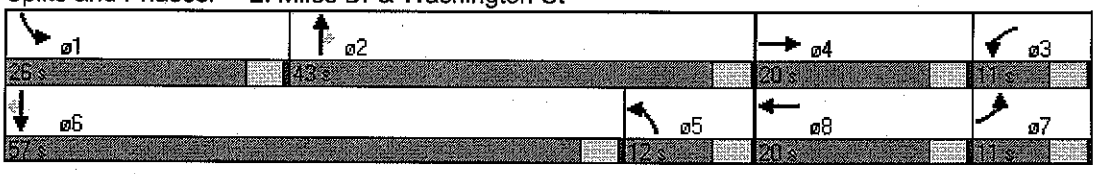
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	247		0	259		253	130		200
Storage Lanes	1		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	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
Frt		0.968			0.939				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3426	0	3433	3323	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3426	0	3433	3323	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			148				149			28
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)		40			40			45			45	
Link Distance (ft)		2325			3500			1805			3279	
Travel Time (s)		39.6			59.7			27.3			49.7	
Volume (vph)	39	346	93	77	205	142	55	1593	143	286	1907	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	360	97	80	214	148	57	1659	149	298	1986	30
Lane Group Flow (vph)	41	457	0	80	362	0	57	1659	149	298	1986	30
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)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	11.0	20.0	0.0	11.0	20.0	0.0	12.0	43.0	43.0	26.0	57.0	57.0
Total Split (%)	11.0%	20.0%	0.0%	11.0%	20.0%	0.0%	12.0%	43.0%	43.0%	26.0%	57.0%	57.0%
Maximum Green (s)	7.0	16.0		7.0	16.0		8.0	39.0	39.0	22.0	53.0	53.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
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	C-Min	C-Min	None	C-Min	C-Min
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	15.6		7.0	16.3		7.9	43.9	43.9	19.7	57.9	57.9
Actuated g/C Ratio	0.08	0.16		0.07	0.16		0.08	0.44	0.44	0.20	0.58	0.58
v/c Ratio	0.27	0.82		0.33	0.54		0.41	0.74	0.19	0.86	0.67	0.03
Control Delay	47.7	51.0		48.4	26.0		49.0	27.0	6.0	57.6	5.1	0.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	51.0		48.4	26.0		49.0	27.0	6.0	57.6	5.1	0.3
LOS	D	D		D	C		D	C	A	E	A	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		50.7			30.1			26.0			11.8	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)	24	138		25	68		34	347	16	142	106	0
Queue Length 95th (ft)	60	#212		48	112		m55	247	m31	m170	m120	m0
Internal Link Dist (ft)		2245			3420			1725			3199	
Turn Bay Length (ft)	260			247			259		253	130		200
Base Capacity (vph)	150	580		240	726		144	2243	782	389	2958	933
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	0.27	0.79		0.33	0.50		0.40	0.74	0.19	0.77	0.67	0.03

Intersection Summary
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 44 (44%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 22.4 Intersection LOS: C
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.

Splits and Phases: 2: Miles Dr & Washington St

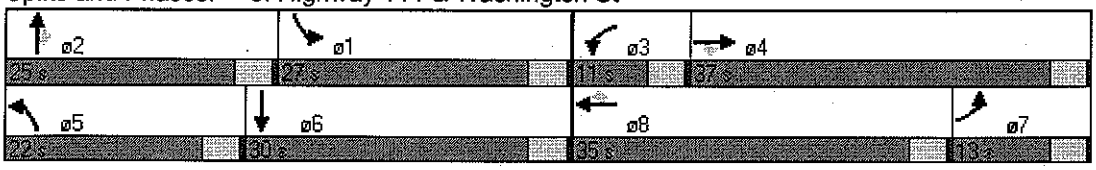


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		200	525		200	434		173	253		0
Storage Lanes	2		1	2		1	2		1	2		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	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	0.97	0.91	1.00	0.97	0.91	0.91
Frt			0.850			0.850			0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5024	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5024	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			411			507			139		14	
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)		50			50			45			45	
Link Distance (ft)		2765			2143			2589			950	
Travel Time (s)		37.7			29.2			39.2			14.4	
Volume (vph)	238	1324	844	236	1127	651	627	897	189	647	1286	113
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	248	1379	879	246	1174	678	653	934	197	674	1340	118
Lane Group Flow (vph)	248	1379	879	246	1174	678	653	934	197	674	1458	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Detector Phases	7	4	4	3	8	8	5	2	2	1	6	
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	
Total Split (s)	13.0	37.0	37.0	11.0	35.0	35.0	22.0	25.0	25.0	27.0	30.0	0.0
Total Split (%)	13.0%	37.0%	37.0%	11.0%	35.0%	35.0%	22.0%	25.0%	25.0%	27.0%	30.0%	0.0%
Maximum Green (s)	9.0	33.0	33.0	7.0	31.0	31.0	18.0	21.0	21.0	23.0	26.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
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	C-Min	C-Min	None	C-Min	
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)	10.2	33.0	33.0	7.0	29.8	29.8	18.0	20.8	20.8	23.2	26.0	
Actuated g/C Ratio	0.10	0.33	0.33	0.07	0.30	0.30	0.18	0.21	0.21	0.23	0.26	
v/c Ratio	0.71	0.82	1.10	1.02	0.77	0.82	1.06	0.88	0.45	0.85	1.11	
Control Delay	56.4	35.8	82.3	111.8	36.0	17.3	76.1	30.2	8.6	35.2	83.8	
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	56.4	35.8	82.3	111.8	36.0	17.3	76.1	30.2	8.6	35.2	83.8	
LOS	E	D	F	F	D	B	E	C	A	D	F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		54.1			38.8			44.6			68.4	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	81	293	~452	~86	244	94	~228	186	36	176	~377	
Queue Length 95th (ft)	#143	353	#691	#165	297	#271	#340	#273	85	#295	#474	
Internal Link Dist (ft)		2685			2063			2509			870	
Turn Bay Length (ft)	400		200	525		200	434		173	253		
Base Capacity (vph)	350	1678	798	240	1576	841	618	1068	442	797	1317	
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	0.71	0.82	1.10	1.02	0.74	0.81	1.06	0.87	0.45	0.85	1.11	

Intersection Summary
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 68 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 52.0 Intersection LOS: D
Intersection Capacity Utilization 96.4% 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: 3: Highway 111 & Washington St

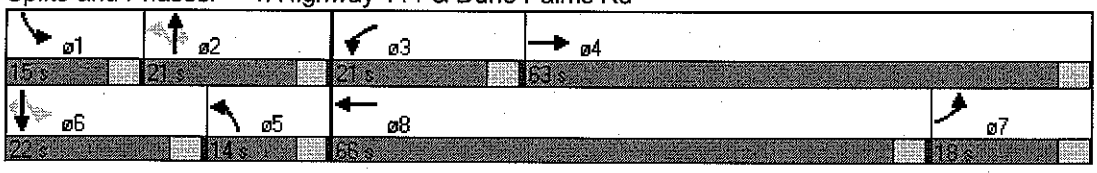


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	135		0	535		0	170		265	195		130
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
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	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.989			0.983				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5029	0	1770	4999	0	1770	1863	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.599			0.571		
Satd. Flow (perm)	1770	5029	0	1770	4999	0	1116	1863	1583	1064	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			29				237			162
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)		50			50			35			35	
Link Distance (ft)		2592			1698			1384			5239	
Travel Time (s)		35.3			23.2			27.0			102.1	
Volume (vph)	196	2291	177	248	1949	256	193	207	288	223	237	156
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	204	2386	184	258	2030	267	201	216	300	232	247	162
Lane Group Flow (vph)	204	2570	0	258	2297	0	201	216	300	232	247	162
Turn Type	Prot			Prot			pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phases	7	4		3	8		5	2	2	1	6	6
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	18.0	63.0	0.0	21.0	66.0	0.0	14.0	21.0	21.0	15.0	22.0	22.0
Total Split (%)	15.0%	52.5%	0.0%	17.5%	55.0%	0.0%	11.7%	17.5%	17.5%	12.5%	18.3%	18.3%
Maximum Green (s)	14.0	59.0		17.0	62.0		10.0	17.0	17.0	11.0	18.0	18.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
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	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)	15.3	59.0		17.0	60.7		17.0	17.0	17.0	18.0	18.0	18.0
Actuated g/C Ratio	0.13	0.49		0.14	0.51		0.14	0.14	0.14	0.15	0.15	0.15
v/c Ratio	0.90	1.04		1.03	0.90		0.94	0.82	0.70	1.04	0.47	0.43
Control Delay	71.9	48.4		109.4	13.1		101.1	74.4	21.5	118.9	49.8	10.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.9	48.4		109.4	13.1		101.1	74.4	21.5	118.9	49.8	10.7
LOS	E	D		F	B		F	E	C	F	D	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		50.1			22.8			59.8			64.9	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	169	~807		~208	250		153	165	44	~185	93	0
Queue Length 95th (ft)	m#220	#897		m#317	540		#306	#292	144	#304	136	61
Internal Link Dist (ft)		2512			1618			1304			5159	
Turn Bay Length (ft)	135			535			170		265	195		130
Base Capacity (vph)	227	2480		251	2597		213	264	428	224	531	375
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	1.04		1.03	0.88		0.94	0.82	0.70	1.04	0.47	0.43

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 42.1 Intersection LOS: D
Intersection Capacity Utilization 98.5% 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: 4: Highway 111 & Dune Palms Rd

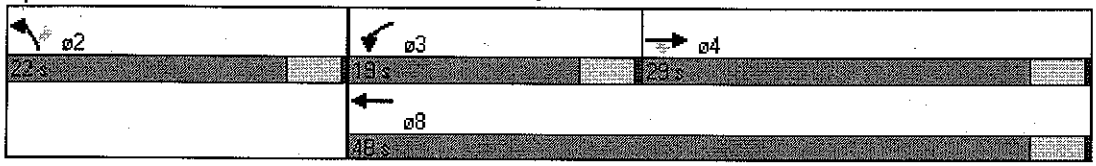


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		255	216		0	200
Storage Lanes		1	1		0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		671				390
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	40			40	45	
Link Distance (ft)	1935			2644	6029	
Travel Time (s)	33.0			45.1	91.3	
Volume (vph)	885	644	207	527	535	374
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	922	671	216	549	557	390
Lane Group Flow (vph)	922	671	216	549	557	390
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)	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	20.0	20.0	11.0	20.0	20.0	20.0
Total Split (s)	29.0	29.0	19.0	48.0	22.0	22.0
Total Split (%)	41.4%	41.4%	27.1%	68.6%	31.4%	31.4%
Maximum Green (s)	25.0	25.0	15.0	44.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	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)	22.4	22.4	12.1	38.5	18.2	18.2
Actuated g/C Ratio	0.35	0.35	0.19	0.59	0.28	0.28
v/c Ratio	0.75	0.68	0.65	0.26	0.58	0.54
Control Delay	23.6	5.7	35.1	6.4	24.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	5.7	35.1	6.4	24.2	5.8
LOS	C	A	D	A	C	A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	16.0			14.5	16.6	
Approach LOS	B			B	B	
Queue Length 50th (ft)	170	0	84	47	105	0
Queue Length 95th (ft)	243	65	148	68	158	61
Internal Link Dist (ft)	1855			2564	5949	
Turn Bay Length (ft)		255	216			200
Base Capacity (vph)	1318	1011	394	2225	964	725
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	0.70	0.66	0.55	0.25	0.58	0.54

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 64.8
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 15.8 Intersection LOS: B
Intersection Capacity Utilization 61.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: Indio Blvd & Jefferson St



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
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	8
Storage Length (ft)	219		0	232		0	208		215	149		200
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	0.91	0.91	0.97	0.91	0.91	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.977			0.983				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	4968	0	3433	4999	0	1770	5085	1583	1770	5085	1372
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	4968	0	3433	4999	0	1770	5085	1583	1770	5085	1372
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			19				166			126
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.20
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2684			10653			2642			6029	
Travel Time (s)		40.7			161.4			40.0			91.3	
Volume (vph)	81	755	136	160	624	80	112	687	159	78	666	121
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	786	142	167	650	83	117	716	166	81	694	126
Lane Group Flow (vph)	84	928	0	167	733	0	117	716	166	81	694	126
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)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	23.0	40.0	0.0	21.0	38.0	0.0	26.0	36.0	36.0	23.0	33.0	33.0
Total Split (%)	19.2%	33.3%	0.0%	17.5%	31.7%	0.0%	21.7%	30.0%	30.0%	19.2%	27.5%	27.5%
Maximum Green (s)	19.0	36.0		17.0	34.0		22.0	32.0	32.0	19.0	29.0	29.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
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	C-Min	C-Min	None	C-Min	C-Min
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)	10.9	27.5		10.8	29.6		14.3	50.2	50.2	17.7	51.4	51.4
Actuated g/C Ratio	0.09	0.23		0.09	0.25		0.12	0.42	0.42	0.15	0.43	0.43
v/c Ratio	0.52	0.80		0.54	0.59		0.55	0.34	0.22	0.31	0.32	0.19
Control Delay	63.0	47.5		52.1	35.0		50.6	11.4	1.1	48.1	25.4	5.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.0	47.5		52.1	35.0		50.6	11.4	1.1	48.1	25.4	5.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	D		D	C		D	B	A	D	C	A
Approach Delay		48.8			38.2			14.3			24.7	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)	63	241		62	169		56	57	1	55	127	0
Queue Length 95th (ft)	113	274		m89	206		m90	69	m6	107	200	45
Internal Link Dist (ft)		2604			10573			2562			5949	
Turn Bay Length (ft)	219			232			208		215	149		200
Base Capacity (vph)	280	1512		486	1430		325	2128	759	302	2176	660
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	0.30	0.61		0.34	0.51		0.36	0.34	0.22	0.27	0.32	0.19

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 110 (92%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

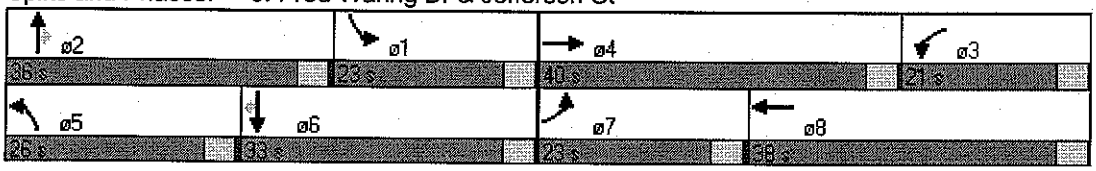
Intersection Signal Delay: 31.5 Intersection LOS: C

Intersection Capacity Utilization 55.9% ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 6: Fred Waring Dr & Jefferson St



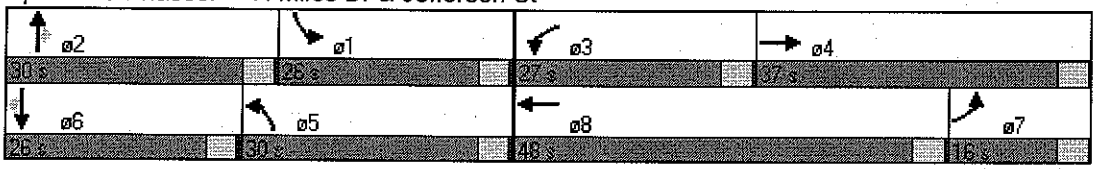
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	212		0	162		0	200		200	200		200
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
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	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.949			0.954				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3359	0	1770	3376	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3359	0	1770	3376	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			65				183			33
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)		40			40			45			45	
Link Distance (ft)		2684			5197			2675			2642	
Travel Time (s)		45.8			88.6			40.5			40.0	
Volume (vph)	52	411	210	160	327	143	195	664	176	157	635	32
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	428	219	167	341	149	203	692	183	164	661	33
Lane Group Flow (vph)	54	647	0	167	490	0	203	692	183	164	661	33
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)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	16.0	37.0	0.0	27.0	48.0	0.0	30.0	30.0	30.0	26.0	26.0	26.0
Total Split (%)	13.3%	30.8%	0.0%	22.5%	40.0%	0.0%	25.0%	25.0%	25.0%	21.7%	21.7%	21.7%
Maximum Green (s)	12.0	33.0		23.0	44.0		26.0	26.0	26.0	22.0	22.0	22.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
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	C-Min	C-Min	None	C-Min	C-Min
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)	21.3	25.9		16.2	23.1		18.3	45.3	45.3	16.6	43.6	43.6
Actuated g/C Ratio	0.18	0.22		0.14	0.19		0.15	0.38	0.38	0.14	0.36	0.36
v/c Ratio	0.17	0.83		0.70	0.70		0.75	0.36	0.26	0.67	0.36	0.06
Control Delay	39.5	48.9		64.3	45.5		66.2	16.8	4.0	70.6	28.7	9.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	48.9		64.3	45.5		66.2	16.8	4.0	70.6	28.7	9.7
LOS	D	D		E	D		E	B	A	E	C	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		48.1			50.3			23.9			36.0	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)	35	225		125	171		162	68	1	136	160	5
Queue Length 95th (ft)	67	274		190	218		248	231	58	m0	236	m30
Internal Link Dist (ft)		2604			5117			2595			2562	
Turn Bay Length (ft)	212			162			200		200	200		200
Base Capacity (vph)	328	977		339	1279		384	1920	712	325	1847	596
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	0.16	0.66		0.49	0.38		0.53	0.36	0.26	0.50	0.36	0.06

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 37.5 Intersection LOS: D
Intersection Capacity Utilization 63.4% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Miles Dr & Jefferson St

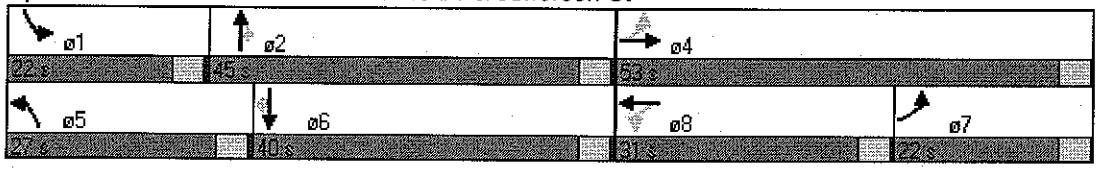


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		200	200		200
Storage Lanes	0		0	0		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	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	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.866			0.981				0.850			0.850
Flt Protected	0.950				0.966		0.950			0.950		
Satd. Flow (prot)	1770	1613	0	0	1765	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.747				0.788		0.950			0.950		
Satd. Flow (perm)	1391	1613	0	0	1440	0	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		95			6				55			54
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)		20			20			45			45	
Link Distance (ft)		1517			1321			1431			2675	
Travel Time (s)		51.7			45.0			21.7			40.5	
Volume (vph)	96	11	91	34	7	7	82	927	53	14	817	52
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	100	11	95	35	7	7	85	966	55	15	851	54
Lane Group Flow (vph)	100	106	0	0	49	0	85	966	55	15	851	54
Turn Type	pm+pt			Perm			Prot		Perm	Prot		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phases	7	4		8	8		5	2	2	1	6	6
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	11.0	20.0		20.0	20.0		11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	22.0	53.0	0.0	31.0	31.0	0.0	27.0	45.0	45.0	22.0	40.0	40.0
Total Split (%)	18.3%	44.2%	0.0%	25.8%	25.8%	0.0%	22.5%	37.5%	37.5%	18.3%	33.3%	33.3%
Maximum Green (s)	18.0	49.0		27.0	27.0		23.0	41.0	41.0	18.0	36.0	36.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag			Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
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	C-Min	C-Min	None	C-Min	C-Min
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)	18.2	18.2			9.1		10.9	89.2	89.2	7.2	81.1	81.1
Actuated g/C Ratio	0.15	0.15			0.08		0.09	0.74	0.74	0.06	0.68	0.68
v/c Ratio	0.43	0.33			0.43		0.53	0.26	0.05	0.14	0.25	0.05
Control Delay	50.7	13.1			58.3		63.0	1.7	0.4	68.8	8.0	2.0
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	13.1			58.3		63.0	1.7	0.4	68.8	8.0	2.0
LOS	D	B			E		E	A	A	E	A	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		31.3			58.3			6.3			8.6	
Approach LOS		C			E			A			A	
Queue Length 50th (ft)	69	7			32		65	8	0	11	69	1
Queue Length 95th (ft)	118	55			72		116	45	5	m26	97	m5
Internal Link Dist (ft)		1437			1241			1351			2595	
Turn Bay Length (ft)							200		200	200		200
Base Capacity (vph)	392	715			329		339	3781	1191	266	3438	1088
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	0.26	0.15			0.15		0.25	0.26	0.05	0.06	0.25	0.05

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 10.6 Intersection LOS: B
Intersection Capacity Utilization 43.1% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Westward Ho Dr & Jefferson St

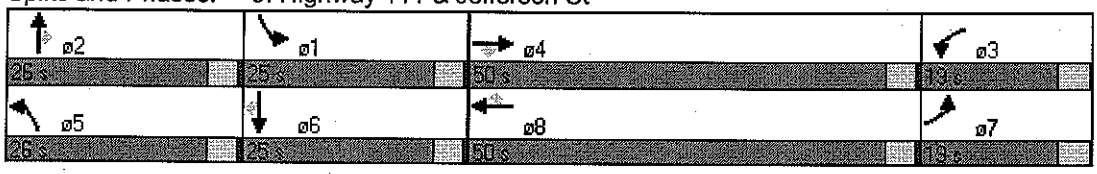


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	255		200	191		200	325		250	140		255
Storage Lanes	2		1	2		1	2		1	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			416			340			203			201
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)		50			50			45			45	
Link Distance (ft)		1003			1945			2695			1188	
Travel Time (s)		13.7			26.5			40.8			18.0	
Volume (vph)	395	1857	646	408	1753	498	588	551	399	569	595	336
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	411	1934	673	425	1826	519	612	574	416	593	620	350
Lane Group Flow (vph)	411	1934	673	425	1826	519	612	574	416	593	620	350
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)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	19.0	50.0	50.0	19.0	50.0	50.0	26.0	26.0	26.0	25.0	25.0	25.0
Total Split (%)	15.8%	41.7%	41.7%	15.8%	41.7%	41.7%	21.7%	21.7%	21.7%	20.8%	20.8%	20.8%
Maximum Green (s)	15.0	46.0	46.0	15.0	46.0	46.0	22.0	22.0	22.0	21.0	21.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
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-Min	C-Min	None	C-Min	C-Min
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)	15.0	46.0	46.0	15.0	46.0	46.0	22.0	21.7	21.7	21.3	21.0	21.0
Actuated g/C Ratio	0.12	0.38	0.38	0.12	0.38	0.38	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.96	0.99	0.78	0.99	0.94	0.64	0.97	0.62	0.92	0.98	0.70	0.79
Control Delay	58.7	23.3	7.2	52.3	17.0	1.4	43.2	19.4	27.1	71.6	42.9	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	23.3	7.2	52.3	17.0	1.4	43.2	19.4	27.1	71.6	42.9	27.7
LOS	E	C	A	D	B	A	D	B	C	E	D	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		24.5			19.5			30.5			50.4	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	175	423	134	179	367	6	201	89	102	204	106	1
Queue Length 95th (ft)	m175	m393	m115	m168	m311	m5	m#322	m112	m#101	#363	184	#177
Internal Link Dist (ft)		923			1865			2615			1108	
Turn Bay Length (ft)	255		200	191		200	325		250	140		255
Base Capacity (vph)	429	1949	863	429	1949	816	629	932	456	608	890	443
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	0.99	0.78	0.99	0.94	0.64	0.97	0.62	0.91	0.98	0.70	0.79

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 28.6 Intersection LOS: C
Intersection Capacity Utilization 89.1% 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: 9: Highway 111 & Jefferson St

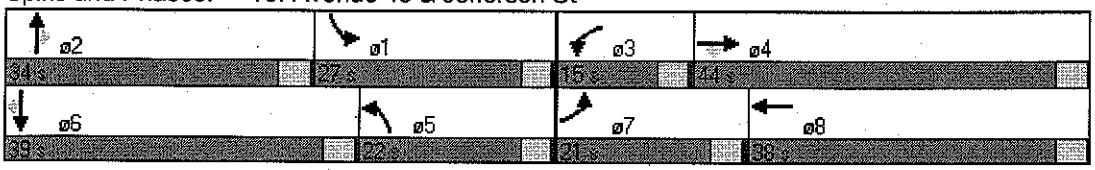


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		385	220		0	285		202	321		253
Storage Lanes	1		1	1		0	2		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	1.00	1.00	1.00	0.95	0.95	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.954				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3376	0	3433	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1770	3376	0	3433	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			358		58				152			238
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)		40			40			45			45	
Link Distance (ft)		1786			2587			5312			2695	
Travel Time (s)		30.4			44.1			80.5			40.8	
Volume (vph)	189	561	582	133	544	241	422	1084	166	302	1044	228
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	197	584	606	139	567	251	440	1129	173	315	1088	238
Lane Group Flow (vph)	197	584	606	139	818	0	440	1129	173	315	1088	238
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)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0		11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	21.0	44.0	44.0	15.0	38.0	0.0	22.0	34.0	34.0	27.0	39.0	39.0
Total Split (%)	17.5%	36.7%	36.7%	12.5%	31.7%	0.0%	18.3%	28.3%	28.3%	22.5%	32.5%	32.5%
Maximum Green (s)	17.0	40.0	40.0	11.0	34.0		18.0	30.0	30.0	23.0	35.0	35.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
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	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)	16.0	39.2	39.2	11.0	34.1		17.7	31.2	31.2	22.7	36.2	36.2
Actuated g/C Ratio	0.13	0.33	0.33	0.09	0.28		0.15	0.26	0.26	0.19	0.30	0.30
v/c Ratio	0.83	0.96	0.80	0.86	0.82		0.87	0.86	0.33	0.94	0.71	0.37
Control Delay	78.5	67.8	23.4	95.9	44.9		68.4	50.1	9.7	74.6	35.8	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.5	67.8	23.4	95.9	44.9		68.4	50.1	9.7	74.6	35.8	4.5
LOS	E	E	C	F	D		E	D	A	E	D	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		49.9			52.3			50.7			38.7	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	149	437	183	108	291		173	309	12	248	290	18
Queue Length 95th (ft)	#267	#663	348	#225	371		#256	#376	70	m#362	m336	m35
Internal Link Dist (ft)		1706			2507			5232			2615	
Turn Bay Length (ft)	210		385	220			285		202	321		253
Base Capacity (vph)	251	621	766	162	1001		515	1320	524	339	1532	643
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	0.78	0.94	0.79	0.86	0.82		0.85	0.86	0.33	0.93	0.71	0.37

