



APPENDIX D

FUTURE TRAFFIC ANALYSIS

Chapman Highway - Growth Rates and Growth Factors

	Year	Annual Growth Rate	Growth Factor
Existing	2018	---	
Horizon 1	2025	2%	1.15
Horizon 2	2040	1%	1.33

Level of Service and Average Vehicle Delay - HCM 6 Results - AM Peak Hour

			Existing 2018		Horizon 2025		Horizon 2040	
			Level of Service	Control Delay	Level of Service	Control Delay	Level of Service	Control Delay
1	Chapman Hwy at Blount Ave	Intersection	D	38.1	D	45.0	E	62.1
2	Chapman Hwy at Fort Ave	Intersection	A	1.7	A	2.1	A	3.5
3	Chapman Hwy at Lippencott St	Intersection	A	7.0	A	6.9	A	7.7
4	Chapman Hwy at Fort Dickerson Rd / Woodlawn Pk (north)	Intersection	C	22.4	C	30.3	E	61.8
5	Chapman Hwy at Martin Mill Pk	Intersection	B	11.7	B	14.0	B	19.6
6	Chapman Hwy at Taliwa Ct	Intersection	A	2.8	A	2.8	A	2.7
7	Chapman Hwy at Moody Ave	Intersection	B	17.5	B	19.3	C	22.4
8	Chapman Hwy at Young High Pk	Intersection	B	12.2	B	12.5	C	22.7
9	Chapman Hwy at Woodlawn Pk (south)	Intersection	A	9.3	B	11.0	C	31.9
10	Chapman Hwy at Overbrook Dr / Fronda Ln	Intersection	A	8.5	B	10.8	C	23.4
11	Chapman Hwy at Stone Rd	Intersection	B	16.1	C	31.9	E	73.7
12	Chapman Hwy at Colonial Dr	Intersection	B	11.5	B	14.2	C	21.4
13	Chapman Hwy at Chapman Ford Crossing	Intersection	A	7.3	A	8.6	B	11.1
14	Chapman Hwy at Chapman Plaza	Intersection	A	2.3	A	2.5	A	2.4
15	Chapman Hwy at Green Rd	Intersection	B	12.9	B	15.5	C	26.7
16	Chapman Hwy at Majestic Grove Blvd	Intersection	B	19.5	C	22.0	C	28.4
17	Chapman Hwy at Mountain Grove Dr	Intersection	A	9.8	B	12.7	C	23.6
18	Chapman Hwy at East Martin Mill Pk (north)	Eastbound STOP	C	19.0	C	24.5	E	37.8
		Westbound STOP	C	18.4	C	22.3	D	29.7
19	Chapman Hwy at Red Bud Rd	Eastbound STOP	F	282.5	F	608.3	F	1608.1
		Westbound STOP	C	19.5	C	24.7	E	35.2
20	Chapman Hwy at Lake Forest Dr	Eastbound STOP	E	44.7	F	69.5	F	117.2
		Westbound STOP	D	26.5	E	39.7	F	67.2
21	Chapman Hwy at Linford Rd / Lindy Dr	Eastbound STOP	F	51.2	F	100.6	F	324.6
		Westbound STOP	F	56.4	F	202.2	F	863.4
22	Chapman Hwy at Ford Valley Rd	Eastbound STOP	C	15.8	C	19.3	E	37.4
		Westbound STOP	D	25.8	E	38.1	F	126.0
23	Chapman Hwy at West Dick Ford Ln	Eastbound STOP	F	65.4	F	180.2	F	584.8

