




















## **APPENDIX C**

### **Intersection Capacity Analyses No Build and Alternative Scenarios 2030 AM & PM Peak Hours**



Lanes, Volumes, Timings  
3: S Main St/North St & Union St

08/31/2022

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	30	736	52	14	394	231	314	298	44	37	127	69
Future Volume (vph)	30	736	52	14	394	231	314	298	44	37	127	69
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	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor												
Frt		0.990				0.850		0.981				0.850
Flt Protected		0.998			0.998		0.950				0.989	
Satd. Flow (prot)	0	3333	0	0	3336	1495	1719	1775	0	0	3246	1468
Flt Permitted		0.921			0.912		0.539				0.769	
Satd. Flow (perm)	0	3076	0	0	3048	1495	975	1775	0	0	2524	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				246		7				95
Link Speed (mph)		30			30			30				30
Link Distance (ft)		360			280			600				451
Travel Time (s)		8.2			6.4			13.6				10.3
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.85	0.85	0.85	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	5%	5%	5%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	32	791	56	15	419	246	369	351	52	45	153	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	879	0	0	434	246	369	403	0	0	198	83
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Prot	pm+pt	NA		Perm	NA	Perm
Protected Phases		2			6	6	7	4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	2	2		6	6	6	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	38.0	38.0		38.0	38.0	38.0	15.0	30.0		15.0	15.0	15.0
Minimum Split (s)	44.0	44.0		44.0	44.0	44.0	22.0	37.0		25.0	25.0	25.0
Total Split (s)	46.0	46.0		46.0	46.0	46.0	22.0	47.0		25.0	25.0	25.0
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	18.3%	39.2%		20.8%	20.8%	20.8%

Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

08/31/2022

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	23%

Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

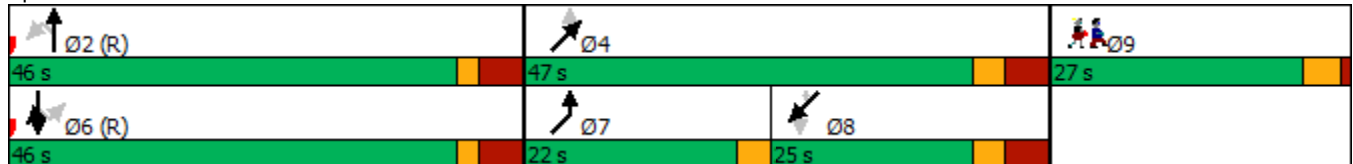
08/31/2022

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Yellow Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	4.0	4.0		4.0	4.0	4.0	0.0	4.0		4.0	4.0	4.0
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)		6.0			6.0	6.0	3.0	7.0			7.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	Max		Max	Max	Max
Act Effct Green (s)		67.0			67.0	67.0	44.0	40.0			18.2	18.2
Actuated g/C Ratio		0.56			0.56	0.56	0.37	0.33			0.15	0.15
v/c Ratio		0.51			0.26	0.26	0.78	0.68			0.52	0.27
Control Delay		17.6			12.6	2.8	44.0	40.6			52.4	9.4
Queue Delay		0.0			0.6	0.6	0.0	0.0			0.0	0.0
Total Delay		17.6			13.1	3.4	44.0	40.6			52.4	9.4
LOS		B			B	A	D	D			D	A
Approach Delay		17.6			9.6			42.2			39.7	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)		210			86	31	229	263			75	0
Queue Length 95th (ft)		264			132	53	306	348			106	29
Internal Link Dist (ft)		280			200			520			371	
Turn Bay Length (ft)												
Base Capacity (vph)		1720			1701	943	475	596			382	302
Starvation Cap Reductn		0			853	394	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			0.51	0.45	0.78	0.68			0.52	0.27

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 25.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 98.3%  
 ICU Level of Service F  
 Analysis Period (min) 15




