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 47.3 Intersection LOS: D
Intersection Capacity Utilization 87.9% 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: 10: Avenue 48 & Jefferson St



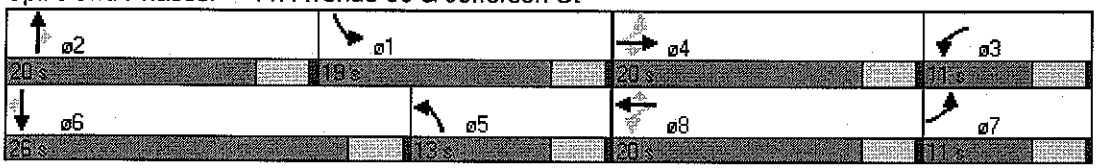
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	152		117	127		151	325		215	350		235
Storage Lanes	1		1	1		1	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	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	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.345			0.392			0.950			0.950		
Satd. Flow (perm)	643	1863	1583	730	1863	1583	1770	5085	1583	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			43			330			96			335
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)		40			40			45			45	
Link Distance (ft)		1553			10574			690			5312	
Travel Time (s)		26.5			180.2			10.5			80.5	
Volume (vph)	282	257	41	141	281	317	91	851	92	339	673	322
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	294	268	43	147	293	330	95	886	96	353	701	335
Lane Group Flow (vph)	294	268	43	147	293	330	95	886	96	353	701	335
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phases	7	4	4	3	8	8	5	2	2	1	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	13.0	20.0	20.0	19.0	26.0	26.0
Total Split (%)	15.7%	28.6%	28.6%	15.7%	28.6%	28.6%	18.6%	28.6%	28.6%	27.1%	37.1%	37.1%
Maximum Green (s)	7.0	16.0	16.0	7.0	16.0	16.0	9.0	16.0	16.0	15.0	22.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
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
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)	22.4	16.8	16.8	22.8	14.9	14.9	8.6	16.5	16.5	15.0	25.1	25.1
Actuated g/C Ratio	0.32	0.24	0.24	0.33	0.21	0.21	0.12	0.24	0.24	0.21	0.36	0.36
v/c Ratio	0.89	0.60	0.10	0.41	0.74	0.55	0.44	0.74	0.22	0.93	0.38	0.43
Control Delay	56.3	31.0	8.4	19.6	28.0	4.6	35.0	29.3	6.9	62.1	18.6	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	31.0	8.4	19.6	28.0	4.6	35.0	29.3	6.9	62.1	18.6	4.3
LOS	E	C	A	B	C	A	D	C	A	E	B	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		41.7			16.4			27.8			26.2	
Approach LOS		D			B			C			C	
Queue Length 50th (ft)	91	107	0	32	83	2	38	130	0	150	86	0
Queue Length 95th (ft)	#222	178	23	m49	m140	m17	81	173	34	#301	118	52
Internal Link Dist (ft)		1473			10494			610			5232	
Turn Bay Length (ft)	152		117	127		151	325		215	350		235
Base Capacity (vph)	329	472	433	356	426	616	228	1197	446	379	1822	782
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	0.89	0.57	0.10	0.41	0.69	0.54	0.42	0.74	0.22	0.93	0.38	0.43

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 66 (94%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 27.1 Intersection LOS: C
Intersection Capacity Utilization 79.0% 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: 11: Avenue 50 & Jefferson St

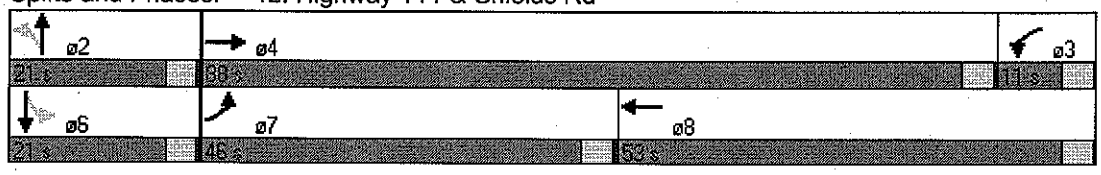


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	106		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	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	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.999			0.991						0.887	
Flt Protected	0.950			0.950				0.980			0.990	
Satd. Flow (prot)	1770	5080	0	1770	5040	0	0	1825	0	0	3108	0
Flt Permitted	0.950			0.950				0.278			0.884	
Satd. Flow (perm)	1770	5080	0	1770	5040	0	0	518	0	0	2775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			10						527	
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)		50			50			20			20	
Link Distance (ft)		652			501			1102			690	
Travel Time (s)		8.9			6.8			37.6			23.5	
Volume (vph)	650	2136	20	1	2062	127	19	28	0	142	38	547
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	677	2225	21	1	2148	132	20	29	0	148	40	570
Lane Group Flow (vph)	677	2246	0	1	2280	0	0	49	0	0	758	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Detector Phases	7	4		3	8		2	2		6	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	46.0	88.0	0.0	11.0	53.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0
Total Split (%)	38.3%	73.3%	0.0%	9.2%	44.2%	0.0%	17.5%	17.5%	0.0%	17.5%	17.5%	0.0%
Maximum Green (s)	42.0	84.0		7.0	49.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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-Min	C-Min		C-Min	C-Min	
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)	43.6	90.8		10.5	49.0			15.4			15.4	
Actuated g/C Ratio	0.36	0.76		0.09	0.41			0.13			0.13	
v/c Ratio	1.05	0.58		0.01	1.10			0.74			0.93	
Control Delay	60.3	8.2		32.0	69.3			104.0			34.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	60.3	8.2		32.0	69.3			104.0			34.0	
LOS	E	A		C	E			F			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		20.2			69.3			104.0			34.0	
Approach LOS		C			E			F			C	
Queue Length 50th (ft)	~579	210		1	~716			36			96	
Queue Length 95th (ft)	m#613	m597		m1	#813			#104			#211	
Internal Link Dist (ft)		572			421			1022			610	
Turn Bay Length (ft)	120			106								
Base Capacity (vph)	643	3996		155	2064			73			845	
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	1.05	0.56		0.01	1.10			0.67			0.90	

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 41.3 Intersection LOS: D
Intersection Capacity Utilization 111.6% ICU Level of Service H
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: 12: Highway 111 & Shields Rd



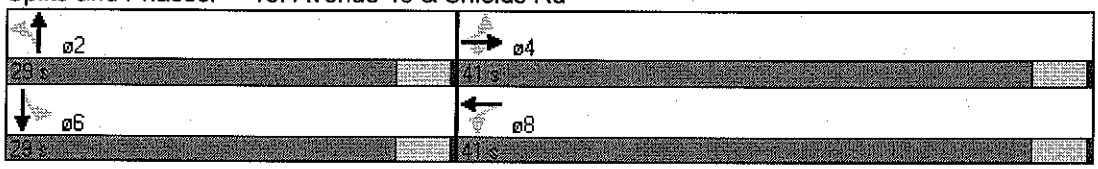
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	156		236	154		0	0		0	0		0
Storage Lanes	1		1	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	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	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996			0.978			0.907	
Flt Protected	0.950			0.950				0.969			0.989	
Satd. Flow (prot)	1770	5085	1583	1770	3525	0	0	1765	0	0	1671	0
Flt Permitted	0.288			0.281				0.833			0.949	
Satd. Flow (perm)	536	5085	1583	523	3525	0	0	1518	0	0	1603	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			40		5			9			69	
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)		40			40			30			30	
Link Distance (ft)		2587			2612			757			752	
Travel Time (s)		44.1			44.5			17.2			17.1	
Volume (vph)	86	852	38	9	756	19	35	11	9	21	9	66
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	90	888	40	9	788	20	36	11	9	22	9	69
Lane Group Flow (vph)	90	888	40	9	808	0	0	56	0	0	100	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phases	4	4	4	8	8		2	2		6	6	
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	41.0	41.0	41.0	41.0	41.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	58.6%	58.6%	58.6%	58.6%	58.6%	0.0%	41.4%	41.4%	0.0%	41.4%	41.4%	0.0%
Maximum Green (s)	37.0	37.0	37.0	37.0	37.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
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		C-Min	C-Min		C-Min	C-Min	
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)	31.5	31.5	31.5	31.5	31.5			30.5			30.5	
Actuated g/C Ratio	0.45	0.45	0.45	0.45	0.45			0.44			0.44	
v/c Ratio	0.37	0.39	0.05	0.04	0.51			0.08			0.14	
Control Delay	14.1	12.7	2.3	1.9	11.6			15.5			8.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	14.1	12.7	2.3	1.9	11.6			15.5			8.7	
LOS	B	B	A	A	B			B			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		12.4			11.5			15.5			8.7	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	20	73	0	1	35			13			9	
Queue Length 95th (ft)	39	74	9	m1	22			42			44	
Internal Link Dist (ft)		2507			2532			677			672	
Turn Bay Length (ft)	156		236	154								
Base Capacity (vph)	297	2817	895	290	1955			705			777	
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	0.30	0.32	0.04	0.03	0.41			0.08			0.13	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 18 (26%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 12.0 Intersection LOS: B
Intersection Capacity Utilization 44.8% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Avenue 48 & Shields Rd

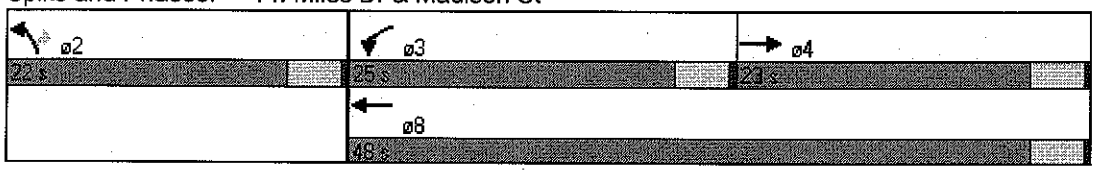


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	105		0	160
Storage Lanes		0	1		0	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	50
Trailing Detector (ft)	0		0	0	0	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.929					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3288	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3288	0	1770	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	317					327
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	40			40	30	
Link Distance (ft)	5197			5351	2726	
Travel Time (s)	88.6			91.2	62.0	
Volume (vph)	409	367	326	322	240	314
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	426	382	340	335	250	327
Lane Group Flow (vph)	808	0	340	335	250	327
Turn Type			Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Detector Phases	4		3	8	2	2
Minimum Initial (s)	7.0		7.0	7.0	7.0	7.0
Minimum Split (s)	20.0		11.0	20.0	20.0	20.0
Total Split (s)	23.0	0.0	25.0	48.0	22.0	22.0
Total Split (%)	32.9%	0.0%	35.7%	68.6%	31.4%	31.4%
Maximum Green (s)	19.0		21.0	44.0	18.0	18.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	0.5		0.5	0.5	0.5	0.5
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Min	C-Min
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)	16.0		17.3	37.3	24.7	24.7
Actuated g/C Ratio	0.23		0.25	0.53	0.35	0.35
v/c Ratio	0.81		0.78	0.18	0.40	0.42
Control Delay	22.0		37.0	7.8	17.7	3.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	22.0		37.0	7.8	17.7	3.1
LOS	C		D	A	B	A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	22.0			22.5	9.4	
Approach LOS	C			C	A	
Queue Length 50th (ft)	102		135	34	68	4
Queue Length 95th (ft)	160		209	42	m91	m11
Internal Link Dist (ft)	5117			5271	2646	
Turn Bay Length (ft)			105			160
Base Capacity (vph)	1124		531	2225	624	770
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	0.72		0.64	0.15	0.40	0.42

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 32 (46%), Referenced to phase 2:NBL and 6:, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 18.7 Intersection LOS: B
Intersection Capacity Utilization 64.4% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Miles Dr & Madison St



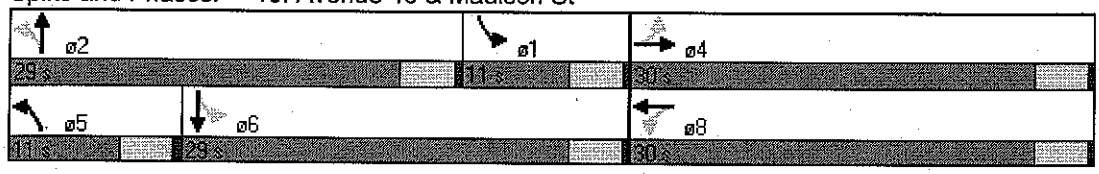
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	109		0	91		0
Storage Lanes	0		0	0		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	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	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.974			0.955			0.952	
Flt Protected		0.982			0.981		0.950			0.950		
Satd. Flow (prot)	0	1785	0	0	3382	0	1770	1779	0	1770	1773	0
Flt Permitted		0.629			0.655		0.222			0.300		
Satd. Flow (perm)	0	1144	0	0	2258	0	414	1779	0	559	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			40			35			38	
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)		25			25			30			30	
Link Distance (ft)		2605			5077			2599			2726	
Travel Time (s)		71.0			138.5			59.1			62.0	
Volume (vph)	135	176	67	182	211	82	75	383	166	102	366	173
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	183	70	190	220	85	78	399	173	106	381	180
Lane Group Flow (vph)	0	394	0	0	495	0	78	572	0	106	561	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		5	2		1	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	11.0	29.0	0.0	11.0	29.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	15.7%	41.4%	0.0%	15.7%	41.4%	0.0%
Maximum Green (s)	26.0	26.0		26.0	26.0		7.0	25.0		7.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
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-Min		None	C-Min	
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)		25.1			25.1		28.1	28.1		28.1	28.1	
Actuated g/C Ratio		0.36			0.36		0.40	0.40		0.40	0.40	
v/c Ratio		0.94			0.59		0.26	0.78		0.31	0.76	
Control Delay		53.7			19.9		17.6	28.5		15.3	18.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		53.7			19.9		17.6	28.5		15.3	18.3	
LOS		D			B		B	C		B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		53.7			19.9			27.2			17.8	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)		150			80		22	213		16	163	
Queue Length 95th (ft)		#316			126		49	#396		m25	m#323	
Internal Link Dist (ft)		2525			4997			2519			2646	
Turn Bay Length (ft)							109			91		
Base Capacity (vph)		438			868		302	739		346	739	
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		0.90			0.57		0.26	0.77		0.31	0.76	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 52 (74%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 27.4 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: 15: Avenue 46 & Madison St

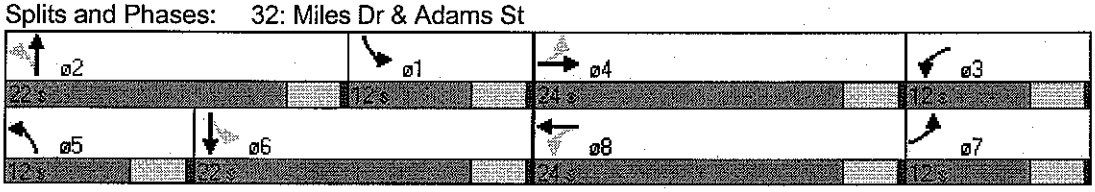


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	126		200	116		200	160		0	107		0
Storage Lanes	1		1	1		1	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	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	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.954			0.936	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1777	0	1770	1744	0
Flt Permitted	0.950			0.950			0.138			0.188		
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	257	1777	0	350	1744	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79			63		18			30	
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)		50			50			30			30	
Link Distance (ft)		682			2623			2658			2599	
Travel Time (s)		9.3			35.8			60.4			59.1	
Volume (vph)	359	1827	109	158	1816	99	109	241	108	107	248	185
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	374	1903	114	165	1892	103	114	251	112	111	258	193
Lane Group Flow (vph)	374	1903	114	165	1892	103	114	363	0	111	451	0
Turn Type	Prot		Perm	Prot		Perm	pm+pt			pm+pt		
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		1	6	
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0		11.0	20.0	
Total Split (s)	29.0	57.0	57.0	19.0	47.0	47.0	11.0	33.0	0.0	11.0	33.0	0.0
Total Split (%)	24.2%	47.5%	47.5%	15.8%	39.2%	39.2%	9.2%	27.5%	0.0%	9.2%	27.5%	0.0%
Maximum Green (s)	25.0	53.0	53.0	15.0	43.0	43.0	7.0	29.0		7.0	29.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
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	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)	25.0	54.1	54.1	13.9	43.0	43.0	36.0	29.0		36.0	29.0	
Actuated g/C Ratio	0.21	0.45	0.45	0.12	0.36	0.36	0.30	0.24		0.30	0.24	
v/c Ratio	1.01	0.83	0.15	0.80	1.04	0.17	0.69	0.82		0.59	1.02	
Control Delay	78.5	15.2	1.9	69.5	54.7	6.4	66.2	57.1		54.1	89.2	
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	78.5	15.2	1.9	69.5	54.7	6.4	66.2	57.1		54.1	89.2	
LOS	E	B	A	E	D	A	E	E		D	F	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		27.4			6.7			16.5			17.2	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)	9	123		14	15		26	71		17	49	
Queue Length 95th (ft)	24	166		43	13		62	123		m48	102	
Internal Link Dist (ft)		3420			2533			4707			2596	
Turn Bay Length (ft)	107			129			102			88		
Base Capacity (vph)	431	1013		329	1139		430	1454		442	1346	
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	0.09	0.62		0.38	0.29		0.20	0.33		0.16	0.28	

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 12 (17%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 18.0 Intersection LOS: B
Intersection Capacity Utilization 56.2% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 32: Miles Dr & Adams St



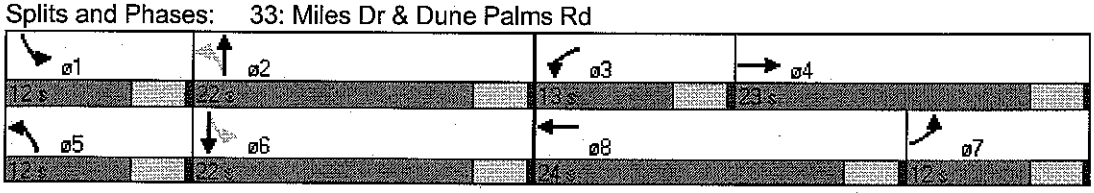
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	203		0	196		0	136		0	125		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	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
Frt		0.981			0.984			0.965			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3472	0	1770	3483	0	1770	3415	0	1770	3490	0
Flt Permitted	0.950			0.950			0.603			0.517		
Satd. Flow (perm)	1770	3472	0	1770	3483	0	1123	3415	0	963	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			18			55			15	
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)		40			40			35			35	
Link Distance (ft)		2613			2684			5239			2625	
Travel Time (s)		44.5			45.8			102.1			51.1	
Volume (vph)	38	502	72	77	368	43	34	235	71	57	209	21
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	40	523	75	80	383	45	35	245	74	59	218	22
Lane Group Flow (vph)	40	598	0	80	428	0	35	319	0	59	240	0
Turn Type	Prot			Prot			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Detector Phases	7	4		3	8		5	2		1	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	12.0	23.0	0.0	13.0	24.0	0.0	12.0	22.0	0.0	12.0	22.0	0.0
Total Split (%)	17.1%	32.9%	0.0%	18.6%	34.3%	0.0%	17.1%	31.4%	0.0%	17.1%	31.4%	0.0%
Maximum Green (s)	8.0	19.0		9.0	20.0		8.0	18.0		8.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
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	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.2	17.9		8.1	21.2		31.8	27.5		32.6	29.7	
Actuated g/C Ratio	0.13	0.26		0.12	0.30		0.45	0.39		0.47	0.42	
v/c Ratio	0.17	0.66		0.39	0.40		0.06	0.23		0.11	0.16	
Control Delay	14.3	15.5		34.2	20.6		12.2	15.5		6.4	7.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.3	15.5		34.2	20.6		12.2	15.5		6.4	7.9	
LOS	B	B		C	C		B	B		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		15.4			22.8			15.2			7.6	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)	9	41		32	54		8	46		3	5	
Queue Length 95th (ft)	m12	61		70	123		24	80		m12	m46	
Internal Link Dist (ft)		2533			2604			5159			2545	
Turn Bay Length (ft)	203			196			136			125		
Base Capacity (vph)	248	982		228	1246		592	1374		545	1488	
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	0.16	0.61		0.35	0.34		0.06	0.23		0.11	0.16	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 42 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 16.2 Intersection LOS: B
Intersection Capacity Utilization 49.9% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: Miles Dr & Dune Palms Rd

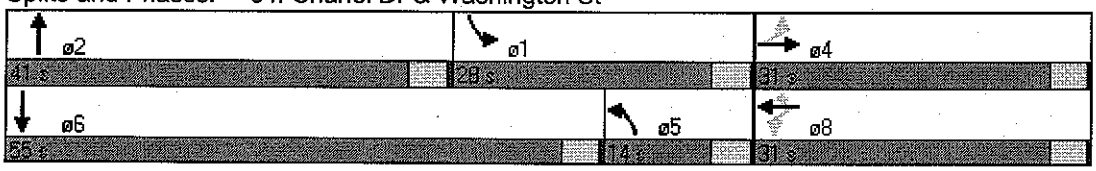


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	139		0	196		0
Storage Lanes	0		0	0		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	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
Frt		0.940				0.850		0.998			0.990	
Flt Protected		0.981			0.963		0.950			0.950		
Satd. Flow (prot)	0	1718	0	0	1794	1583	1770	5075	0	1770	5034	0
Flt Permitted		0.825			0.616		0.950			0.950		
Satd. Flow (perm)	0	1445	0	0	1147	1583	1770	5075	0	1770	5034	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39				286		2			16	
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			45			45	
Link Distance (ft)		1235			507			950			1805	
Travel Time (s)		28.1			11.5			14.4			27.3	
Volume (vph)	82	33	91	101	32	275	43	1378	14	208	1664	119
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	85	34	95	105	33	286	45	1435	15	217	1733	124
Lane Group Flow (vph)	0	214	0	0	138	286	45	1450	0	217	1857	0
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phases	4	4		8	8	8	5	2		1	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	11.0	20.0		11.0	20.0	
Total Split (s)	31.0	31.0	0.0	31.0	31.0	31.0	14.0	41.0	0.0	28.0	55.0	0.0
Total Split (%)	31.0%	31.0%	0.0%	31.0%	31.0%	31.0%	14.0%	41.0%	0.0%	28.0%	55.0%	0.0%
Maximum Green (s)	27.0	27.0		27.0	27.0	27.0	10.0	37.0		24.0	51.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
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)		17.1			17.1	17.1	8.2	51.9		19.0	67.1	
Actuated g/C Ratio		0.17			0.17	0.17	0.08	0.52		0.19	0.67	
v/c Ratio		0.76			0.70	0.56	0.31	0.55		0.65	0.55	
Control Delay		49.1			56.8	8.5	39.8	11.5		29.8	1.6	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		49.1			56.8	8.5	39.8	11.5		29.8	1.6	
LOS		D			E	A	D	B		C	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		49.1			24.2			12.3			4.5	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)		108			84	0	30	121		142	16	
Queue Length 95th (ft)		172			137	63	m36	188		m220	32	
Internal Link Dist (ft)		1155			427			870			1725	
Turn Bay Length (ft)							139			196		
Base Capacity (vph)		419			310	636	177	2635		425	3382	
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		0.51			0.45	0.45	0.25	0.55		0.51	0.55	

Intersection Summary
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 38 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 11.5 Intersection LOS: B
Intersection Capacity Utilization 69.1% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Chanel Dr & Washington St

