Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	6.90	6.90	6.90	5.80	5.80	5.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	4.90	4.90	4.90	4.90	4.90	4.90	3.80	3.80	3.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	36	36	36	36	36	36	16	16	16	16	16	16
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.05	0.14	0.14	0.03	0.07	0.07	0.05	0.06	0.04	0.09	0.15	0.03
s, saturation flow rate [veh/h]	1130	1885	1834	883	1885	1822	1102	1885	1598	1297	1885	1576
c, Capacity [veh/h]	670	1042	1014	513	1042	1007	200	475	403	334	475	397
d1, Uniform Delay [s]	8.70	7.58	7.58	9.97	6.99	7.00	28.87	19.27	18.87	24.47	21.44	18.77
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.24	0.59	0.61	0.22	0.25	0.26	0.53	0.17	0.12	0.45	0.91	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.08	0.26	0.26	0.06	0.12	0.13	0.27	0.22	0.14	0.34	0.60	0.12
d, Delay for Lane Group [s/veh]	8.93	8.17	8.19	10.18	7.23	7.26	29.40	19.44	18.98	24.93	22.34	18.87
Lane Group LOS	A	A	A	B	A	A	C	B	B	C	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.38	1.71	1.68	0.24	0.76	0.75	0.82	1.23	0.65	1.60	3.77	0.56
50th-Percentile Queue Length [ft/ln]	9.60	42.79	41.96	5.99	19.11	18.87	20.53	30.75	16.37	39.88	94.14	14.00
95th-Percentile Queue Length [veh/ln]	0.69	3.08	3.02	0.43	1.38	1.36	1.48	2.21	1.18	2.87	6.78	1.01
95th-Percentile Queue Length [ft/ln]	17.28	77.01	75.53	10.77	34.41	33.97	36.96	55.36	29.47	71.78	169.45	25.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.93	8.18	8.19	10.18	7.24	7.26	29.40	19.44	18.98	24.93	22.34	18.87
Movement LOS	A	A	A	B	A	A	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	8.25			7.55			21.81			22.63		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	14.24											
Intersection LOS	B											
Intersection V/C	0.293											

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	12.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	7150.85	15275.94	15520.67	0.00
d_p, Pedestrian Delay [s]	21.61	21.61	21.61	21.61
l_p,int, Pedestrian LOS Score for Intersection	2.745	2.607	2.399	2.366
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	806	806
d_b, Bicycle Delay [s]	11.64	11.64	11.58	11.60
l_b,int, Bicycle LOS Score for Intersection	2.071	1.817	2.005	2.378
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Stewart St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Stewart St		Stewart St		9th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Stewart St		Stewart St		9th St	
Base Volume Input [veh/h]	7	533	405	8	9	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	533	405	8	9	8
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	148	113	2	3	2
Total Analysis Volume [veh/h]	8	592	450	9	10	9
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	8.29	0.00	0.00	0.00	12.16	9.85
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.55	0.00	0.00	0.00	2.40	2.40
d_A, Approach Delay [s/veh]	0.11		0.00		11.06	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Stewart St / Little Ln

Control Type:	Two-way stop	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.173

Intersection Setup

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Base Volume Input [veh/h]	5	368	13	126	232	69	30	37	16	54	33	106
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	368	13	126	232	69	30	37	16	54	33	106
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	102	4	35	64	19	8	10	4	15	9	29
Total Analysis Volume [veh/h]	6	409	14	140	258	77	33	41	18	60	37	118
Pedestrian Volume [ped/h]	0			3			1			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	1	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.12	0.00	0.00	0.17	0.20	0.02	0.16	0.10	0.15
d_M, Delay for Movement [s/veh]	7.95	0.00	0.00	8.60	0.00	0.00	33.29	31.71	18.70	16.84	16.94	11.51
Movement LOS	A	A	A	A	A	A	D	D	C	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.42	0.00	0.00	1.75	1.75	1.75	0.58	0.99	0.99
95th-Percentile Queue Length [ft/ln]	0.37	0.00	0.00	10.47	0.00	0.00	43.76	43.76	43.76	14.59	24.81	24.81
d_A, Approach Delay [s/veh]	0.11			2.53			29.73			13.93		
Approach LOS	A			A			D			B		
d_I, Intersection Delay [s/veh]	5.77											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 7: Little Ln / Roop St