Splits and Phases: 3: S Main St/North St & Union St



Lane Group	Ø9
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

08/31/2022

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	38	531	38	30	716	344	240	190	54	79	340	94
Future Volume (vph)	38	531	38	30	716	344	240	190	54	79	340	94
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	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor												
Frt		0.991				0.850		0.967				0.850
Flt Protected		0.997			0.998		0.950				0.991	
Satd. Flow (prot)	0	3333	0	0	3336	1495	1719	1750	0	0	3252	1468
Flt Permitted		0.848			0.901		0.211				0.817	
Satd. Flow (perm)	0	2835	0	0	3012	1495	382	1750	0	0	2681	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				366		13				113
Link Speed (mph)		30			30			30				30
Link Distance (ft)		360			280			600				451
Travel Time (s)		8.2			6.4			13.6				10.3
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.85	0.85	0.85	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	5%	5%	5%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	41	571	41	32	762	366	282	224	64	95	410	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	653	0	0	794	366	282	288	0	0	505	113
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Prot	pm+pt	NA		Perm	NA	Perm
Protected Phases		2			6	6	7	4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	2	2		6	6	6	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	38.0	38.0		38.0	38.0	38.0	15.0	30.0		15.0	15.0	15.0
Minimum Split (s)	44.0	44.0		44.0	44.0	44.0	22.0	37.0		25.0	25.0	25.0
Total Split (s)	44.0	44.0		44.0	44.0	44.0	22.0	49.0		27.0	27.0	27.0
Total Split (%)	36.7%	36.7%		36.7%	36.7%	36.7%	18.3%	40.8%		22.5%	22.5%	22.5%

Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

08/31/2022

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	23%

Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

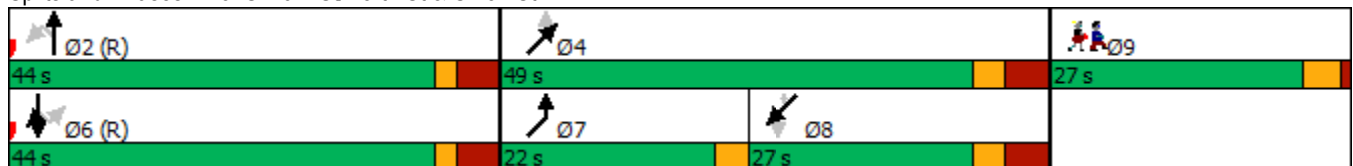
08/31/2022

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Yellow Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	4.0	4.0		4.0	4.0	4.0	0.0	4.0		4.0	4.0	4.0
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)		6.0			6.0	6.0	3.0	7.0			7.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	Max		Max	Max	Max
Act Effct Green (s)		65.0			65.0	65.0	46.0	42.0			21.0	21.0
Actuated g/C Ratio		0.54			0.54	0.54	0.38	0.35			0.18	0.18
v/c Ratio		0.42			0.49	0.37	0.81	0.46			1.08	0.32
Control Delay		17.3			16.2	2.9	47.0	31.8			111.4	10.6
Queue Delay		0.0			0.8	0.5	0.0	0.0			0.0	0.0
Total Delay		17.3			17.0	3.4	47.0	31.8			111.4	10.6
LOS		B			B	A	D	C			F	B
Approach Delay		17.3			12.7			39.3			93.0	
Approach LOS		B			B			D			F	
Queue Length 50th (ft)		150			193	49	159	164			~238	0
Queue Length 95th (ft)		196			264	61	#233	230			#308	41
Internal Link Dist (ft)		280			200			520			371	
Turn Bay Length (ft)												
Base Capacity (vph)		1538			1631	977	358	620			468	349
Starvation Cap Reductn		0			509	285	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		0.42			0.71	0.53	0.79	0.46			1.08	0.32

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.08  
 Intersection Signal Delay: 35.3      Intersection LOS: D  
 Intersection Capacity Utilization 99.0%      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: S Main St/North St & Union St





Lane Group	Ø9
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings  
6: Memorial Pkwy & N Main St