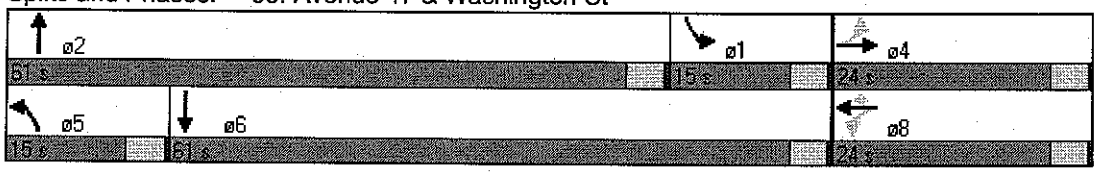


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	206		0	244		0
Storage Lanes	0		0	0		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	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
Frt		0.984				0.850		0.995			0.997	
Flt Protected		0.970			0.964		0.950			0.950		
Satd. Flow (prot)	0	1778	0	0	1796	1583	1770	5060	0	1770	5070	0
Flt Permitted		0.831			0.778		0.950			0.950		
Satd. Flow (perm)	0	1523	0	0	1449	1583	1770	5060	0	1770	5070	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				127		8			5	
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			45			45	
Link Distance (ft)		1502			1124			2770			2589	
Travel Time (s)		34.1			25.5			42.0			39.2	
Volume (vph)	26	11	5	57	18	122	9	1530	48	47	2127	41
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	11	5	59	19	127	9	1594	50	49	2216	43
Lane Group Flow (vph)	0	43	0	0	78	127	9	1644	0	49	2259	0
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Detector Phases	4	4		8	8	8	5	2		1	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	20.0	11.0	20.0		11.0	20.0	
Total Split (s)	24.0	24.0	0.0	24.0	24.0	24.0	15.0	61.0	0.0	15.0	61.0	0.0
Total Split (%)	24.0%	24.0%	0.0%	24.0%	24.0%	24.0%	15.0%	61.0%	0.0%	15.0%	61.0%	0.0%
Maximum Green (s)	20.0	20.0		20.0	20.0	20.0	11.0	57.0		11.0	57.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
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)		10.7			10.7	10.7	7.0	72.3		9.4	79.1	
Actuated g/C Ratio		0.11			0.11	0.11	0.07	0.72		0.09	0.79	
v/c Ratio		0.26			0.51	0.45	0.07	0.45		0.29	0.56	
Control Delay		39.8			52.8	12.6	58.3	1.4		29.3	2.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		39.8			52.8	12.6	58.3	1.4		29.3	2.7	
LOS		D			D	B	E	A		C	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		39.8			27.9			1.7			3.3	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)		23			48	0	6	21		28	60	
Queue Length 95th (ft)		54			91	51	m7	m39		m25	m128	
Internal Link Dist (ft)		1422			1044			2690			2509	
Turn Bay Length (ft)							206			244		
Base Capacity (vph)		309			290	418	195	3663		195	4011	
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		0.14			0.27	0.30	0.05	0.45		0.25	0.56	

Intersection Summary
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 88 (88%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 4.2 Intersection LOS: A
Intersection Capacity Utilization 57.7% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Avenue 47 & Washington St

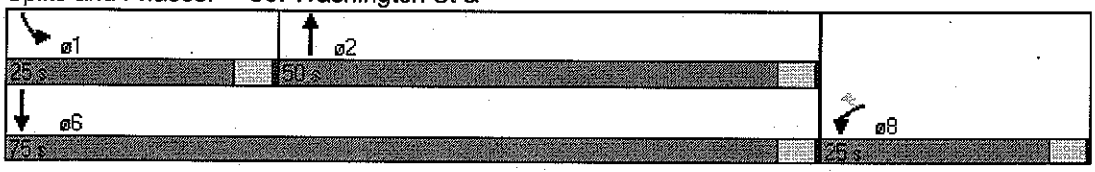


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	222	0		0	195	
Storage Lanes	2	0		0	1	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	50
Trailing Detector (ft)	0	0	0		0	0
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	0.97	1.00	0.91	0.91	1.00	0.91
Frt		0.850	0.977			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	4968	0	1770	5085
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	4968	0	1770	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		344	47			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		45			45
Link Distance (ft)	2287		829			2770
Travel Time (s)	52.0		12.6			42.0
Volume (vph)	679	338	1816	326	353	2050
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	707	352	1892	340	368	2135
Lane Group Flow (vph)	707	352	2232	0	368	2135
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Detector Phases	8	8	2		1	6
Minimum Initial (s)	7.0	7.0	7.0		7.0	7.0
Minimum Split (s)	20.0	20.0	20.0		11.0	20.0
Total Split (s)	25.0	25.0	50.0	0.0	25.0	75.0
Total Split (%)	25.0%	25.0%	50.0%	0.0%	25.0%	75.0%
Maximum Green (s)	21.0	21.0	46.0		21.0	71.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
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)	21.0	21.0	46.0		21.0	71.0
Actuated g/C Ratio	0.21	0.21	0.46		0.21	0.71
v/c Ratio	0.98	0.58	0.97		0.99	0.59
Control Delay	69.4	8.5	38.6		87.5	3.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	69.4	8.5	38.6		87.5	3.4
LOS	E	A	D		F	A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	49.2		38.6			15.7
Approach LOS	D		D			B
Queue Length 50th (ft)	232	4	483		251	134
Queue Length 95th (ft)	#351	81	#616		#421	30
Internal Link Dist (ft)	2207		749			2690
Turn Bay Length (ft)	222				195	
Base Capacity (vph)	721	604	2311		372	3610
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	0.98	0.58	0.97		0.99	0.59

Intersection Summary
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 40 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 30.6 Intersection LOS: C
Intersection Capacity Utilization 91.3% 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.

Splits and Phases: 36: Washington St &

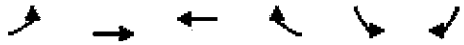


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.999			0.865
Flt Protected						
Satd. Flow (prot)	0	5085	5080	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	5085	5080	0	0	1611
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		50	50		30	
Link Distance (ft)		1945	652		689	
Travel Time (s)		26.5	8.9		15.7	
Volume (vph)	0	2703	2688	20	0	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	2816	2800	21	0	26
Lane Group Flow (vph)	0	2816	2821	0	0	26
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			

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
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	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.891			0.979			0.991			0.998	
Flt Protected		0.991			0.959			0.998			0.999	
Satd. Flow (prot)	0	1645	0	0	1749	0	0	3500	0	0	3529	0
Flt Permitted		0.991			0.959			0.998			0.999	
Satd. Flow (perm)	0	1645	0	0	1749	0	0	3500	0	0	3529	0
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			20			20	
Link Distance (ft)		639			1019			690			539	
Travel Time (s)		14.5			23.2			23.5			18.4	
Volume (vph)	9	0	36	48	0	9	33	626	41	8	570	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	9	0	38	50	0	9	34	652	43	8	594	8
Lane Group Flow (vph)	0	47	0	0	59	0	0	729	0	0	610	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

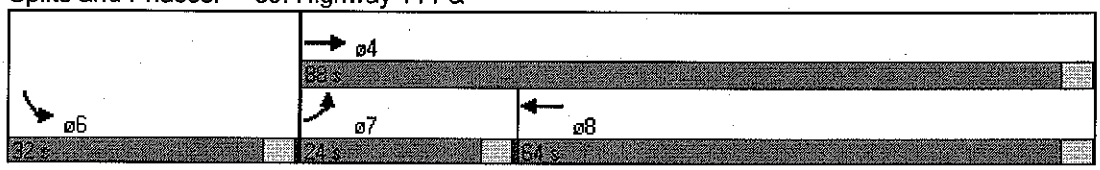


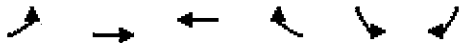
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.995		0.922	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1770	5085	5060	0	1683	0
Flt Permitted	0.950				0.980	
Satd. Flow (perm)	1770	5085	5060	0	1683	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		50	50		30	
Link Distance (ft)		501	917		696	
Travel Time (s)		6.8	12.5		15.8	
Volume (vph)	212	2069	2095	75	126	175
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	221	2155	2182	78	131	182
Lane Group Flow (vph)	221	2155	2260	0	313	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Detector Phases	7	4	8		6	
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	11.0	20.0	20.0		20.0	
Total Split (s)	24.0	88.0	64.0	0.0	32.0	0.0
Total Split (%)	20.0%	73.3%	53.3%	0.0%	26.7%	0.0%
Maximum Green (s)	20.0	84.0	60.0		28.0	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	0.5	0.5	0.5		0.5	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		C-Min	
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)	18.4	88.2	65.8		23.8	
Actuated g/C Ratio	0.15	0.74	0.55		0.20	
v/c Ratio	0.81	0.58	0.81		0.83	
Control Delay	87.4	2.7	5.2		56.6	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	87.4	2.7	5.2		56.6	
LOS	F	A	A		E	
Approach Delay		10.5	5.2		56.6	
Approach LOS		B	A		E	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	166	80	120		196	
Queue Length 95th (ft)	m#263	24	173		294	
Internal Link Dist (ft)		421	837		616	
Turn Bay Length (ft)						
Base Capacity (vph)	296	3738	2777		434	
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	0.75	0.58	0.81		0.72	

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 2: and 6:SBL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 81.6% 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: 39: Highway 111 &



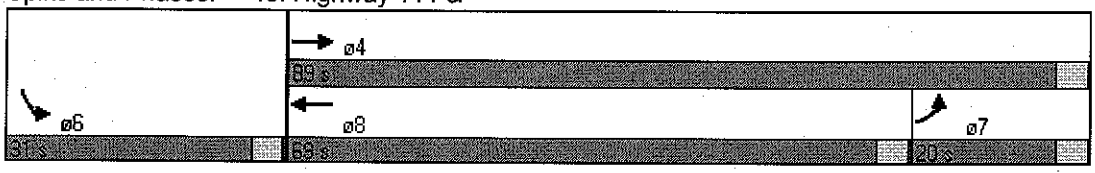


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50	
Trailing Detector (ft)	0	0	0		0	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.993		0.923	
Flt Protected	0.950				0.979	
Satd. Flow (prot)	1770	5085	5050	0	1683	0
Flt Permitted	0.950				0.979	
Satd. Flow (perm)	1770	5085	5050	0	1683	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			10		51	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		50	50		30	
Link Distance (ft)		917	682		819	
Travel Time (s)		12.5	9.3		18.6	
Volume (vph)	129	2097	2088	103	103	134
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	134	2184	2175	107	107	140
Lane Group Flow (vph)	134	2184	2282	0	247	0
Turn Type	Prot					
Protected Phases	7	4	8		6	
Permitted Phases						
Detector Phases	7	4	8		6	
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	11.0	20.0	20.0		20.0	
Total Split (s)	20.0	89.0	69.0	0.0	31.0	0.0
Total Split (%)	16.7%	74.2%	57.5%	0.0%	25.8%	0.0%
Maximum Green (s)	16.0	85.0	65.0		27.0	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	0.5	0.5	0.5		0.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		C-Min	
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)	14.6	91.5	72.9		20.5	
Actuated g/C Ratio	0.12	0.76	0.61		0.17	
v/c Ratio	0.62	0.56	0.74		0.75	
Control Delay	50.3	1.4	4.5		51.4	
Queue Delay	0.0	0.0	0.4		0.0	
Total Delay	50.3	1.4	4.9		51.4	
LOS	D	A	A		D	
Approach Delay		4.2	4.9		51.4	
Approach LOS		A	A		D	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	109	34	63		149	
Queue Length 95th (ft)	m174	35	m78		226	
Internal Link Dist (ft)		837	602		739	
Turn Bay Length (ft)						
Base Capacity (vph)	236	3877	3072		418	
Starvation Cap Reductn	0	0	317		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.57	0.56	0.83		0.59	

Intersection Summary
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 2: and 6:SBL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 6.9 Intersection LOS: A
Intersection Capacity Utilization 73.7% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Highway 111 &



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	0.91	1.00	1.00
Frt			0.997			0.865
Flt Protected						
Satd. Flow (prot)	0	5085	5070	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	5085	5070	0	0	1611
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		50	50		30	
Link Distance (ft)		501	501		495	
Travel Time (s)		6.8	6.8		11.3	
Volume (vph)	0	2136	2095	48	0	147
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	2225	2182	50	0	153
Lane Group Flow (vph)	0	2225	2232	0	0	153
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.3%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	2703	2688	20	0	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	2816	2800	21	0	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			652			
pX, platoon unblocked	0.58				0.58	0.58
vC, conflicting volume	2821				3749	944
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2690				4295	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	96
cM capacity (veh/h)	87				1	627

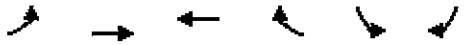
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	939	939	939	1120	1120	581	26
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	21	26
cSH	1700	1700	1700	1700	1700	1700	627
Volume to Capacity	0.55	0.55	0.55	0.66	0.66	0.34	0.04
Queue Length 95th (ft)	0	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	11.0
Lane LOS							B
Approach Delay (s)	0.0			0.0			11.0
Approach LOS							B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	9	0	36	48	0	9	33	626	41	8	570	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	9	0	38	50	0	9	34	652	43	8	594	8

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	47	59	360	369	305	305
Volume Left (vph)	9	50	34	0	8	0
Volume Right (vph)	38	9	0	43	0	8
Hadj (s)	-0.41	0.11	0.08	-0.05	0.05	0.01
Departure Headway (s)	6.2	6.6	5.7	5.5	5.8	5.7
Degree Utilization, x	0.08	0.11	0.57	0.57	0.49	0.49
Capacity (veh/h)	528	493	625	639	609	614
Control Delay (s)	9.7	10.5	14.6	14.3	12.9	12.8
Approach Delay (s)	9.7	10.5	14.4		12.9	
Approach LOS	A	B	B		B	

Intersection Summary			
Delay	13.5		
HCM Level of Service	B		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑			↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	2136	2095	48	0	147
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	2225	2182	50	0	153
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		501	501			
pX, platoon unblocked	0.64				0.73	0.64
vC, conflicting volume	2232				2949	752
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1794				1741	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	78
cM capacity (veh/h)	217				57	690

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	742	742	742	873	873	486	153
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	50	153
cSH	1700	1700	1700	1700	1700	1700	690
Volume to Capacity	0.44	0.44	0.44	0.51	0.51	0.29	0.22
Queue Length 95th (ft)	0	0	0	0	0	0	21
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	11.7
Lane LOS							B
Approach Delay (s)	0.0			0.0			11.7
Approach LOS							B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

APPENDIX C

PROJECT TRIP GENERATION WORKSHEETS

Polo Square Traffic Study

Project Trip Generation (gross)

Land Use	ITE Code	Quantity	Units	Peak Hour Trip Rates				Daily
				AM		PM		
				In	Out	In	Out	
Residential Detached Townhouse	233 (peak)/210 (daily)	126	DU	0.13	0.43	0.35	0.20	Ln(T) = 0.92 Ln(X) + 2.71
Condominium/ Townhouse	230	450	DU	17%	83%	67%	33%	Ln(T) = 0.85 Ln(X) + 2.55
				Ln(T) = 0.80 Ln(X) + 0.26		Ln(T) = 0.82 Ln(X) + 0.32		
Commercial Retail	820	350	tsf	61%	39%	48%	52%	Ln(T) = 0.65 Ln(X) + 5.83
				Ln(T) = 0.60 Ln(X) + 2.29		Ln(T) = 0.66 Ln(X) + 3.40		
Commercial Office	710	200	tsf	88%	12%	17%	83%	Ln(T) = 0.77 Ln(X) + 3.65
				Ln(T) = 0.80 Ln(X) + 1.55		T = 1.12(X) + 78.81		
Hotel	310	250	rooms	61%	39%			8.17
				Ln(T) = 1.24 Ln(X) - 2.00		0.31	0.28	
Hotel - Extended Stay	310	120	rooms	61%	39%			8.17
				Ln(T) = 1.24 Ln(X) - 2.00		0.31	0.28	
Library/Civic Use	590	35	tsf	0.76	0.30	3.40	3.69	54.00

2010 Project Completion (100%)

Land Use	Quantity	Units	Peak Hour Trips				Daily Trips
			AM		PM		
			In	Out	In	Out	
Residential Detached Townhouse	126	DU	16	54	44	25	1,286
Condominium/Townhouse	450	DU	29	143	138	68	2,305
Commercial Retail	350	tsf	202	129	687	744	15,331
Commercial Office	200	tsf	287	39	51	251	2,275
Hotel	250	rooms	78	50	78	70	2,043
Hotel - Extended Stay	120	rooms	31	20	37	34	980
Library/Civic Use	35	tsf	27	11	119	129	1,890
Total			**671**	**446**	**1,154**	**1,322**	**26,110**

2008 Project Opening (50%)

Land Use	Quantity	Units	Peak Hour Trips				Daily Trips
			AM		PM		
			In	Out	In	Out	
Residential Detached Townhouse	126	DU	8	27	22	13	643
Condominium/Townhouse	450	DU	15	71	69	34	1,153
Commercial Retail	350	tsf	101	65	343	372	7,666
Commercial Office	200	tsf	144	20	26	126	1,137
Hotel	250	rooms	39	25	39	35	1,021
Hotel - Extended Stay	120	rooms	16	10	19	17	490
Library/Civic Use	35	tsf	13	5	60	65	945
Total			**335**	**223**	**577**	**661**	**13,055**

Polo Square Trip Generation

Project Trip Generation Adjustment - Pass-by Trips

2010 Project Completion (100%)

Land Use		Peak Hour Trips AM In	AM Out	PM In	PM Out	Daily Trips
Residential Detached Townhouse		16	54	44	25	1,286
Condominium/Townhouse		29	143	138	68	2,305
Commercial Retail	gross	202	129	687	744	15,331
	pass-by (27%)	55	35	185	201	4,139
	net	148	94	501	543	11,192
Commercial Office		287	39	51	251	2,275
Hotel		78	50	78	70	2,043
Hotel - Extended Stay		31	20	37	34	980
Library/Civic Use		27	11	119	129	1,890
Total		**616**	**411**	**969**	**1,121**	**21,971**

2008 Project Opening (50%)

Land Use		Peak Hour Trips AM In	AM Out	PM In	PM Out	Daily Trips
Residential Detached Townhouse		8	27	22	13	643
Condominium/Townhouse		15	71	69	34	1,153
Commercial Retail	gross	101	65	343	372	7,666
	pass-by (27%)	27	17	93	100	2,070
	net	74	47	251	272	5,596
Commercial Office		144	20	26	126	1,137
Hotel		39	25	39	35	1,021
Hotel - Extended Stay		16	10	19	17	490
Library/Civic Use		13	5	60	65	945
Total		**308**	**205**	**485**	**560**	**10,985**

Polo Square Traffic Study
Project Trip Generation Adjustment - Internal Capture

Residential/Hotel-based Trips by Purpose (2010)

Percent of Residential/Hotel-based Trips by Purpose (AM Trips In)

	Work/ Business	Shopping	Social/ Recreational	School
Residential	23%	52%	23%	2%
Hotel	25%	42%	33%	0%

Percent of Residential/Hotel-based Trips by Purpose (AM Trips Out)

Work/ Business	Shopping	Social/ Recreational	School
44%	25%	11%	20%
57%	24%	19%	0%

Uses	AM Peak Hour Trips		Residential/Hotel-based AM Trips In					Residential/Hotel-based AM Trips Out				
	Trips In	Trips Out	Work/ Business	Shopping	Social/ Recreational	School	Total	Work/ Business	Shopping	Social/ Recreational	School	Total
ached Residential (Single Fa	16	54	4	9	4	0	16	24	14	6	11	54
Condominium (Multi-Family)	29	143	7	15	7	1	29	53	36	16	29	143
Hotel	109	70	27	45	36	0	109	40	17	13	0	70
Total	155	267	38	69	46	1	155	126	66	35	39	267

Internal Trip Capture (2010)

Percent of Residential/Hotel-based Trips by Purpose - Internal to Development

Work/ Business	Shopping	Social/ Recreational	School
5%	50%	25%	0%
50%	50%	50%	0%

Percent of Residential/Hotel-based Trips by Purpose - Internal to Development

Work/ Business	Shopping	Social/ Recreational	School
5%	50%	25%	0%
50%	50%	50%	0%

Residential/Hotel-based AM Trips In - Internal to Development					Residential/Hotel-based AM Trips Out - Internal to Development				
Work/ Business	Shopping	Social/ Recreational	School	Total	Work/ Business	Shopping	Social/ Recreational	School	Total
0	4	1	0	5	1	7	1	0	9
0	8	2	0	10	3	18	4	0	25
14	23	18	0	54	20	8	7	0	35
14	35	21	0	69	24	33	12	0	69
				45%					26%

Percent of Residential/Hotel-based Trips by Purpose (PM Trips In)

	Work/ Business	Shopping	Social/ Recreational	School
Residential	54%	27%	12%	7%
Hotel	60%	22%	18%	0%

Percent of Residential/Hotel-based Trips by Purpose (PM Trips Out)

Work/ Business	Shopping	Social/ Recreational	School
13%	57%	24%	6%
15%	48%	37%	0%

Uses	PM Peak Hour Trips		Residential/Hotel-based PM Trips In					Residential/Hotel-based PM Trips Out				
	Trips In	Trips Out	Work/ Business	Shopping	Social/ Recreational	School	Total	Work/ Business	Shopping	Social/ Recreational	School	Total
ached Residential (Single Fa	44	25	24	12	5	3	44	3	14	6	2	25
Condominium (Multi-Family)	138	68	75	37	17	10	138	9	38	16	4	68
Hotel	115	104	69	25	21	0	115	16	50	38	0	104
Total	297	197	167	74	43	13	297	28	103	61	6	197

Percent of Residential/Hotel-based Trips by Purpose - Internal to Development

Work/ Business	Shopping	Social/ Recreational	School
5%	50%	25%	0%
50%	50%	50%	0%

Percent of Residential/Hotel-based Trips by Purpose - Internal to Development

Work/ Business	Shopping	Social/ Recreational	School
5%	50%	25%	0%
50%	50%	50%	0%

Residential/Hotel-based PM Trips In - Internal to Development					Residential/Hotel-based PM Trips Out - Internal to Development				
Work/ Business	Shopping	Social/ Recreational	School	Total	Work/ Business	Shopping	Social/ Recreational	School	Total
1	6	1	0	8	0	7	2	0	9
4	19	4	0	27	0	19	4	0	24
34	13	10	0	57	8	25	19	0	52
39	37	16	0	92	8	51	25	0	85
				31%					43%

Percent of Residential/Hotel-based Trips by Purpose (Daily Trips)

	Work/ Business	Shopping	Social/ Recreational	School
Residential	26%	45%	19%	9%
Hotel	30%	40%	30%	0%

Percent of Residential/Hotel-based Trips by Purpose (Daily Trips)

Work/ Business	Shopping	Social/ Recreational	School
26%	46%	19%	9%
30%	40%	30%	0%

Uses	Daily Trips		Residential/Hotel-based Daily Trips In					Residential/Hotel-based Daily Trips Out				
	Trips In	Trips Out	Work/ Business	Shopping	Social/ Recreational	School	Total	Work/ Business	Shopping	Social/ Recreational	School	Total
ached Residential (Single Fa	643	643	167	296	122	58	643	167	296	122	58	643
Condominium (Multi-Family)	1,153	1,153	300	530	219	104	1,153	300	530	219	104	1,153
Hotel	1,511	1,511	453	605	453	0	1,511	453	605	453	0	1,511
Total	3,307	3,307	920	1,431	795	162	3,307	920	1,431	795	162	3,307

Percent of Residential/Hotel-based Trips by Purpose - Internal to Development

Work/ Business	Shopping	Social/ Recreational	School
5%	50%	25%	0%
50%	50%	50%	0%

Percent of Residential/Hotel-based Trips by Purpose - Internal to Development

Work/ Business	Shopping	Social/ Recreational	School
5%	50%	25%	0%
50%	50%	50%	0%

Residential/Hotel-based Daily Trips In - Internal to Development					Residential/Hotel-based Daily Trips Out - Internal to Development				
Work/ Business	Shopping	Social/ Recreational	School	Total	Work/ Business	Shopping	Social/ Recreational	School	Total
8	148	31	0	187	8	148	31	0	187
15	265	55	0	335	15	265	55	0	335
227	302	227	0	756	227	302	227	0	756
250	715	312	0	1,277	250	715	312	0	1,277
				39%					39%

Polo Square Traffic Study
Project Trip Generation (net)

2010 Project Completion (100%)

Land Use	Peak Hour Trips				Daily Trips
	AM		PM		
	In	Out	In	Out	
Residential Detached Townhouse	11	45	36	16	912
Condominium/Townhouse	20	118	112	44	1,635
Commercial Retail	103	39	425	490	9,137
Commercial Office	263	25	43	212	1,775
Hotels	54	35	57	52	1,511
Library/Civic Use	27	11	119	129	1,890
Total	**478**	**272**	**792**	**944**	**16,861**

2008 Project Opening (50%)

Land Use	Peak Hour Trips				Daily Trips
	AM		PM		
	In	Out	In	Out	
Residential Detached Townhouse	5	22	18	8	456
Condominium/Townhouse	10	59	56	22	818
Commercial Retail	51	20	213	245	4,569
Commercial Office	132	13	22	106	887
Hotels	27	17	29	26	756
Library/Civic Use	13	5	60	65	945
Total	**239**	**136**	**396**	**472**	**8,431**

APPENDIX D

TRIP GENERATION FOR OTHER APPROVED DEVELOPMENTS (CUMULATIVE TRAFFIC)