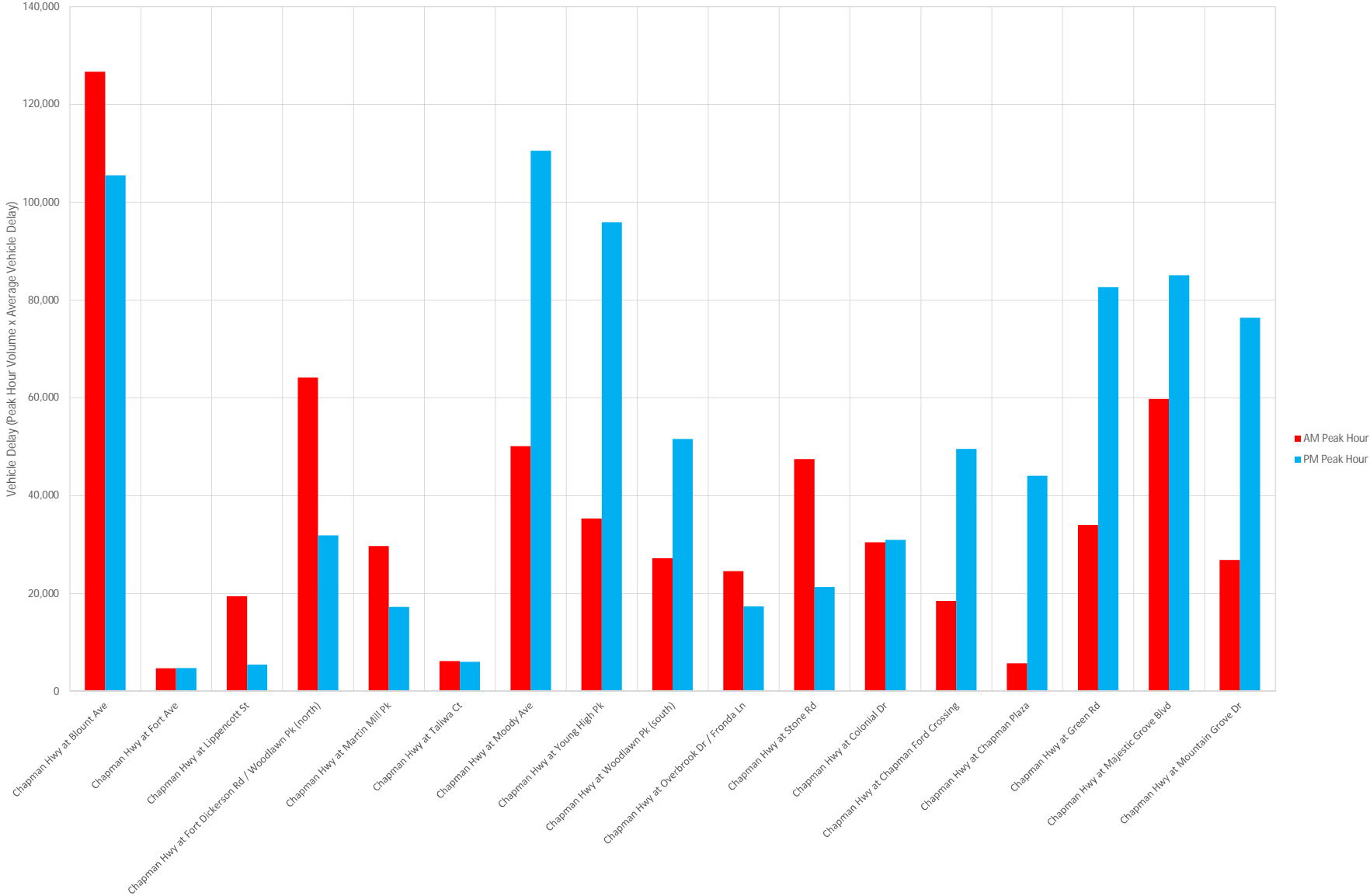
Existing 2018		Horizon 2025		Horizon 2040	
Volume (veh)	Delay (veh-sec)	Volume (veh)	Delay (veh-sec)	Volume (veh)	Delay (veh-sec)
3,324	126,644.0	3,823	172,035.0	4,421	274,544.0
2,777	4,721.0	3,194	6,707.0	3,693	12,926.0
2,778	19,446.0	3,195	22,046.0	3,695	28,452.0
2,862	64,109.0	3,291	99,717.0	3,806	235,211.0
2,536	29,671.0	2,916	40,824.0	3,373	66,111.0
2,208	6,182.0	2,539	7,109.0	2,937	7,930.0
2,865	50,138.0	3,295	63,594.0	3,810	85,344.0
2,894	35,307.0	3,328	41,600.0	3,849	87,372.0
2,924	27,193.0	3,363	36,993.0	3,889	124,059.0
2,890	24,565.0	3,324	35,899.0	3,844	89,950.0
2,949	47,479.0	3,391	108,173.0	3,922	289,051.0
2,648	30,452.0	3,045	43,239.0	3,522	75,371.0
2,530	18,469.0	2,910	25,026.0	3,365	37,352.0
2,477	5,697.0	2,849	7,123.0	3,294	7,906.0
2,636	34,004.0	3,031	46,981.0	3,506	93,610.0
3,066	59,787.0	3,526	77,572.0	4,078	115,815.0
2,742	26,872.0	3,153	40,043.0	3,647	86,069.0
77	1,463.0	89	2,181.0	102	3,856.0
44	810.0	51	1,137.0	59	1,752.0
1	283.0	1	608.0	1	1,608.0
21	410.0	24	593.0	28	986.0
5	224.0	6	417.0	7	820.0
10	265.0	12	476.0	13	874.0
12	614.0	14	1,408.0	16	5,194.0
98	5,527.0	113	22,849.0	130	112,242.0
35	553.0	40	772.0	47	1,758.0
19	490.0	22	838.0	25	3,150.0
62	4,055.0	71	12,794.0	82	47,954.0

