)	2568			1295	2560	
Turn Bay Length (ft)			150			
Base Capacity (vph)	1929		238	2585	331	467
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.90		0.79	0.53	0.64	0.51

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 88.2
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 21.0
 Intersection LOS: C
 Intersection Capacity Utilization 70.1%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 23: Fred Waring Drive & Dune Palms Road



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
24: SR-111 & Dune Palms Road

6/7/2010

Lane Group	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
Storage Length (ft)	150		150	550		150	150		175	200		150
Storage Lanes	2		1	2		1	2		1	2		1
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
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Fr't			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	5036	1568	3400	5036	1568	3400	3505	1568	3400	3505	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	5036	1517	3400	5036	1517	3400	3505	1517	3400	3505	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84			119			154			136
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1333			1760			2692			3853	
Travel Time (s)		30.3			40.0			61.2			87.6	
Volume (vph)	166	1620	123	137	1258	153	91	155	142	164	202	125
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	180	1761	134	149	1367	166	99	168	154	178	220	136
Lane Group Flow (vph)	180	1761	134	149	1367	166	99	168	154	178	220	136
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phases	7	4	4	3	8	8	5	2	2	1	6	6
Minimum Initial (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
Minimum Split (s)	21.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	22.0	52.0	52.0	14.0	44.0	44.0	12.0	22.0	22.0	22.0	32.0	32.0
Total Split (%)	20.0%	47.3%	47.3%	12.7%	40.0%	40.0%	10.9%	20.0%	20.0%	20.0%	29.1%	29.1%
Maximum Green (s)	17.0	47.0	47.0	9.0	39.0	39.0	7.0	17.0	17.0	17.0	27.0	27.0
Yellow 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
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
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
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0	0	0	0
Act Effct Green (s)	11.2	47.2	47.2	9.7	45.7	45.7	8.0	25.2	25.2	11.9	29.1	29.1
Actuated g/C Ratio	0.10	0.43	0.43	0.09	0.42	0.42	0.07	0.23	0.23	0.11	0.26	0.26
v/c Ratio	0.52	0.81	0.19	0.50	0.65	0.24	0.40	0.21	0.33	0.48	0.24	0.27
Control Delay	54.7	20.1	3.9	40.3	28.0	11.7	53.8	36.4	8.1	50.2	33.0	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
27: Miles Avenue & Jefferson Street

6/7/2010

Lane Group	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
Storage Length (ft)	150		0	150		0	150		0	150		150
Storage Lanes	1		0	1		0	2		1	2		1
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
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor		0.97			0.99				0.97			0.97
Fr't		0.873			0.940				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	2976	0	1752	3252	0	3400	5036	1568	3400	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	2976	0	1752	3252	0	3400	5036	1517	3400	5036	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		200			32				18			80
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2656			1279			1256			2632	
Travel Time (s)		60.4			29.1			28.5			59.8	
Volume (vph)	193	35	191	14	24	16	107	1019	16	9	1163	99
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.73	0.73	0.73	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	264	48	262	28	48	32	120	1145	18	10	1307	111
Lane Group Flow (vph)	264	310	0	28	80	0	120	1145	18	10	1307	111
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phases	7	4		3	8		5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0		9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	32.0	43.0	0.0	12.0	23.0	0.0	14.0	44.0	44.0	11.0	41.0	41.0
Total Split (%)	29.1%	39.1%	0.0%	10.9%	20.9%	0.0%	12.7%	40.0%	40.0%	10.0%	37.3%	37.3%
Maximum Green (s)	27.0	38.0		7.0	18.0		9.0	39.0	39.0	6.0	36.0	36.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max		None	Max		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	21.8	43.8		7.5	25.2		9.4	48.8	48.8	6.7	37.6	37.6
Actuated g/C Ratio	0.20	0.40		0.07	0.23		0.09	0.44	0.44	0.06	0.34	0.34
v/c Ratio	0.76	0.24		0.24	0.10		0.41	0.51	0.03	0.05	0.76	0.19
Control Delay	55.4	9.1		53.3	23.8		53.4	29.6	15.4	49.1	35.8	10.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
28: Miles Avenue & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	150		200	200		275
Storage Lanes	1		0	2		0	1		1	1		1
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
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.99			0.98				0.97			0.97
Fr t		0.960			0.906				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3336	0	3400	3112	0	1752	5036	1568	1752	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	3336	0	3400	3112	0	1752	5036	1517	1752	5036	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			197				153			95
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		4499			3481			3324			2114	
Travel Time (s)		102.3			79.1			75.5			48.0	
Volume (vph)	145	303	110	107	127	211	130	1490	183	350	1900	87
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	158	329	120	116	138	229	141	1620	199	380	2065	95
Lane Group Flow (vph)	158	449	0	116	367	0	141	1620	199	380	2065	95
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phases	7	4		3	8		5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0		9.0	21.0		9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	15.0	26.0	0.0	10.0	21.0	0.0	16.0	43.0	43.0	31.0	58.0	58.0
Total Split (%)	13.6%	23.6%	0.0%	9.1%	19.1%	0.0%	14.5%	39.1%	39.1%	28.2%	52.7%	52.7%
Maximum Green (s)	10.0	21.0		5.0	16.0		11.0	38.0	38.0	26.0	53.0	53.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max		None	Max		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	11.0	22.0		6.0	17.0		11.6	40.3	40.3	25.7	54.4	54.4
Actuated g/C Ratio	0.10	0.20		0.05	0.15		0.11	0.37	0.37	0.23	0.49	0.49
v/c Ratio	0.90	0.64		0.63	0.57		0.76	0.88	0.30	0.93	0.83	0.12
Control Delay	96.5	41.2		66.4	23.3		49.3	33.3	12.8	76.7	14.2	0.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 28: Miles Avenue & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Total Delay	96.5	41.2		66.4	23.3		49.3	33.3	12.8	76.7	14.2	0.3
LOS	F	D		E	C		D	C	B	E	B	A
Approach Delay		55.6			33.6			32.3			23.0	
Approach LOS		E			C			C			C	
Queue Length 50th (ft)	112	140		42	57		87	424	66	244	110	0
Queue Length 95th (ft)	#236	195		#77	106		m82	m403	m61	m#391	182	m0
Internal Link Dist (ft)		4419			3401			3244			2034	
Turn Bay Length (ft)	200			200			150		200	200		275
Base Capacity (vph)	175	701		185	648		191	1843	653	430	2489	798
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.64		0.63	0.57		0.74	0.88	0.30	0.88	0.83	0.12

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 101 (92%), Referenced to phase 2:SET and 6:NWT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 30.8

Intersection LOS: C

Intersection Capacity Utilization 82.9%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Miles Avenue & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
29: Miles Avenue & Adams Street

6/7/2010

Lane Group	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
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
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
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frts		0.959			0.962			0.982			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3340	0	1752	3352	0	1752	3432	0	1752	3461	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	3340	0	1752	3352	0	1752	3432	0	1752	3461	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			65			25			13	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3481			2620			2613			2644	
Travel Time (s)		79.1			59.5			59.4			60.1	
Volume (vph)	44	383	142	55	168	58	96	673	92	49	530	41
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.92	0.92	0.92	0.91	0.91	0.91
Adj. Flow (vph)	47	407	151	62	189	65	104	732	100	54	582	45
Lane Group Flow (vph)	47	558	0	62	254	0	104	832	0	54	627	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phases	7	4		3	8		5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	9.0	21.0	0.0	9.0	21.0	0.0	9.0	21.0	0.0	9.0	21.0	0.0
Total Split (%)	15.0%	35.0%	0.0%	15.0%	35.0%	0.0%	15.0%	35.0%	0.0%	15.0%	35.0%	0.0%
Maximum Green (s)	4.0	16.0		4.0	16.0		4.0	16.0		4.0	16.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	5.0	17.3		5.0	17.3		5.0	19.3		5.0	17.3	
Actuated g/C Ratio	0.09	0.32		0.09	0.32		0.09	0.35		0.09	0.32	
v/c Ratio	0.31	0.50		0.41	0.23		0.67	0.68		0.36	0.57	
Control Delay	31.7	15.8		34.8	12.4		50.5	21.0		33.1	19.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 29: Miles Avenue & Adams Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	31.7	15.8		34.8	12.4		50.5	21.0		33.1	19.1	
LOS	C	B		C	B		D	C		C	B	
Approach Delay		17.1			16.8			24.2			20.2	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	16	74		22	27		38	143		19	101	
Queue Length 95th (ft)	44	117		54	51		#107	#236		49	150	
Internal Link Dist (ft)		3401			2540			2533			2564	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	151	1121		151	1109		156	1227		151	1108	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.31	0.50		0.41	0.23		0.67	0.68		0.36	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 54.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 20.5

Intersection LOS: C

Intersection Capacity Utilization 57.1%

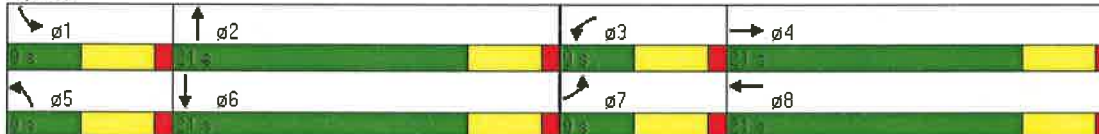
ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 29: Miles Avenue & Adams Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
30: Miles Avenue & Dune Palms Road

6/7/2010

Lane Group	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	
Storage Length (ft)	200		0	200		0	150		0	125		0	
Storage Lanes	1		0	1		0	1		0	1		0	
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	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00			1.00		
Fr _t		0.971			0.984			0.972			0.980		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1752	3388	0	1752	3440	0	1752	3392	0	1752	3424	0	
Flt Permitted	0.950			0.950			0.950			0.950			
Satd. Flow (perm)	1752	3388	0	1752	3440	0	1752	3392	0	1752	3424	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		50			21			47			29		
Headway 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	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2620			2656			1383			2640		
Travel Time (s)		59.5			60.4			31.4			60.0		
Volume (vph)	58	392	96	63	193	23	73	308	72	5	228	36	
Confl. Peds. (#/hr)			10			10			10			10	
Peak Hour Factor	0.72	0.72	0.72	0.88	0.88	0.88	0.87	0.87	0.87	0.94	0.94	0.94	
Adj. Flow (vph)	81	544	133	72	219	26	84	354	83	5	243	38	
Lane Group Flow (vph)	81	677	0	72	245	0	84	437	0	5	281	0	
Turn Type	Prot			Prot			Prot			Prot			
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases													
Detector Phases	7	4		3	8		5	2		1	6		
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
Minimum Split (s)	9.0	21.0		9.0	21.0		9.0	21.0		9.0	21.0		
Total Split (s)	9.0	21.0	0.0	9.0	21.0	0.0	9.0	21.0	0.0	9.0	21.0	0.0	
Total Split (%)	15.0%	35.0%	0.0%	15.0%	35.0%	0.0%	15.0%	35.0%	0.0%	15.0%	35.0%	0.0%	
Maximum Green (s)	4.0	16.0		4.0	16.0		4.0	16.0		4.0	16.0		
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0		
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag		
Lead-Lag Optimize?													
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Recall Mode	None	Max		None	Max		None	Max		None	Max		
Walk Time (s)		5.0			5.0			5.0			5.0		
Flash Dont Walk (s)		11.0			11.0			11.0			11.0		
Pedestrian Calls (#/hr)		0			0			0			0		
Act Effct Green (s)	5.0	19.0		5.0	17.3		5.0	22.4		5.1	17.3		
Actuated g/C Ratio	0.09	0.34		0.08	0.31		0.09	0.40		0.08	0.31		
v/c Ratio	0.54	0.58		0.49	0.23		0.56	0.32		0.04	0.26		
Control Delay	41.8	18.1		39.4	15.5		43.1	12.3		27.8	15.4		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 30: Miles Avenue & Dune Palms Road

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	41.8	18.1		39.4	15.5		43.1	12.3		27.8	15.4	
LOS	D	B		D	B		D	B		C	B	
Approach Delay		20.6			21.0			17.3			15.6	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	29	104		26	32		30	45		2	36	
Queue Length 95th (ft)	52	115		#66	56		#79	92		10	64	
Internal Link Dist (ft)		2540			2576			1303			2560	
Turn Bay Length (ft)	200			200			150			125		
Base Capacity (vph)	151	1177		147	1073		151	1377		140	1073	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.54	0.58		0.49	0.23		0.56	0.32		0.04	0.26	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 56.4

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 19.0

Intersection LOS: B

Intersection Capacity Utilization 48.3%

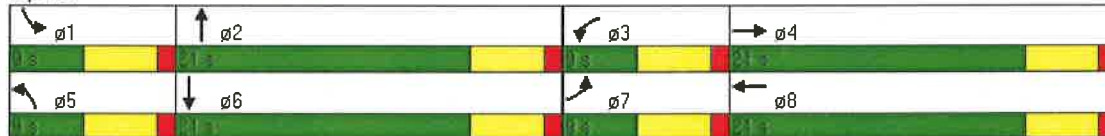
ICU Level of Service A

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 30: Miles Avenue & Dune Palms Road



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
32: SR-111 & Miles Avenue

6/7/2010

Lane Group	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
Storage Length (ft)	400		200	400		0	75		75	125		0
Storage Lanes	1		1	1		0	1		1	1		1
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
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96		1.00				0.95			0.95
Frts			0.850		0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	3501	0	1752	1845	1568	1752	1845	1568
Flt Permitted	0.950			0.950			0.800			0.800		
Satd. Flow (perm)	1752	3505	1508	1752	3501	0	1476	1845	1494	1476	1845	1494
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			57		2				91			151
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1414			4473			454			2121	
Travel Time (s)		32.1			101.7			10.3			48.2	
Volume (vph)	188	1939	56	69	1334	10	45	39	70	4	20	138
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.98	0.98	0.98	0.95	0.95	0.95	0.77	0.77	0.77	0.88	0.88	0.88
Adj. Flow (vph)	192	1979	57	73	1404	11	58	51	91	5	23	157
Lane Group Flow (vph)	192	1979	57	73	1415	0	58	51	91	5	23	157
Turn Type	Prot		Perm	Prot			Perm		Perm	Perm		Perm
Protected Phases	7	4		3	8			2			2	
Permitted Phases			4				2		2	2		2
Detector Phases	7	4	4	3	8		2	2	2	2	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	13.0	42.0	42.0	9.0	38.0	0.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (%)	21.7%	70.0%	70.0%	15.0%	63.3%	0.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Maximum Green (s)	8.0	37.0	37.0	4.0	33.0		4.0	4.0	4.0	4.0	4.0	4.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
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
Recall Mode	None	Max	Max	None	Max		None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		11.0	11.0		11.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)	9.0	44.9	44.9	5.0	36.7		5.0	5.0	5.0	5.0	5.0	5.0
Actuated g/C Ratio	0.15	0.74	0.74	0.08	0.60		0.08	0.08	0.08	0.08	0.08	0.08
v/c Ratio	0.74	0.77	0.05	0.53	0.67		0.49	0.34	0.45	0.04	0.16	0.61
Control Delay	44.5	10.6	1.6	42.6	10.8		41.9	32.7	14.6	26.2	28.1	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 32: SR-111 & Miles Avenue

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	44.5	10.6	1.6	42.6	10.8		41.9	32.7	14.6	26.2	28.1	17.5
LOS	D	B	A	D	B		D	C	B	C	C	B
Approach Delay		13.3			12.3			27.2			19.0	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	87	265	0	26	173		21	18	0	2	8	2
Queue Length 95th (ft)	#156	#425	10	#71	243		44	39	26	10	26	#58
Internal Link Dist (ft)		1334			4393			374			2041	
Turn Bay Length (ft)	400		200	400			75		75	125		
Base Capacity (vph)	259	2582	1126	137	2108		118	148	204	118	148	259
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.77	0.05	0.53	0.67		0.49	0.34	0.45	0.04	0.16	0.61