Polo Square Traffic Study
Gross Trip Generation for Other Approved Developments

No.	Name	City	Use	2008 Quantity	2008 Units	2010 Quantity	2010 Units	ITE Code	Trip Rates AM In	Trip Rates AM Out	Trip Rates PM In	Trip Rates PM Out	Trip Rates Daily	Initial Trips (Unadjusted) AM In	Initial Trips (Unadjusted) AM Out	Initial Trips (Unadjusted) PM In	Initial Trips (Unadjusted) PM Out	Initial Trips (Unadjusted) Daily
1	Victoria Palms Condos	Indio	Residential (condominium)	420	DU	420	DU	230	0.07	0.37	0.35	0.17	5.86	29	155	147	71	2,461
2	Stonefield Development	Indio	Residential (single family)	96	DU	96	DU	210	0.19	0.56	0.64	0.37	9.57	18	54	61	36	919
3	The Alley Center	Indio	Retail including Open Air Garden Center	50	tsf	50	tsf	817	0.66	0.66	1.90	1.90	36.08	33	33	95	95	1,804
4	Western Dental Retail	Indio	Dental/Retail	7.8	tsf	7.8	tsf	720	1.96	0.52	1.00	2.72	36.13	15	4	8	21	282
5	Barcelona	Indio	Residential (single family)	138	DU	138	DU	210	0.19	0.56	0.64	0.37	9.57	26	77	88	51	1,321
6	Monroe Plaza	Indio	Office	20.2	tsf	20.2	tsf	710	1.36	0.19	0.25	1.24	11.01	27	4	5	25	222
			Retail	10.8	tsf	10.8	tsf	820	0.85	0.40	1.80	1.95	42.94	9	4	19	21	464
7	Bellasara	Indio	Residential (single family)	42	DU	42	DU	210	0.19	0.56	0.64	0.37	9.57	8	24	27	16	402
8	Indio Companion Animal Center	Indio	Tenant Building/Kennel	10.9	tsf	10.9	tsf	630	0.63	0.63	2.05	2.94	31.45	7	7	22	32	343
9	Bridge at Jefferson	Indio	Residential (single family)	124	DU	124	DU	210	0.19	0.56	0.64	0.37	9.57	24	69	79	46	1,187
10	Desert Courtyards (50%)	Indio	Neighborhood Commercial Center - Retail	20.5	tsf	20.5	tsf	820	0.85	0.40	1.80	1.95	42.94	17	8	37	40	880
11	Hog Wild BBQ Restaurant	Indio	Restaurant	51.9	tsf	51.9	tsf	traffic study	n/a	n/a	n/a	n/a	n/a	311	287	345	221	6,606
12	Walgreens	Indio	Pharmacy/Drug Store/Retail/Drive-thru	14.8	tsf	14.8	tsf	traffic study	n/a	n/a	n/a	n/a	n/a	22	17	63	85	1,307
13	Indio Fashion Mall Redevelopment	Indio	Shopping Mall	683.8/559	tsf/DU	683.8/559	tsf/DU	traffic study	n/a	n/a	n/a	n/a	n/a	136	95	208	246	4,558
14	Sam's Club	La Quinta	Retail	136	tsf	136	tsf	861	0.40	0.16	2.12	2.12	41.80	54	22	288	288	5,685
15	Costco	La Quinta	Retail with Fueling Station	150	tsf	150	tsf	traffic study	n/a	n/a	n/a	n/a	n/a	0	0	153	172	n/a
16	The Pavilions	La Quinta	Retail and Restaurants	175	tsf	175	tsf	820	0.85	0.40	1.80	1.95	42.94	149	70	315	341	7,515
17	J. Paul Buildings	La Quinta	Office	29.4	tsf	29.4	tsf	710	1.36	0.19	0.25	1.24	11.01	40	6	7	36	324
18	Santa Rosa	La Quinta	Residential (single family)	72	DU	72	DU	210	0.19	0.56	0.64	0.37	9.57	14	40	46	27	689
19	Watercolors Senior Housing	La Quinta	Residential (senior housing/single family)	149	DU	149	DU	251	0.08	0.12	0.16	0.10	3.71	12	18	24	15	553
20	Mattco Construction	La Quinta	Residential (single family)	26	DU	26	DU	210	0.19	0.56	0.64	0.37	9.57	5	15	17	10	249
21	Komar Desert Center	La Quinta	Retail and Restaurants	83.7	tsf	83.7	tsf	traffic study	n/a	n/a	n/a	n/a	n/a	0	0	99	111	n/a
22	Stamko Buildings	La Quinta	Retail and Restaurants	34	tsf	34	tsf	820	0.85	0.40	1.80	1.95	42.94	29	14	61	66	1,460
23	Neil Keine's Buildings	La Quinta	Office	13.9	tsf	13.9	tsf	710	1.36	0.19	0.25	1.24	11.01	3	8	9	5	133
24	Dune Palms Business Park	La Quinta	Retail	44.3	tsf	44.3	tsf	820	0.85	0.40	1.80	1.95	42.94	38	18	80	86	1,902
25	Jefferson Square Neighborhood Center	La Quinta	Grocery/Pharmacy	50	tsf	50	tsf	850	1.98	1.27	5.33	5.12	102.24	99	64	267	256	5,112
			Retail and Restaurants	50.7	tsf	50.7	tsf	820	0.85	0.40	1.80	1.95	42.94	43	20	91	99	2,177
26	Dune Palms Neighborhood Apartment Complex	La Quinta	Residential, Community Center, Day Care	250	DU	250	DU	220	0.10	0.41	0.40	0.22	6.72	25	103	100	55	1,680
27	Sienna Tract	La Quinta	Residential	10	DU	10	DU	210	0.19	0.56	0.64	0.37	9.57	2	6	6	4	96
28	Valley Children's Medical Center	Indio	Medical Office	11.3	tsf	11.3	tsf	630	0.63	0.63	2.05	2.94	31.45	7	7	23	33	355
														1,203	1,247	2,793	2,591	50,684

Polo Square Traffic Study
Trip Generation Adjustments for Other Approved Developments

No.	Name	Use	Initial Trips (Unadjusted) AM In	AM Out	PM In	PM Out	Daily
1	Victoria Palms Condos	Residential (condominium)	29	155	147	71	2,461
2	Stonefield Development	Residential (single family)	18	54	61	36	919
3	The Alley Center	Retail including Open Air Garden Center					
4	Western Dental Retail	Dental/Retail					
5	Barcelona	Residential (single family)	26	77	88	51	1,321
6	Monroe Plaza	Retail					
7	Bellasara	Residential (single family)	8	24	27	16	402
8	Indio Companion Animal Center	Tenant Building/Kennel					
9	Bridge at Jefferson	Residential (single family)	24	69	79	46	1,187
10	Desert Courtyards (50%)	Neighborhood Commercial Center - Retail					
11	Hog Wild BBQ Restaurant	Restaurant					
12	Walgreens	Pharmacy/Drug Store/Retail/Drive-thru					
13	Indio Fashion Mall Redevelopment	Shopping Mall					
14	Sam's Club	Retail					
15	Costco	Retail with Fueling Station					
16	The Pavilions	Retail and Restaurants					
17	J. Paul Buildings	Office					
18	Santa Rosa	Residential (single family)	14	40	46	27	689
19	Watercolors Senior Housing	Residential (senior housing/single family)	12	18	24	15	553
20	Mattco Construction	Residential (single family)	5	15	17	10	249
21	Komar Desert Center	Retail and Restaurants					
22	Stamko Buildings	Retail and Restaurants					
23	Neil Keine's Buildings	Office					
24	Dune Palms Business Park	Retail					
25	Jefferson Square Neighborhood Center	Retail and Restaurants					
26	Dune Palms Neighborhood Apartment Complex	Residential, Community Center, Day Care	25	103	100	55	1,680
27	Sienna Tract	Residential	2	6	6	4	96
28	Valley Children's Medical Center	Medical Office					
		Residential Trips - Initial	163	560	596	329	9,556
		Residential Trips - Final	155	538	568	314	9,121
		Adjustment	8	22	28	15	435
		Percent Difference	-4.9%	-4.0%	-4.7%	-4.7%	-4.6%
		Non-Residential Trips	1,040	687	2,197	2,261	41,129
		Total Trips - Initial	1,203	1,247	2,793	2,591	50,684
		Total Trips - Final	1,195	1,224	2,765	2,575	50,249
		Percent Difference	-0.7%	-1.8%	-1.0%	-0.6%	-0.9%

Percent of Residential Trips by Purpose (AM)	Work/ Business	Shopping	Social/ Recreational	School	Total
IN	23%	52%	23%	2%	100%
OUT	44%	25%	11%	20%	100%
Trips by Purpose					
IN	37	85	37	3	163
OUT	247	140	62	112	560
Percent of Trips by Purpose to Polo Square Development					
	5%	5%	5%	0%	
Trips by Purpose after Adjustment					
IN	36	80	36	3	155
OUT	234	133	59	112	538

Percent of Residential Trips by Purpose (PM)	Work/ Business	Shopping	Social/ Recreational	School	Total
IN	54%	27%	12%	7%	100%
OUT	13%	57%	24%	6%	100%
Trips by Purpose					
IN	322	161	72	42	596
OUT	43	188	79	20	329
Percent of Trips by Purpose to Polo Square Development					
	5%	5%	5%	0%	
Trips by Purpose after Adjustment					
IN	306	153	68	42	568
OUT	41	178	75	20	314

Percent of Residential Trips by Purpose (Daily)	Work/ Business	Shopping	Social/ Recreational	School	Total
IN	26%	46%	19%	9%	100%
OUT	26%	46%	19%	9%	100%
Trips by Purpose					
IN	1,242	2,198	908	430	4,778
OUT	1,242	2,198	908	430	4,778
Percent of Trips by Purpose to Polo Square Development					
	5%	5%	5%	0%	
Trips by Purpose after Adjustment					
IN	1,180	2,088	862	430	4,560
OUT	1,180	2,088	862	430	4,560

Final Trips (Adjusted) AM In	AM Out	PM In	PM Out	Daily
28	149	140	68	2,349
17	52	59	34	877
33	33	95	95	1,804
15	4	8	21	282
25	74	84	49	1,261
37	8	24	45	686
8	23	26	15	384
7	7	22	32	343
22	67	76	44	1,133
17	8	37	40	880
311	287	346	221	6,606
22	17	63	65	1,307
136	95	208	246	4,558
54	22	288	288	5,685
0	0	153	172	n/a
149	70	315	341	7,515
40	6	7	36	324
13	39	44	25	658
11	17	23	14	528
5	14	16	9	237
0	0	99	111	n/a
29	14	61	66	1,460
3	8	9	5	133
38	18	80	86	1,902
142	84	358	355	7,289
24	98	95	52	1,604
2	5	6	4	91
7	7	23	33	355
1,195	1,224	2,765	2,575	50,249

Polo Square Traffic Study
Trip Generation Adjustments for Other Approved Developments

No.	Name	Use	Trips After Adjustment #1 AM In	AM Out	PM In	PM Out	Daily
1	Victoria Palms Condos	Residential (condominium)	28	149	140	68	2,349
2	Stonefield Development	Residential (single family)	17	52	59	34	877
3	The Alley Center	Retail including Open Air Garden Center	33	33	95	95	1,804
4	Western Dental Retail	Dental/Retail	15	4	8	21	282
5	Barcelona	Residential (single family)	25	74	84	49	1,261
6	Monroe Plaza	Retail	37	8	24	45	686
7	Bellasera	Residential (single family)	8	23	26	15	384
8	Indio Companion Animal Center	Tenant Building/Kennel	7	7	22	32	343
9	Bridge at Jefferson	Residential (single family)	22	67	76	44	1,133
10	Desert Courtyards (50%)	Neighborhood Commercial Center - Retail	17	8	37	40	680
11	Hog Wild BBQ Restaurant	Restaurant	311	287	348	221	6,606
12	Walgreens	Pharmacy/Drug Store/Retail/Drive-thru	22	17	63	65	1,307
13	Indio Fashion Mall Redevelopment	Shopping Mall	136	95	208	248	4,958
14	Sam's Club	Retail	54	22	248	286	5,685
15	Costco	Retail with Fueling Station	0	0	153	172	n/a
16	The Pavilions	Retail and Restaurants	149	70	315	341	7,515
17	J. Paul Buildings	Office	40	8	7	36	324
18	Santa Rosa	Residential (single family)	13	39	44	25	658
19	Watercolors Senior Housing	Residential (senior housing/single family)	11	17	23	14	528
20	Mattoo Construction	Residential (single family)	5	14	16	9	237
21	Komar Desert Center	Retail and Restaurants	0	0	99	111	n/a
22	Stambo Buildings	Retail and Restaurants	23	14	61	66	1,480
23	Nell Kelna's Buildings	Office	3	4	8	5	133
24	Dune Palms Business Park	Retail	38	18	80	86	1,902
25	Jefferson Square Neighborhood Center	Retail and Restaurants	142	84	356	355	7,289
26	Dune Palms Neighborhood Apartment Complex	Residential, Community Center, Day Care	24	98	95	52	1,604
27	Sienna Tract	Residential	2	5	6	4	91
28	Valley Children's Medical Center	Medical Office	7	7	23	33	355
			1,195	1,224	2,765	2,575	50,249

Residential Trips After Adjustment #1 AM In	AM Out	PM In	PM Out	Daily
28	149	140	68	2,349
17	52	59	34	877
25	74	84	49	1,261
8	23	26	15	384
22	67	76	44	1,133
13	38	44	25	658
11	17	23	14	528
5	14	16	9	237
142	84	356	355	7,289
24	98	95	52	1,604
2	5	6	4	91

ratio	0.79	0.87	0.85	0.78	0.81
Residential Trips - Initial	155	536	568	314	9,121
Residential Trips - Final	122	466	482	246	7,402
Adjustment	33	72	86	68	1,719
Percent Difference	-21.1%	-13.4%	-15.2%	-21.6%	-18.9%

Non-Residential Trips Before Adj#2	1,040	687	2,197	2,261	41,128
Trip Reduction (from Residential side)	33	72	86	68	1,719
Non-Residential Trips After Adj#2	1,007	615	2,111	2,194	39,409
Percent Reduction	-3.1%	-10.5%	-3.9%	-3.0%	-4.2%
ratio	0.97	0.90	0.96	0.97	0.96

Percent of Residential Trips by Purpose (AM)

	Work/ Business	Shopping	Social/ Recreational	School	Total
IN	23%	52%	23%	2%	100%
OUT	44%	25%	11%	20%	100%

Trips by Purpose from Adjustment #1

IN	35	81	36	3	155
OUT	227	134	59	109	538

Percent of Residential Trips by Purpose to Other Approved Developments (Commercial)

10%	25%	25%	0%	

Trips by Purpose after Adjustment #2

IN	32	80	27	3	122
OUT	213	101	44	108	466

Percent of Residential Trips by Purpose (PM)

	Work/ Business	Shopping	Social/ Recreational	School	Total
IN	54%	27%	12%	7%	100%
OUT	13%	57%	24%	6%	100%

Trips by Purpose

IN	307	153	68	40	568
OUT	41	178	75	19	314

Percent of Residential Trips by Purpose to Other Approved Developments (Commercial)

10%	25%	25%	0%	

Trips by Purpose after Adjustment

IN	276	115	51	40	482
OUT	37	134	56	19	246

Percent of Residential Trips by Purpose (Daily)

	Work/ Business	Shopping	Social/ Recreational	School	Total
IN	26%	46%	19%	9%	100%
OUT	26%	46%	19%	9%	100%

Trips by Purpose

IN	1,186	2,098	886	410	4,580
OUT	1,186	2,098	886	410	4,580

Percent of Residential Trips by Purpose to Other Approved Developments (Commercial)

10%	25%	25%	0%	

Trips by Purpose after Adjustment

IN	1,067	1,573	650	410	3,701
OUT	1,067	1,573	650	410	3,701

Residential Trips after Adjustment #1 AM In	AM Out	PM In	PM Out	Daily
22	120	119	53	1,906
14	45	50	27	712
20	64	71	38	1,023
6	20	22	12	311
18	58	64	34	919
10	34	37	20	534
9	15	19	11	426
4	12	13	7	183
19	65	81	41	1,301
1	5	5	3	74
122	466	482	246	7,402

Commercial Trips after Adjustment #2 AM In	AM Out	PM In	PM Out	Daily
32	30	91	92	1,728
15	4	7	21	270
36	7	24	45	657
7	6	21	31	328
17	7	35	39	843
301	257	332	214	6,330
21	15	61	63	1,252
132	85	200	239	4,367
53	19	277	280	5,447
0	0	147	167	n/a
144	63	303	331	7,200
39	5	7	35	310
0	0	95	108	n/a
28	12	59	64	1,399
3	7	9	5	127
36	16	77	84	1,823
138	75	344	344	6,984
7	6	22	32	341
1,097	615	2,111	2,194	39,499

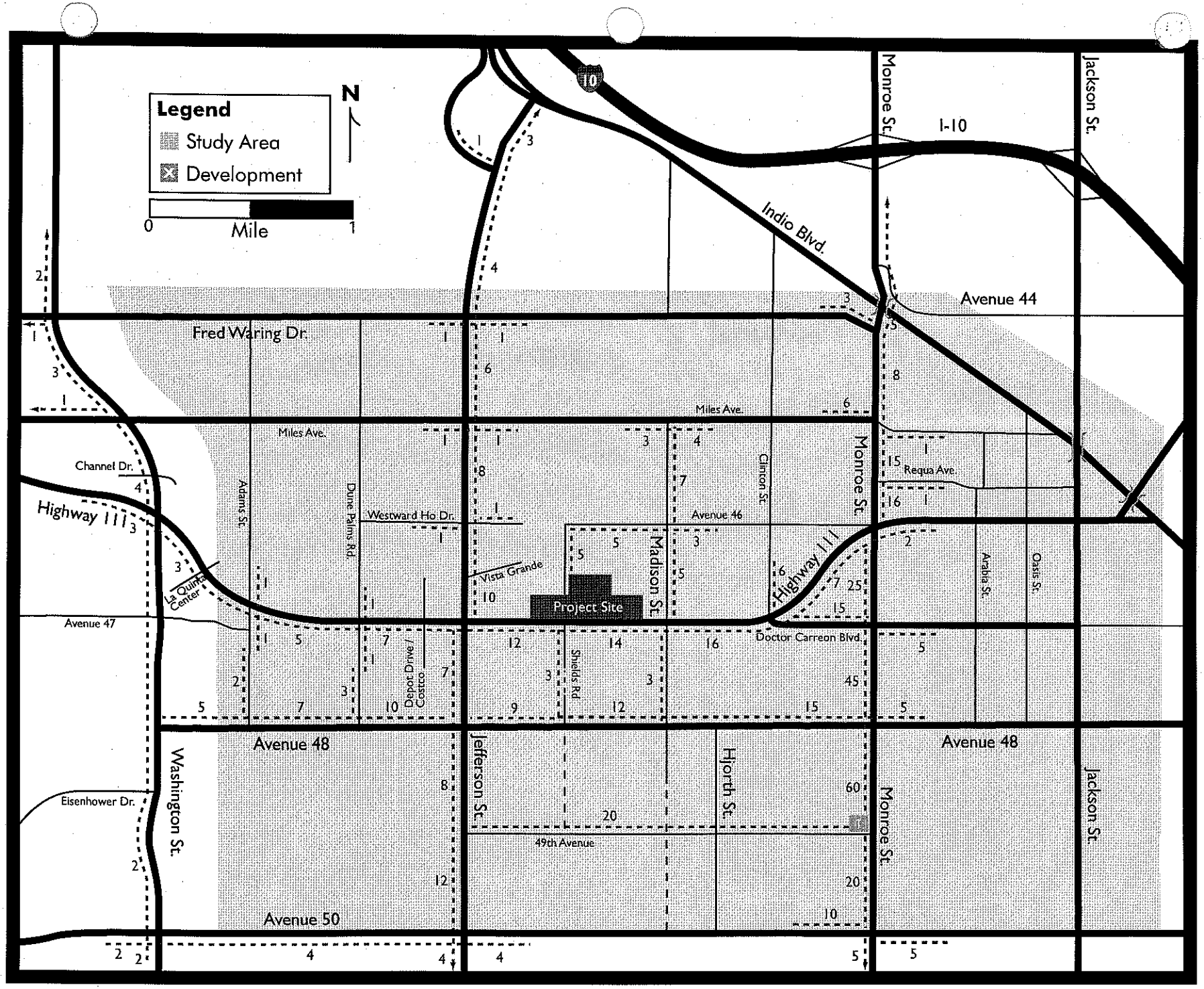
Final Trips After Adjustment #2 AM In	AM Out	PM In	PM Out	Daily
22	120	119	53	1,906
14	45	50	27	712
32	30	91	92	1,728
15	4	7	21	270
20	64	71	38	1,023
36	7	24	45	657
6	20	22	12	311
7	6	21	31	328
18	58	64	34	919
17	7	35	39	843
301	257	332	214	6,330
21	15	61	63	1,252
132	85	200	239	4,367
53	19	277	280	5,447
0	0	147	167	n/a
144	63	303	331	7,200
39	5	7	35	310
10	34	37	20	534
8	15	19	11	426
4	12	13	7	183
0	0	95	108	n/a
28	12	59	64	1,399
3	7	9	5	127
36	16	77	84	1,823
138	75	344	344	6,984
19	65	81	41	1,301
1	5	5	3	74
7	6	22	32	341
1,129	1,080	2,593	2,448	46,811

Polo Square Traffic Study
Net Trip Generation for Other Approved Developments

No.	Name	Use	Net Trip Generation				
			AM		PM		
			In	Out	In	Out	Daily
1	Victoria Palms Condos	Residential (condominium)	22	129	119	53	1,906
2	Stonefield Development	Residential (single family)	14	45	50	27	712
3	The Alley Center	Retail including Open Air Garden Center	32	30	91	92	1,729
4	Western Dental Retail	Dental/Retail	15	4	7	21	270
5	Barcelona	Residential (single family)	20	64	71	38	1,023
6	Monroe Plaza	Retail	36	7	24	45	657
7	Bellasara	Residential (single family)	6	20	22	12	311
8	Indio Companion Animal Center	Tenant Building/Kennel	7	6	21	31	328
9	Bridge at Jefferson	Residential (single family)	18	58	64	34	919
10	Desert Courtyards (50%)	Neighborhood Commercial Center - Retail	17	7	35	39	843
11	Hog Wild BBQ Restaurant	Restaurant	301	257	332	214	6,330
12	Walgreens	Pharmacy/Drug Store/Retail/Drive-thru	21	15	61	63	1,252
13	Indio Fashion Mall Redevelopment	Shopping Mall	132	85	200	239	4,367
14	Sam's Club	Retail	53	19	277	280	5,447
15	Costco	Retail with Fueling Station	0	0	147	167	n/a
16	The Pavilions	Retail and Restaurants	144	63	303	331	7,200
17	J. Paul Buildings	Office	39	5	7	35	310
18	Santa Rosa	Residential (single family)	10	34	37	20	534
19	Watercolors Senior Housing	Residential (senior housing/single family)	9	15	19	11	428
20	Mattco Construction	Residential (single family)	4	12	13	7	193
21	Komar Desert Center	Retail and Restaurants	0	0	95	108	n/a
22	Stamko Buildings	Retail and Restaurants	28	12	59	64	1,399
23	Neil Keine's Buildings	Office	3	7	9	5	127
24	Dune Palms Business Park	Retail	36	16	77	84	1,823
25	Jefferson Square Neighborhood Center	Retail and Restaurants	138	75	344	344	6,984
26	Dune Palms Neighborhood Apartment Complex	Residential, Community Center, Day Care	19	85	81	41	1,301
27	Sienna Tract	Residential	1	5	5	3	74
28	Valley Children's Medical Center	Medical Office	7	6	22	32	341
			1,129	**1,080**	**2,593**	**2,440**	**46,811**