Level of Service and Average Vehicle Delay - HCM 6 Results - PM Peak Hour

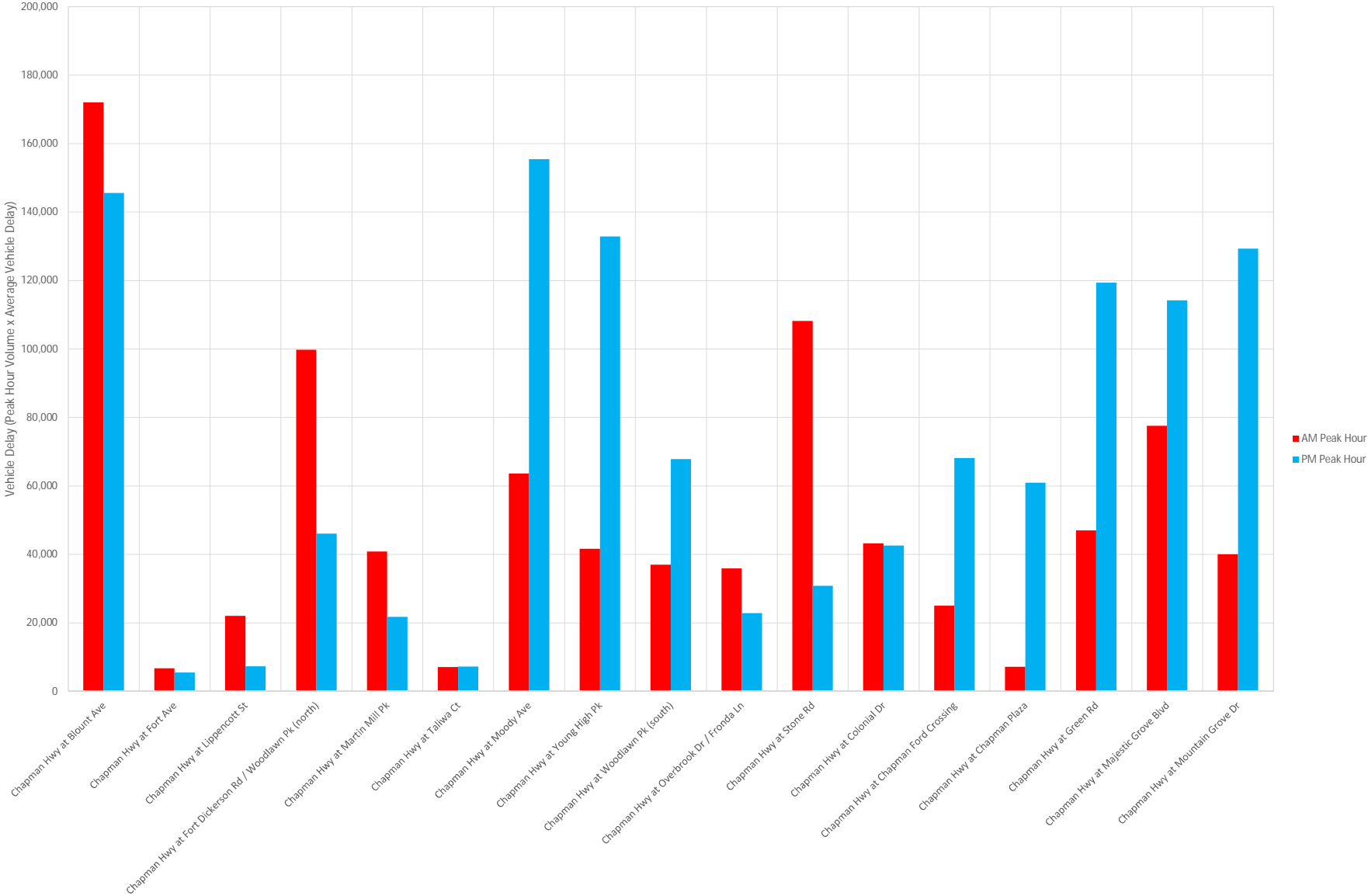
			Existing 2018		Horizon 2025		Horizon 2040	
			Level of Service	Control Delay	Level of Service	Control Delay	Level of Service	Control Delay
1	Chapman Hwy at Blount Ave	Intersection	C	29.5	D	35.4	D	53.9
2	Chapman Hwy at Fort Ave	Intersection	A	1.6	A	1.6	A	1.4
3	Chapman Hwy at Lippencott St	Intersection	A	1.9	A	2.2	A	3.0
4	Chapman Hwy at Fort Dickerson Rd / Woodlawn Pk (north)	Intersection	B	10.9	B	13.7	C	21.8
5	Chapman Hwy at Martin Mill Pk	Intersection	A	6.3	A	6.9	A	7.6
6	Chapman Hwy at Taliwa Ct	Intersection	A	2.5	A	2.6	A	2.8
7	Chapman Hwy at Moody Ave	Intersection	C	35.0	D	42.8	D	53.3
8	Chapman Hwy at Young High Pk	Intersection	C	29.3	D	35.3	E	61.3
9	Chapman Hwy at Woodlawn Pk (south)	Intersection	B	16.0	B	18.3	C	23.3
10	Chapman Hwy at Overbrook Dr / Fronda Ln	Intersection	A	5.6	A	6.4	A	8.1
11	Chapman Hwy at Stone Rd	Intersection	A	7.0	A	8.8	B	12.5
12	Chapman Hwy at Colonial Dr	Intersection	B	10.7	B	12.8	C	20.5
13	Chapman Hwy at Chapman Ford Crossing	Intersection	B	17.4	C	20.8	C	26.6
14	Chapman Hwy at Chapman Plaza	Intersection	B	15.8	B	19.0	C	27.5
15	Chapman Hwy at Green Rd	Intersection	C	25.0	C	31.4	D	46.4
16	Chapman Hwy at Majestic Grove Blvd	Intersection	C	25.1	C	29.3	D	41.9
17	Chapman Hwy at Mountain Grove Dr	Intersection	C	24.2	D	35.6	E	69.3
18	Chapman Hwy at East Martin Mill Pk (north)	Eastbound STOP	E	44.7	F	88.4	F	259.0
		Westbound STOP	B	14.2	C	16.1	C	19.2
19	Chapman Hwy at Red Bud Rd	Eastbound STOP	F	1747.9	F	5897.5	F	6140.9
		Westbound STOP	D	26.9	D	31.4	E	49.8
20	Chapman Hwy at Lake Forest Dr	Eastbound STOP	F	133.2	F	298.5	F	936.5
		Westbound STOP	E	37.8	F	68.7	F	281.1
21	Chapman Hwy at Linford Rd / Lindy Dr	Eastbound STOP	F	275.6	F	1108.3	F	5741.3
		Westbound STOP	F	91.9	F	9999.9	F	9999.9
22	Chapman Hwy at Ford Valley Rd	Eastbound STOP	D	26.9	E	41.8	F	9999.9
		Westbound STOP	F	93.5	F	241.0	F	1945.6
23	Chapman Hwy at West Dick Ford Ln	Eastbound STOP	F	337.6	F	920.5	F	3381.3