Control Type:	Signalized	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.201

Intersection Setup

Name	Roop St			Roop St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	75.00	100.00	75.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Roop St			Roop St			Little Ln			Little Ln		
Base Volume Input [veh/h]	14	283	38	65	172	8	75	135	52	36	20	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	20	0	0	4	0	0	27	0	0	31
Total Hourly Volume [veh/h]	14	283	18	65	172	4	75	135	25	36	20	29
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	76	5	17	46	1	20	36	7	10	5	8
Total Analysis Volume [veh/h]	15	304	19	70	185	4	81	145	27	39	22	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	40	0	0	40	0	15	14	0	20	14	0
Amber [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.0	3.4	0.0	3.0	3.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.2	1.0	0.0	2.1	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.5	1.7	0.0	1.5	1.7	0.0
Walk [s]	0	7	0	0	8	0	0	7	0	0	8	0
Pedestrian Clearance [s]	0	13	0	0	16	0	0	16	0	0	15	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.2	2.4	0.0	3.1	2.4	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	L	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	5.70	5.70	5.70	5.70	5.20	4.40	4.40	5.10	4.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.70	3.70	3.70	3.70	3.20	2.40	2.40	3.10	2.40
g_i, Effective Green Time [s]	7	7	7	7	2	4	4	1	3
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.08	0.13	0.13	0.05	0.09
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.07	0.10	0.05	0.08	0.02	0.02	0.03
s, saturation flow rate [veh/h]	1677	1682	1065	1877	1795	1885	1602	1795	1709
c, Capacity [veh/h]	583	440	372	491	151	252	214	84	159
d1, Uniform Delay [s]	8.18	8.24	11.79	8.26	11.97	11.08	10.41	12.65	11.57
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.20	0.09	0.18	1.10	0.77	0.10	1.46	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.38	0.19	0.38	0.54	0.58	0.13	0.46	0.33
d, Delay for Lane Group [s/veh]	8.28	8.44	11.88	8.44	13.07	11.86	10.50	14.11	12.03
Lane Group LOS	A	A	B	A	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.57	0.57	0.32	0.64	0.41	0.67	0.11	0.22	0.25
50th-Percentile Queue Length [ft/ln]	14.20	14.18	8.00	16.02	10.24	16.72	2.83	5.41	6.27
95th-Percentile Queue Length [veh/ln]	1.02	1.02	0.58	1.15	0.74	1.20	0.20	0.39	0.45
95th-Percentile Queue Length [ft/ln]	25.57	25.53	14.40	28.84	18.44	30.09	5.09	9.73	11.29

Movement, Approach, & Intersection Results

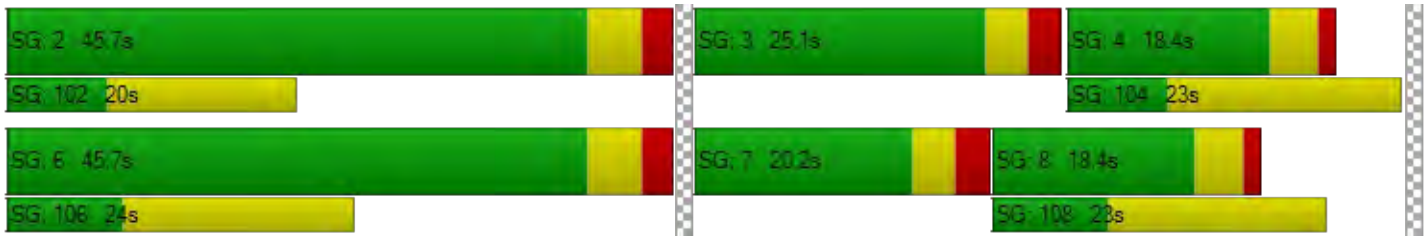
d_M, Delay for Movement [s/veh]	8.28	8.36	8.44	11.88	8.44	8.44	13.07	11.86	10.50	14.11	12.03	12.03
Movement LOS	A	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	8.36			9.37			12.10			12.91		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	10.09											
Intersection LOS	B											
Intersection V/C	0.201											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	12.0	12.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	33.80	33.80	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.140	2.279	2.255	2.185
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	889	889	311	311
d_b, Bicycle Delay [s]	13.89	13.90	32.09	32.09
l_b,int, Bicycle LOS Score for Intersection	1.855	1.994	2.022	1.763
Bicycle LOS	A	A	B	A