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 61

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 13.9

Intersection LOS: B

Intersection Capacity Utilization 77.8%

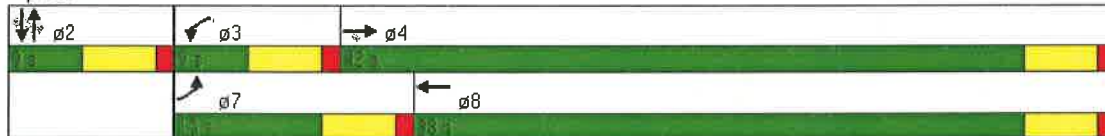
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 32: SR-111 & Miles Avenue



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
33: SR-111 & La Quinta Drive

6/7/2010

Lane Group	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
Storage Length (ft)	400		150	400		0	100		0	100		0
Storage Lanes	2		1	2		0	1		1	1		1
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
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		1.00				0.97			0.97
Frts			0.850		0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	5036	1568	3400	4902	0	1752	1845	1568	1752	1845	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	5036	1517	3400	4902	0	1752	1845	1517	1752	1845	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		39				140			71
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			1333			571			343	
Travel Time (s)		30.2			30.3			13.0			7.8	
Volume (vph)	92	1652	229	234	1335	232	224	36	184	190	53	65
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.84	0.84	0.84	0.92	0.92	0.92
Adj. Flow (vph)	101	1815	252	249	1420	247	267	43	219	207	58	71
Lane Group Flow (vph)	101	1815	252	249	1667	0	267	43	219	207	58	71
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phases	7	4	4	3	8		5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	11.0	48.0	48.0	14.0	51.0	0.0	26.0	27.0	27.0	21.0	22.0	22.0
Total Split (%)	10.0%	43.6%	43.6%	12.7%	46.4%	0.0%	23.6%	24.5%	24.5%	19.1%	20.0%	20.0%
Maximum Green (s)	6.0	43.0	43.0	9.0	46.0		21.0	22.0	22.0	16.0	17.0	17.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
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
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0			0	0		0	0
Act Effct Green (s)	7.0	44.0	44.0	10.0	47.0		20.4	23.8	23.8	16.2	19.6	19.6
Actuated g/C Ratio	0.06	0.40	0.40	0.09	0.43		0.19	0.22	0.22	0.15	0.18	0.18
v/c Ratio	0.47	0.90	0.36	0.81	0.79		0.82	0.11	0.50	0.80	0.18	0.22
Control Delay	68.4	22.9	4.9	55.1	27.2		63.9	36.2	18.9	68.2	41.2	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 33: SR-111 & La Quinta Drive

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.4	22.9	4.9	55.1	27.2		63.9	36.2	18.9	68.2	41.2	11.3
LOS	E	C	A	E	C		E	D	B	E	D	B
Approach Delay		22.9			30.8			43.0			51.5	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	30	419	53	72	441		179	25	47	142	36	0
Queue Length 95th (ft)	m44	478	m67	#147	484		#256	52	106	#254	75	40
Internal Link Dist (ft)		1249			1253			491			263	
Turn Bay Length (ft)	400		150	400			100			100		
Base Capacity (vph)	216	2014	694	309	2117		350	399	438	271	329	329
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.90	0.36	0.81	0.79		0.76	0.11	0.50	0.76	0.18	0.22

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 69 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 30.1

Intersection LOS: C

Intersection Capacity Utilization 67.7%

ICU Level of Service C

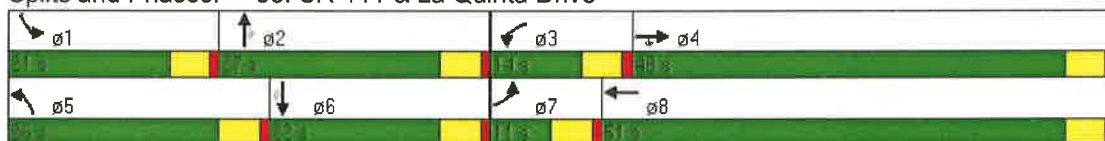
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: SR-111 & La Quinta Drive



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
35: Avenue 47 & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	0		0	0		100	200		0	250		0
Storage Lanes	0		0	0		1	1		0	1		0
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
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99				0.97		1.00			1.00	
Frt		0.965				0.850		0.994				
Flt Protected		0.987			0.959		0.950			0.950		
Satd. Flow (prot)	0	1742	0	0	1769	1568	1752	4995	0	1752	5035	0
Flt Permitted		0.987			0.959		0.950			0.950		
Satd. Flow (perm)	0	1742	0	0	1769	1517	1752	4995	0	1752	5035	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				87		7				
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		300			677			2717			2658	
Travel Time (s)		6.8			15.4			61.8			60.4	
Volume (vph)	6	12	6	59	10	74	14	1620	65	36	2098	5
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.57	0.57	0.57	0.85	0.85	0.85	0.92	0.92	0.92	0.82	0.82	0.82
Adj. Flow (vph)	11	21	11	69	12	87	15	1761	71	44	2559	6
Lane Group Flow (vph)	0	43	0	0	81	87	15	1832	0	44	2565	0
Turn Type	Split			Split		Perm	Prot			Prot		
Protected Phases	4	4		7	7		5	2		1	6	
Permitted Phases						7						
Detector Phases	4	4		7	7	7	5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	21.0	21.0	0.0	21.0	21.0	21.0	9.0	57.0	0.0	11.0	59.0	0.0
Total Split (%)	19.1%	19.1%	0.0%	19.1%	19.1%	19.1%	8.2%	51.8%	0.0%	10.0%	53.6%	0.0%
Maximum Green (s)	16.0	16.0		16.0	16.0	16.0	4.0	52.0		6.0	54.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)		8.6			10.9	10.9	5.1	64.6		7.0	67.6	
Actuated g/C Ratio		0.08			0.11	0.11	0.05	0.66		0.07	0.69	
v/c Ratio		0.28			0.41	0.36	0.17	0.56		0.37	0.74	
Control Delay		37.3			44.4	12.9	50.6	12.8		52.1	14.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 35: Avenue 47 & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		37.3			44.4	12.9	50.6	12.8		52.1	14.8	
LOS		D			D	B	D	B		D	B	
Approach Delay		37.3			28.1			13.1			15.5	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)		18			46	0	9	263		26	331	
Queue Length 95th (ft)		30			88	38	31	371		58	521	
Internal Link Dist (ft)		220			597			2637			2578	
Turn Bay Length (ft)						100	200			250		
Base Capacity (vph)		280			292	323	86	3279		122	3460	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.15			0.28	0.27	0.17	0.56		0.36	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 98.4

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 15.2

Intersection LOS: B

Intersection Capacity Utilization 58.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 35: Avenue 47 & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
38: Westward Ho Drive & Jefferson Street

6/7/2010

Lane Group	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
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
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
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91
Ped Bike Factor		0.97			0.99			1.00				1.00
Frt		0.875			0.956			0.999				0.992
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1571	0	1752	1747	0	1752	5029	0	1752	4985	0
Flt Permitted	0.740			0.685			0.950			0.950		
Satd. Flow (perm)	1365	1571	0	1264	1747	0	1752	5029	0	1752	4985	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		93			8			4			22	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5249			1348			2668			1328	
Travel Time (s)		119.3			30.6			60.6			30.2	
Volume (vph)	64	16	80	8	15	6	93	1113	10	4	1226	73
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.86	0.86	0.86	0.79	0.79	0.79	0.86	0.86	0.86	0.80	0.80	0.80
Adj. Flow (vph)	74	19	93	10	19	8	108	1294	12	5	1532	91
Lane Group Flow (vph)	74	112	0	10	27	0	108	1306	0	5	1623	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Detector Phases	4	4		4	4		5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	21.0		9.0	21.0	
Total Split (s)	12.0	12.0	0.0	12.0	12.0	0.0	13.0	34.0	0.0	9.0	30.0	0.0
Total Split (%)	21.8%	21.8%	0.0%	21.8%	21.8%	0.0%	23.6%	61.8%	0.0%	16.4%	54.5%	0.0%
Maximum Green (s)	7.0	7.0		7.0	7.0		8.0	29.0		4.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)								5.0			5.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	7.7	7.7		7.7	7.7		8.3	40.4		5.3	34.4	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.15	0.73		0.10	0.63	
v/c Ratio	0.39	0.37		0.06	0.11		0.41	0.35		0.03	0.52	
Control Delay	21.6	9.4		21.2	17.9		22.5	3.8		27.5	2.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 38: Westward Ho Drive & Jefferson Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	21.6	9.4		21.2	17.9		22.5	3.8		27.5	2.9	
LOS	C	A		C	B		C	A		C	A	
Approach Delay		14.3			18.8			5.2			3.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	21	7		3	6		31	28		3	89	
Queue Length 95th (ft)	m60	49		12	20		m54	m165		m5	10	
Internal Link Dist (ft)		5169			1268			2588			1248	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	199	308		184	261		287	3695		169	3126	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.37	0.36		0.05	0.10		0.38	0.35		0.03	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 25 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 4.8

Intersection LOS: A

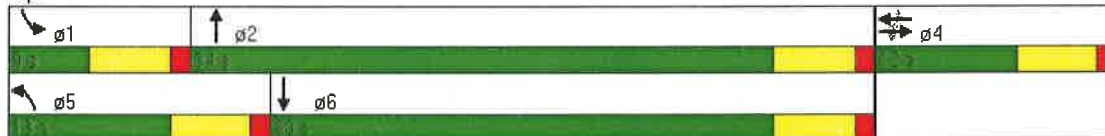
Intersection Capacity Utilization 51.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Westward Ho Drive & Jefferson Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
41: Westward Ho Drive & Adams Street

6/7/2010

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑↔		↘	↘↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	100	
Storage Lanes	1	1		0	1	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Ped Bike Factor		0.97	0.99			
Frnt		0.850	0.977			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1568	3397	0	1752	3505
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1517	3397	0	1752	3505
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		89	25			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30			30
Link Distance (ft)	5249		2276			2613
Travel Time (s)	119.3		51.7			59.4
Volume (vph)	104	58	874	155	104	731
Confl. Peds. (#/hr)		10		10		
Peak Hour Factor	0.65	0.65	0.89	0.89	0.82	0.82
Adj. Flow (vph)	160	89	982	174	127	891
Lane Group Flow (vph)	160	89	1156	0	127	891
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Detector Phases	4	4	2		1	6
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	21.0	21.0	21.0		9.0	21.0
Total Split (s)	28.0	28.0	57.0	0.0	25.0	82.0
Total Split (%)	25.5%	25.5%	51.8%	0.0%	22.7%	74.5%
Maximum Green (s)	23.0	23.0	52.0		20.0	77.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	15.7	15.7	68.3		14.0	86.3
Actuated g/C Ratio	0.14	0.14	0.62		0.13	0.78
v/c Ratio	0.64	0.30	0.55		0.57	0.32
Control Delay	48.6	11.8	5.1		54.6	4.1
Queue Delay	0.0	0.0	0.0		0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 41: Westward Ho Drive & Adams Street

6/7/2010

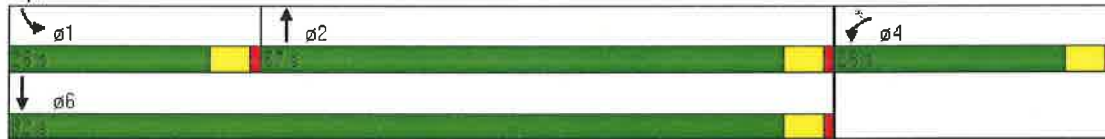


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	48.6	11.8	5.1		54.6	4.1
LOS	D	B	A		D	A
Approach Delay	35.4		5.1			10.4
Approach LOS	D		A			B
Queue Length 50th (ft)	108	9	45		86	76
Queue Length 95th (ft)	110	14	295		127	114
Internal Link Dist (ft)	5169		2196			2533
Turn Bay Length (ft)	150				100	
Base Capacity (vph)	382	401	2119		334	2750
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.42	0.22	0.55		0.38	0.32

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 74 (67%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 10.5
 Intersection LOS: B
 Intersection Capacity Utilization 52.9%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 41: Westward Ho Drive & Adams Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
42: SR-111 & Depot Drive

6/7/2010

Lane Group	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
Storage Length (ft)	350		150	250		150	100		0	50		0
Storage Lanes	2		1	2		1	1		1	1		0
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
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97		0.97	
Frnt			0.850			0.850			0.850		0.871	
Flt Protected	0.950			0.950			0.950	0.965		0.950		
Satd. Flow (prot)	3400	5036	1568	3400	5036	1568	1665	1691	1568	1752	1558	0
Flt Permitted	0.950			0.950			0.950	0.965		0.950		
Satd. Flow (perm)	3400	5036	1538	3400	5036	1517	1665	1691	1522	1752	1558	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			250			46			196		136	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1760			840			1007			753	
Travel Time (s)		40.0			19.1			22.9			17.1	
Volume (vph)	239	1582	362	252	1364	58	263	44	180	101	20	125
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	260	1720	393	274	1483	63	286	48	196	110	22	136
Lane Group Flow (vph)	260	1720	393	274	1483	63	163	171	196	110	158	0
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		1	1	
Permitted Phases			4			8			2			
Detector Phases	7	4	4	3	8	8	2	2	2	1	1	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	21.0	21.0	9.0	9.0	9.0	9.0	9.0	
Total Split (s)	18.0	51.0	51.0	18.0	51.0	51.0	23.0	23.0	23.0	18.0	18.0	0.0
Total Split (%)	16.4%	46.4%	46.4%	16.4%	46.4%	46.4%	20.9%	20.9%	20.9%	16.4%	16.4%	0.0%
Maximum Green (s)	13.0	46.0	46.0	13.0	46.0	46.0	18.0	18.0	18.0	13.0	13.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
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	
Recall Mode	None	C-Max	C-Max	None	None	None	None	None	None	None	None	None
Walk Time (s)					5.0	5.0						
Flash Dont Walk (s)					11.0	11.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	13.4	52.3	52.3	13.4	52.3	52.3	16.1	16.1	16.1	12.1	12.1	
Actuated g/C Ratio	0.12	0.48	0.48	0.12	0.48	0.48	0.15	0.15	0.15	0.11	0.11	
v/c Ratio	0.62	0.72	0.46	0.66	0.62	0.08	0.67	0.69	0.50	0.57	0.54	
Control Delay	70.8	10.4	1.8	36.0	35.2	17.4	57.5	58.8	10.5	57.9	18.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
42: SR-111 & Depot Drive

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	70.8	10.4	1.8	36.0	35.2	17.4	57.5	58.8	10.5	57.9	18.1	
LOS	E	B	A	D	D	B	E	E	B	E	B	
Approach Delay		15.6			34.7			40.6			34.4	
Approach LOS		B			C			D			C	
Queue Length 50th (ft)	100	86	0	95	328	12	114	121	0	74	14	
Queue Length 95th (ft)	m129	171	m6	m107	m342	m18	187	195	63	132	77	
Internal Link Dist (ft)		1680			760			927			673	
Turn Bay Length (ft)	350		150	250		150	100			50		
Base Capacity (vph)	439	2394	862	441	2395	746	288	292	425	223	317	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.72	0.46	0.62	0.62	0.08	0.57	0.59	0.46	0.49	0.50	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 85 (77%), Referenced to phase 4:EBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 26.2

Intersection LOS: C

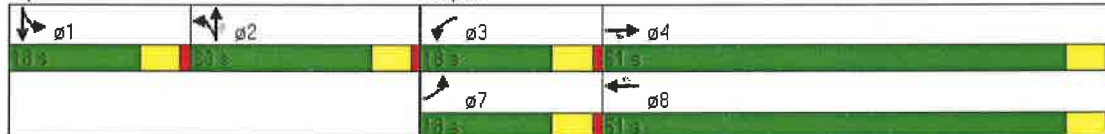
Intersection Capacity Utilization 71.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 42: SR-111 & Depot Drive



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
45: Pebble Beach Drive & Jefferson Street