APPENDIX E

TRIP DISTRIBUTION FOR OTHER APPROVED DEVELOPMENTS (CUMULATIVE TRAFFIC)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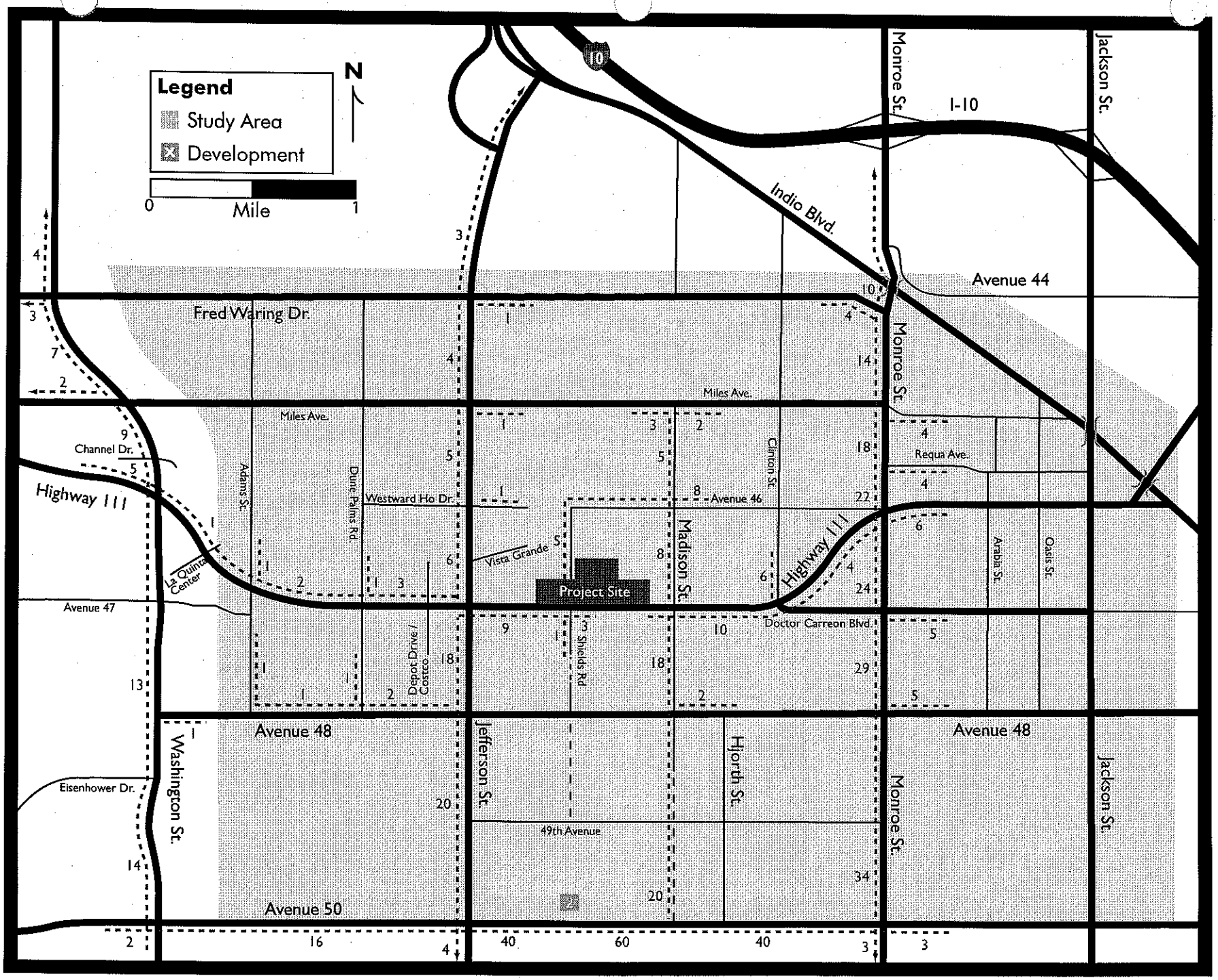
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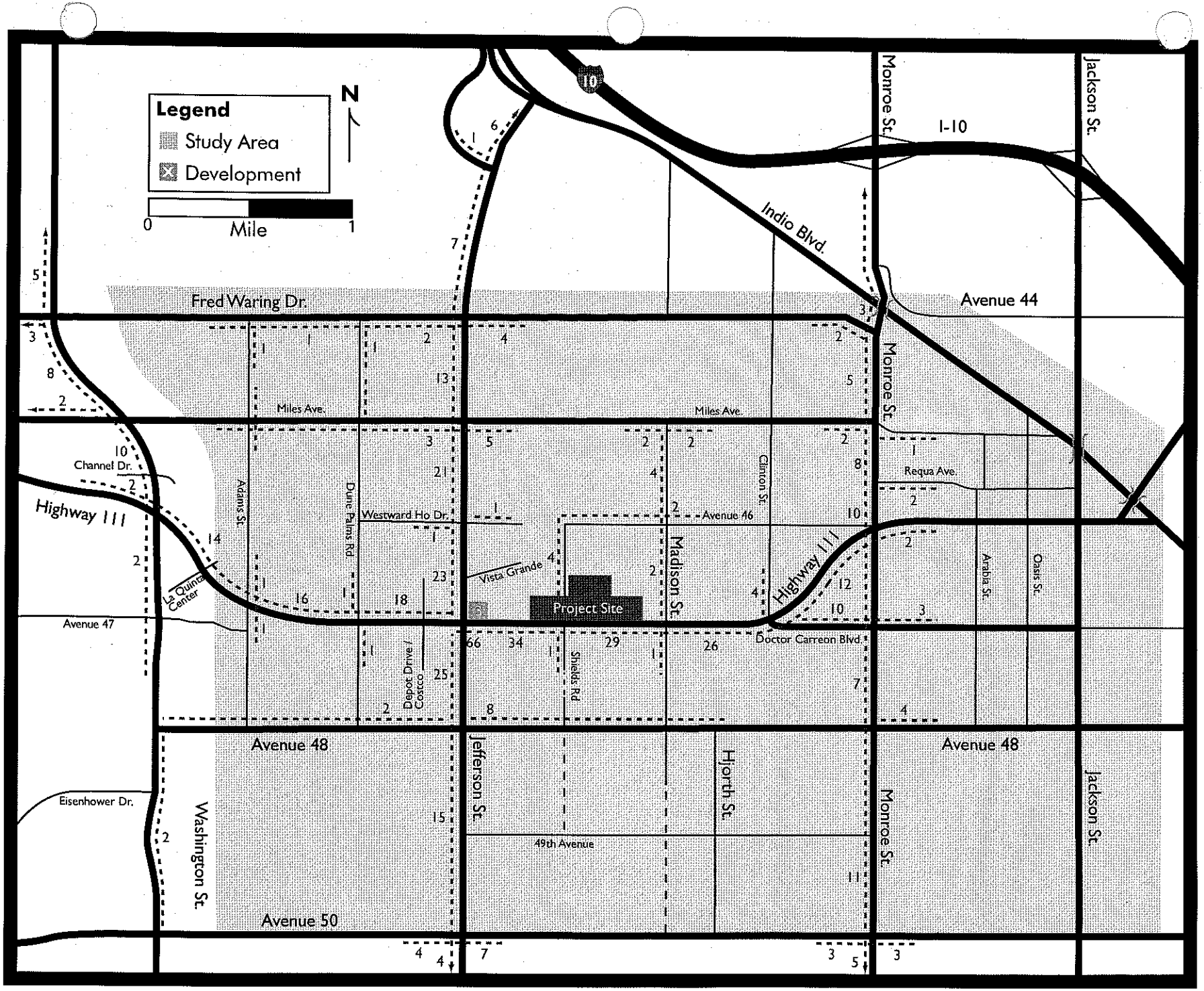
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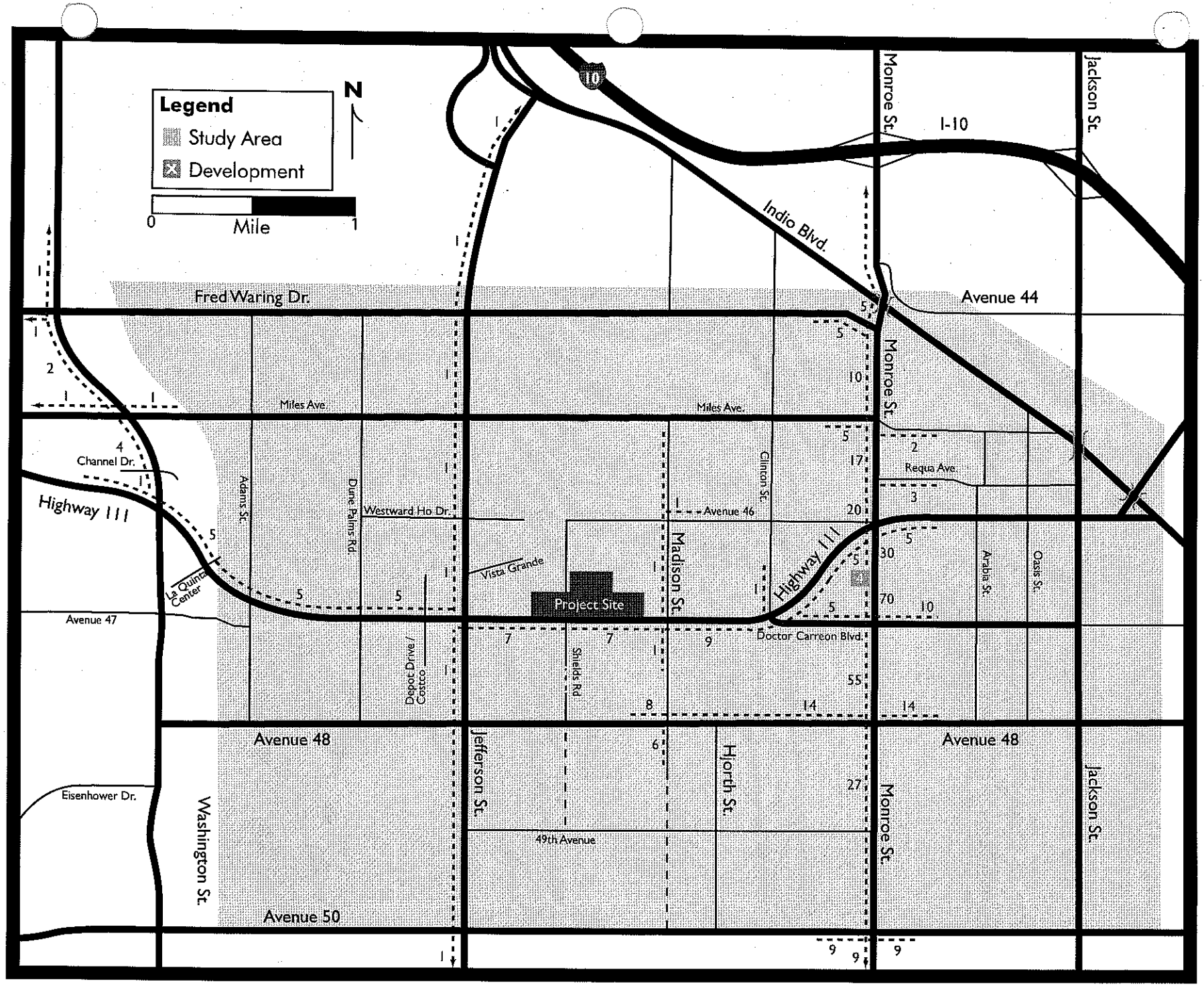
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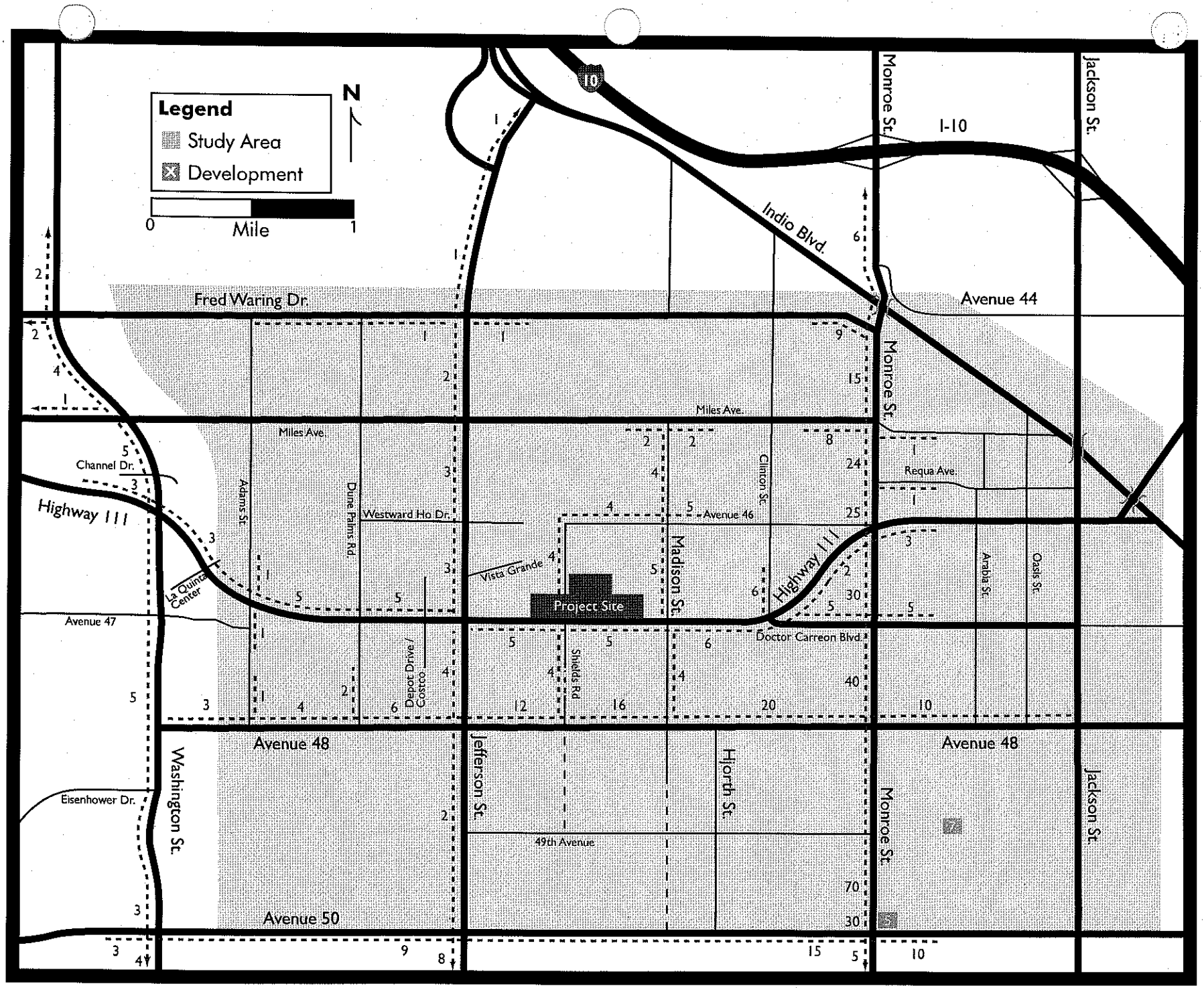
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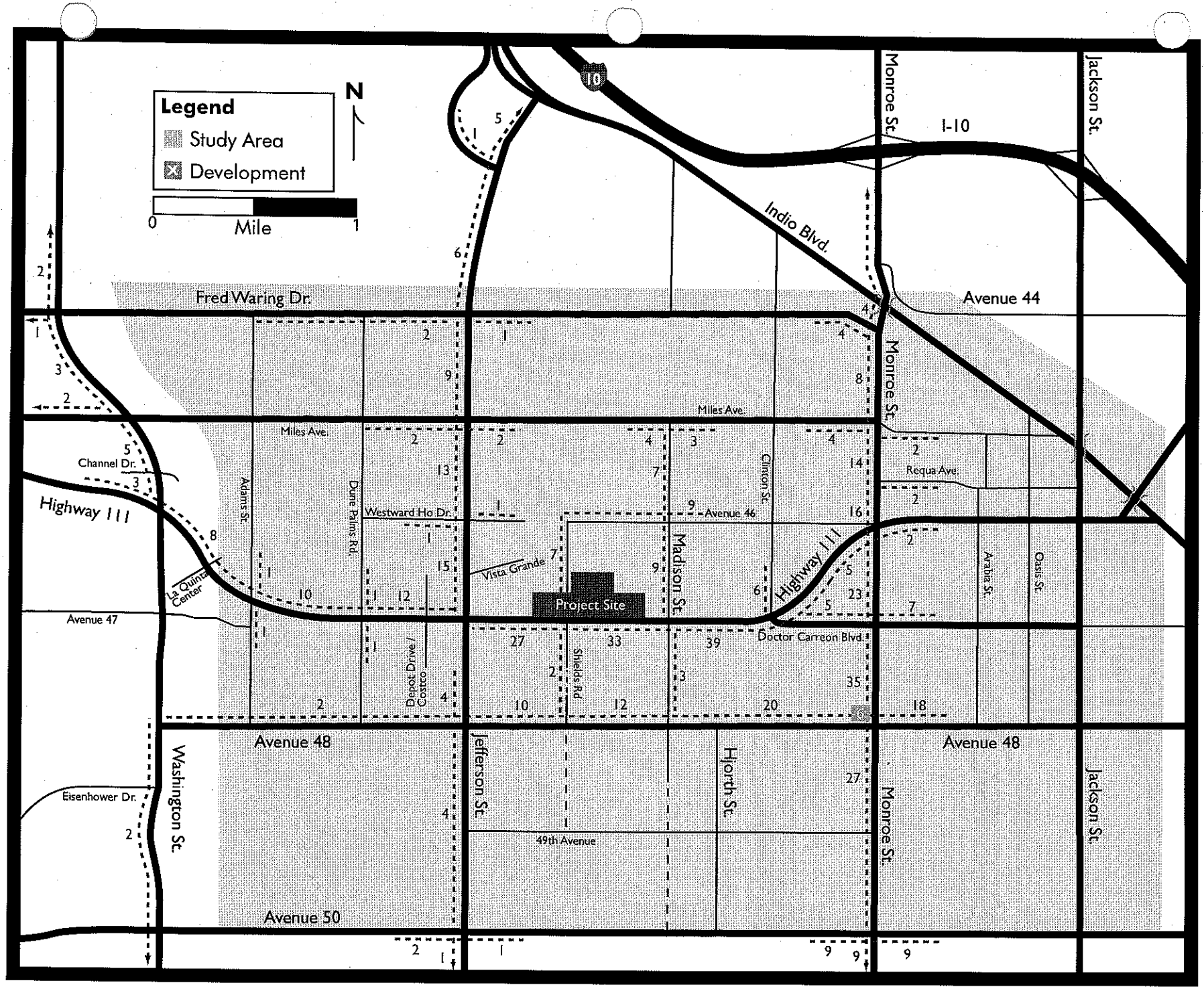
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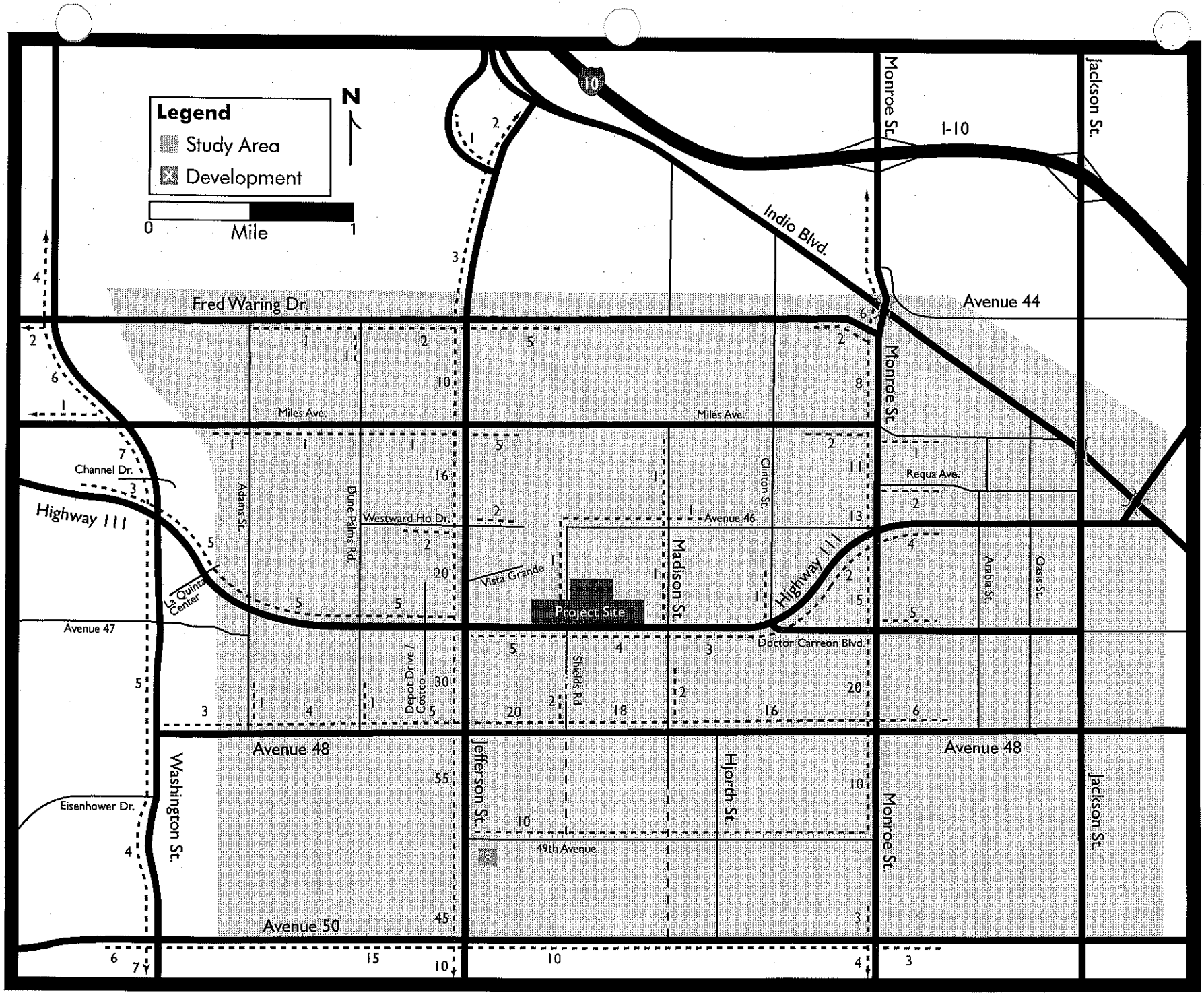
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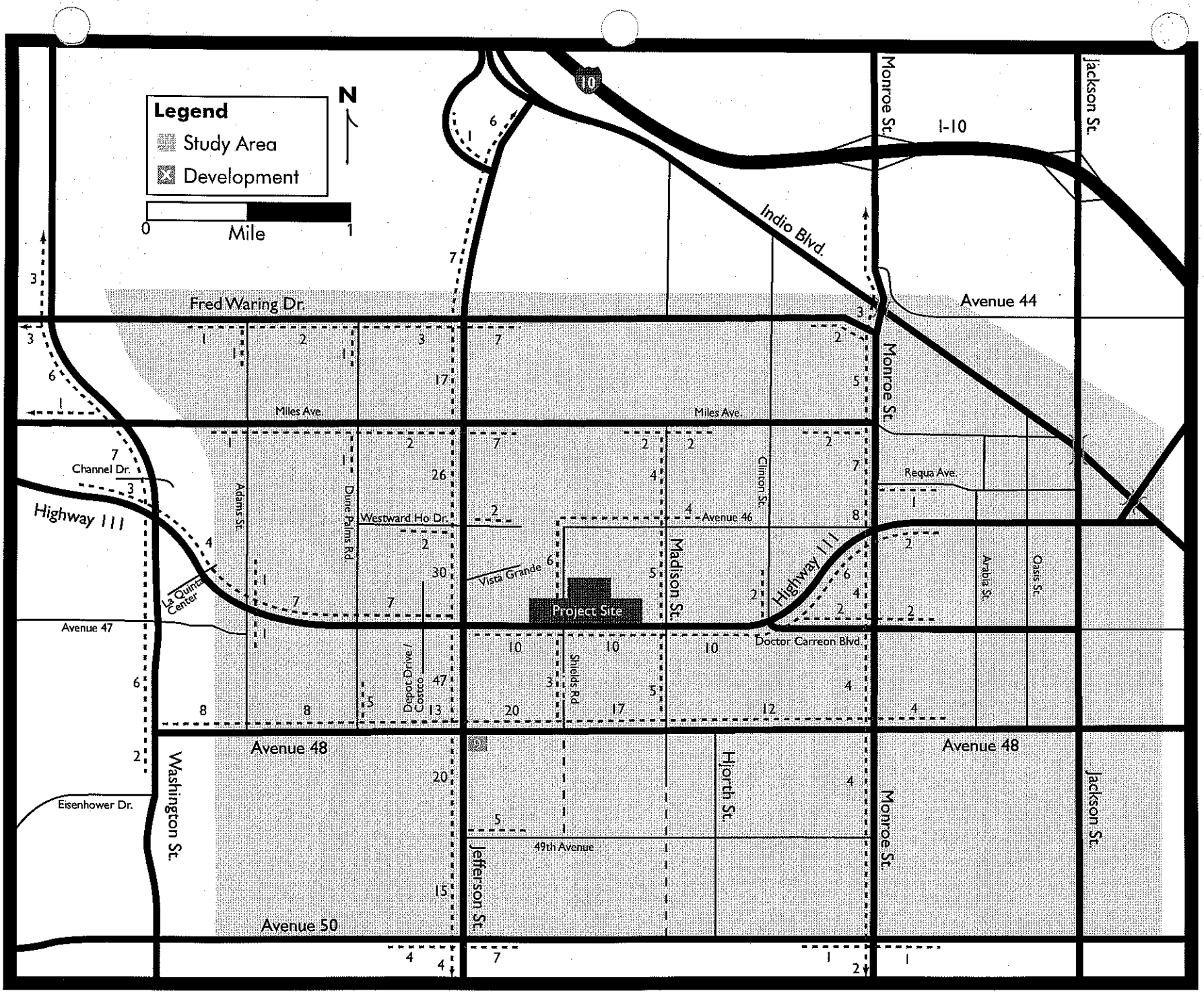
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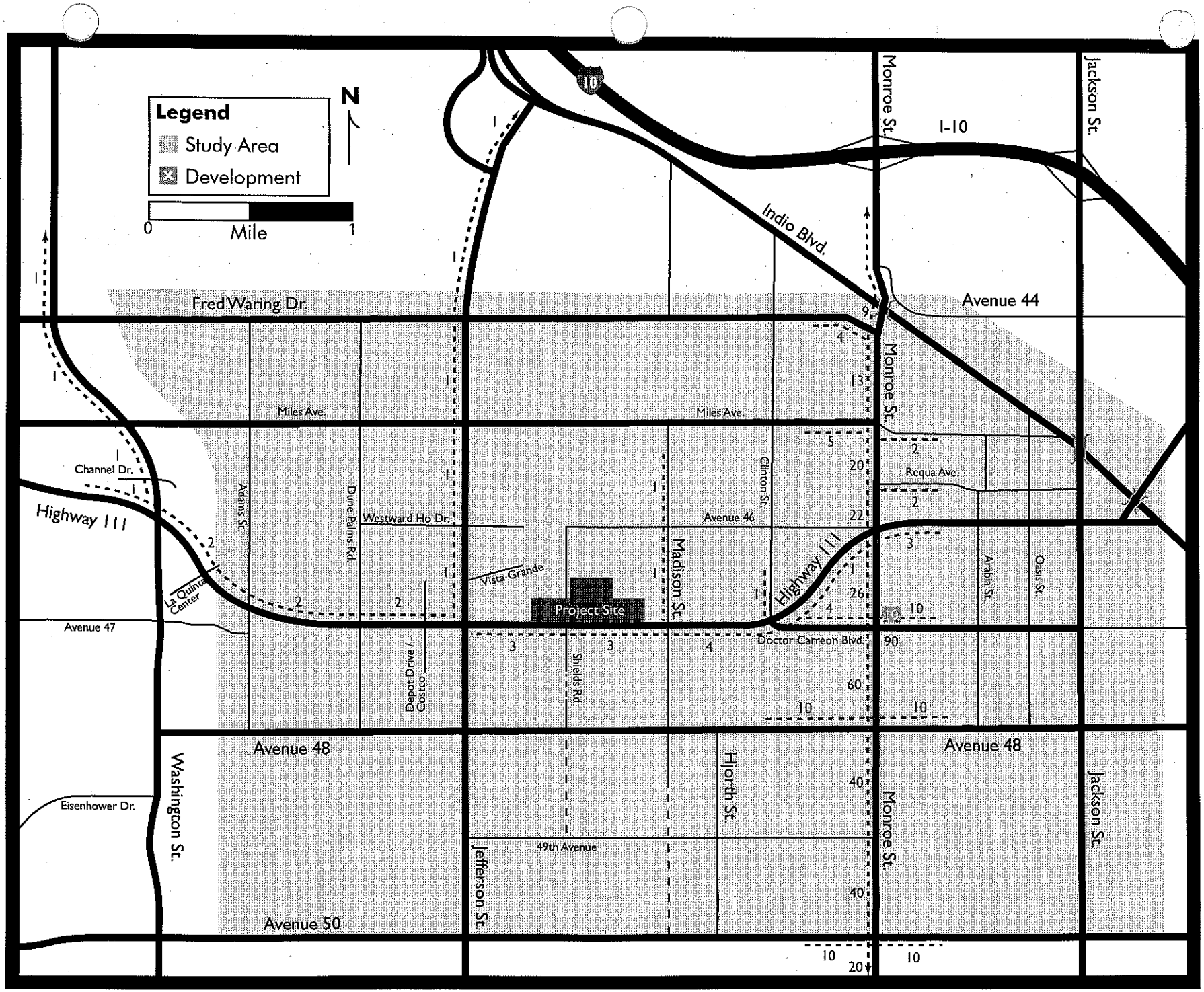
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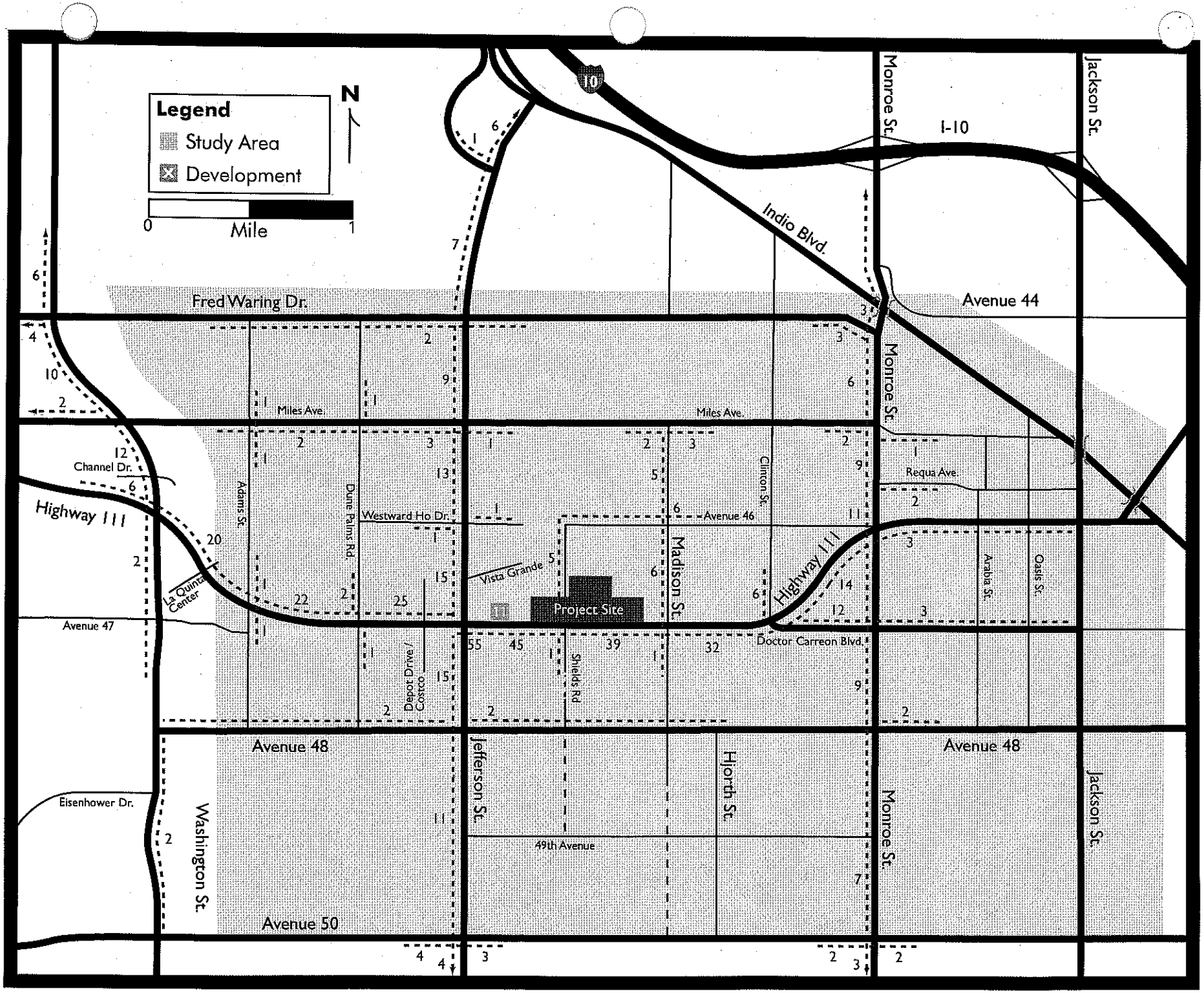
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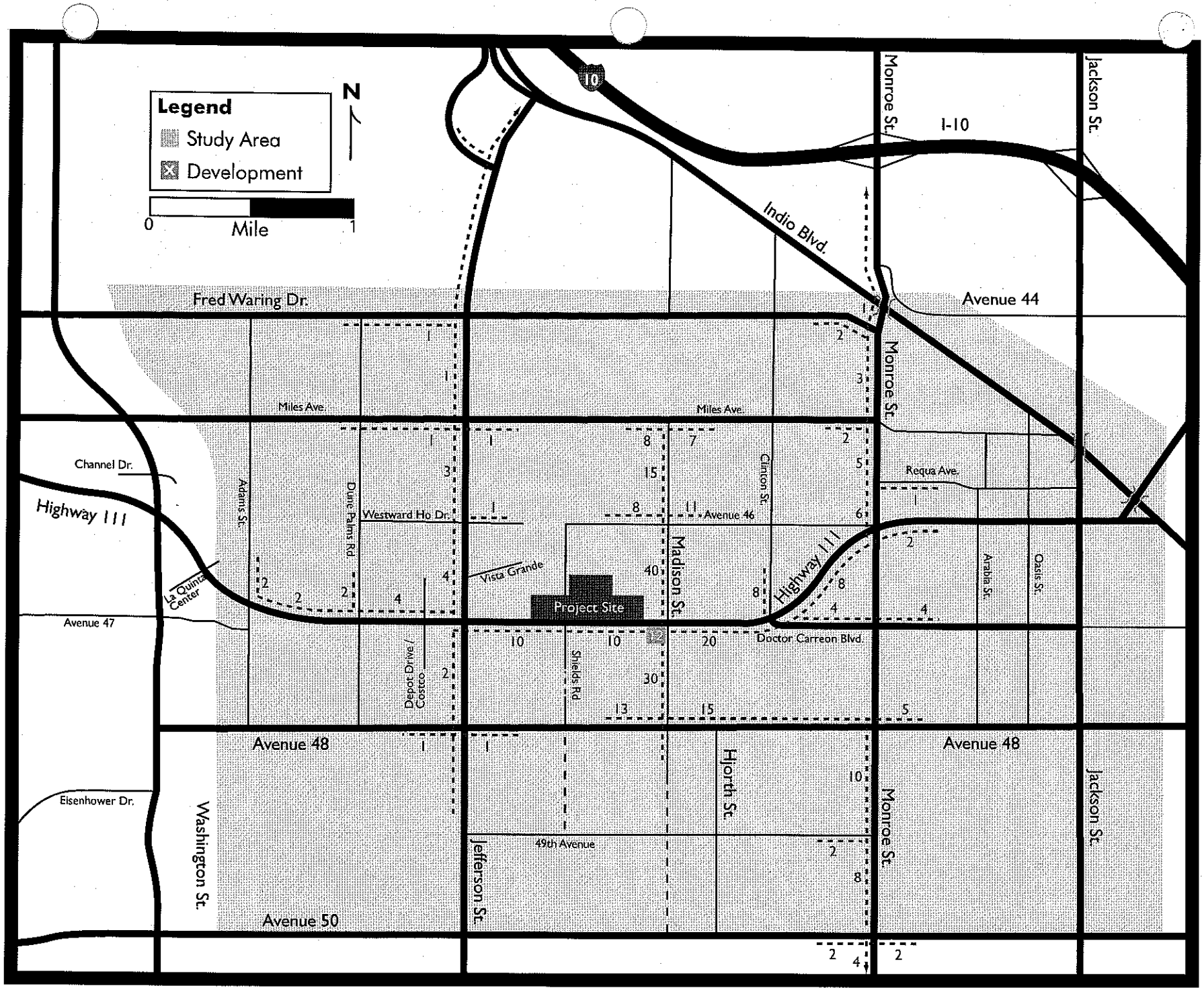