08/31/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	132	170	168	913	478	41	
Future Volume (vph)	132	170	168	913	478	41	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)	0	0	0			0	
Storage Lanes	1	1	0			0	
Taper Length (ft)	25		25				
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95	
Ped Bike Factor							
Frt		0.850			0.988		
Flt Protected	0.950			0.992			
Satd. Flow (prot)	1752	1568	0	3443	3272	0	
Flt Permitted	0.950			0.736			
Satd. Flow (perm)	1752	1568	0	2555	3272	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		227			10		
Link Speed (mph)	30			30	30		
Link Distance (ft)	589			280	457		
Travel Time (s)	13.4			6.4	10.4		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	3%	3%	4%	4%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	176	227	179	971	520	45	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	176	227	0	1150	565	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Turn Type	Prot	Prot	pm+pt	NA	NA		
Protected Phases	4	4	5	2	6	9	
Permitted Phases			2				
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	12.0	12.0	10.0	52.0	15.0	5.0	
Minimum Split (s)	16.5	16.5	12.0	57.0	20.0	22.0	
Total Split (s)	24.0	24.0	12.0	74.0	62.0	22.0	
Total Split (%)	20.0%	20.0%	10.0%	61.7%	51.7%	18%	

Lanes, Volumes, Timings  
6: Memorial Pkwy & N Main St

08/31/2022

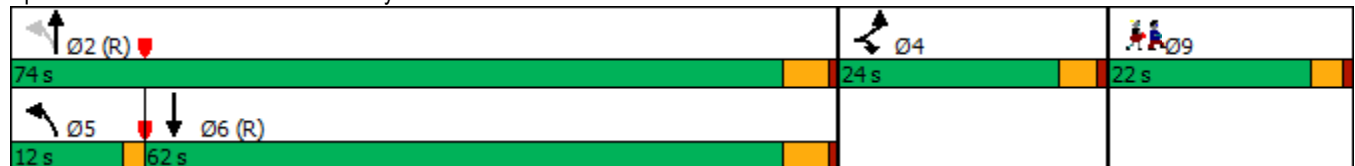


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Yellow Time (s)	3.5	3.5	2.0	4.0	4.0		3.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		
Total Lost Time (s)	4.5	4.5		5.0	5.0		
Lead/Lag			Lead		Lag		
Lead-Lag Optimize?			Yes		Yes		
Recall Mode	None	None	None	C-Max	C-Max		None
Act Effct Green (s)	16.6	16.6		93.9	93.9		
Actuated g/C Ratio	0.14	0.14		0.78	0.78		
v/c Ratio	0.73	0.55		0.58	0.22		
Control Delay	66.8	11.1		5.7	3.8		
Queue Delay	0.0	0.0		0.0	0.0		
Total Delay	66.8	11.1		5.8	3.8		
LOS	E	B		A	A		
Approach Delay	35.4			5.8	3.8		
Approach LOS	D			A	A		
Queue Length 50th (ft)	131	0		144	50		
Queue Length 95th (ft)	167	30		167	73		
Internal Link Dist (ft)	509			200	377		
Turn Bay Length (ft)							
Base Capacity (vph)	284	444		1999	2563		
Starvation Cap Reductn	0	0		70	0		
Spillback Cap Reductn	0	0		0	0		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	0.62	0.51		0.60	0.22		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 109 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 10.9  
 Intersection LOS: B  
 Intersection Capacity Utilization 79.9%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 6: Memorial Pkwy & N Main St