6/7/2010

Lane Group	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
Storage Length (ft)	100		0	0		0	100		0	100		0
Storage Lanes	1		0	0		0	1		0	1		0
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
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98			0.99			1.00			1.00	
Frt		0.850			0.920			0.995			0.996	
Flt Protected	0.950				0.981		0.950			0.950		
Satd. Flow (prot)	1752	1533	0	0	1643	0	1752	5005	0	1752	5011	0
Flt Permitted	0.706				0.903		0.950			0.950		
Satd. Flow (perm)	1302	1533	0	0	1512	0	1752	5005	0	1752	5011	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		193			46			10			8	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		407			583			1328			1256	
Travel Time (s)		9.3			13.3			30.2			28.5	
Volume (vph)	3	0	19	26	1	38	23	1156	38	50	1229	34
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.70	0.70	0.70	0.83	0.83	0.83	0.96	0.96	0.96	0.82	0.82	0.82
Adj. Flow (vph)	4	0	27	31	1	46	24	1204	40	61	1499	41
Lane Group Flow (vph)	4	27	0	0	78	0	24	1244	0	61	1540	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Detector Phases	4	4		4	4		5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0		9.0	21.0	
Total Split (s)	21.0	21.0	0.0	21.0	21.0	0.0	9.0	24.0	0.0	10.0	25.0	0.0
Total Split (%)	38.2%	38.2%	0.0%	38.2%	38.2%	0.0%	16.4%	43.6%	0.0%	18.2%	45.5%	0.0%
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	19.0		5.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	8.0	8.0			8.0		7.4	36.7		8.5	42.3	
Actuated g/C Ratio	0.15	0.15			0.15		0.13	0.67		0.15	0.77	
v/c Ratio	0.02	0.07			0.30		0.10	0.37		0.23	0.40	
Control Delay	19.0	0.4			14.2		30.3	4.4		27.7	4.3	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 45: Pebble Beach Drive & Jefferson Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.0	0.4			14.2		30.3	4.4		27.7	4.3	
LOS	B	A			B		C	A		C	A	
Approach Delay		2.8			14.2			4.9			5.2	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)	1	0			9		11	144		40	55	
Queue Length 95th (ft)	6	0			34		m32	9		m56	148	
Internal Link Dist (ft)		327			503			1248			1176	
Turn Bay Length (ft)	100						100			100		
Base Capacity (vph)	402	607			499		234	3345		270	3854	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.01	0.04			0.16		0.10	0.37		0.23	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 1 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 5.3

Intersection LOS: A

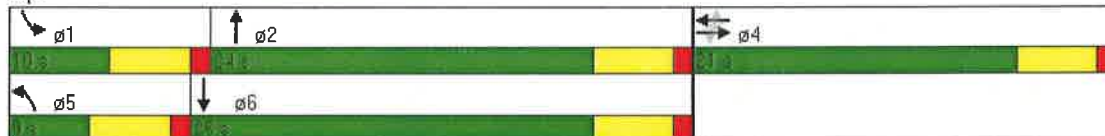
Intersection Capacity Utilization 49.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 45: Pebble Beach Drive & Jefferson Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
48: SR-111 & Mountain Cove Drive

6/7/2010

Lane Group	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
Storage Length (ft)	575		250	550		475	0		0	0		0
Storage Lanes	1		1	1		1	0		1	0		1
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
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.95			0.95			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	0	1752	1568	0	1752	1568
Flt Permitted	0.950			0.950				0.748			0.739	
Satd. Flow (perm)	1752	3505	1484	1752	3505	1484	0	1380	1517	0	1363	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			29			9			39			10
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		4473			1886			727			469	
Travel Time (s)		101.7			42.9			16.5			10.7	
Volume (vph)	6	1970	35	38	1377	9	20	0	28	9	0	6
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.97	0.97	0.97	0.71	0.71	0.71	0.63	0.63	0.63
Adj. Flow (vph)	6	2096	37	39	1420	9	28	0	39	14	0	10
Lane Group Flow (vph)	6	2096	37	39	1420	9	0	28	39	0	14	10
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4		3	8			2			2	
Permitted Phases			4			8	2		2	2		2
Detector Phases	7	4	4	3	8	8	2	2	2	2	2	2
Minimum Initial (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
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	21.0	68.0	68.0	21.0	68.0	68.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (%)	19.1%	61.8%	61.8%	19.1%	61.8%	61.8%	19.1%	19.1%	19.1%	19.1%	19.1%	19.1%
Maximum Green (s)	16.0	63.0	63.0	16.0	63.0	63.0	16.0	16.0	16.0	16.0	16.0	16.0
Yellow 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
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
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
Recall Mode	None	Max	Max	None	Max	Max	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	6.9	76.8	76.8	8.6	82.6	82.6		17.0	17.0		17.0	17.0
Actuated g/C Ratio	0.06	0.70	0.70	0.08	0.75	0.75		0.15	0.15		0.15	0.15
v/c Ratio	0.05	0.86	0.04	0.29	0.54	0.01		0.13	0.15		0.07	0.04
Control Delay	49.2	18.8	3.3	57.2	9.5	1.7		42.0	14.1		40.8	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
48: SR-111 & Mountain Cove Drive

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	49.2	18.8	3.3	57.2	9.5	1.7		42.0	14.1		40.8	20.5
LOS	D	B	A	E	A	A		D	B		D	C
Approach Delay		18.6			10.7			25.8			32.3	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	4	603	2	22	289	1		17	0		9	0
Queue Length 95th (ft)	18	#845	14	m39	537	m2		35	19		19	9
Internal Link Dist (ft)		4393			1806			647			389	
Turn Bay Length (ft)	575		250	550		475						
Base Capacity (vph)	271	2448	1045	271	2632	1117		213	267		211	243
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.02	0.86	0.04	0.14	0.54	0.01		0.13	0.15		0.07	0.04

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB and 6;, Start of Green, Master Intersection

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 15.7

Intersection LOS: B

Intersection Capacity Utilization 91.1%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 48: SR-111 & Mountain Cove Drive



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
51: SR-111 & Channel Drive

6/7/2010

Lane Group	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
Storage Length (ft)	100		0	150		0	0		0	0		0
Storage Lanes	1		1	1		1	1		0	1		0
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
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.95			0.95		0.97			0.97	
Frnt			0.850			0.850		0.866			0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1551	0	1752	1571	0
Flt Permitted	0.950			0.950			0.616			0.627		
Satd. Flow (perm)	1752	3505	1484	1752	3505	1484	1136	1551	0	1157	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			37		70			90	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1886			930			408			309	
Travel Time (s)		42.9			21.1			9.3			7.0	
Volume (vph)	80	1900	92	53	1241	34	89	8	65	70	16	80
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.70	0.70	0.70	0.89	0.89	0.89
Adj. Flow (vph)	95	2262	110	57	1334	37	127	11	93	79	18	90
Lane Group Flow (vph)	95	2262	110	57	1334	37	127	104	0	79	108	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	7	4		3	8			2			2	
Permitted Phases			4			8	2			2		
Detector Phases	7	4	4	3	8	8	2	2		2	2	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0	21.0	21.0	21.0		21.0	21.0	
Total Split (s)	16.0	79.0	79.0	9.0	72.0	72.0	22.0	22.0	0.0	22.0	22.0	0.0
Total Split (%)	14.5%	71.8%	71.8%	8.2%	65.5%	65.5%	20.0%	20.0%	0.0%	20.0%	20.0%	0.0%
Maximum Green (s)	11.0	74.0	74.0	4.0	67.0	67.0	17.0	17.0		17.0	17.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	10.8	76.8	76.8	5.0	71.5	71.5	18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.10	0.70	0.70	0.05	0.65	0.65	0.16	0.16		0.16	0.16	
v/c Ratio	0.55	0.92	0.10	0.71	0.59	0.04	0.68	0.33		0.42	0.33	
Control Delay	70.3	9.8	0.2	67.1	12.3	2.8	63.1	19.4		40.5	9.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
51: SR-111 & Channel Drive

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	70.3	9.8	0.2	67.1	12.3	2.8	63.1	19.4		40.5	9.1	
LOS	E	A	A	E	B	A	E	B		D	A	
Approach Delay		11.7			14.2			43.4			22.4	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	71	44	0	38	458	4	85	21		39	6	
Queue Length 95th (ft)	m88	50	m0	m36	m443	m3	114	44		m62	m15	
Internal Link Dist (ft)		1806			850			328			229	
Turn Bay Length (ft)	100			150								
Base Capacity (vph)	191	2447	1068	80	2280	978	186	312		189	332	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.50	0.92	0.10	0.71	0.59	0.04	0.68	0.33		0.42	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 43 (39%), Referenced to phase 2:NBSB and 6:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 14.7

Intersection LOS: B

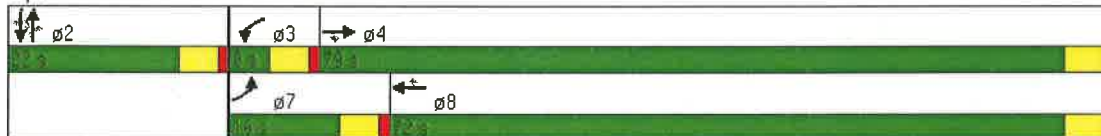
Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 51: SR-111 & Channel Drive



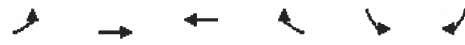
Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
53: Fred Waring Drive & Warner Trail

6/7/2010

Lane Group	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	
Storage Length (ft)	150		0	225		125	200		0	100		50	
Storage Lanes	1		0	1		1	1		0	1		1	
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	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		1.00				0.95		0.99				0.97	
Frts		0.995				0.850		0.929				0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1752	5003	0	1752	5036	1568	1752	1690	0	1752	1845	1568	
Flt Permitted	0.950			0.950			0.950			0.950			
Satd. Flow (perm)	1752	5003	0	1752	5036	1493	1752	1690	0	1752	1845	1523	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		8				88		45				36	
Headway 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	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		2966			2635			2373			721		
Travel Time (s)		67.4			59.9			53.9			16.4		
Volume (vph)	93	1988	67	55	1253	98	63	68	62	98	109	28	
Confl. Peds. (#/hr)			10			10			10			10	
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.78	0.78	0.78	0.78	0.78	0.78	
Adj. Flow (vph)	107	2285	77	62	1424	111	81	87	79	126	140	36	
Lane Group Flow (vph)	107	2362	0	62	1424	111	81	166	0	126	140	36	
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases						8						6	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0	
Total Split (s)	16.0	48.0	0.0	10.0	42.0	42.0	10.0	21.0	0.0	11.0	22.0	22.0	
Total Split (%)	17.8%	53.3%	0.0%	11.1%	46.7%	46.7%	11.1%	23.3%	0.0%	12.2%	24.4%	24.4%	
Maximum Green (s)	11.0	43.0		5.0	37.0	37.0	5.0	16.0		6.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	
Lead-Lag Optimize?													
Walk Time (s)		5.0			5.0	5.0		5.0			5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	0	
Act Effct Green (s)	12.0	44.0		6.0	38.0	38.0	6.0	17.0		7.0	18.0	18.0	
Actuated g/C Ratio	0.13	0.49		0.07	0.42	0.42	0.07	0.19		0.08	0.20	0.20	
v/c Ratio	0.46	0.96		0.53	0.67	0.16	0.69	0.47		0.93	0.38	0.11	
Control Delay	43.0	34.5		57.9	22.9	5.9	71.8	28.3		103.8	34.7	11.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	
Total Delay	43.0	34.5		57.9	22.9	5.9	71.8	28.3		103.8	34.7	11.2	
LOS	D	C		E	C	A	E	C		F	C	B	
Approach Delay		34.9			23.1			42.6			60.8		
Approach LOS		C			C			D			E		
Queue Length 50th (ft)	57	454		35	232	8	46	61		73	69	0	
Queue Length 95th (ft)	105	#525		#82	274	36	#94	100		#146	106	19	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
54: Miles Avenue & Warner Trail

6/7/2010



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗↗	↗↘		↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor			0.98		0.99	
Frt			0.916		0.949	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1752	3505	3144	0	1684	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1752	3505	3144	0	1684	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			130		60	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30	30		30	
Link Distance (ft)		2121	4499		2373	
Travel Time (s)		48.2	102.3		53.9	
Volume (vph)	33	204	93	118	120	74
Confl. Peds. (#/hr)				10		10
Peak Hour Factor	0.84	0.84	0.91	0.91	0.84	0.84
Adj. Flow (vph)	39	243	102	130	143	88
Lane Group Flow (vph)	39	243	232	0	231	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Detector Phases	7	4	8		6	
Minimum Initial (s)	4.0	4.0	4.0		4.0	
Minimum Split (s)	9.0	21.0	21.0		21.0	
Total Split (s)	10.0	33.0	23.0	0.0	22.0	0.0
Total Split (%)	18.2%	60.0%	41.8%	0.0%	40.0%	0.0%
Maximum Green (s)	5.0	28.0	18.0		17.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	Max		None	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)	6.1	28.0	24.4		11.2	
Actuated g/C Ratio	0.11	0.59	0.51		0.24	
v/c Ratio	0.20	0.12	0.14		0.52	
Control Delay	23.0	5.1	5.0		14.9	
Queue Delay	0.0	0.0	0.0		0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 54: Miles Avenue & Warner Trail

6/7/2010

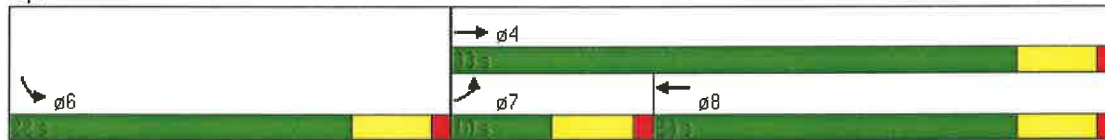


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	23.0	5.1	5.0		14.9	
LOS	C	A	A		B	
Approach Delay		7.6	5.0		14.9	
Approach LOS		A	A		B	
Queue Length 50th (ft)	7	11	4		28	
Queue Length 95th (ft)	32	29	30		81	
Internal Link Dist (ft)		2041	4419		2293	
Turn Bay Length (ft)	150					
Base Capacity (vph)	199	2179	1678		607	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.20	0.11	0.14		0.38	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 47.5
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 9.0
 Intersection LOS: A
 Intersection Capacity Utilization 38.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 54: Miles Avenue & Warner Trail