	Existing 2018		Horizon 2025		Horizon 2040	
	Volume (veh)	Delay (veh-sec)	Volume (veh)	Delay (veh-sec)	Volume (veh)	Delay (veh-sec)
3,576	105,492.0	4,112	145,565.0	4,756	256,348.0	
2,963	4,741.0	3,407	5,451.0	3,941	5,517.0	
2,886	5,483.0	3,319	7,302.0	3,838	11,514.0	
2,923	31,861.0	3,361	46,046.0	3,888	84,758.0	
2,741	17,268.0	3,152	21,749.0	3,646	27,710.0	
2,411	6,028.0	2,773	7,210.0	3,207	8,980.0	
3,157	110,495.0	3,631	155,407.0	4,199	223,807.0	
3,273	95,899.0	3,764	132,869.0	4,353	266,839.0	
3,223	51,568.0	3,706	67,820.0	4,287	99,887.0	
3,099	17,354.0	3,564	22,810.0	4,122	33,388.0	
3,047	21,329.0	3,504	30,835.0	4,053	50,663.0	
2,893	30,955.0	3,327	42,586.0	3,848	78,884.0	
2,849	49,573.0	3,276	68,141.0	3,789	100,787.0	
2,789	44,066.0	3,207	60,933.0	3,709	101,998.0	
3,304	82,600.0	3,800	119,320.0	4,394	203,882.0	
3,389	85,064.0	3,897	114,182.0	4,507	188,843.0	
3,157	76,399.0	3,631	129,264.0	4,199	290,991.0	
64	2,861.0	74	6,542.0	85	22,015.0	
63	895.0	72	1,159.0	84	1,613.0	
2	3,496.0	2	11,795.0	3	18,423.0	
26	699.0	30	942.0	35	1,743.0	
8	1,066.0	9	2,687.0	11	10,302.0	
8	302.0	9	618.0	11	3,092.0	
28	7,717.0	32	35,466.0	37	212,428.0	
58	5,330.0	67	669,993.0	77	769,992.0	
29	780.0	33	1,379.0	39	389,996.0	
15	1,403.0	17	4,097.0	20	38,912.0	
25	8,440.0	29	26,695.0	33	111,583.0	

Chapman Highway Implementation Plan - Signalized Intersections - Existing 2018 Vehicle Delay



Chapman Highway Implementation Plan - Signalized Intersections - Horizon 2025 Vehicle Delay



Chapman Highway Implementation Plan - Signalized Intersections - Horizon 2040 Vehicle Delay