Lanes, Volumes, Timings  
6: Memorial Pkwy & N Main St

08/31/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	144	279	179	670	776	30	
Future Volume (vph)	144	279	179	670	776	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)	0	0	0			0	
Storage Lanes	1	1	0			0	
Taper Length (ft)	25		25				
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95	
Ped Bike Factor							
Frt		0.850			0.994		
Flt Protected	0.950			0.990			
Satd. Flow (prot)	1752	1568	0	3436	3292	0	
Flt Permitted	0.950			0.608			
Satd. Flow (perm)	1752	1568	0	2110	3292	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		372			4		
Link Speed (mph)	30			30	30		
Link Distance (ft)	589			280	457		
Travel Time (s)	13.4			6.4	10.4		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	3%	3%	4%	4%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	192	372	190	713	843	33	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	192	372	0	903	876	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Turn Type	Prot	Prot	pm+pt	NA	NA		
Protected Phases	4	4	5	2	6	9	
Permitted Phases			2				
Detector Phase	4	4	5	2	6		
Switch Phase							
Minimum Initial (s)	12.0	12.0	10.0	52.0	15.0	5.0	
Minimum Split (s)	16.5	16.5	12.0	57.0	20.0	22.0	
Total Split (s)	24.0	24.0	12.0	74.0	62.0	22.0	
Total Split (%)	20.0%	20.0%	10.0%	61.7%	51.7%	18%	

Lanes, Volumes, Timings  
6: Memorial Pkwy & N Main St

08/31/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Yellow Time (s)	3.5	3.5	2.0	4.0	4.0		3.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		
Total Lost Time (s)	4.5	4.5		5.0	5.0		
Lead/Lag			Lead		Lag		
Lead-Lag Optimize?			Yes		Yes		
Recall Mode	None	None	None	C-Max	C-Max		None
Act Effct Green (s)	17.0	17.0		93.5	93.5		
Actuated g/C Ratio	0.14	0.14		0.78	0.78		
v/c Ratio	0.77	0.69		0.55	0.34		
Control Delay	70.2	11.7		7.7	4.6		
Queue Delay	0.0	0.2		0.1	0.0		
Total Delay	70.2	11.9		7.8	4.6		
LOS	E	B		A	A		
Approach Delay	31.7			7.8	4.6		
Approach LOS	C			A	A		
Queue Length 50th (ft)	143	0		118	95		
Queue Length 95th (ft)	181	26		162	125		
Internal Link Dist (ft)	509			200	377		
Turn Bay Length (ft)							
Base Capacity (vph)	284	566		1643	2565		
Starvation Cap Reductn	0	0		78	0		
Spillback Cap Reductn	0	14		0	130		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	0.68	0.67		0.58	0.36		

Intersection Summary




















Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	109 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	12.4
Intersection LOS:	B
Intersection Capacity Utilization:	87.8%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 6: Memorial Pkwy & N Main St



Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

08/31/2022

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	30	736	52	14	394	231	314	298	44	37	127	69
Future Volume (vph)	30	736	52	14	394	231	314	298	44	37	127	69
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	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor												
Frt		0.990				0.850		0.981				0.850
Flt Protected		0.998			0.998		0.950				0.989	
Satd. Flow (prot)	0	3333	0	0	3336	1495	1719	1775	0	0	3246	1468
Flt Permitted		0.921			0.912		0.539				0.769	
Satd. Flow (perm)	0	3076	0	0	3048	1495	975	1775	0	0	2524	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				246		7				95
Link Speed (mph)		30			30			30				30
Link Distance (ft)		360			280			600				451
Travel Time (s)		8.2			6.4			13.6				10.3
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.85	0.85	0.85	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	5%	5%	5%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	32	791	56	15	419	246	369	351	52	45	153	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	879	0	0	434	246	369	403	0	0	198	83
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Prot	pm+pt	NA		Perm	NA	Perm
Protected Phases		2			6	6	7	4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	2	2		6	6	6	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	38.0	38.0		38.0	38.0	38.0	15.0	30.0		15.0	15.0	15.0
Minimum Split (s)	44.0	44.0		44.0	44.0	44.0	22.0	37.0		25.0	25.0	25.0
Total Split (s)	46.0	46.0		46.0	46.0	46.0	22.0	47.0		25.0	25.0	25.0
Total Split (%)	38.3%	38.3%		38.3%	38.3%	38.3%	18.3%	39.2%		20.8%	20.8%	20.8%













Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

08/31/2022

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	23%

Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

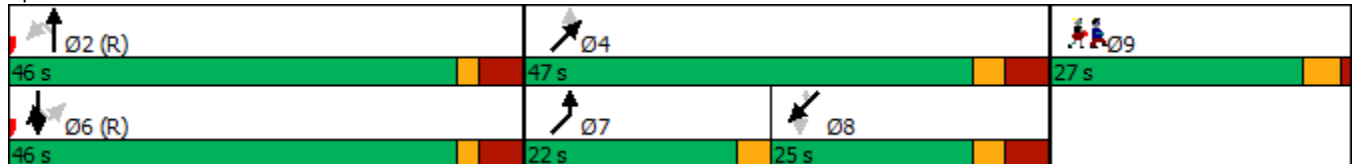
08/31/2022

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Yellow Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	4.0	4.0		4.0	4.0	4.0	0.0	4.0		4.0	4.0	4.0
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)		6.0			6.0	6.0	3.0	7.0			7.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	Max		Max	Max	Max
Act Effct Green (s)		67.0			67.0	67.0	44.0	40.0			18.2	18.2
Actuated g/C Ratio		0.56			0.56	0.56	0.37	0.33			0.15	0.15
v/c Ratio		0.51			0.26	0.26	0.78	0.68			0.52	0.27
Control Delay		17.6			9.8	1.1	44.0	40.6			52.4	9.4
Queue Delay		0.0			0.5	0.5	0.0	0.0			0.0	0.0
Total Delay		17.6			10.2	1.7	44.0	40.6			52.4	9.4
LOS		B			B	A	D	D			D	A
Approach Delay		17.6			7.1			42.2			39.7	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)		210			38	0	229	263			75	0
Queue Length 95th (ft)		264			64	3	306	348			106	29
Internal Link Dist (ft)		280			200			520			371	
Turn Bay Length (ft)												
Base Capacity (vph)		1720			1701	943	475	596			382	302
Starvation Cap Reductn		0			815	373	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			0.49	0.43	0.78	0.68			0.52	0.27

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 24.5  
 Intersection LOS: C  
 Intersection Capacity Utilization 98.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 3: S Main St/North St & Union St
























Lane Group	Ø9
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

08/31/2022

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	38	531	38	30	716	344	240	190	54	79	340	94
Future Volume (vph)	38	531	38	30	716	344	240	190	54	79	340	94
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	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor												
Frt		0.991				0.850		0.967				0.850
Flt Protected		0.997			0.998		0.950				0.991	
Satd. Flow (prot)	0	3333	0	0	3336	1495	1719	1750	0	0	3252	1468
Flt Permitted		0.848			0.901		0.211				0.817	
Satd. Flow (perm)	0	2835	0	0	3012	1495	382	1750	0	0	2681	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				366		13				113
Link Speed (mph)		30			30			30				30
Link Distance (ft)		360			280			600				451
Travel Time (s)		8.2			6.4			13.6				10.3
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.94	0.94	0.94	0.85	0.85	0.85	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	5%	5%	5%	10%	10%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	41	571	41	32	762	366	282	224	64	95	410	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	653	0	0	794	366	282	288	0	0	505	113
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Prot	pm+pt	NA		Perm	NA	Perm
Protected Phases		2			6	6	7	4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	2	2		6	6	6	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	38.0	38.0		38.0	38.0	38.0	15.0	30.0		15.0	15.0	15.0
Minimum Split (s)	44.0	44.0		44.0	44.0	44.0	22.0	37.0		25.0	25.0	25.0
Total Split (s)	44.0	44.0		44.0	44.0	44.0	22.0	49.0		27.0	27.0	27.0
Total Split (%)	36.7%	36.7%		36.7%	36.7%	36.7%	18.3%	40.8%		22.5%	22.5%	22.5%













Lanes, Volumes, Timings  
 3: S Main St/North St & Union St

08/31/2022

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	6.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	23%