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
55: Mountain View & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	150		0	150		150	150		0	150		0
Storage Lanes	1		0	1		1	1		0	2		0
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
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Ped Bike Factor		0.97				0.97		1.00			1.00	
Frt		0.850				0.850		0.997			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1517	0	1752	1845	1568	1752	5017	0	3400	5028	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1517	0	1752	1845	1517	1752	5017	0	3400	5028	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		90				88		4			2	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		724			745			2303			1902	
Travel Time (s)		16.5			16.9			52.3			43.2	
Volume (vph)	20	0	15	30	1	325	9	2001	43	183	2263	21
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.64	0.64	0.64	0.84	0.84	0.84	0.97	0.97	0.97	0.93	0.93	0.93
Adj. Flow (vph)	31	0	23	36	1	387	9	2063	44	197	2433	23
Lane Group Flow (vph)	31	23	0	36	1	387	9	2107	0	197	2456	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Detector Phases	7	4		3	8	8	5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	9.0	30.0	0.0	10.0	31.0	31.0	9.0	58.0	0.0	12.0	61.0	0.0
Total Split (%)	8.2%	27.3%	0.0%	9.1%	28.2%	28.2%	8.2%	52.7%	0.0%	10.9%	55.5%	0.0%
Maximum Green (s)	4.0	25.0		5.0	26.0	26.0	4.0	53.0		7.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0	5.0		5.0			5.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0			0	0		0			0	
Act Effct Green (s)	5.0	21.2		12.0	25.7	25.7	5.6	57.8		9.2	69.1	
Actuated g/C Ratio	0.05	0.19		0.11	0.23	0.23	0.05	0.53		0.08	0.63	
v/c Ratio	0.39	0.06		0.19	0.00	0.92	0.10	0.80		0.69	0.78	
Control Delay	65.2	0.3		48.3	31.0	59.6	67.7	10.3		59.9	12.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 55: Mountain View & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	65.2	0.3		48.3	31.0	59.6	67.7	10.3		59.9	12.7	
LOS	E	A		D	C	E	E	B		E	B	
Approach Delay		37.6			58.6			10.6			16.2	
Approach LOS		D			E			B			B	
Queue Length 50th (ft)	22	0		17	1	210	7	215		67	624	
Queue Length 95th (ft)	38	0		55	4	#334	m8	m209		m74	m696	
Internal Link Dist (ft)		644			665			2223			1822	
Turn Bay Length (ft)	150			150		150	150			150		
Base Capacity (vph)	80	430		191	453	439	90	2636		284	3161	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.39	0.05		0.19	0.00	0.88	0.10	0.80		0.69	0.78	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 35 (32%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 74.1%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 55: Mountain View & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
57: Ave of the States & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	175		175	0		0	300		0	275		0
Storage Lanes	1		1	1		0	1		0	1		0
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
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91	0.91
Ped Bike Factor			0.97		0.99			1.00			1.00	
Frt			0.850		0.938			0.991			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1752	1707	0	1752	4975	0	1752	5008	0
Flt Permitted	0.565			0.732			0.950			0.950		
Satd. Flow (perm)	1042	1845	1517	1350	1707	0	1752	4975	0	1752	5008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			231		28			14			6	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1273			347			1902			1097	
Travel Time (s)		28.9			7.9			43.2			24.9	
Volume (vph)	104	29	173	166	58	41	252	2033	128	74	2150	65
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.75	0.75	0.75	0.74	0.74	0.74	0.96	0.96	0.96	0.85	0.85	0.85
Adj. Flow (vph)	139	39	231	224	78	55	262	2118	133	87	2529	76
Lane Group Flow (vph)	139	39	231	224	133	0	262	2251	0	87	2605	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			4		1	6		5	2	
Permitted Phases	4		4	4								
Detector Phases	4	4	4	4	4		1	6		5	2	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	24.0	24.0	24.0	24.0	24.0	0.0	22.0	65.0	0.0	21.0	64.0	0.0
Total Split (%)	21.8%	21.8%	21.8%	21.8%	21.8%	0.0%	20.0%	59.1%	0.0%	19.1%	58.2%	0.0%
Maximum Green (s)	19.0	19.0	19.0	19.0	19.0		17.0	60.0		16.0	59.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	19.8	19.8	19.8	19.8	19.8		18.1	61.0		17.2	60.1	
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18		0.16	0.55		0.16	0.55	
v/c Ratio	0.74	0.12	0.50	0.92	0.40		0.91	0.81		0.32	0.95	
Control Delay	66.9	38.8	9.2	85.9	35.3		80.7	7.1		49.1	23.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 57: Ave of the States & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	66.9	38.8	9.2	85.9	35.3		80.7	7.1		49.1	23.2	
LOS	E	D	A	F	D		F	A		D	C	
Approach Delay		31.6			67.0			14.8			24.0	
Approach LOS		C			E			B			C	
Queue Length 50th (ft)	94	23	0	157	65		199	97		47	674	
Queue Length 95th (ft)	134	45	30	#217	97		m#274	106		m46	m608	
Internal Link Dist (ft)		1193			267			1822			1017	
Turn Bay Length (ft)	175		175				300			275		
Base Capacity (vph)	189	335	465	245	333		288	2765		274	2738	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.74	0.12	0.50	0.91	0.40		0.91	0.81		0.32	0.95	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 71 (65%), Referenced to phase 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 23.2

Intersection LOS: C

Intersection Capacity Utilization 82.8%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 57: Ave of the States & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
59: 42nd Avenue & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	250		0	175		0	300		125	300		100
Storage Lanes	2		0	2		0	1		1	1		1
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
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.99			0.99				0.97			0.97
Frt		0.935			0.957				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3231	0	3400	3323	0	1752	5036	1568	1752	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3231	0	3400	3323	0	1752	5036	1517	1752	5036	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		163			50				143			90
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1523			1701			1097			2644	
Travel Time (s)		34.6			38.7			24.9			60.1	
Volume (vph)	357	457	348	438	280	114	285	1686	290	181	1596	225
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.83	0.83	0.83	0.94	0.94	0.94	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	430	551	419	466	298	121	310	1833	315	189	1662	234
Lane Group Flow (vph)	430	970	0	466	419	0	310	1833	315	189	1662	234
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phases	7	4		3	8		5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0	21.0	9.0	21.0	21.0
Total Split (s)	25.0	30.0	0.0	21.0	26.0	0.0	22.0	43.0	43.0	16.0	37.0	37.0
Total Split (%)	22.7%	27.3%	0.0%	19.1%	23.6%	0.0%	20.0%	39.1%	39.1%	14.5%	33.6%	33.6%
Maximum Green (s)	20.0	25.0		16.0	21.0		17.0	38.0	38.0	11.0	32.0	32.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	18.9	26.0		17.0	24.1		18.0	39.0	39.0	12.0	33.0	33.0
Actuated g/C Ratio	0.17	0.24		0.15	0.22		0.16	0.35	0.35	0.11	0.30	0.30
v/c Ratio	0.74	1.09		0.89	0.55		1.08	1.03	0.50	0.99	1.10	0.45
Control Delay	51.1	92.2		65.7	37.0		102.3	52.4	13.8	109.0	71.5	5.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 59: 42nd Avenue & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	51.1	92.2		65.7	37.0		102.3	52.4	13.8	109.0	71.5	5.6
LOS	D	F		E	D		F	D	B	F	E	A
Approach Delay		79.6			52.1			53.8			67.5	
Approach LOS		E			D			D			E	
Queue Length 50th (ft)	148	~358		168	123		~238	~515	134	123	~473	6
Queue Length 95th (ft)	181	#420		#257	178		m#356	#616	m167	m#192	#573	m30
Internal Link Dist (ft)		1443			1621			1017			2564	
Turn Bay Length (ft)	250			175			300		125	300		100
Base Capacity (vph)	649	888		525	767		287	1785	630	191	1511	518
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.09		0.89	0.55		1.08	1.03	0.50	0.99	1.10	0.45

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 27 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 63.0

Intersection LOS: E

Intersection Capacity Utilization 96.7%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 59: 42nd Avenue & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
62: 41st Avenue & Washington Street

6/7/2010

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑↑↑		↘	↑↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	75	
Storage Lanes	1	0		0	1	
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt	0.888		0.995			
Flt Protected	0.991				0.950	
Satd. Flow (prot)	1623	0	5011	0	1752	5036
Flt Permitted	0.991				0.950	
Satd. Flow (perm)	1623	0	5011	0	1752	5036
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30			30
Link Distance (ft)	1565		2644			1877
Travel Time (s)	35.6		60.1			42.7
Volume (vph)	16	78	1893	63	49	2067
Confl. Peds. (#/hr)	10	10		10	10	
Peak Hour Factor	0.74	0.74	0.90	0.90	0.89	0.89
Adj. Flow (vph)	22	105	2103	70	55	2322
Lane Group Flow (vph)	127	0	2173	0	55	2322
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	55.9%
Analysis Period (min)	15
	ICU Level of Service B

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
64: Harris Lane & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	100		0	0		0	150		0	150		0
Storage Lanes	1		0	0		0	1		0	1		0
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
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.97			0.99			1.00			1.00	
Frt		0.854			0.962			0.998			0.997	
Flt Protected	0.950				0.970		0.950			0.950		
Satd. Flow (prot)	1752	1526	0	0	1706	0	1752	5022	0	1752	5016	0
Flt Permitted	0.756				0.499		0.950			0.950		
Satd. Flow (perm)	1395	1526	0	0	878	0	1752	5022	0	1752	5016	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		271			14			2			3	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		671			359			1877			715	
Travel Time (s)		15.3			8.2			42.7			16.3	
Volume (vph)	43	9	362	26	4	12	126	1756	26	34	1727	33
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	49	10	411	31	5	14	133	1848	27	37	1857	35
Lane Group Flow (vph)	49	421	0	0	50	0	133	1875	0	37	1892	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4				2			6	
Detector Phases	4	4		4	4		5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	35.0	35.0	0.0	35.0	35.0	0.0	21.0	54.0	0.0	21.0	54.0	0.0
Total Split (%)	31.8%	31.8%	0.0%	31.8%	31.8%	0.0%	19.1%	49.1%	0.0%	19.1%	49.1%	0.0%
Maximum Green (s)	30.0	30.0		30.0	30.0		16.0	49.0		16.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max C-Max			Max C-Max		
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	18.9	18.9			18.9		29.1	50.0		29.1	50.0	
Actuated g/C Ratio	0.17	0.17			0.17		0.26	0.45		0.26	0.45	
v/c Ratio	0.21	0.87			0.31		0.29	0.82		0.08	0.83	
Control Delay	36.8	32.6			32.1		60.7	10.7		44.9	10.9	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 64: Harris Lane & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	36.8	32.6			32.1		60.7	10.7		44.9	10.9	
LOS	D	C			C		E	B		D	B	
Approach Delay		33.0			32.1			14.0			11.6	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	30	107			22		100	155		25	96	
Queue Length 95th (ft)	55	194			47		m112	m247		m30	m127	
Internal Link Dist (ft)		591			279			1797			635	
Turn Bay Length (ft)	100						150			150		
Base Capacity (vph)	393	625			257		464	2284		464	2282	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.12	0.67			0.19		0.29	0.82		0.08	0.83	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 17 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 15.1

Intersection LOS: B

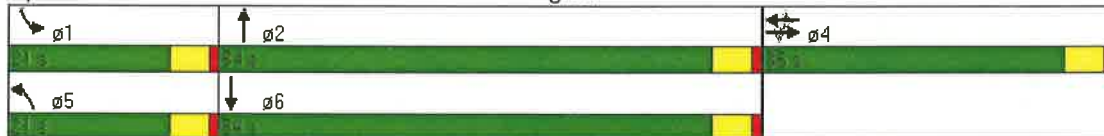
Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 64: Harris Lane & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
66: Country Club Drive & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	175		0	125		225	150		0	200		200
Storage Lanes	2		0	1		1	2		0	2		1
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
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.91	0.91	0.97	0.91	1.00
Ped Bike Factor		0.99				0.97		1.00				0.97
Frt		0.959				0.850		0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3332	0	1752	3505	1568	3400	5012	0	3400	5036	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3400	3332	0	1752	3505	1517	3400	5012	0	3400	5036	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46				163		4				507
Headway 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
Link Speed (mph)		30			30			30				30
Link Distance (ft)		328			351			715				811
Travel Time (s)		7.5			8.0			16.3				18.4
Volume (vph)	741	529	196	89	290	260	305	1387	34	255	1558	765
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.91	0.91	0.91	0.88	0.88	0.88	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	814	581	215	101	330	295	324	1476	36	277	1693	832
Lane Group Flow (vph)	814	796	0	101	330	295	324	1512	0	277	1693	832
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Detector Phases	7	4		3	8	8	5	2		1	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	9.0	21.0		9.0	21.0	21.0
Total Split (s)	31.0	31.0	0.0	21.0	21.0	21.0	15.0	43.0	0.0	15.0	43.0	43.0
Total Split (%)	28.2%	28.2%	0.0%	19.1%	19.1%	19.1%	13.6%	39.1%	0.0%	13.6%	39.1%	39.1%
Maximum Green (s)	26.0	26.0		16.0	16.0	16.0	10.0	38.0		10.0	38.0	38.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	C-Max
Walk Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	0
Act Effct Green (s)	27.0	30.3		12.5	15.8	15.8	12.1	39.8		11.5	39.2	39.2
Actuated g/C Ratio	0.25	0.28		0.11	0.14	0.14	0.11	0.36		0.10	0.36	0.36
v/c Ratio	0.97	0.84		0.51	0.66	0.83	0.87	0.83		0.78	0.94	0.96
Control Delay	67.4	44.8		54.1	51.0	39.9	72.7	36.2		67.0	41.1	31.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
66: Country Club Drive & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	67.4	44.8		54.1	51.0	39.9	72.7	36.2		67.0	41.1	31.3
LOS	E	D		D	D	D	E	D		E	D	C
Approach Delay		56.2			46.9			42.7			40.7	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	294	260		68	115	91	127	215		103	377	100
Queue Length 95th (ft)	#422	#398		115	160	#214	m#177	274		m#143	m#433	m#438
Internal Link Dist (ft)		248			271			635			731	
Turn Bay Length (ft)	175			125		225	150			200		200
Base Capacity (vph)	835	951		271	542	372	373	1815		354	1792	866
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.97	0.84		0.37	0.61	0.79	0.87	0.83		0.78	0.94	0.96

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 45.5

Intersection LOS: D

Intersection Capacity Utilization 82.8%

ICU Level of Service E

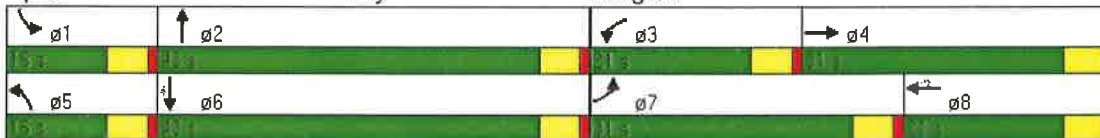
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 66: Country Club Drive & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 69: I-10 EB Off-Ramp & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	175		175	0		0	0		0	150		0
Storage Lanes	1		2	0		0	0		0	2		0
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
Leading Detector (ft)	50	50	50					50		50	50	
Trailing Detector (ft)	0	0	0					0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.95	0.95	0.88	1.00	1.00	1.00	1.00	0.91	0.91	0.97	0.91	1.00
Ped Bike Factor			0.98					0.99				
Frt			0.850					0.967				
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1665	1665	2760	0	0	0	0	4835	0	3400	5036	0
Flt Permitted	0.950	0.950								0.950		
Satd. Flow (perm)	1665	1665	2698	0	0	0	0	4835	0	3400	5036	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			71					88				
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			681			811			556	
Travel Time (s)		11.4			15.5			18.4			12.6	
Volume (vph)	421	0	749	0	0	0	0	1709	485	405	1438	0
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.85	0.97	0.97	0.92	0.92	0.92
Adj. Flow (vph)	453	0	805	0	0	0	0	1762	500	440	1563	0
Lane Group Flow (vph)	227	226	805	0	0	0	0	2262	0	440	1563	0
Turn Type	Split		Perm							Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4									
Detector Phases	4	4	4					2		1	6	
Minimum Initial (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0					21.0		9.0	21.0	
Total Split (s)	35.0	35.0	35.0	0.0	0.0	0.0	0.0	56.0	0.0	19.0	75.0	0.0
Total Split (%)	31.8%	31.8%	31.8%	0.0%	0.0%	0.0%	0.0%	50.9%	0.0%	17.3%	68.2%	0.0%
Maximum Green (s)	30.0	30.0	30.0					51.0		14.0	70.0	
Yellow Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0					1.0		1.0	1.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Recall Mode	None	None	None					None		None	C-Max	
Walk Time (s)								5.0			5.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	31.0	31.0	31.0					52.0		15.0	71.0	
Actuated g/C Ratio	0.28	0.28	0.28					0.47		0.14	0.65	
v/c Ratio	0.48	0.48	0.99					0.97		0.95	0.48	
Control Delay	37.0	37.0	66.4					23.9		57.6	3.9	
Queue Delay	0.9	0.9	0.0					0.3		0.0	0.4	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 69: I-10 EB Off-Ramp & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	37.9	37.9	66.4					24.2		57.6	4.4	
LOS	D	D	E					C		E	A	
Approach Delay		56.2						24.2			16.1	
Approach LOS		E						C			B	
Queue Length 50th (ft)	140	140	299					479		151	48	
Queue Length 95th (ft)	221	220	#448					m#645		m124	m41	
Internal Link Dist (ft)		423			601			731			476	
Turn Bay Length (ft)	175		175							150		
Base Capacity (vph)	469	469	811					2332		464	3251	
Starvation Cap Reductn	0	0	0					0		0	1020	
Spillback Cap Reductn	83	83	0					6		0	0	
Storage Cap Reductn	0	0	0					0		0	0	
Reduced v/c Ratio	0.59	0.59	0.99					0.97		0.95	0.70	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 23 (21%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 28.5

