

Appendix I: Freeman Square, Alternatives One and Two

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	75	83	35	0	0	0	10	199	59	87	258	75
Future Vol, veh/h	75	83	35	0	0	0	10	199	59	87	258	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	97	41	0	0	0	12	231	69	101	300	87
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.2	12.3	17.9
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	4%	39%	21%
Vol Thru, %	74%	43%	61%
Vol Right, %	22%	18%	18%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	268	193	420
LT Vol	10	75	87
Through Vol	199	83	258
RT Vol	59	35	75
Lane Flow Rate	312	224	488
Geometry Grp	1	1	1
Degree of Util (X)	0.447	0.365	0.678
Departure Headway (Hd)	5.164	5.855	5
Convergence, Y/N	Yes	Yes	Yes
Cap	698	615	723
Service Time	3.198	3.893	3.03
HCM Lane V/C Ratio	0.447	0.364	0.675
HCM Control Delay	12.3	12.2	17.9
HCM Lane LOS	B	B	C
HCM 95th-tile Q	2.3	1.7	5.3

Freeman Square
No Build and Alternative One

PM
09/22/2023

Intersection	
Intersection Delay, s/veh	28.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	177	108	23	0	0	0	40	362	43	73	208	102
Future Vol, veh/h	177	108	23	0	0	0	40	362	43	73	208	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	206	126	27	0	0	0	47	421	50	85	242	119
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	22	35.5	24.9
HCM LOS	C	E	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	9%	57%	19%
Vol Thru, %	81%	35%	54%
Vol Right, %	10%	7%	27%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	445	308	383
LT Vol	40	177	73
Through Vol	362	108	208
RT Vol	43	23	102
Lane Flow Rate	518	358	445
Geometry Grp	1	1	1
Degree of Util (X)	0.862	0.664	0.747
Departure Headway (Hd)	5.997	6.669	6.039
Convergence, Y/N	Yes	Yes	Yes
Cap	606	541	597
Service Time	4.037	4.709	4.082
HCM Lane V/C Ratio	0.855	0.662	0.745
HCM Control Delay	35.5	22	24.9
HCM Lane LOS	E	C	C
HCM 95th-tile Q	9.7	4.9	6.6

Intersection				
Intersection Delay, s/veh	8.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	225	0	312	488
Demand Flow Rate, veh/h	230	0	318	498
Vehicles Circulating, veh/h	409	337	291	12
Vehicles Exiting, veh/h	101	272	348	325
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	125	78	83	125
Ped Cap Adj	0.978	0.989	0.989	0.972
Approach Delay, s/veh	8.8	0.0	9.0	8.5
Approach LOS	A	-	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	T	LTR	LTR
Assumed Moves	LTR	T	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	230	0	318	498
Cap Entry Lane, veh/h	751	807	845	1116
Entry HV Adj Factor	0.979	1.000	0.982	0.980
Flow Entry, veh/h	225	0	312	488
Cap Entry, veh/h	719	798	820	1064
V/C Ratio	0.313	0.000	0.381	0.459
Control Delay, s/veh	8.8	4.5	9.0	8.5
LOS	A	A	A	A
95th %tile Queue, veh	1	0	2	2

Intersection				
Intersection Delay, s/veh	14.2			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	359	0	514	437
Demand Flow Rate, veh/h	367	0	524	446
Vehicles Circulating, veh/h	334	683	426	44
Vehicles Exiting, veh/h	156	267	275	639
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	145	88	145	131
Ped Cap Adj	0.968	0.988	0.970	0.969
Approach Delay, s/veh	11.1	0.0	21.4	8.2
Approach LOS	B	-	C	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	T	LTR	LTR
Assumed Moves	LTR	T	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	367	0	524	446
Cap Entry Lane, veh/h	809	571	738	1081
Entry HV Adj Factor	0.979	1.000	0.980	0.980
Flow Entry, veh/h	359	0	514	437
Cap Entry, veh/h	767	564	702	1027
V/C Ratio	0.469	0.000	0.732	0.426
Control Delay, s/veh	11.1	6.4	21.4	8.2
LOS	B	A	C	A
95th %tile Queue, veh	3	0	6	2