Lanes, Volumes, Timings  
3: S Main St/North St & Union St

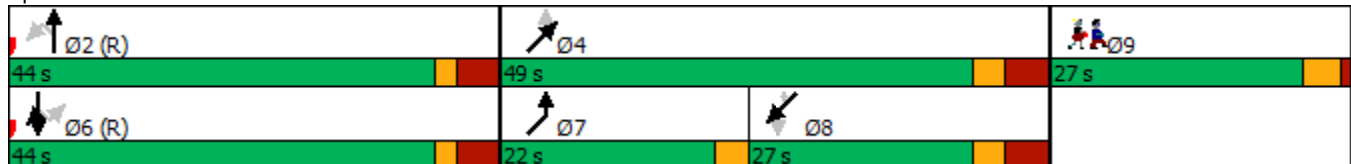
08/31/2022

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Yellow Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	4.0	4.0		4.0	4.0	4.0	0.0	4.0		4.0	4.0	4.0
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)		6.0			6.0	6.0	3.0	7.0			7.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	Max		Max	Max	Max
Act Effct Green (s)		65.0			65.0	65.0	46.0	42.0			21.0	21.0
Actuated g/C Ratio		0.54			0.54	0.54	0.38	0.35			0.18	0.18
v/c Ratio		0.42			0.49	0.37	0.81	0.46			1.08	0.32
Control Delay		17.3			13.4	1.3	47.0	31.8			111.4	10.6
Queue Delay		0.0			0.6	0.4	0.0	0.0			0.0	0.0
Total Delay		17.3			13.9	1.7	47.0	31.8			111.4	10.6
LOS		B			B	A	D	C			F	B
Approach Delay		17.3			10.1			39.3			93.0	
Approach LOS		B			B			D			F	
Queue Length 50th (ft)		150			162	0	159	164			~238	0
Queue Length 95th (ft)		196			235	5	#233	230			#308	41
Internal Link Dist (ft)		280			200			520			371	
Turn Bay Length (ft)												
Base Capacity (vph)		1538			1631	977	358	620			468	349
Starvation Cap Reductn		0			433	249	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		0.42			0.66	0.50	0.79	0.46			1.08	0.32

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.08  
 Intersection Signal Delay: 34.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 99.0%  
 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: S Main St/North St & Union St



Lane Group	Ø9
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings  
6: Memorial Pkwy & N Main St

08/31/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	132	170	168	913	478	41	
Future Volume (vph)	132	170	168	913	478	41	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)	0	0	0			0	
Storage Lanes	1	1	0			0	
Taper Length (ft)	25		25				
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95	
Ped Bike Factor							
Frt		0.850			0.988		
Flt Protected	0.950			0.992			
Satd. Flow (prot)	1752	1568	0	3443	3272	0	
Flt Permitted	0.950			0.718			
Satd. Flow (perm)	1752	1568	0	2492	3272	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		227			10		
Link Speed (mph)	30			30	30		
Link Distance (ft)	589			280	457		
Travel Time (s)	13.4			6.4	10.4		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	3%	3%	4%	4%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	176	227	179	971	520	45	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	176	227	0	1150	565	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Turn Type	Prot	pt+ov	pm+pt	NA	NA		
Protected Phases	4	4 5	5	2	6	9	
Permitted Phases			2				
Detector Phase	4	4 5	5	2	6		
Switch Phase							
Minimum Initial (s)	12.0		10.0	52.0	15.0	5.0	
Minimum Split (s)	16.5		12.0	57.0	20.0	22.0	
Total Split (s)	24.0		12.0	74.0	62.0	22.0	
Total Split (%)	20.0%		10.0%	61.7%	51.7%	18%	