Intersection LOS: C

Intersection Capacity Utilization 84.0%

ICU Level of Service E

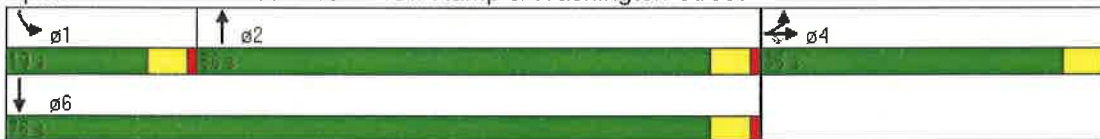
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 69: I-10 EB Off-Ramp & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
72: Varner Road & Washington Street

6/7/2010

Lane Group	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
Storage Length (ft)	200		0	275		275	200		0	125		0
Storage Lanes	1		0	2		1	2		1	2		0
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
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	0.97	0.91	0.91	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor		0.97			1.00	0.97			0.97		0.99	
Fr t		0.882			0.985	0.850			0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3013	0	3400	3296	1427	3400	5036	1568	3400	4866	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	3013	0	3400	3296	1381	3400	5036	1517	3400	4866	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		344			12	193			487		41	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		441			793			556			2019	
Travel Time (s)		10.0			18.0			12.6			45.9	
Volume (vph)	42	188	684	735	356	237	851	884	906	215	727	165
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.67	0.67	0.67	0.86	0.86	0.86	0.97	0.97	0.97	0.92	0.92	0.92
Adj. Flow (vph)	63	281	1021	855	414	276	877	911	934	234	790	179
Lane Group Flow (vph)	63	1302	0	855	459	231	877	911	934	234	969	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Detector Phases	7	4		3	8	8	5	2	2	1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0	21.0	9.0	21.0	
Total Split (s)	13.0	34.0	0.0	25.0	46.0	46.0	26.0	41.0	41.0	10.0	25.0	0.0
Total Split (%)	11.8%	30.9%	0.0%	22.7%	41.8%	41.8%	23.6%	37.3%	37.3%	9.1%	22.7%	0.0%
Maximum Green (s)	8.0	29.0		20.0	41.0	41.0	21.0	36.0	36.0	5.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	8.5	30.0		21.0	44.6	44.6	22.0	37.0	37.0	6.0	21.0	
Actuated g/C Ratio	0.08	0.27		0.19	0.41	0.41	0.20	0.34	0.34	0.05	0.19	
v/c Ratio	0.47	1.54dr		1.32	0.34	0.34	1.29	0.54	1.12	1.26	1.01	
Control Delay	60.0	132.4		184.3	26.0	8.0	169.1	27.4	89.3	197.6	73.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	24.9	0.0	0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
72: Varner Road & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	60.0	132.4		184.3	26.0	8.0	169.1	27.4	114.3	197.6	73.7	
LOS	E	F		F	C	A	F	C	F	F	E	
Approach Delay		129.1			110.9			102.8			97.8	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	43	~496		~403	133	20	~404	207	~534	~107	~246	
Queue Length 95th (ft)	64	#336		m#480	m151	m43	m#468	m226	m#651	#187	#345	
Internal Link Dist (ft)		361			713			476			1939	
Turn Bay Length (ft)	200			275		275	200			125		
Base Capacity (vph)	143	1072		649	1345	675	680	1694	833	185	962	
Starvation Cap Reductn	0	0		0	0	0	0	0	41	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.44	1.21		1.32	0.34	0.34	1.29	0.54	1.18	1.26	1.01	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 9 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 109.0

Intersection LOS: F

Intersection Capacity Utilization 104.6%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

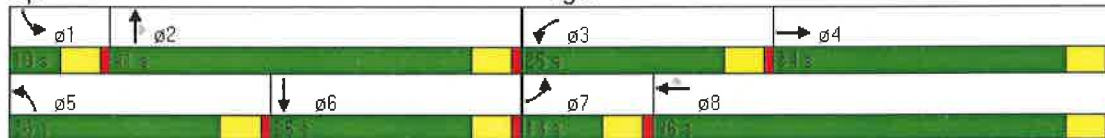
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

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

Splits and Phases: 72: Varner Road & Washington Street



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
75: Varner Road & I-10 WB Off-Ramp

6/7/2010

	→	↘	↙	←	↖	↗	↘	↙	↗
Lane Group	EBT	EBR	EBR2	WBL	WBT	NBL	NBR	NEL	NER
Lane Configurations	↑↑↑		↑	↑↑	↑↑	↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		200		0	150	0	0
Storage Lanes		1		2		2	1	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50	50		
Trailing Detector (ft)	0		0	0	0	0	0		
Turning Speed (mph)		9	9	15		15	9	15	9
Lane Util. Factor	0.91	1.00	1.00	0.97	0.95	0.97	1.00	1.00	1.00
Ped Bike Factor			0.97				0.97		
Frt			0.850				0.850		
Flt Protected				0.950		0.950			
Satd. Flow (prot)	5036	0	1568	3400	3505	3400	1568	0	0
Flt Permitted				0.950		0.950			
Satd. Flow (perm)	5036	0	1517	3400	3505	3400	1517	0	0
Right Turn on Red			Yes				Yes		
Satd. Flow (RTOR)			379				93		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30				30	30		30	
Link Distance (ft)	793				871	1130		947	
Travel Time (s)	18.0				19.8	25.7		21.5	
Volume (vph)	959	0	368	94	827	1504	129	0	0
Confl. Peds. (#/hr)			10				10		
Peak Hour Factor	0.97	0.97	0.97	0.91	0.91	0.86	0.86	0.92	0.92
Adj. Flow (vph)	989	0	379	103	909	1749	150	0	0
Lane Group Flow (vph)	989	0	379	103	909	1749	150	0	0
Turn Type			Perm	Prot			Perm		
Protected Phases	4			3	8	2			
Permitted Phases			4				2		
Detector Phases	4		4	3	8	2	2		
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	4.0		
Minimum Split (s)	21.0		21.0	9.0	21.0	21.0	21.0		
Total Split (s)	31.0	0.0	31.0	10.0	41.0	69.0	69.0	0.0	0.0
Total Split (%)	28.2%	0.0%	28.2%	9.1%	37.3%	62.7%	62.7%	0.0%	0.0%
Maximum Green (s)	26.0		26.0	5.0	36.0	64.0	64.0		
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	4.0		
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lag	Lead					
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0		
Recall Mode	C-Max		C-Max	None	C-Max	None	None		
Walk Time (s)	5.0		5.0		5.0	5.0	5.0		
Flash Dont Walk (s)	11.0		11.0		11.0	11.0	11.0		
Pedestrian Calls (#/hr)	0		0		0	0	0		
Act Effct Green (s)	28.8		28.8	6.8	39.5	62.5	62.5		
Actuated g/C Ratio	0.26		0.26	0.06	0.36	0.57	0.57		
v/c Ratio	0.75		0.56	0.49	0.72	0.91	0.17		
Control Delay	28.2		3.6	58.8	35.2	28.9	4.6		
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0		

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
80: Fred Waring Drive & Palm Royale Drive

6/7/2010

Lane Group	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
Storage Length (ft)	100		100	125		0	0		0	50		50
Storage Lanes	1		1	1		0	0		1	1		1
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
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor			0.95		1.00							0.97
Frt			0.850		0.993							0.850
Flt Protected	0.950			0.950				0.955		0.950	0.950	
Satd. Flow (prot)	1752	5036	1568	1752	4987	0	0	1762	1845	1665	1665	1568
Flt Permitted	0.950			0.950				0.955		0.950	0.950	
Satd. Flow (perm)	1752	5036	1484	1752	4987	0	0	1762	1845	1665	1665	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			20		9							40
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1603			1835			347			441	
Travel Time (s)		36.4			41.7			7.9			10.0	
Volume (vph)	31	1474	35	6	1283	67	20	1	0	216	0	36
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.79	0.79	0.79	0.99	0.99	0.99	0.58	0.58	0.58	0.77	0.77	0.77
Adj. Flow (vph)	39	1866	44	6	1296	68	34	2	0	281	0	47
Lane Group Flow (vph)	39	1866	44	6	1364	0	0	36	0	141	140	47
Turn Type	Prot		Perm	Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		5	5		2	2	
Permitted Phases			4						5			2
Detector Phases	7	4	4	3	8		5	5	5	2	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	11.0	55.0	55.0	10.0	54.0	0.0	22.0	22.0	22.0	23.0	23.0	23.0
Total Split (%)	10.0%	50.0%	50.0%	9.1%	49.1%	0.0%	20.0%	20.0%	20.0%	20.9%	20.9%	20.9%
Maximum Green (s)	6.0	50.0	50.0	5.0	49.0		17.0	17.0	17.0	18.0	18.0	18.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
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
Recall Mode	None	None	None	None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	6.9	58.1	58.1	6.0	53.5		18.0			19.9	19.9	19.9
Actuated g/C Ratio	0.06	0.53	0.53	0.05	0.49		0.16			0.18	0.18	0.18
v/c Ratio	0.35	0.70	0.06	0.06	0.56		0.12			0.47	0.46	0.15
Control Delay	73.5	5.1	0.6	50.8	21.5		40.7			46.7	46.6	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0			0.0	0.0	0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
83: SR-111 & La Quinta Center

6/7/2010

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↘	↗↗↗	↗	↘	↗↗↗			↗↗			↗↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	325		200	500		0	0		0	0		0
Storage Lanes	1		1	1		0	0		0	0		0
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
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor			0.97		1.00			0.98				0.99
Flt			0.850		0.990			0.924				0.937
Flt Protected	0.950			0.950				0.981				0.982
Satd. Flow (prot)	1752	5036	1568	1752	4975	0	0	3125	0	0	3181	0
Flt Permitted	0.950			0.950				0.761				0.687
Satd. Flow (perm)	1752	5036	1517	1752	4975	0	0	2424	0	0	2226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		17			149				72
Headway 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
Link Speed (mph)		30			30			30				30
Link Distance (ft)		1018			1285			1032				476
Travel Time (s)		23.1			29.2			23.5				10.8
Volume (vph)	67	1808	85	152	1379	97	99	29	133	55	34	64
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.98	0.98	0.98	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	73	1965	92	155	1407	99	111	33	149	62	38	72
Lane Group Flow (vph)	73	1965	92	155	1506	0	0	293	0	0	172	0
Turn Type	Prot		Perm	Prot			Perm			Perm		
Protected Phases	7	4		3	8			2				2
Permitted Phases			4				2			2		
Detector Phases	7	4	4	3	8		2	2		2		2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0		4.0
Minimum Split (s)	9.0	21.0	21.0	9.0	21.0		21.0	21.0		21.0		21.0
Total Split (s)	18.0	60.0	60.0	26.0	68.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
Total Split (%)	16.4%	54.5%	54.5%	23.6%	61.8%	0.0%	21.8%	21.8%	0.0%	21.8%	21.8%	0.0%
Maximum Green (s)	13.0	55.0	55.0	21.0	63.0		19.0	19.0		19.0		19.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0		1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0		3.0
Recall Mode	None	Max	Max	None	Max		C-Max	C-Max		C-Max		C-Max
Walk Time (s)		5.0	5.0		5.0		5.0	5.0		5.0		5.0
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0		11.0		11.0
Pedestrian Calls (#/hr)		0	0		0		0	0		0		0
Act Effct Green (s)	10.6	62.9	62.9	15.1	69.6			20.0				20.0
Actuated g/C Ratio	0.10	0.57	0.57	0.14	0.63			0.18				0.18
v/c Ratio	0.43	0.68	0.10	0.64	0.48			0.52				0.37
Control Delay	60.5	13.3	2.4	64.7	7.1			23.2				25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0				0.0

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 83: SR-111 & La Quinta Center

6/7/2010

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Total Delay	60.5	13.3	2.4	64.7	7.1			23.2			25.2	
LOS	E	B	A	E	A			C			C	
Approach Delay		14.5			12.5			23.2			25.2	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	52	345	7	84	334			46			32	
Queue Length 95th (ft)	m67	394	m15	m109	374			90			64	
Internal Link Dist (ft)		938			1205			952			396	
Turn Bay Length (ft)	325		200	500								
Base Capacity (vph)	223	2880	900	350	3152			563			464	
Starvation Cap Reductn	0	0	0	0	0			0			0	
Spillback Cap Reductn	0	0	0	0	0			0			0	
Storage Cap Reductn	0	0	0	0	0			0			0	
Reduced v/c Ratio	0.33	0.68	0.10	0.44	0.48			0.52			0.37	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 62 (56%), Referenced to phase 2:NESW and 6:, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 14.7

Intersection LOS: B

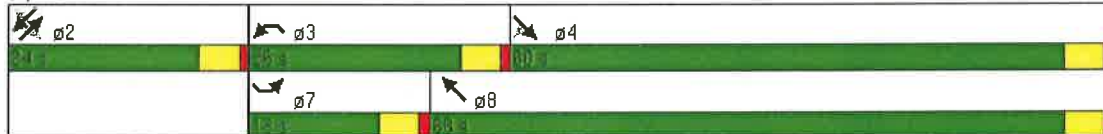
Intersection Capacity Utilization 83.4%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 83: SR-111 & La Quinta Center



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
85: SR-111 & Simon Drive

6/7/2010

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	425		0	475		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
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
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frnt		0.993			0.991			0.938			0.983	
Flt Protected	0.950			0.950				0.978			0.962	
Satd. Flow (prot)	1752	4996	0	1752	4984	0	0	3184	0	0	3306	0
Flt Permitted	0.950			0.950				0.685			0.650	
Satd. Flow (perm)	1752	4996	0	1752	4984	0	0	2230	0	0	2234	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			20			129			23	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1266			1018			562			414	
Travel Time (s)		28.8			23.1			12.8			9.4	
Volume (vph)	103	1633	78	89	1348	82	111	34	103	235	33	33
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.94	0.94	0.94	0.97	0.97	0.97	0.80	0.80	0.80	0.85	0.85	0.85
Adj. Flow (vph)	110	1737	83	92	1390	85	139	42	129	276	39	39
Lane Group Flow (vph)	110	1820	0	92	1475	0	0	310	0	0	354	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			2	
Permitted Phases							2			2		
Detector Phases	7	4		3	8		2	2		2	2	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0		9.0	21.0		9.0	9.0		9.0	9.0	
Total Split (s)	11.0	28.0	0.0	9.0	26.0	0.0	18.0	18.0	0.0	18.0	18.0	0.0
Total Split (%)	20.0%	50.9%	0.0%	16.4%	47.3%	0.0%	32.7%	32.7%	0.0%	32.7%	32.7%	0.0%
Maximum Green (s)	6.0	23.0		4.0	21.0		13.0	13.0		13.0	13.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)					5.0							
Flash Dont Walk (s)					11.0							
Pedestrian Calls (#/hr)					0							
Act Effct Green (s)	6.9	25.3		5.0	23.7			14.5			14.5	
Actuated g/C Ratio	0.13	0.46		0.09	0.43			0.26			0.26	
v/c Ratio	0.50	0.79		0.58	0.68			0.45			0.95dl	
Control Delay	36.9	10.6		53.0	10.9			12.4			21.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 85: SR-111 & Simon Drive

6/7/2010

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Total Delay	36.9	10.6		53.0	10.9			12.4			21.2	
LOS	D	B		D	B			B			C	
Approach Delay		12.1			13.4			12.4			21.2	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	65	211		61	101			25			50	
Queue Length 95th (ft)	m73	m245		#110	185			45			80	
Internal Link Dist (ft)		1186			938			482			334	
Turn Bay Length (ft)	425			475								
Base Capacity (vph)	223	2304		159	2156			685			608	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.49	0.79		0.58	0.68			0.45			0.58	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 43 (78%), Referenced to phase 2:NESW and 6:, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

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

Splits and Phases: 85: SR-111 & Simon Drive



Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 94: Channel Drive & Washington Street