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Appendix C
2040 Horizon LOS Calculations

Intersection Level Of Service Report
Intersection 1: Carson St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	20.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	Carson St			Carson St			9th St			9th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Carson St			Carson St			9th St			9th St		
Base Volume Input [veh/h]	5	649	9	11	486	5	5	5	5	5	5	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.0000	1.3000	1.3000	1.0000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	649	12	14	486	7	7	7	7	7	7	8
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	191	4	4	143	2	2	2	2	2	2	2
Total Analysis Volume [veh/h]	8	764	14	16	572	8	8	8	8	8	8	9
Pedestrian Volume [ped/h]	0			0			3			3		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.02	0.01	0.00	0.03	0.03	0.01	0.03	0.03	0.01
d_M, Delay for Movement [s/veh]	8.66	0.00	0.00	9.39	0.00	0.00	17.54	20.03	10.88	19.41	19.93	11.82
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.06	0.00	0.00	0.22	0.22	0.22	0.25	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.61	0.00	0.00	1.46	0.00	0.00	5.55	5.55	5.55	6.13	6.13	6.13
d_A, Approach Delay [s/veh]	0.09			0.25			16.15			16.84		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.72											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Stewart St / 5th St

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.316

Intersection Setup

Name	Stewart St			Stewart St			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	115.00	100.00	115.00	115.00	100.00	115.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			5th St			5th St		
Base Volume Input [veh/h]	25	191	48	133	341	109	27	152	21	11	94	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	74	0	0	14	0	0	24
Total Hourly Volume [veh/h]	33	248	30	173	443	68	35	198	13	14	122	22
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	73	9	51	130	20	10	58	4	4	36	6
Total Analysis Volume [veh/h]	39	292	35	204	521	80	41	233	15	16	144	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	3			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			0			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	40	0	0	40	0	0	30	0	0	30	0
Amber [s]	0.0	4.1	0.0	0.0	4.1	0.0	0.0	3.4	0.0	0.0	3.4	0.0
All red [s]	0.0	2.8	0.0	0.0	2.8	0.0	0.0	2.4	0.0	0.0	2.4	0.0
Split [s]	0	33	0	0	33	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0
Walk [s]	0	8	0	0	8	0	0	8	0	0	8	0
Pedestrian Clearance [s]	0	20	0	0	20	0	0	19	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.9	0.0	0.0	3.8	0.0	0.0	3.8	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	6.90	6.90	6.90	5.80	5.80	5.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	4.90	4.90	4.90	4.90	4.90	4.90	3.80	3.80	3.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	40	40	40	40	40	40	12	12	12	12	12	12
g / C, Green / Cycle	0.61	0.61	0.61	0.61	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.05	0.09	0.09	0.19	0.16	0.16	0.03	0.12	0.01	0.01	0.08	0.02
s, saturation flow rate [veh/h]	824	1885	1805	1060	1885	1799	1254	1885	1581	1156	1885	1602
c, Capacity [veh/h]	536	1160	1110	696	1160	1106	220	357	300	156	357	304
d1, Uniform Delay [s]	8.01	5.28	5.29	8.08	5.75	5.75	28.00	24.37	21.56	30.42	23.12	21.71
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.26	0.26	0.28	1.07	0.56	0.59	0.30	1.50	0.05	0.21	0.54	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.07	0.14	0.15	0.29	0.27	0.27	0.19	0.65	0.05	0.10	0.40	0.09
d, Delay for Lane Group [s/veh]	8.27	5.54	5.56	9.15	6.31	6.34	28.30	25.87	21.61	30.63	23.66	21.80
Lane Group LOS	A	A	A	A	A	A	C	C	C	C	C	C
Critical Lane Group	No	No	No	Yes	No	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.27	0.78	0.77	1.47	1.60	1.53	0.60	3.33	0.19	0.25	1.92	0.32
50th-Percentile Queue Length [ft/ln]	6.77	19.54	19.23	36.70	39.88	38.32	15.09	83.24	4.63	6.18	47.98	8.09
95th-Percentile Queue Length [veh/ln]	0.49	1.41	1.38	2.64	2.87	2.76	1.09	5.99	0.33	0.45	3.45	0.58
95th-Percentile Queue Length [ft/ln]	12.18	35.18	34.61	66.06	71.78	68.98	27.17	149.82	8.34	11.13	86.36	14.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.27	5.55	5.56	9.15	6.32	6.34	28.30	25.87	21.61	30.63	23.66	21.80
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.84			7.04			25.99			24.00		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	12.02											
Intersection LOS	B											
Intersection V/C	0.316											