# Lanes, Volumes, Timings

## 6: Memorial Pkwy & N Main St

08/31/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Yellow Time (s)	3.5		2.0	4.0	4.0		3.0
All-Red Time (s)	1.0		0.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0			0.0	0.0		
Total Lost Time (s)	4.5			5.0	5.0		
Lead/Lag			Lead		Lag		
Lead-Lag Optimize?			Yes		Yes		
Recall Mode	None		None	C-Max	C-Max		None
Act Effct Green (s)	16.6	28.6		93.9	81.9		
Actuated g/C Ratio	0.14	0.24		0.78	0.68		
v/c Ratio	0.73	0.42		0.57	0.25		
Control Delay	66.8	6.9		5.3	7.8		
Queue Delay	0.0	0.0		0.1	0.0		
Total Delay	66.8	6.9		5.4	7.8		
LOS	E	A		A	A		
Approach Delay	33.1			5.4	7.8		
Approach LOS	C			A	A		
Queue Length 50th (ft)	131	0		137	80		
Queue Length 95th (ft)	167	27		146	112		
Internal Link Dist (ft)	509			200	377		
Turn Bay Length (ft)							
Base Capacity (vph)	284	541		2005	2236		
Starvation Cap Reductn	0	0		129	0		
Spillback Cap Reductn	0	0		0	0		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	0.62	0.42		0.61	0.25		

### Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	109 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	11.3
Intersection LOS:	B
Intersection Capacity Utilization:	79.9%
ICU Level of Service:	D
Analysis Period (min):	15

### Splits and Phases: 6: Memorial Pkwy & N Main St



Lanes, Volumes, Timings  
6: Memorial Pkwy & N Main St

08/31/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Lane Configurations							
Traffic Volume (vph)	144	279	179	670	776	30	
Future Volume (vph)	144	279	179	670	776	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)	0	0	0			0	
Storage Lanes	1	1	0			0	
Taper Length (ft)	25		25				
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95	
Ped Bike Factor							
Frt		0.850			0.994		
Flt Protected	0.950			0.990			
Satd. Flow (prot)	1752	1568	0	3436	3292	0	
Flt Permitted	0.950			0.591			
Satd. Flow (perm)	1752	1568	0	2051	3292	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		341			4		
Link Speed (mph)	30			30	30		
Link Distance (ft)	589			280	457		
Travel Time (s)	13.4			6.4	10.4		
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.75	0.75	0.94	0.94	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	3%	3%	4%	4%	9%	9%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	192	372	190	713	843	33	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	192	372	0	903	876	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Turn Type	Prot	pt+ov	pm+pt	NA	NA		
Protected Phases	4	4 5	5	2	6	9	
Permitted Phases			2				
Detector Phase	4	4 5	5	2	6		
Switch Phase							
Minimum Initial (s)	12.0		10.0	52.0	15.0	5.0	
Minimum Split (s)	16.5		12.0	57.0	20.0	22.0	
Total Split (s)	24.0		12.0	74.0	62.0	22.0	
Total Split (%)	20.0%		10.0%	61.7%	51.7%	18%	



Lanes, Volumes, Timings  
6: Memorial Pkwy & N Main St

08/31/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø9
Yellow Time (s)	3.5		2.0	4.0	4.0		3.0
All-Red Time (s)	1.0		0.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0			0.0	0.0		
Total Lost Time (s)	4.5			5.0	5.0		
Lead/Lag			Lead		Lag		
Lead-Lag Optimize?			Yes		Yes		
Recall Mode	None		None	C-Max	C-Max		None
Act Effect Green (s)	17.0	29.0		93.5	81.5		
Actuated g/C Ratio	0.14	0.24		0.78	0.68		
v/c Ratio	0.77	0.58		0.54	0.39		
Control Delay	70.2	9.4		6.9	9.3		
Queue Delay	0.0	0.1		0.1	0.0		
Total Delay	70.2	9.5		7.0	9.3		
LOS	E	A		A	A		
Approach Delay	30.1			7.0	9.3		
Approach LOS	C			A	A		
Queue Length 50th (ft)	143	18		109	147		
Queue Length 95th (ft)	181	41		146	190		
Internal Link Dist (ft)	509			200	377		
Turn Bay Length (ft)							
Base Capacity (vph)	284	629		1678	2236		
Starvation Cap Reductn	0	0		161	0		
Spillback Cap Reductn	0	8		0	84		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	0.68	0.60		0.60	0.41		

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	109 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	13.4
Intersection LOS:	B
Intersection Capacity Utilization:	87.8%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 6: Memorial Pkwy & N Main St