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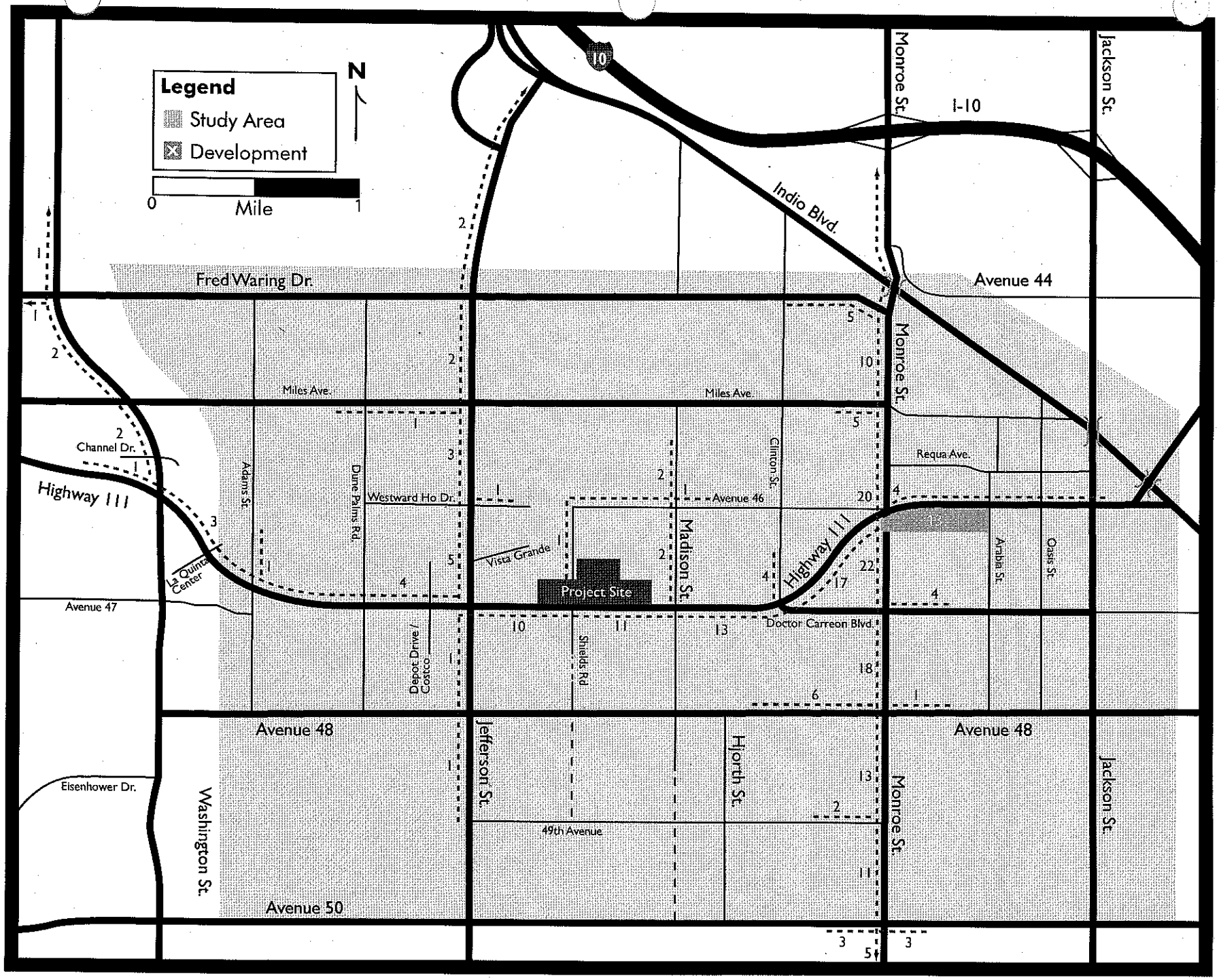
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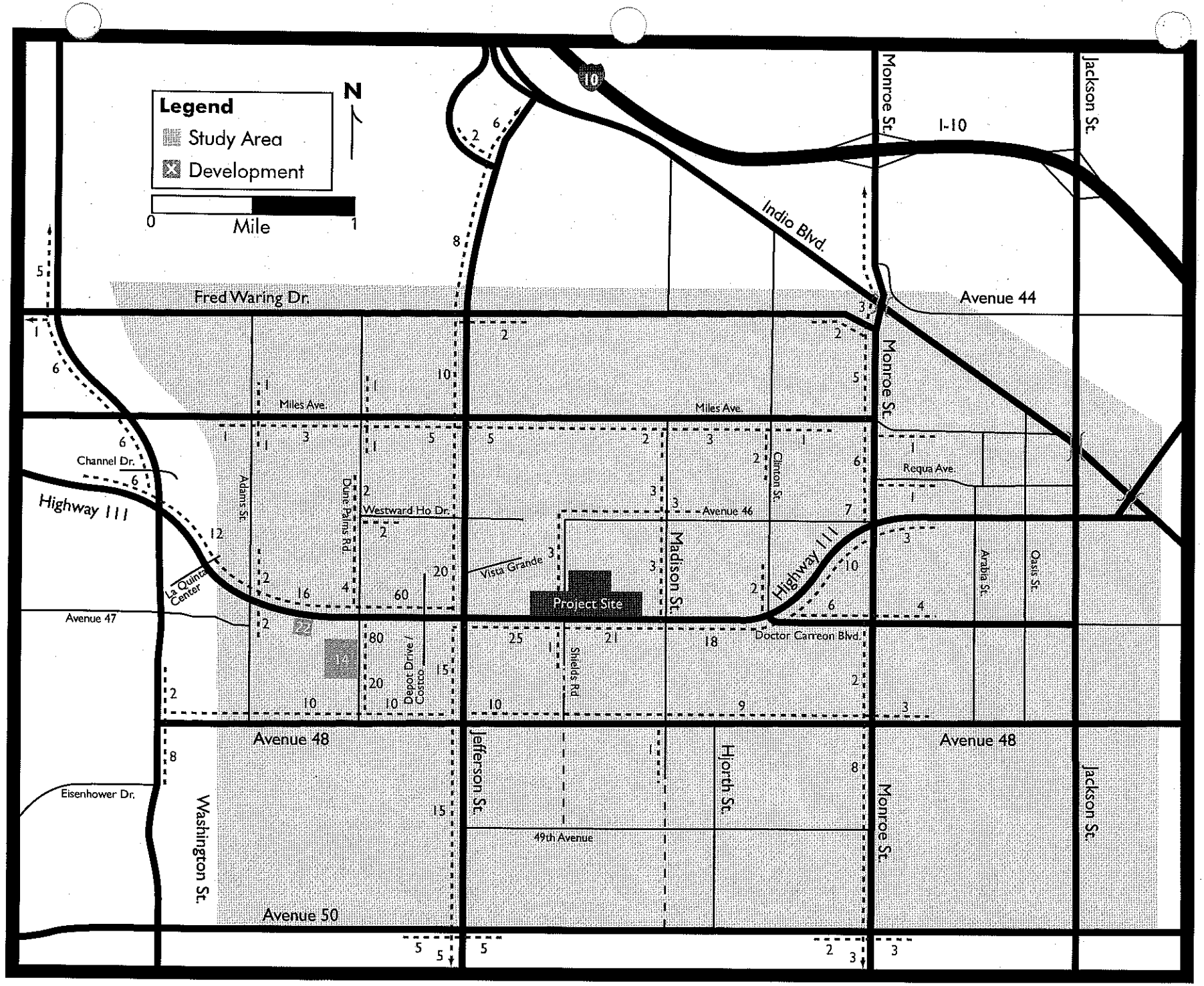
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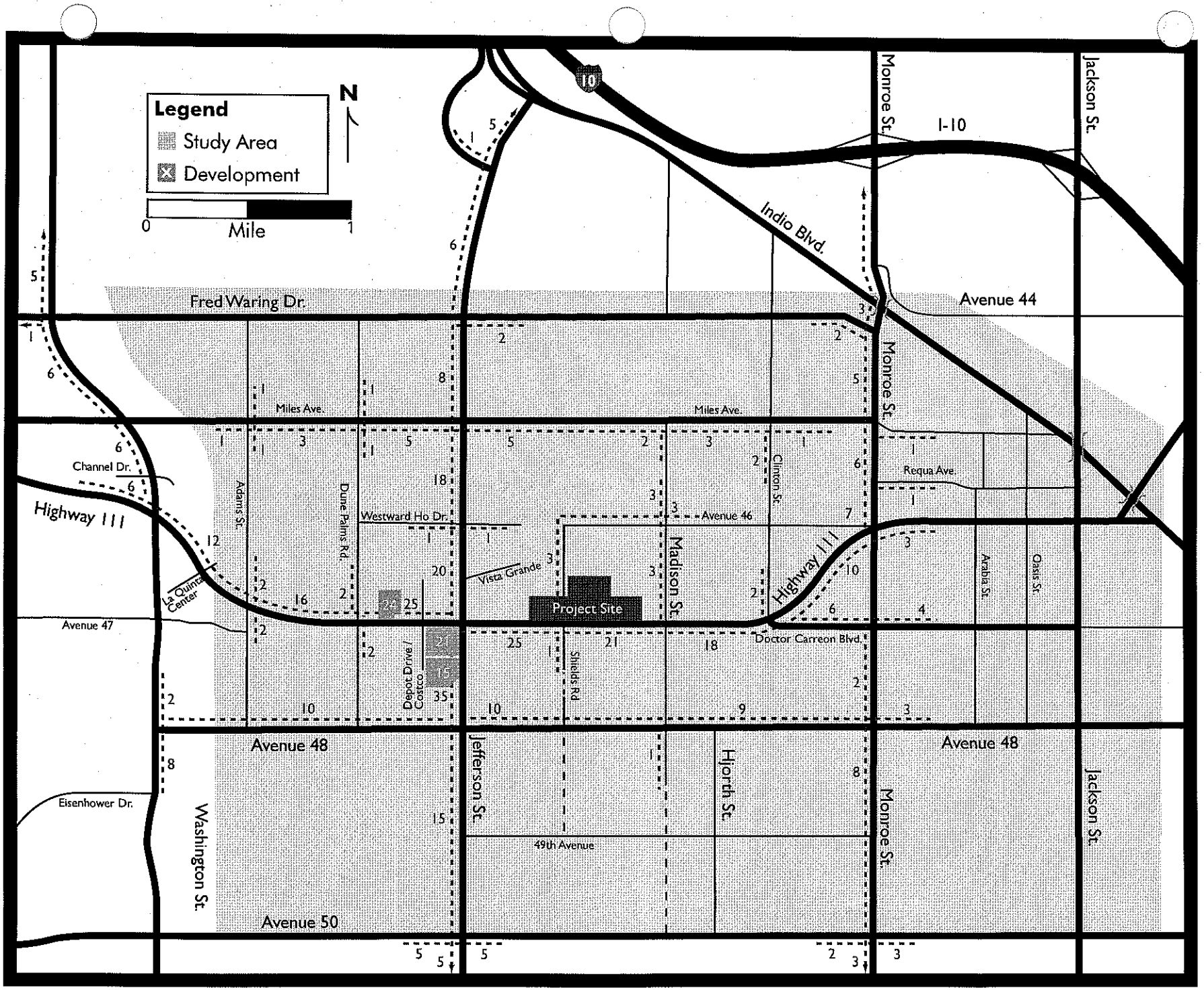
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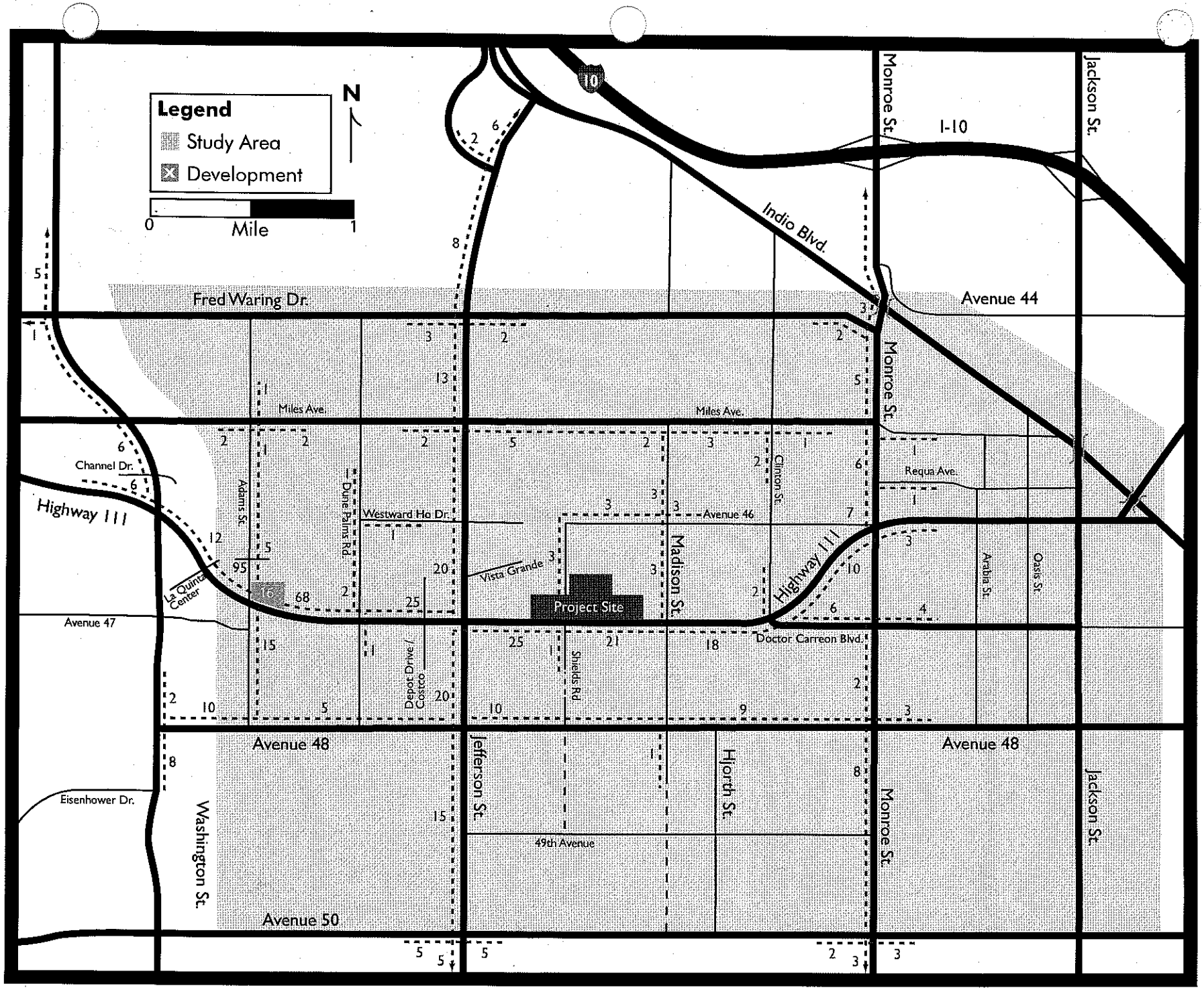
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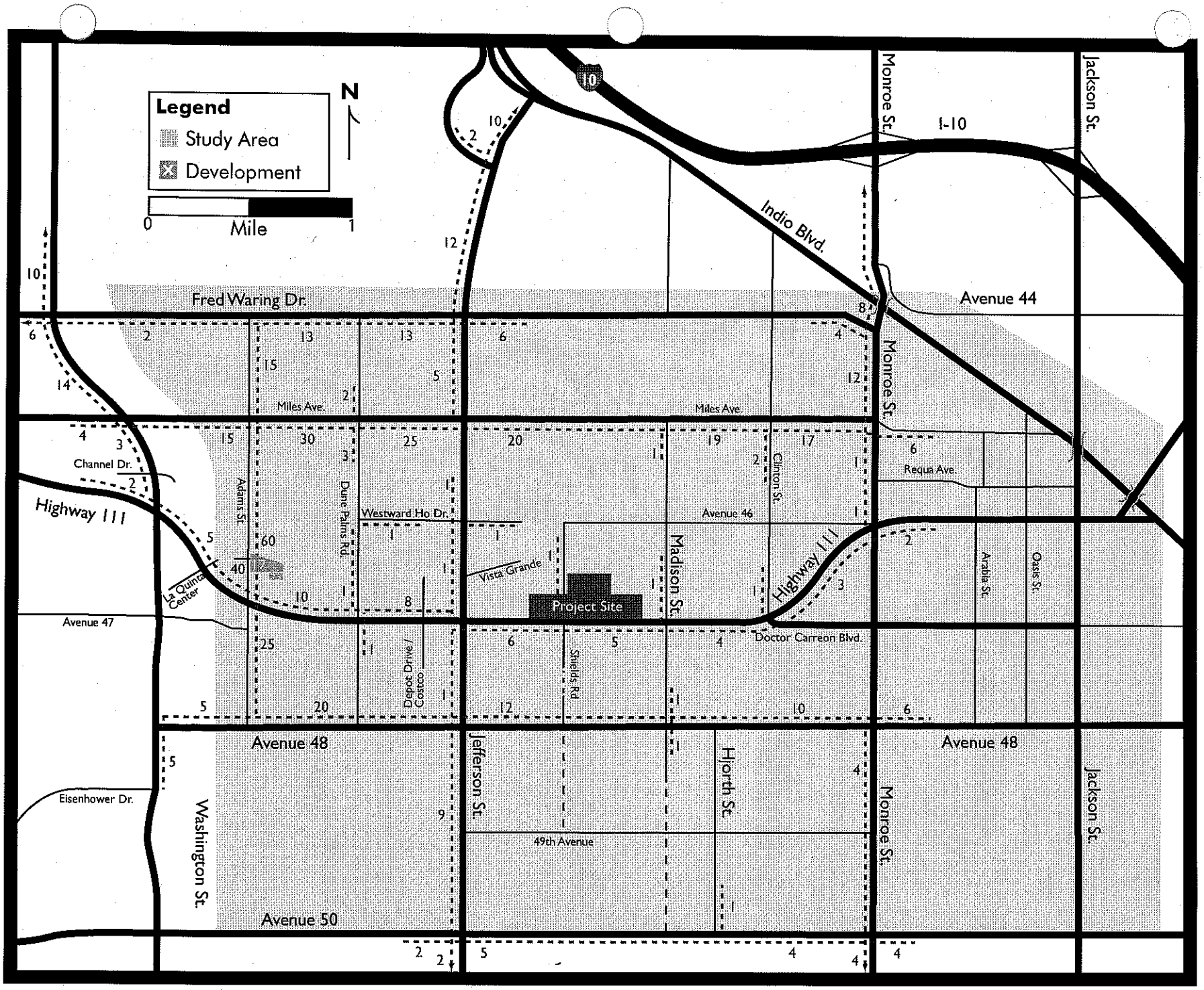
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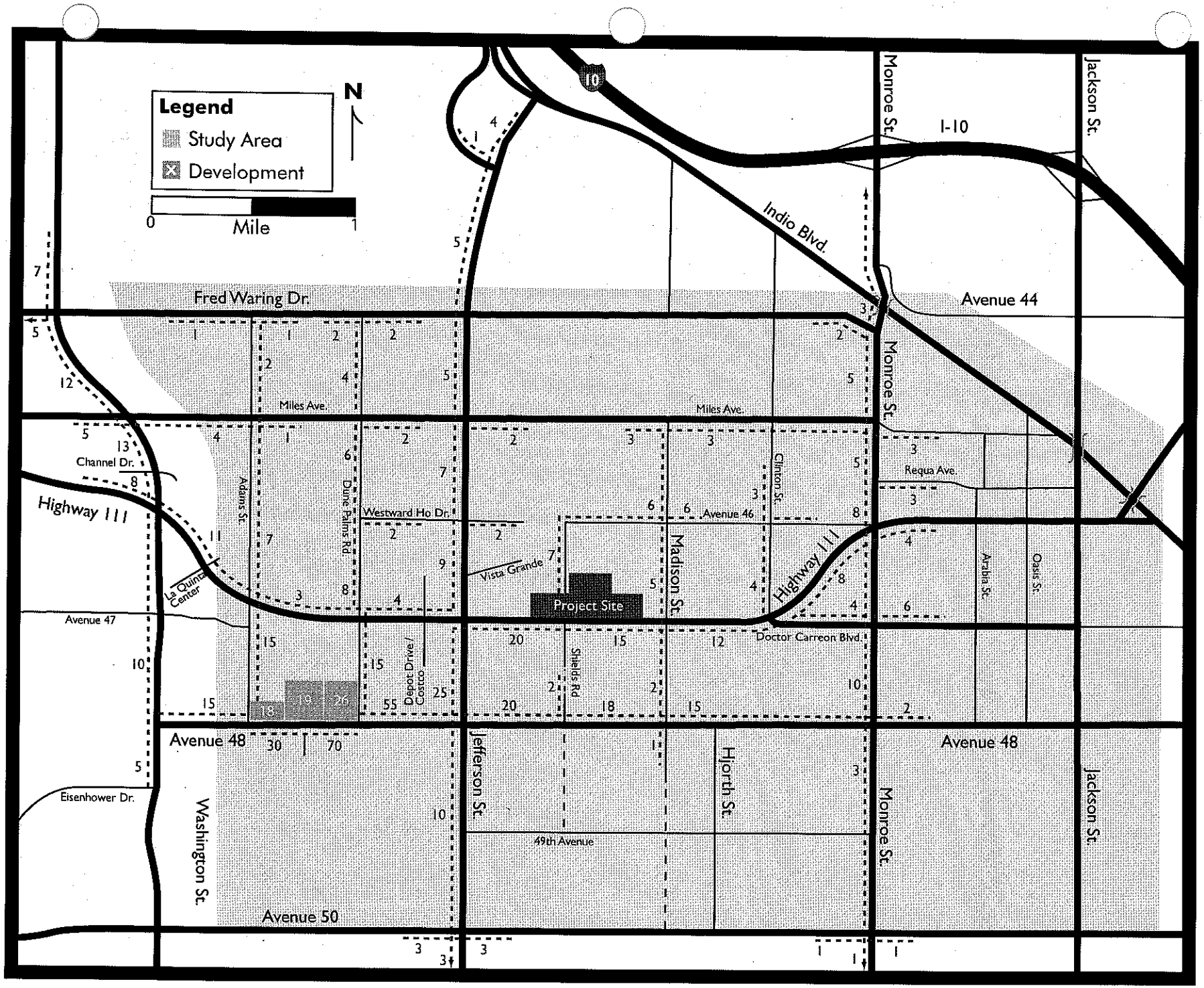
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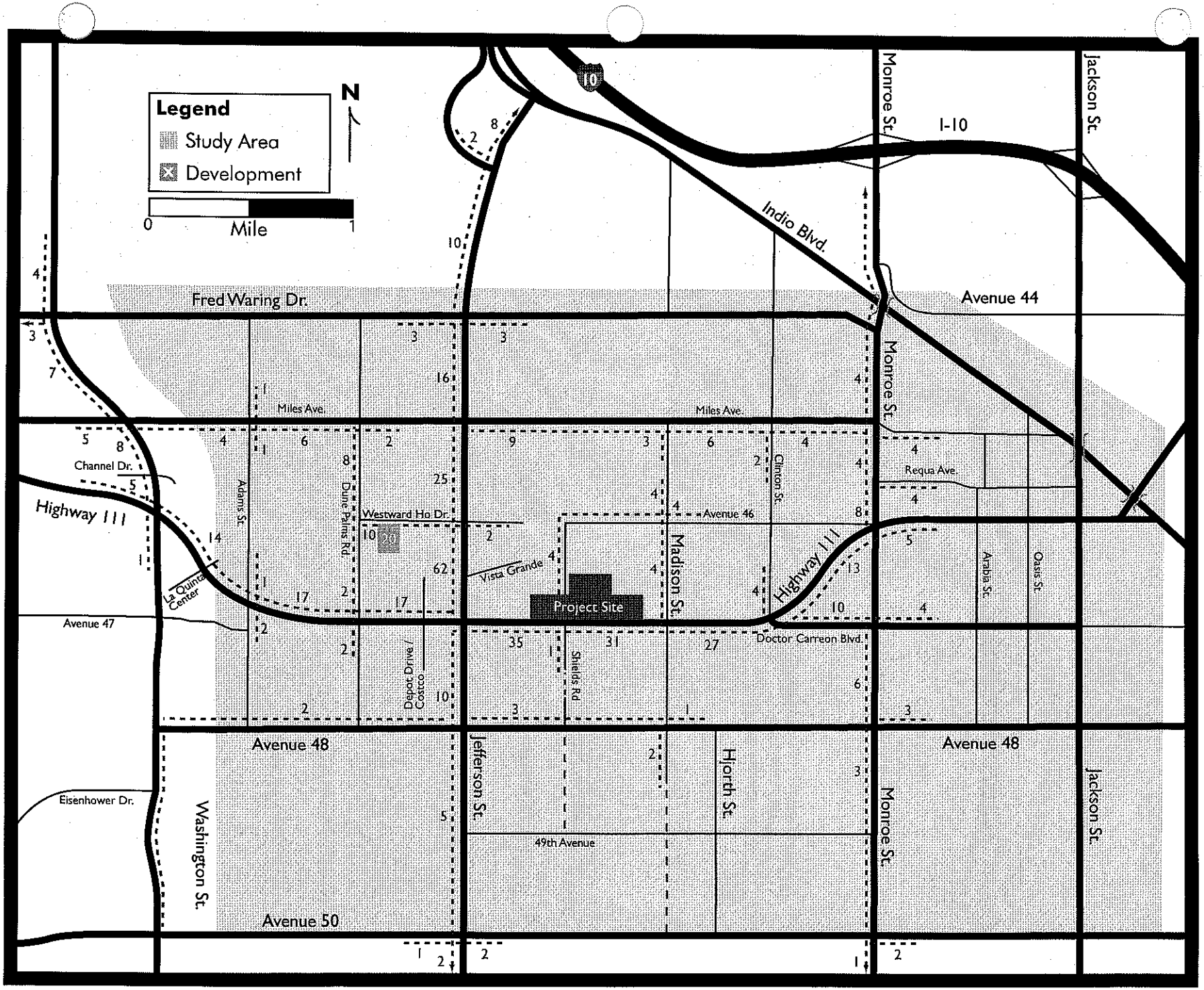
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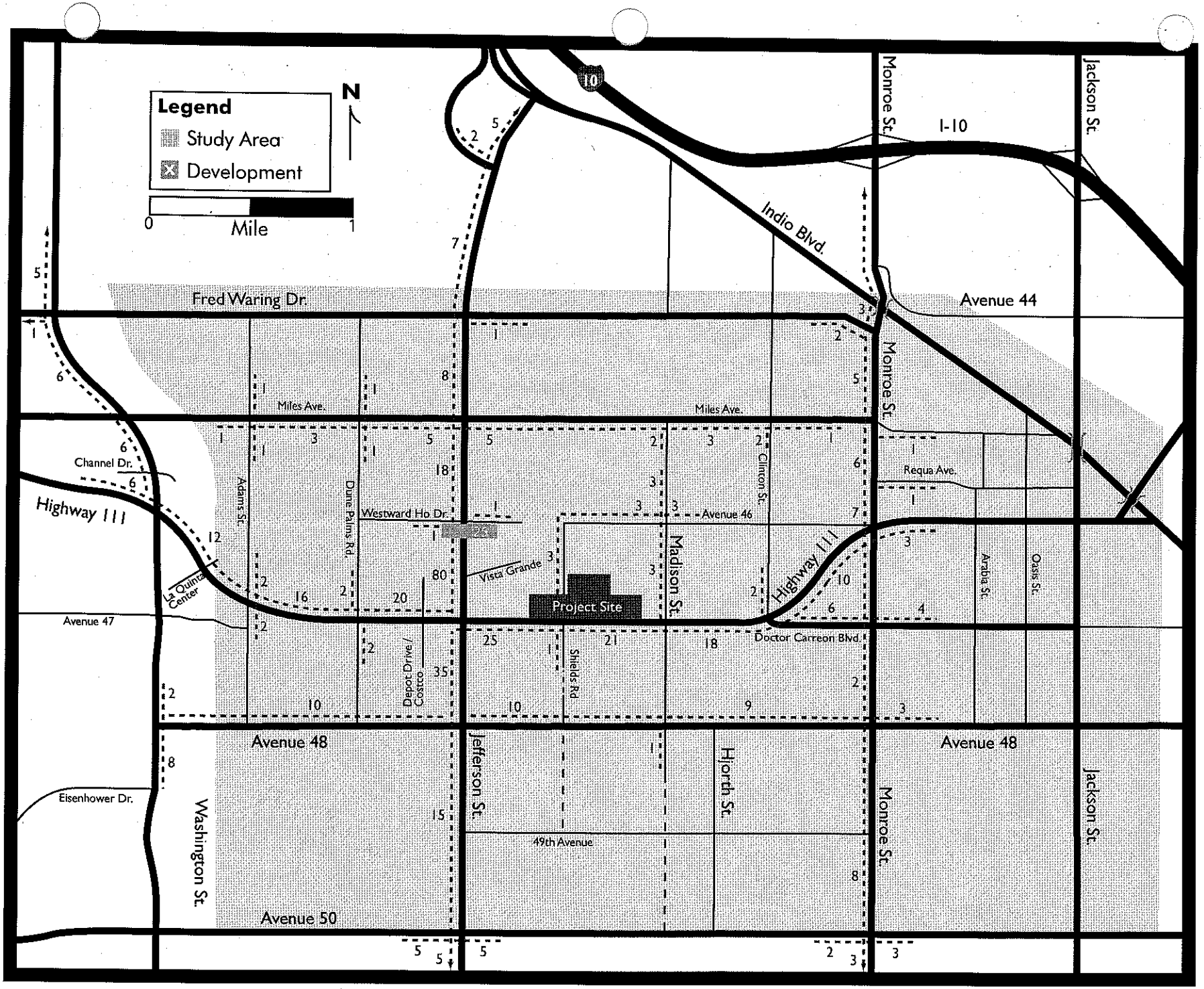
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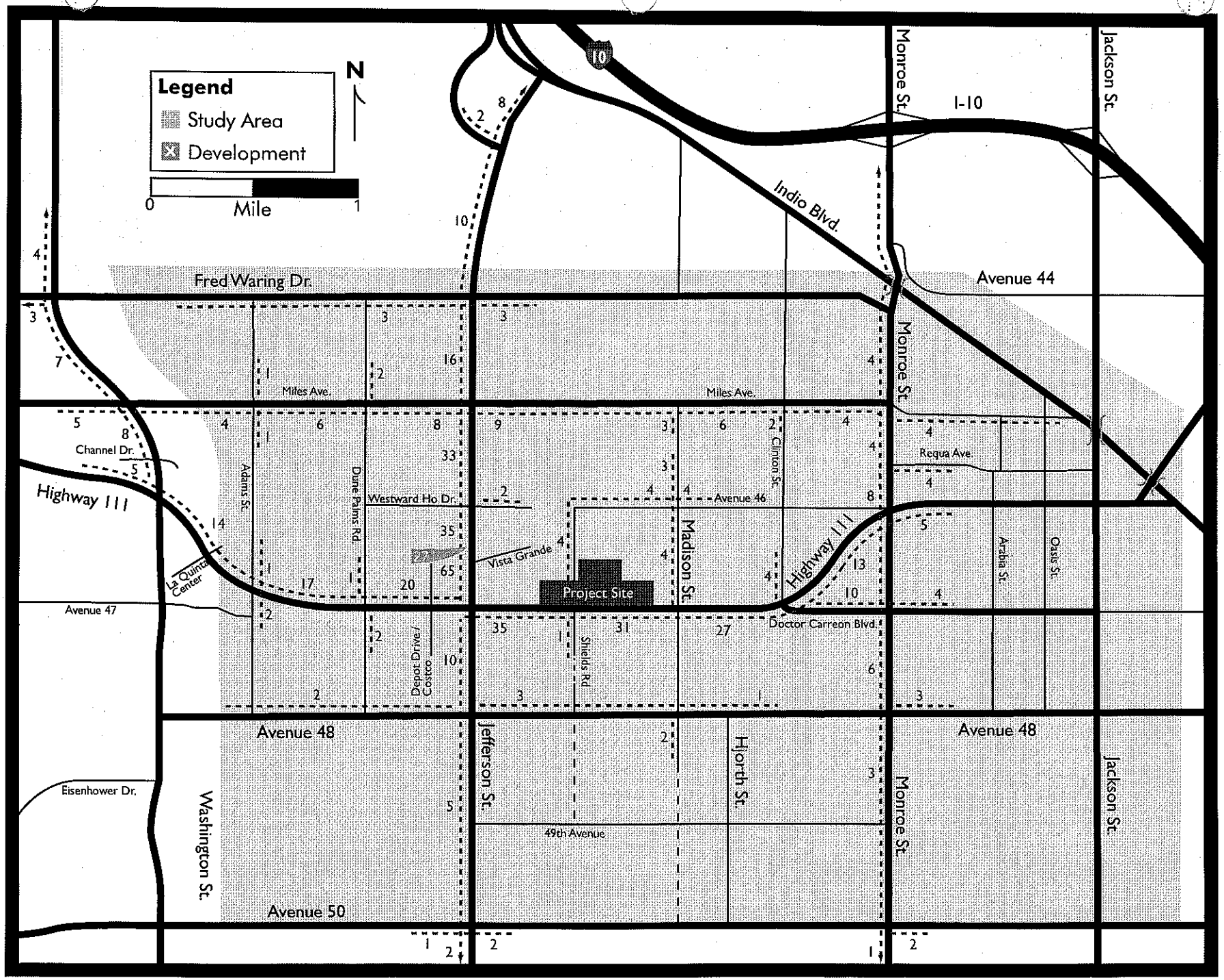
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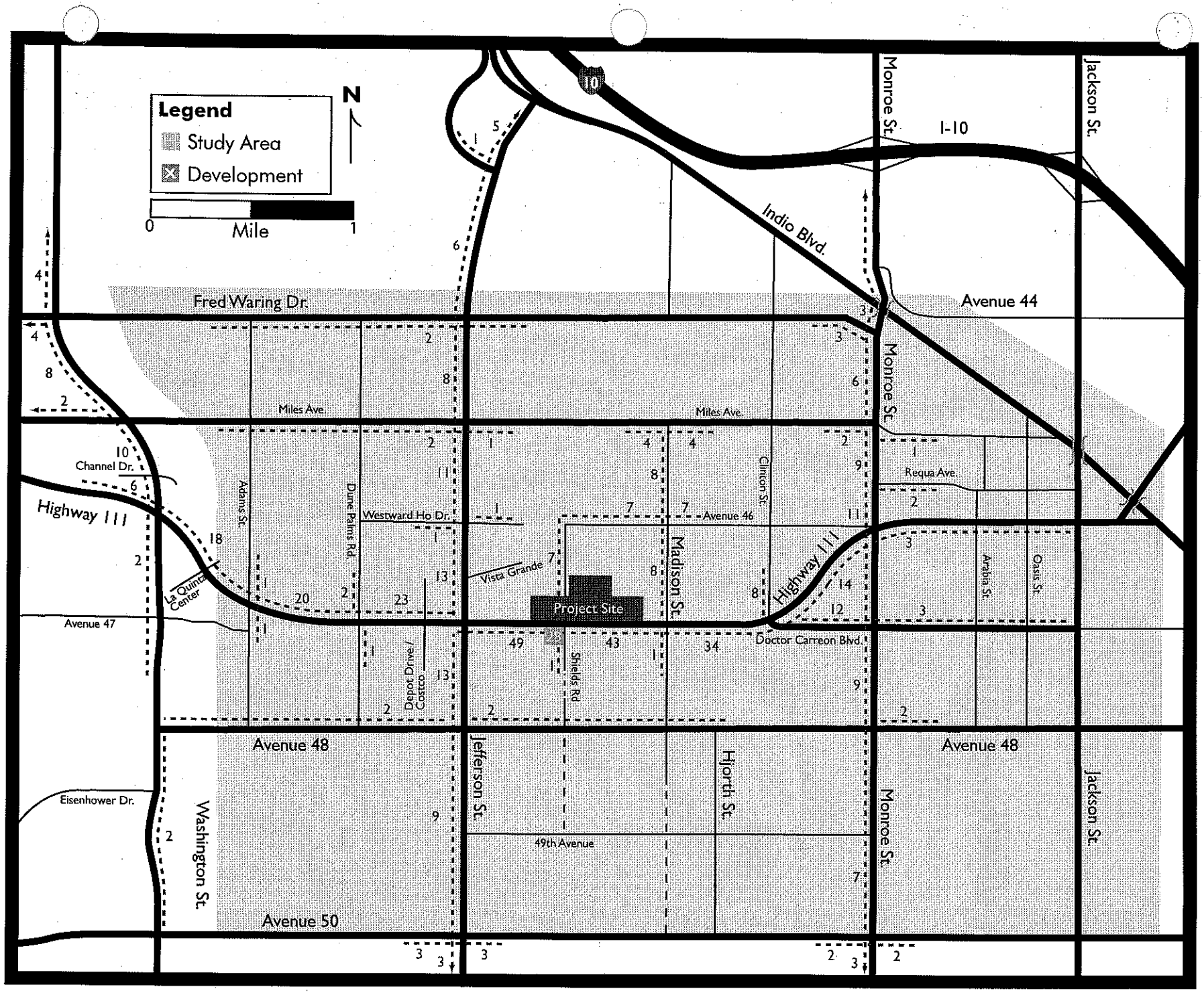
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Eisenhower Dr.
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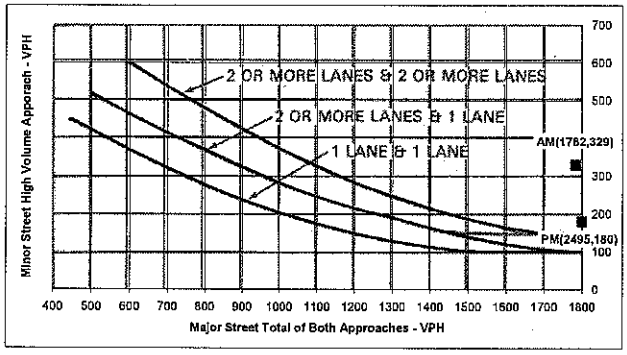
APPENDIX F