6/7/2010

Lane Group	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
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98				0.97		1.00			1.00	
Frt		0.920				0.850		0.999			0.991	
Flt Protected		0.985			0.964		0.950			0.950		
Satd. Flow (prot)	0	1640	0	0	1778	1568	1752	5029	0	1752	4981	0
Flt Permitted		0.802			0.482		0.950			0.950		
Satd. Flow (perm)	0	1335	0	0	889	1517	1752	5029	0	1752	4981	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69				289		1			12	
Headway 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
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		699			313			671			2114	
Travel Time (s)		15.9			7.1			15.3			48.0	
Volume (vph)	105	39	210	105	34	325	94	1548	14	243	1865	114
Confl. Peds. (#/hr)			10			10			10			10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	42	228	114	37	353	102	1683	15	264	2027	124
Lane Group Flow (vph)	0	384	0	0	151	353	102	1698	0	264	2151	0
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4		4						
Detector Phases	4	4		4	4	4	5	2		1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	38.0	38.0	0.0	38.0	38.0	38.0	13.0	47.0	0.0	25.0	59.0	0.0
Total Split (%)	34.5%	34.5%	0.0%	34.5%	34.5%	34.5%	11.8%	42.7%	0.0%	22.7%	53.6%	0.0%
Maximum Green (s)	33.0	33.0		33.0	33.0	33.0	8.0	42.0		20.0	54.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0			0	
Act Effct Green (s)		30.7			30.7	30.7	9.4	47.3		20.0	57.9	
Actuated g/C Ratio		0.28			0.28	0.28	0.09	0.43		0.18	0.53	
v/c Ratio		0.91			0.61	0.56	0.68	0.78		0.83	0.82	
Control Delay		50.6			44.8	10.2	57.2	21.9		82.8	9.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		50.6			44.8	10.2	57.2	21.9		82.8	9.1	
LOS		D			D	B	E	C		F	A	

Build 2015 Alternative 3 Wash NB Thrus PM Peak Hour
 94: Channel Drive & Washington Street

6/7/2010

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		50.6			20.6			23.9			17.2	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		223			89	33	58	398		197	104	
Queue Length 95th (ft)		#382			160	116	m71	m426		m244	126	
Internal Link Dist (ft)		619			233			591			2034	
Turn Bay Length (ft)												
Base Capacity (vph)		460			275	669	151	2165		334	2627	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.83			0.55	0.53	0.68	0.78		0.79	0.82	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 42 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 22.4

Intersection LOS: C

Intersection Capacity Utilization 82.8%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 94: Channel Drive & Washington Street



Appendix E

Segment LOS Capacities

**Riverside County Integrated Plan
Roadway Capacity / Level of Service ⁽¹⁾
2/28/2002**

		Maximum Two-Way Average Daily Traffic (ADT) ⁽²⁾		
Roadway Classification	Number of Lanes	LOS C	LOS D	LOS E
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Arterial	2	14,400	16,200	18,000
Arterial	4	28,700	32,300	35,900
Mountain Arterial (3)	2	12,900	14,500	16,100
Mountain Arterial	3	16,700	18,800	20,900
Mountain Arterial	4	29,800	33,500	37,200
Urban Arterial	4	28,700	32,300	35,900
Urban Arterial	6	43,100	48,500	53,900
Urban Arterial	8	57,400	64,600	71,800
Expressway (4)	4	32,700	36,800	40,900
Expressway (4)	6	49,000	55,200	61,300
Expressway (4)	8	65,400	73,500	81,700
Freeway	4	61,200	68,900	76,500
Freeway	6	94,000	105,800	117,500
Freeway	8	128,400	144,500	160,500
Freeway	10	160,500	180,500	200,600

Notes:

- (1) All Capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only.
- (2) Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables as defined in the Riverside County Congestion Management Program.
- (3) Level two-lane and four-lane arterials are analyzed as arterials.
- (4) There are currently no roadways in Riverside County that match this category, but capacity values are needed for future conditions analysis.

Appendix F

Aerial Locations

Other Intersection Improvements
Close Median Breaks on Washington Street
Right Turn Deceleration Lanes on Washington Street

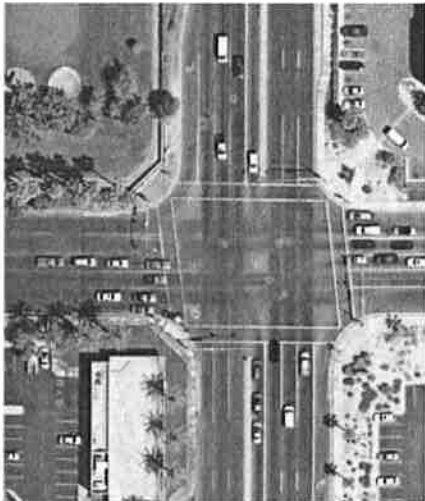
Washington Street/Avenue 48 Southbound Dual Left



Washington Street/Via Sevilla Install Signal



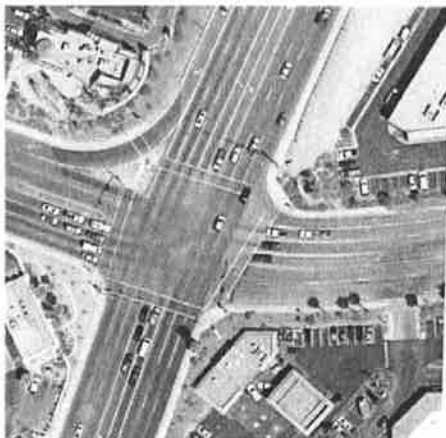
Washington Street/42nd Avenue Southbound Dual Left



Washington Street/Woodhaven Country Club
Install Signal



Washington Street/Country Club Drive
Add NB & EB Right Turn Lanes



Washington Street at Emerald Crest
Close Median Along Washington Street



Washington Street at Easthaven Road
Close Median Along Washington Street



Washington Street at Sunnybrook
Close Median Along Washington Street



Washington Street at Tucson Circle
Close Median Along Washington Street



Washington Street at Whirling Wind
Close Median Along Washington Street



Washington Street at Desert Breezes Resort
Close Median Along Washington Street



Deceleration Lanes Northbound at Ralph's Shopping Center & Southbound at Albertson's Shopping Center South of 42nd Avenue

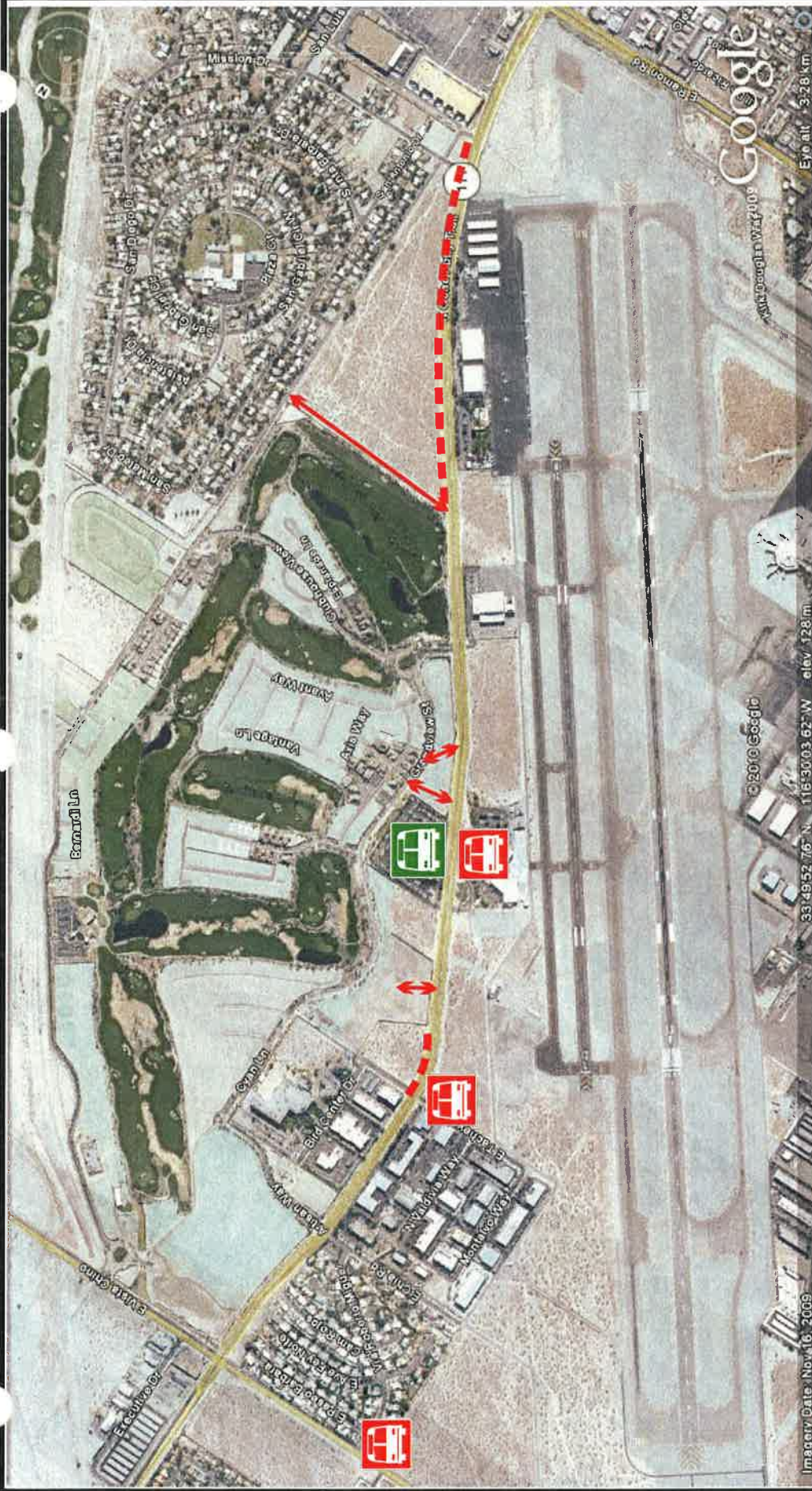


Deceleration Lanes Northbound at Shopping Center & Southbound at Shopping Center South of Country Club Drive



Appendix G

Site Specific Issues by Jurisdiction

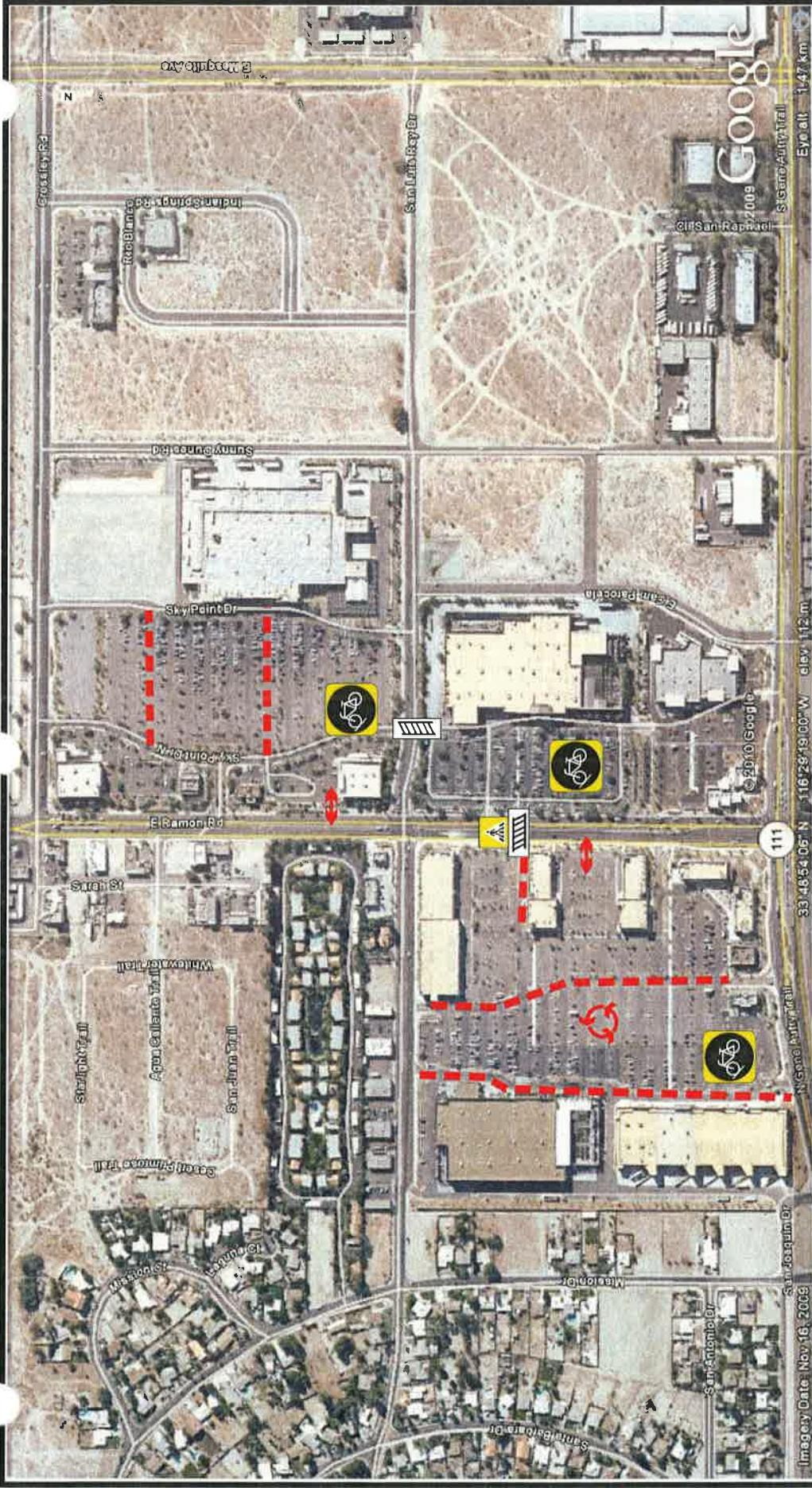


Palm Springs

- Legend**
- Proposed Sidewalk
 - Develop Internal Circulation
 - No Amenities Transit Stop
 - Transit Stop
 - Add Bike Racks/Lockers
 - Internal Pedestrian Striping
 - Potential Bike Routes
 - Potential Offsite Parking Site w/Shuttle
 - Secure Gate Access
 - Provide Direct Access
 - Potential Pedestrian Lighting
 - Electric Vehicle Charging