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	12.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	4551.40
d_p, Pedestrian Delay [s]	21.61	21.61	21.61	21.61
l_p,int, Pedestrian LOS Score for Intersection	2.568	2.731	2.317	2.581
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	806	806
d_b, Bicycle Delay [s]	11.65	11.64	11.59	11.58
l_b,int, Bicycle LOS Score for Intersection	1.888	2.285	2.060	1.906
Bicycle LOS	A	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Stewart St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Stewart St		Stewart St		9th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Stewart St		Stewart St		9th St	
Base Volume Input [veh/h]	6	264	360	7	4	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	343	468	9	5	4
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	101	138	3	1	1
Total Analysis Volume [veh/h]	9	404	551	11	6	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	8.59	0.00	0.00	0.00	12.49	10.13
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.67	0.00	0.00	0.00	1.47	1.47
d_A, Approach Delay [s/veh]	0.19		0.00		11.42	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Stewart St / Little Ln

Control Type:	Two-way stop	Delay (sec / veh):	27.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.178

Intersection Setup

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Base Volume Input [veh/h]	5	254	52	71	159	64	10	23	9	34	24	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	330	68	92	207	83	13	30	12	44	31	47
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	101	21	28	63	25	4	9	4	13	9	14
Total Analysis Volume [veh/h]	9	402	83	112	252	101	16	37	15	54	38	57
Pedestrian Volume [ped/h]	0			3			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	1	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.10	0.00	0.00	0.07	0.18	0.02	0.14	0.10	0.08
d_M, Delay for Movement [s/veh]	8.00	0.00	0.00	8.71	0.00	0.00	25.77	27.32	14.31	15.78	16.12	11.21
Movement LOS	A	A	A	A	A	A	D	D	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.35	0.00	0.00	1.04	1.04	1.04	0.48	0.64	0.64
95th-Percentile Queue Length [ft/ln]	0.56	0.00	0.00	8.64	0.00	0.00	26.00	26.00	26.00	12.00	16.00	16.00
d_A, Approach Delay [s/veh]	0.15			2.10			24.09			14.12		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	4.07											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 7: Little Ln / Roop St

Control Type:	Signalized	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.299