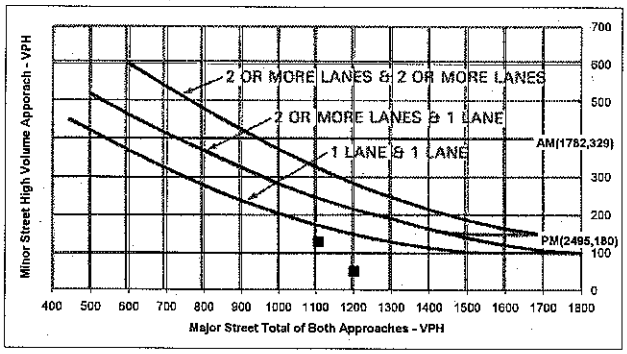
SIGNAL WARRANT ANALYSIS WORKSHEETS

Signal Warrant Analysis for 2006 Existing Conditions

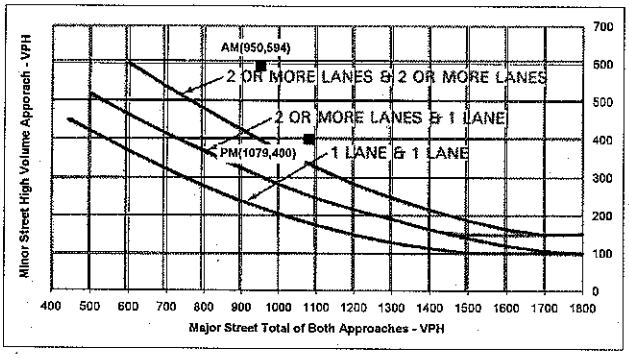
Intersection 12 (Highway 111 @ Shields)