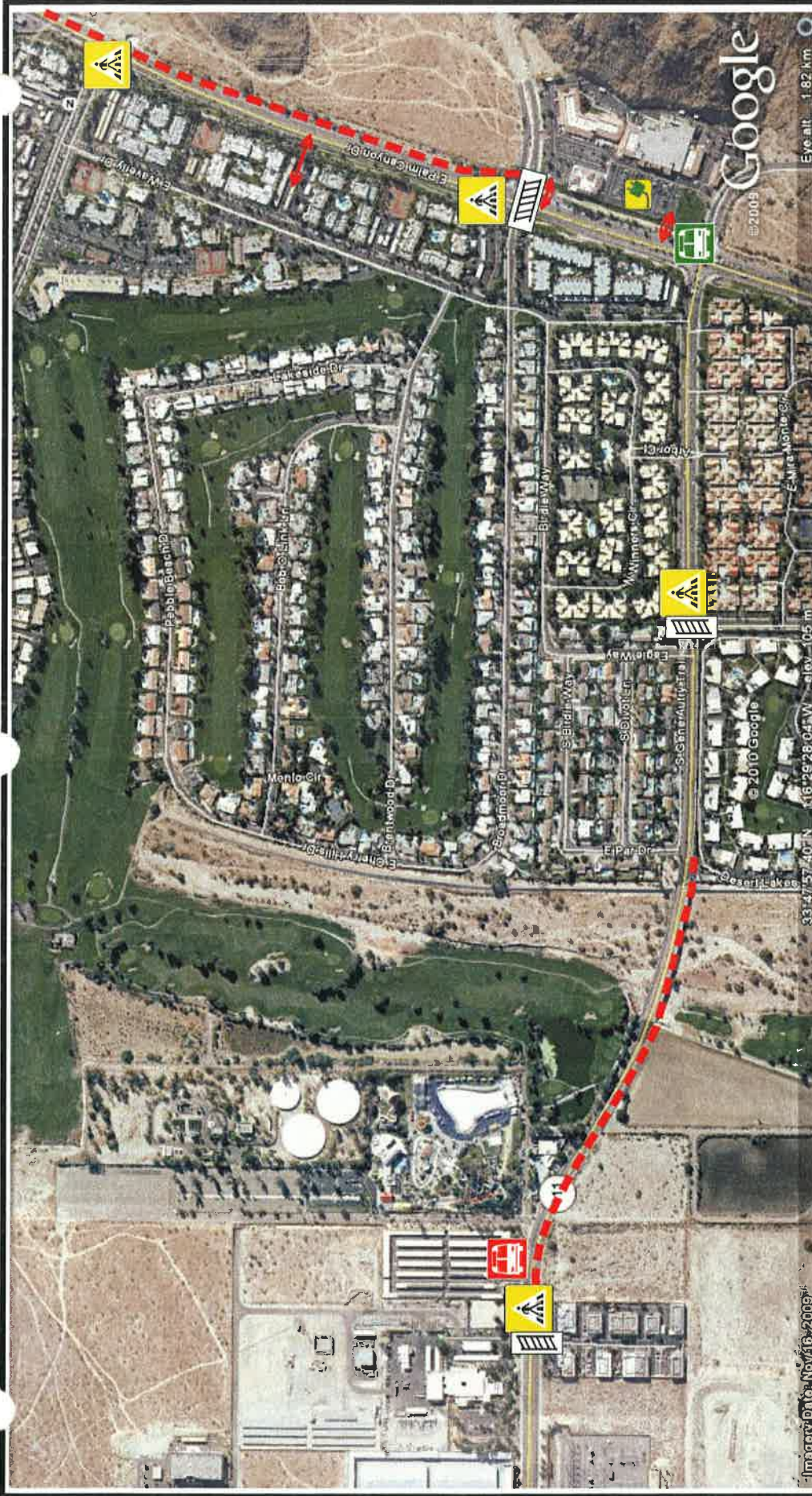
G-1

















Palm Springs

<p>Legend</p> <ul style="list-style-type: none"> Proposed Sidewalk Develop Internal Circulation No Amenities Transit Stop Transit Stop Add Bike Racks/Lockers Internal Pedestrian Striping Potential Bike Routes Potential Offsite Parking Site w/Shuttle Secure Gate Access Provide Direct Access Potential Pedestrian Lighting Electric Vehicle Charging 		<p>G-2</p>



Palm Springs

- Legend**
-  Proposed Sidewalk
 -  Develop Internal Circulation
 -  No Amenities Transit Stop
 -  Transit Stop
 -  Add Bike Racks/Lockers
 -  Internal Pedestrian Striping
 -  Potential Bike Routes
 -  Potential Offsite Parking Site w/Shuttle
 -  Secure Gate Access
 -  Provide Direct Access
 -  Potential Pedestrian Lighting
 -  Electric Vehicle Charging

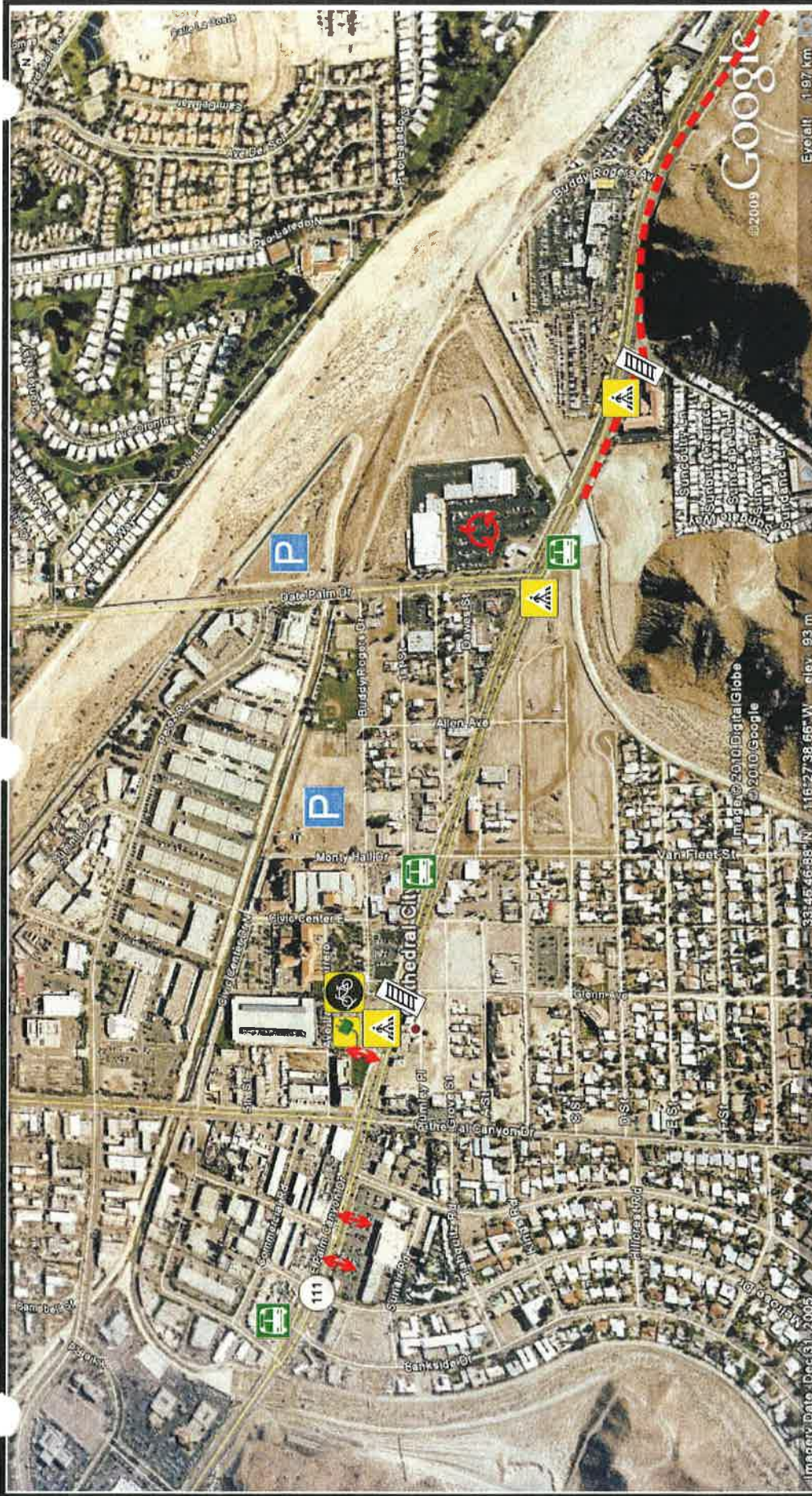
G-3





Cathedral City

<p>Legend</p> <ul style="list-style-type: none"> Proposed Sidewalk Develop Internal Circulation No Amenities Transit Stop Transit Stop Add Bike Racks/Lockers Internal Pedestrian Stripping Potential Bike Routes Potential Offsite Parking Site w/Shuttle Secure Gate Access Provide Direct Access Potential Pedestrian Lighting Electric Vehicle Charging 		<p>G-4</p>
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Cathedral City

- | | | | | | |
|--|------------------------------|--|--|--|-------------------------------|
| | Proposed Sidewalk | | Add Bike Racks/Lockers | | Secure Gate Access |
| | Develop Internal Circulation | | Internal Pedestrian Striping | | Provide Direct Access |
| | No Amenities Transit Stop | | Potential Bike Routes | | Potential Pedestrian Lighting |
| | Transit Stop | | Potential Offsite Parking Site w/Shuttle | | Electric Vehicle Charging |

Legend

G-5



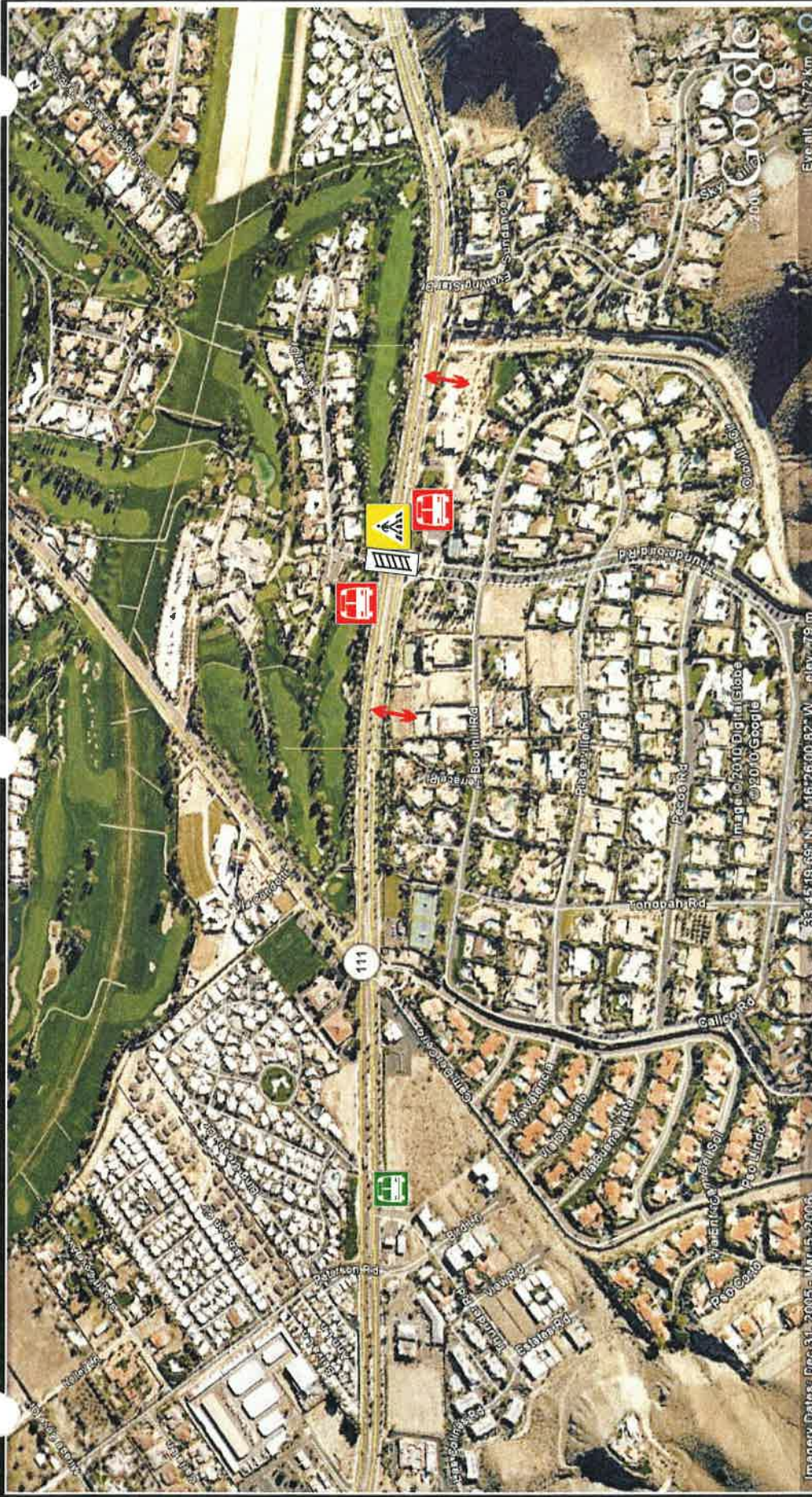


Rancho Mirage

- | | | | | | |
|--|------------------------------|--|--|--|-------------------------------|
| | Proposed Sidewalk | | Add Bike Racks/Lockers | | Secure Gate Access |
| | Develop Internal Circulation | | Internal Pedestrian Striping | | Provide Direct Access |
| | No Amenities Transit Stop | | Potential Bike Routes | | Potential Pedestrian Lighting |
| | Transit Stop | | Potential Offsite Parking Site w/Shuttle | | Electric Vehicle Charging |

G-6





Rancho Mirage

	Proposed Sidewalk		Add Bike Racks/Lockers		Secure Gate Access	G-7
	Develop Internal Circulation		Internal Pedestrian Striping		Provide Direct Access	
	No Amenities Transit Stop		Potential Bike Routes		Potential Pedestrian Lighting	
	Transit Stop		Potential Offsite Parking Site w/Shuttle		Electric Vehicle Charging	



Rancho Mirage

Legend	
	Proposed Sidewalk
	Develop Internal Circulation
	No Amenities Transit Stop
	Transit Stop
	Add Bike Racks/Lockers
	Secure Gate Access
	Internal Pedestrian Striping
	Potential Bike Routes
	Potential Offsite Parking Site w/Shuttle
	Potential Pedestrian Lighting
	Electric Vehicle Charging

G-8



Imagery Date: May 25, 2009

© 2010 Google
Image USA/Farm Service Agency
33°44'46.08"N - 115°25'06.82"W
Elev: 79 m
Eye alt: 160 Km



Rancho Mirage














Legend	
	Proposed Sidewalk
	Develop Internal Circulation
	No Amenities Transit Stop
	Transit Stop
	Add Bike Racks/Lockers
	Internal Pedestrian Striping
	Potential Bike Routes
	Potential Offsite Parking Site w/Shuttle
	Secure Gate Access
	Provide Direct Access
	Potential Pedestrian Lighting
	Electric Vehicle Charging

G-9





Palm Desert

<p>Legend</p> <ul style="list-style-type: none">  Proposed Sidewalk  Develop Internal Circulation  No Amenities Transit Stop  Transit Stop 	<ul style="list-style-type: none">  Add Bike Racks/Lockers  Internal Pedestrian Striping  Potential Bike Routes  Potential Offsite Parking Site w/Shuttle 	<ul style="list-style-type: none">  Secure Gate Access  Provide Direct Access  Potential Pedestrian Lighting  Electric Vehicle Charging 	<p>G-10</p>	
<p>Imagery Dates: Dec. 31, 2005 - Mar. 5, 2006</p>				

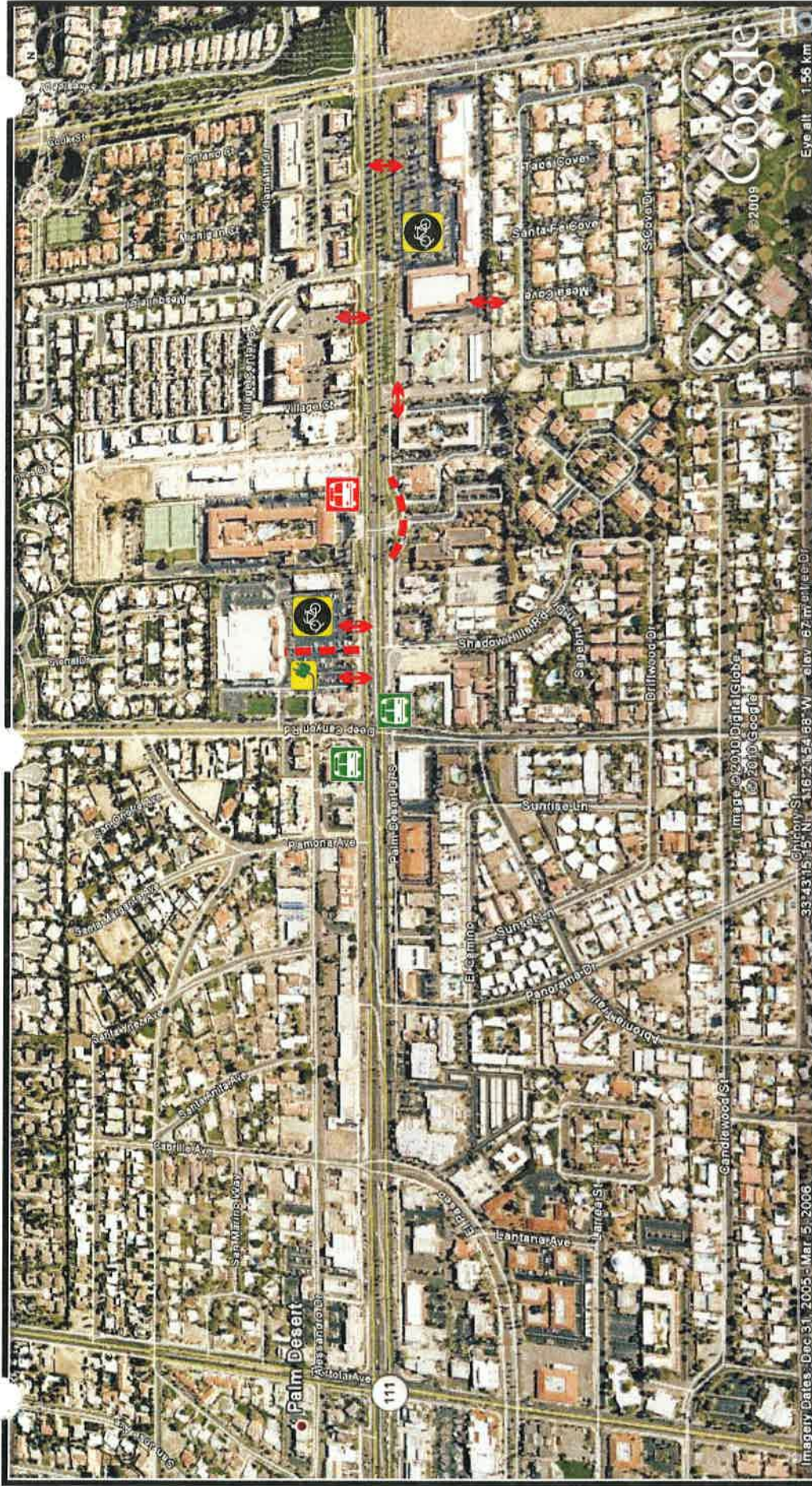


Palm Desert

Legend	
	Proposed Sidewalk
	Develop Internal Circulation
	No Amenities Transit Stop
	Transit Stop
	Add Bike Racks/Lockers
	Internal Pedestrian Stripping
	Potential Bike Routes
	Potential Offsite Parking Site w/Shuttle
	Secure Gate Access
	Provide Direct Access
	Potential Pedestrian Lighting
	Electric Vehicle Charging

G-11

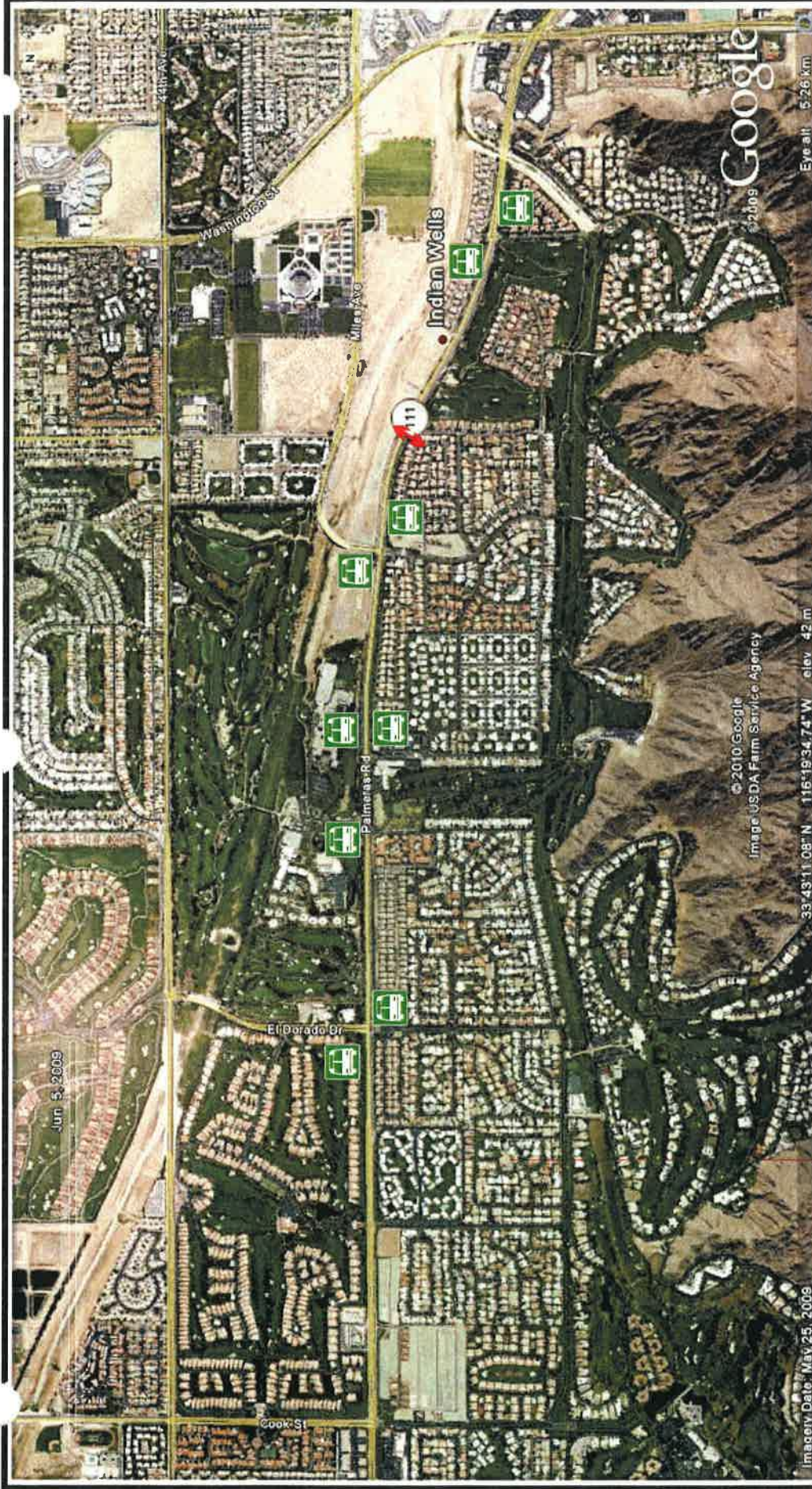




Palm Desert

	Proposed Sidewalk		Add Bike Racks/Lockers		Secure Gate Access
	Transit Stop		Develop Internal Circulation		Provide Direct Access
	No Amenities Transit Stop		Potential Bike Routes		Potential Pedestrian Lighting
	Potential Offsite Parking Site w/Shuttle		Potential Offsite Parking Site w/Shuttle		Electric Vehicle Charging

G-12



Indian Wells














- | | | | | | |
|--|------------------------------|--|--|--|-------------------------------|
| | Proposed Sidewalk | | Add Bike Racks/Lockers | | Secure Gate Access |
| | Develop Internal Circulation | | Internal Pedestrian Striping | | Provide Direct Access |
| | No Amenities Transit Stop | | Potential Bike Routes | | Potential Pedestrian Lighting |
| | Transit Stop | | Potential Offsite Parking Site w/Shuttle | | Electric Vehicle Charging |

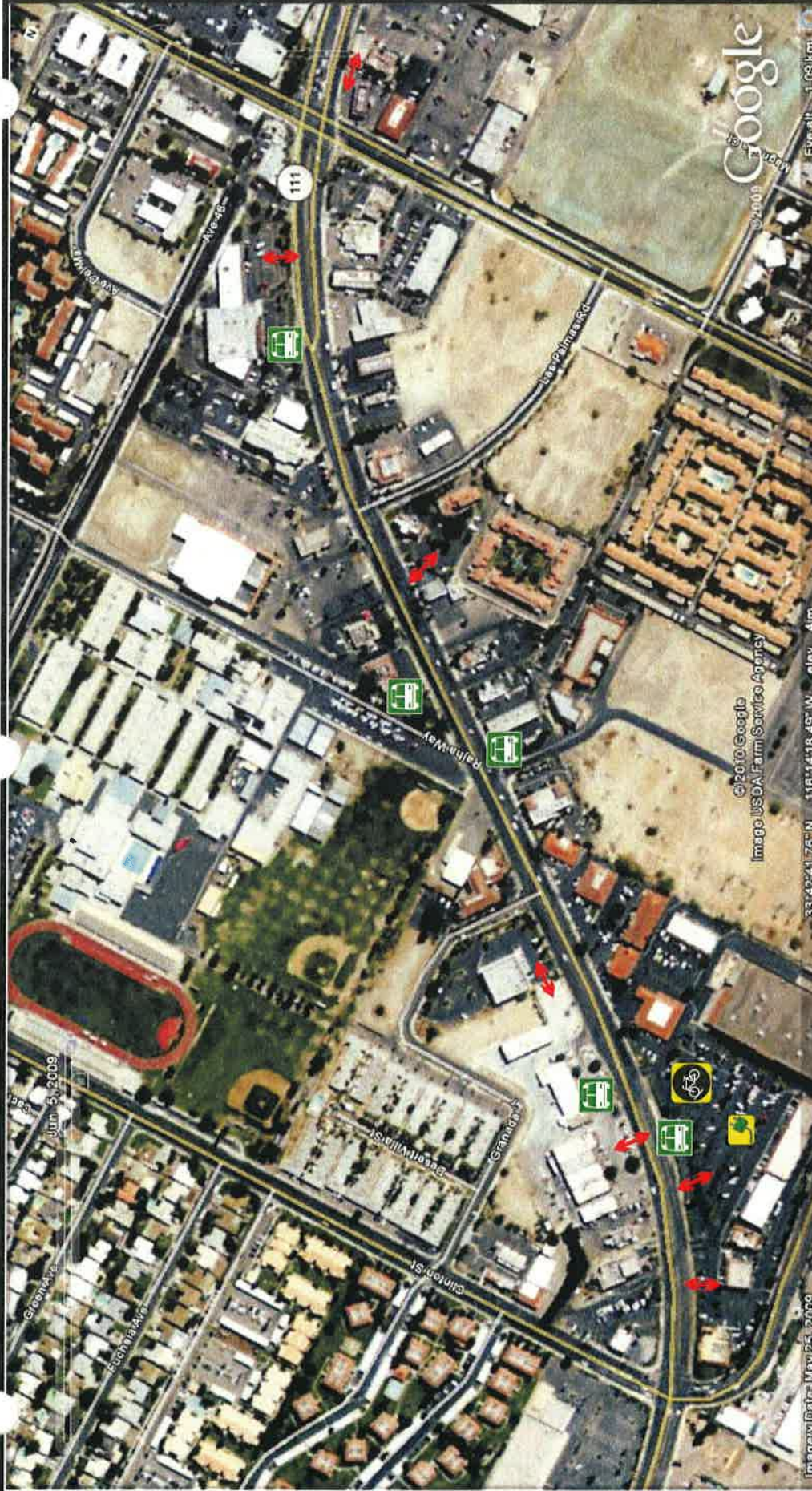
G-13






Indio

<p>Legend</p> <ul style="list-style-type: none">  Proposed Sidewalk  Develop Internal Circulation  No Amenities Transit Stop  Transit Stop 	<ul style="list-style-type: none">  Add Bike Racks/Lockers  Internal Pedestrian Striping  Potential Bike Routes  Potential Offsite Parking Site w/Shuttle 	<ul style="list-style-type: none">  Secure Gate Access  Provide Direct Access  Potential Pedestrian Lighting  Electric Vehicle Charging 	<p>G-14</p>	
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Indio

<p>Legend</p> <ul style="list-style-type: none"> Proposed Sidewalk Develop Internal Circulation No Amenities Transit Stop Transit Stop Add Bike Racks/Lockers Internal Pedestrian Striping Potential Bike Routes Potential Offsite Parking Site w/Shuttle Secure Gate Access Provide Direct Access Potential Pedestrian Lighting Electric Vehicle Charging 		<p>G-15</p> 
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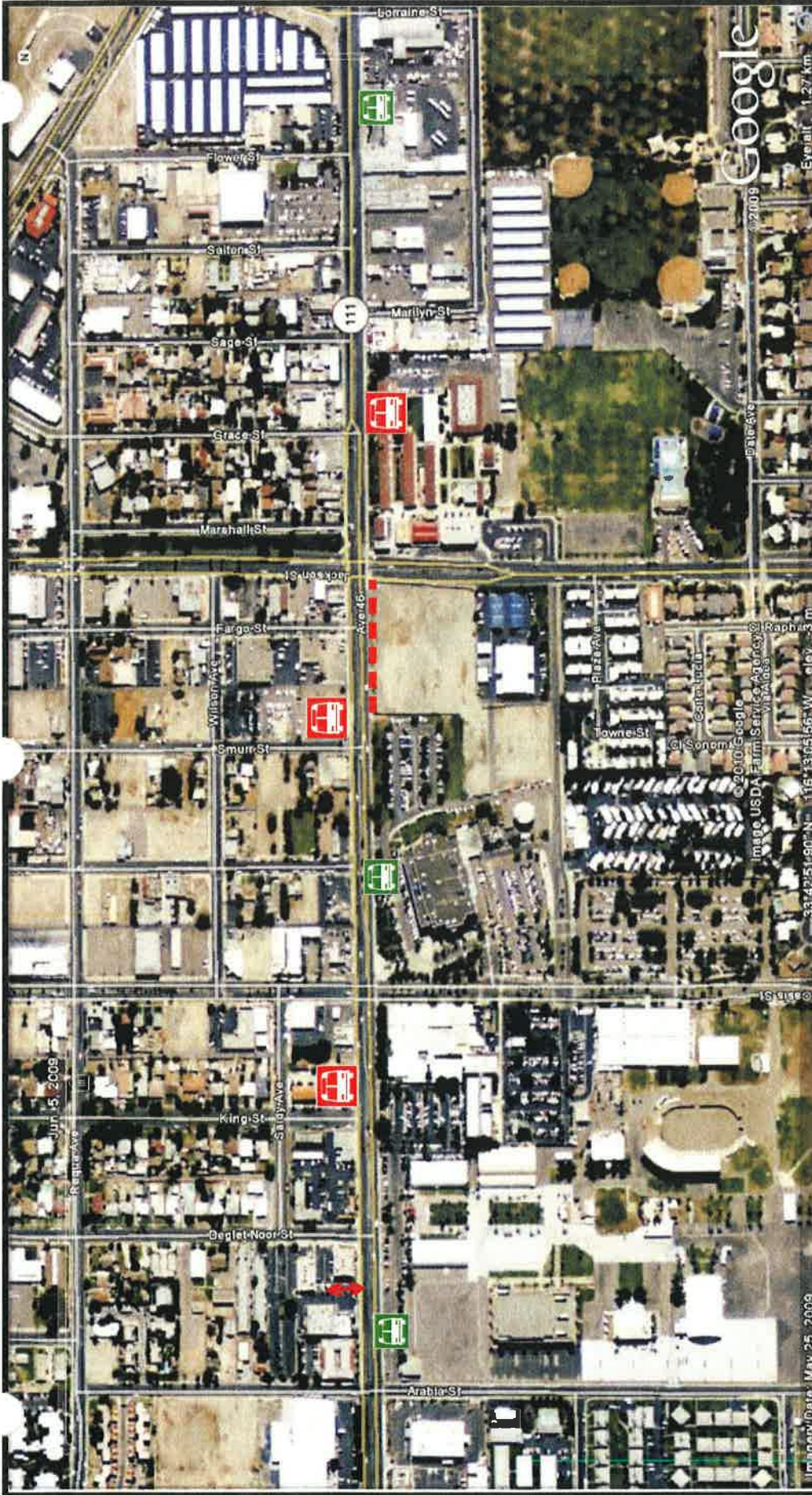


Indio

Legend	
	Proposed Sidewalk
	Develop Internal Circulation
	No Amenities Transit Stop
	Transit Stop
	Add Bike Racks/Lockers
	Internal Pedestrian Striping
	Potential Bike Routes
	Potential Offsite Parking Site w/Shuttle
	Secure Gate Access
	Provide Direct Access
	Potential Pedestrian Lighting
	Electric Vehicle Charging

G-16





Indio

Legend	
	Proposed Sidewalk
	Develop Internal Circulation
	No Amenities Transit Stop
	Transit Stop
	Add Bike Racks/Lockers
	Internal Pedestrian Striping
	Potential Bike Routes
	Potential Offsite Parking Site w/Shuttle
	Secure Gate Access
	Provide Direct Access
	Potential Pedestrian Lighting
	Electric Vehicle Charging

G-17