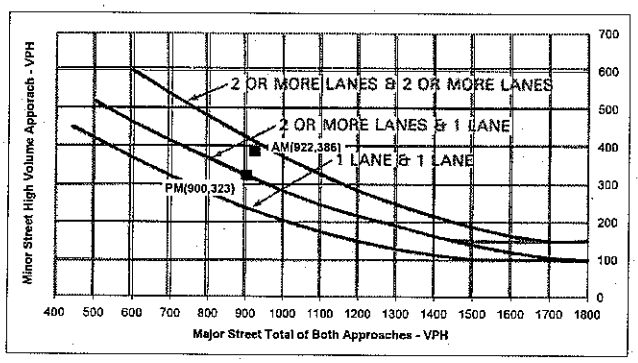
Intersection 13 (Shileds Rd @ Avenue 48)



Intersection 14 (Madison St @ Miles Ave)

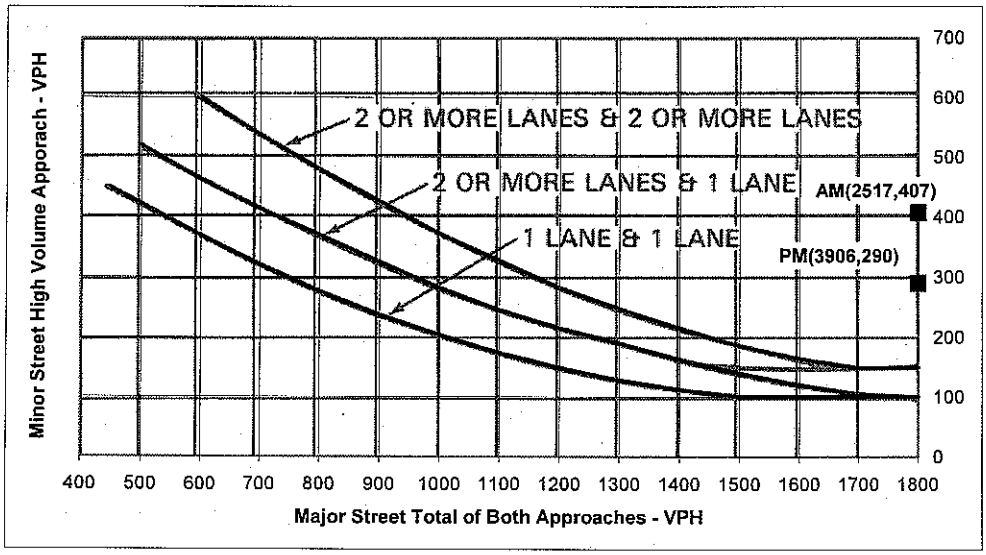


Intersection 15 (Madison St @ Avenue 46)



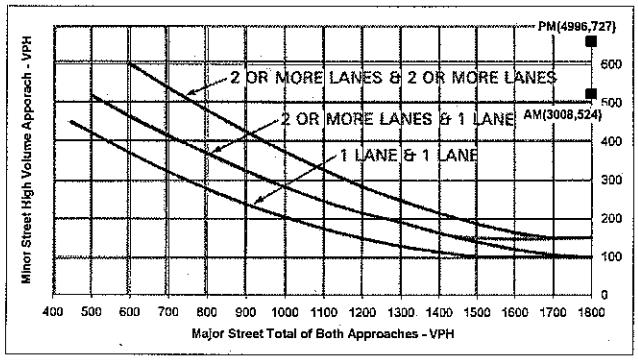
Signal Warrant Analysis for 2010 Existing + Ambient + Cumulative Conditions

Intersection 12 (Highway 111 @ Shields)

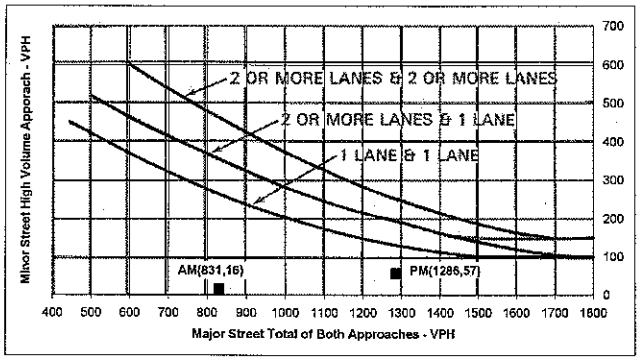


Signal Warrant Analysis for 2010 Existing + Ambient + Cumulative + Project Conditions

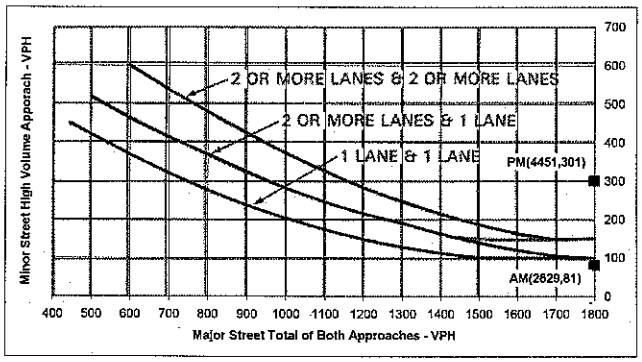
Intersection 12 (Highway 111 @ Shields)



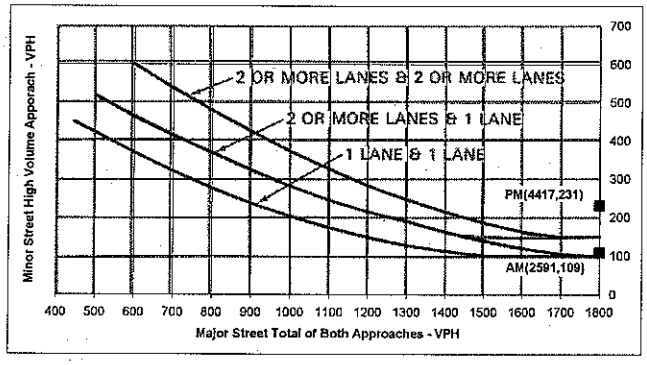
Intersection 38 (Shields Rd @ North Project Circulation Rd)



Intersection 39 (Highway 111 @ Unnamed Access Rd)



Intersection 40 (Highway 111 @ Unnamed Access Rd)

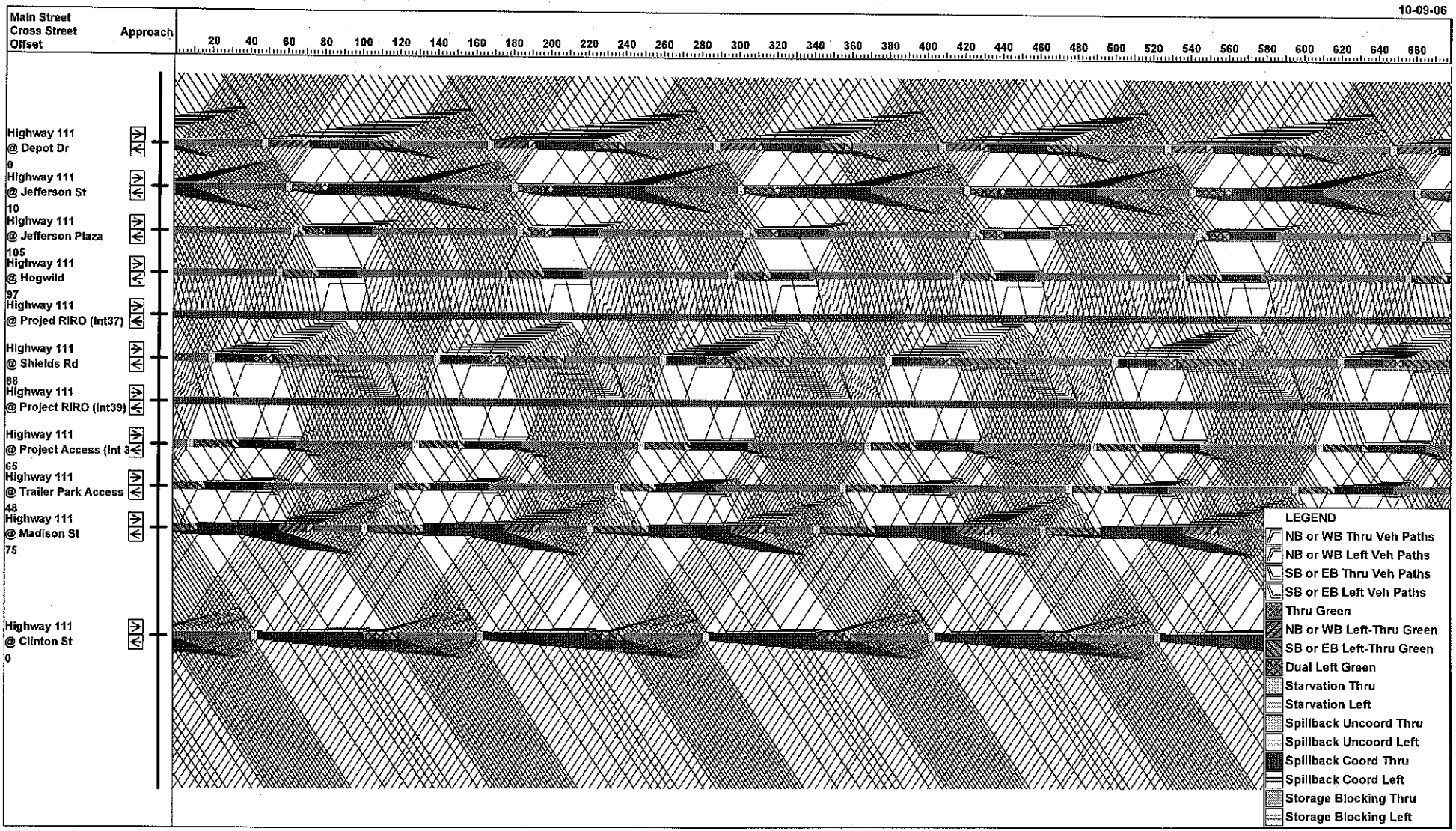


APPENDIX G

SIGNAL PROGRESSION TIME-SPACE DIAGRAM

Polo Square 2010 E+A+C+P Network

90th Percentile
10-09-06



LSA Associates

APPENDIX H

SHIELDS ROAD REALIGNMENT ANALYSIS WORKSHEET AND SIGNAL PROGRESSION

Polo Square (Indio, CA)

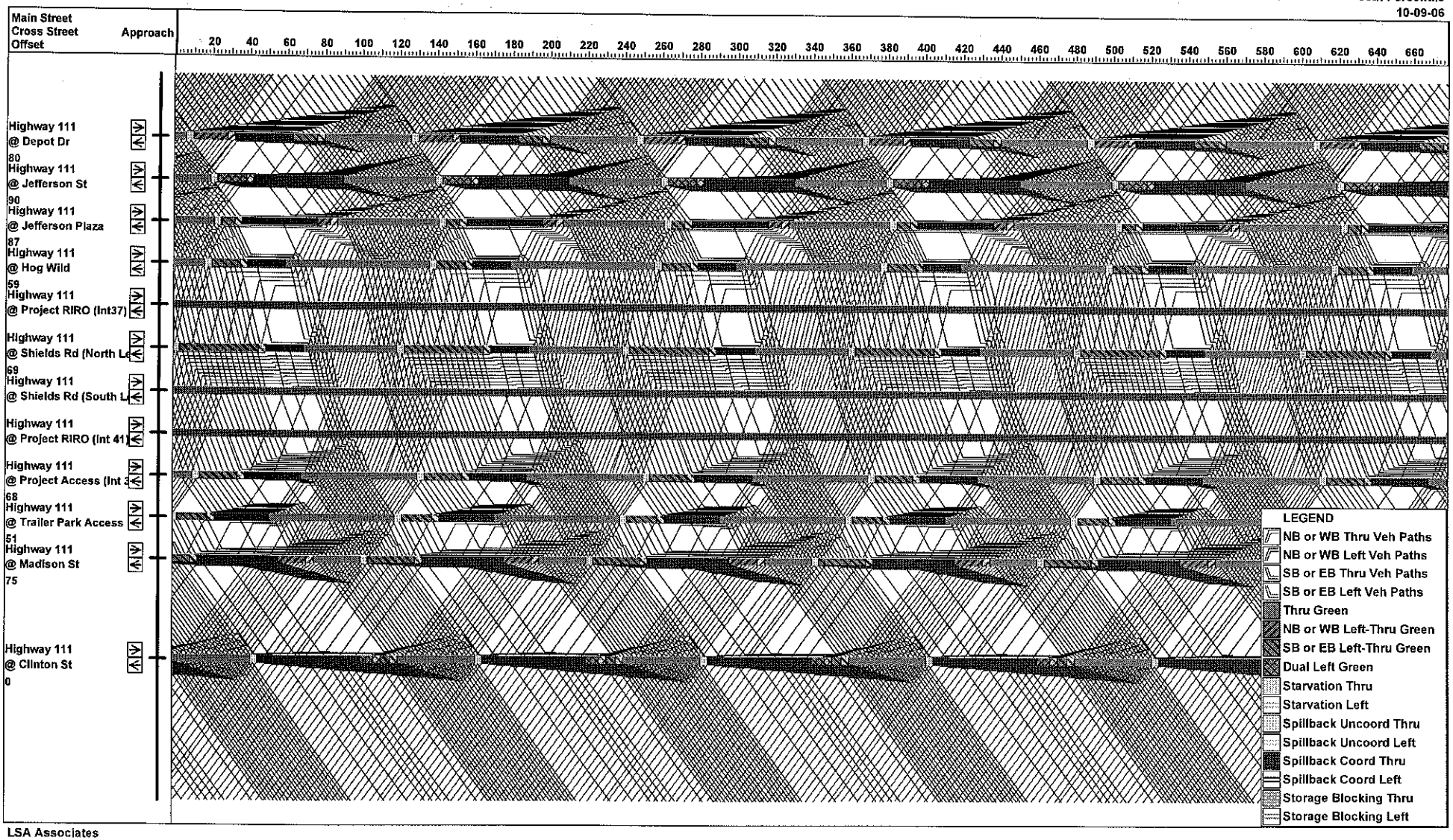
Intersection LOS Analysis Worksheet - 2010 Existing + Ambient + Cumulative + Project Conditions (Shields Realignment)

ID	Cross Street #1	Cross Street #2	Baseline / Improvements	Traffic Control	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	PM Delay (seconds)	PM Level of Service
1	Washington St.	Fred Waring Dr.	Existing Shields / Shields Realignment	TS	2	2	1	1	1.5	0.5	2	3	1	2	3	1	40.3 / 39.9	D / D
2	Washington St.	Miles Ave.	Existing Shields / Shields Realignment	TS	1	1.5	0.5	2	1.5	0.5	1	3	1	1	3	1	22.4 / 17.6	C / B
3	Washington St.	Highway 111	Existing Shields / Shields Realignment	TS	2	3	1	2	3	1	2	3	1	2	2.5	0.5	52.0 / 51.5	D / D
4	Dune Palms Rd.	Highway 111	Existing Shields / Shields Realignment	TS	1	2.5	0.5	1	2.5	0.5	1	1	1	1	2	1	42.1 / 41.3	D / D
5	Jefferson St.	Indio Blvd.	Existing Shields / Shields Realignment	TS	0	2	1	1	2	0	2	0	1	0	0	0	15.8 / 15.8	B / B
6	Jefferson St.	Fred Waring Dr.	Existing Shields / Shields Realignment	TS	1	2.5	0.5	2	2.5	0.5	1	3	1	1	3	1	31.5 / 31.9	C / C
7	Jefferson St.	Miles Ave.	Existing Shields / Shields Realignment	TS	1	1.5	0.5	1	1.5	0.5	1	3	1	1	3	1	37.5 / 34.2	D / C
8	Jefferson St.	Westward Ho Dr.	Existing Shields / Shields Realignment	TS	1	0.5	0.5	0.33	0.33	0.33	1	3	1	1	3	1	10.6 / 10.9	B / B
9	Jefferson St.	Highway 111	Existing Shields / Shields Realignment	TS	2	3	1	2	3	1	2	3	1	2	3	1	26.6 / 27.4	C / C
10	Jefferson St.	Avenue 48	Existing Shields / Shields Realignment	TS	1	1	1	1	1.5	0.5	2	3	1	1	3	1	47.3 / 47.8	D / D
11	Jefferson St.	Avenue 50	Existing Shields / Shields Realignment	TS	1	1	1	1	1	1	1	3	1	1	3	1	27.1 / 27.1	C / C
12	Shields Rd.South leg	Highway 111	Existing Shields	TS	1	2.5	0.5	1	2.5	0.5	0.33	0.33	0.33	0.5	1	0.5	n/a	n/a
			Shields Realignment	TWSC	0	2.5	0.5	1	3	0	0.5	0	0.5	0	0	0	3.4	N/A[1]
13	Shields Rd.	Aveune 48	Existing Shields / Shields Realignment	TS	1	3	1	1	1.5	0.5	0.33	0.33	0.33	0.33	0.33	0.33	12.0 / 12.3	B / B
14	Madison St.	Miles Ave.	Existing Shields / Shields Realignment	TS	0	1.5	0.5	1	2	0	1	0	1	0	0	0	18.7 / 18.4	B / B
15	Madison St.	Avenue 46	Existing Shields / Shields Realignment	TS	0.33	0.33	0.33	0.5	1	0.5	1	0.5	0.5	1	0.5	0.5	27.4 / 27.8	C / C
16	Madison St.	Highway 111	Existing Shields / Shields Realignment	TS	1	3	1	1	3	1	1	0.5	0.5	1	0.5	0.5	44.5 / 44.6	D / D
17	Madison St.	Avenue 48	Existing Shields / Shields Realignment	TS	1	2	1	1	1.5	0.5	1	2	1	1	1.5	0.5	18.5 / 18.7	B / B
18	Clinton St./Dr. Carreon Blvd.	Highway 111	Existing Shields / Shields Realignment	TS	1	2.5	0.5	1	2.5	0.5	1.5	1	0.5	1	1.5	0.5	36.8 / 36.5	D / D
19	Monroe St.	Fred Waring Dr.	Existing Shields / Shields Realignment	TS	2	1	1	1	1	1	1	1.5	0.5	1	1.5	0.5	25.3 / 25.2	C / C
20	Monroe St.	Miles Ave.	Existing Shields / Shields Realignment	TS	1	1	1	1	0.5	0.5	1	1.5	0.5	1	1.5	0.5	30.8 / 30.7	C / C
21	Monroe St.	Requa Ave./Shadow Palm Ave.	Existing Shields / Shields Realignment	TS	0.33	0.33	0.33	0.33	0.33	0.33	1	1.5	0.5	1	1.5	0.5	20.7 / 20.3	C / C
22	Monroe St.	Highway 111	Existing Shields / Shields Realignment	TS	1	3	1	2	3	1	2	1.5	0.5	2	1.5	0.5	37.4 / 37.7	D / D
23	Monroe St.	Dr. Carreon Blvd.	Existing Shields / Shields Realignment	TS	1	2	1	1	2	1	2	1.5	0.5	2	2	1	51.2 / 51.4	D / D
24	Monroe St.	Aveune 48	Existing Shields / Shields Realignment	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	2	1	31.7 / 29.2	C / C
25	Monroe St.	Avenue 50	Existing Shields / Shields Realignment	TS	1	0.5	0.5	1	1	1	0.33	0.33	0.33	1	0.5	0.5	22.0 / 41.7	C / D
26	Fred Waring Drive	Adams Street	Existing Shields / Shields Realignment	TS	0	2	1	1	1	0	1	0	1	0	0	0	15.7 / 16.4	B / B
27	Fred Waring Drive	Dune Palms Road	Existing Shields / Shields Realignment	TS	0	1.5	0.5	1	1	0	1	0	1	0	0	0	8.7 / 8.5	A / A
28	Highway 111	Adams Street	Existing Shields / Shields Realignment	TS	1	3	1	1	3	1	2	2	1	2	2	1	25.8 / 26.9	C / C
29	Highway 111	La Quinta Center	Existing Shields / Shields Realignment	TS	1	3	1	1	2.5	0.5	0.5	1	0.5	1	0.5	0.5	23.9 / 23.8	C / C
30	Highway 111	Depot Drive/Costco	Existing Shields / Shields Realignment	TS	1	2.5	0.5	1	2.5	0.5	1.5	0.5	1	0.33	0.33	0.33	30.8 / 30.1	D / C
31	Jefferson St.	Vista Grande	Existing Shields / Shields Realignment	TS	0.33	0.33	0.33	0.33	0.33	0.33	1	3	1	1	3	1	2.6 / 2.3	A / A
32	Miles Avenue	Adams Street	Existing Shields / Shields Realignment	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	18.0 / 17.3	B / B
33	Miles Avenue	Dune Palms Road	Existing Shields / Shields Realignment	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	18.2 / 18.2	B / B
34	Washington St.	Channel Drive	Existing Shields / Shields Realignment	TS	0.33	0.33	0.33	0.5	0.5	1	1	2.5	0.5	1	2.5	0.5	11.5 / 18.3	B / B
35	Washington St.	Avenue 47/Highland Palms	Existing Shields / Shields Realignment	TS	0.33	0.33	0.33	0.5	0.5	1	1	2.5	0.5	1	2.5	0.5	4.2 / 4.3	A / A
36	Washington St.	Avenue 48	Existing Shields / Shields Realignment	TS	0	0	0	2	0	1	0	2.5	0.5	1	3	0	30.6 / 30.5	C / C
37	Highway 111	right-in/right-out site access	Existing Shields / Shields Realignment	RIRO	0	3	0	0	2.5	0.5	0	0	0	0	0	1	0.1 / 0.0	B/A[1] / B/A[1]
38	Shields Rd.	north project circulation rd	Existing Shields / Shields Realignment	AWS	0.33	0.33	0.33	0.33	0.33	0.33	0.5	1	0.5	0.5	1	0.5	13.5 / 13.5	B/B[1] / B/B[1]
39	Highway 111	unnamed	Existing Shields / Shields Realignment	TS	1	3	0	0	2.5	0.5	0	0	0	0.5	0	0.5	11.0 / 11.2	B / B
40	Highway 111	unnamed	Existing Shields / Shields Realignment	TS	1	3	0	0	2.5	0.5	0	0	0	0.5	0	0.5	6.9 / 6.9	A / A
41	Highway 111	unnamed	Existing Shields / Shields Realignment	RIRO	0	3	0	0	2.5	0.5	0	0	0	0	0	1	0.4 / 0.4	B/A[1] / B/A[1]
42	Highway 111	Shields North leg	Existing Shields		0	3	0	0	3	0	0	0	0	0	0	0	n/a	n/a
			Shields Realignment	TS	1	3	0	0	2.5	0.5	0	0	0	1	0	1	40.7	D

Notes: [1] HCM LOS analysis procedures do not apply for this type of unsignalized intersection. Figures shown are ICU intersection LOS/HCM intersection LOS based on average intersection delay where available.
(shaded) Changes in intersection configurations and traffic controls due to Shields Realignment

Polo Square 2010 E+A+C+P Network (Shields Realignment)

90th Percentile
10-09-06



LSA Associates

APPENDIX I

WEEKEND SENSITIVITY ANALYSIS ADJUSTMENT WORKSHEET

Polo Square Traffic Study
Weekend Sensitivity Analysis Adjustments

Isolated (Actuated, Uncoordinated) Signal Analysis

	2010 Background Traffic (Existing + Ambient + Cumulative)				2010 Background plus Project Traffic (Existing + Ambient + Cumulative + Project)			
	Weekday PM Peak Hour		Saturday Afternoon PM Peak Hour		Weekday PM Peak Hour		Saturday Afternoon PM Peak Hour	
ID	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
#3	57.8	E	47.7	D	58.3	E	52.1	D
#9	38.9	D	60.8	E	50.0	D	81.5	F
#16	47.8	D	30.7	C	57.0	E	32.6	C
#22	40.5	D	34.7	C	45.3	D	38.8	D

System Level Analysis Adjustment

	2010 Background Traffic (Existing + Ambient + Cumulative)				2010 Background plus Project Traffic (Existing + Ambient + Cumulative + Project)			
	Weekday PM Peak Hour		Saturday Afternoon PM Peak Hour		Weekday PM Peak Hour		Saturday Afternoon PM Peak Hour	
ID	Delay	LOS	Adjusted Delay	Adjusted LOS	Delay	LOS	Adjusted Delay	Adjusted LOS
#3	51.7	D	42.7	D	52.0	D	46.5	D
#9	35.1	D	54.9	D	28.6	C	46.6	D
#16	40.3	D	25.9	C	44.5	D	25.5	C
#22	32.2	C	27.6	C	37.4	D	32.0	C