Intersection Setup

Name	Roop St			Roop St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	75.00	100.00	75.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Roop St			Roop St			Little Ln			Little Ln		
Base Volume Input [veh/h]	44	212	20	36	196	48	13	23	15	56	90	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	32	0	0	10	0	0	33
Total Hourly Volume [veh/h]	57	276	12	47	255	30	17	30	10	73	117	31
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	84	4	14	78	9	5	9	3	22	36	9
Total Analysis Volume [veh/h]	70	337	15	57	311	37	21	37	12	89	143	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			2		
v_di, Inbound Pedestrian Volume crossing m	0			2			0			0		
v_co, Outbound Pedestrian Volume crossing	2			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	40	0	0	40	0	15	14	0	20	14	0
Amber [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.0	3.4	0.0	3.0	3.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.2	1.0	0.0	2.1	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.5	1.7	0.0	1.5	1.7	0.0
Walk [s]	0	7	0	0	8	0	0	7	0	0	8	0
Pedestrian Clearance [s]	0	13	0	0	16	0	0	16	0	0	15	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.2	2.4	0.0	3.1	2.4	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	L	C
C, Cycle Length [s]	30	30	30	30	30	30	30	30	30
L, Total Lost Time per Cycle [s]	5.70	5.70	5.70	5.70	5.20	4.40	4.40	5.10	4.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.70	3.70	3.70	3.70	3.20	2.40	2.40	3.10	2.40
g_i, Effective Green Time [s]	10	10	10	10	1	2	2	3	4
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.03	0.08	0.08	0.09	0.14
(v / s)_i Volume / Saturation Flow Rate	0.19	0.15	0.06	0.19	0.01	0.02	0.01	0.05	0.10
s, saturation flow rate [veh/h]	921	1697	1036	1850	1795	1885	1563	1795	1816
c, Capacity [veh/h]	467	545	379	595	49	149	124	158	248
d1, Uniform Delay [s]	7.87	8.03	11.85	8.43	14.23	12.85	12.69	13.00	12.30
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	0.22	0.07	0.34	2.23	0.32	0.12	1.17	1.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.46	0.15	0.59	0.43	0.25	0.10	0.56	0.73
d, Delay for Lane Group [s/veh]	8.05	8.25	11.92	8.77	16.46	13.17	12.82	14.18	13.84
Lane Group LOS	A	A	B	A	B	B	B	B	B
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.58	0.90	0.28	1.32	0.14	0.20	0.06	0.51	1.01
50th-Percentile Queue Length [ft/ln]	14.49	22.39	6.97	32.91	3.62	5.02	1.61	12.74	25.24
95th-Percentile Queue Length [veh/ln]	1.04	1.61	0.50	2.37	0.26	0.36	0.12	0.92	1.82
95th-Percentile Queue Length [ft/ln]	26.08	40.31	12.54	59.23	6.52	9.03	2.90	22.93	45.43

Movement, Approach, & Intersection Results

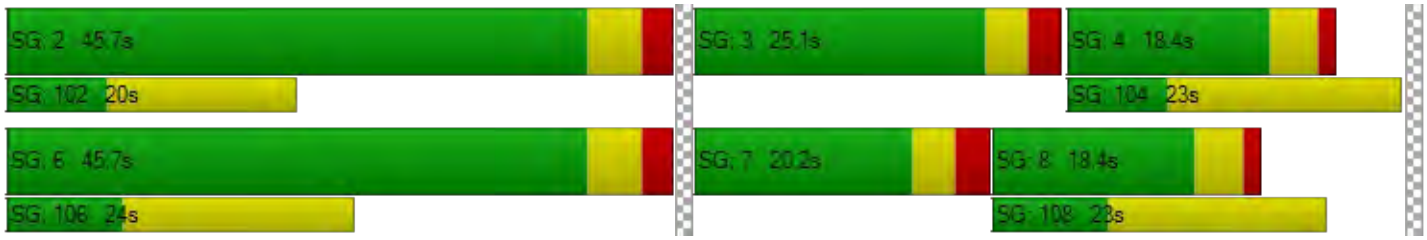
d_M, Delay for Movement [s/veh]	8.05	8.19	8.25	11.92	8.77	8.77	16.46	13.17	12.82	14.18	13.84	13.84
Movement LOS	A	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	8.17			9.21			14.10			13.95		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	10.22											
Intersection LOS	B											
Intersection V/C	0.299											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	12.0	12.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	5450.09	0.00	4505.94
d_p, Pedestrian Delay [s]	34.67	33.80	33.80	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.192	2.351	2.317	2.183
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	889	889	311	311
d_b, Bicycle Delay [s]	13.89	13.89	32.10	32.09
l_b,int, Bicycle LOS Score for Intersection	1.919	2.281	1.692	2.060
Bicycle LOS	A	B	A	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Carson St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	Carson St			Carson St			9th St			9th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Carson St			Carson St			9th St			9th St		
Base Volume Input [veh/h]	10	725	10	12	914	10	10	10	10	11	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.0000	1.3000	1.3000	1.0000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	725	13	16	914	13	13	13	13	14	13	18
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	201	4	4	254	4	4	4	4	4	4	5
Total Analysis Volume [veh/h]	14	806	14	18	1016	14	14	14	14	16	14	20
Pedestrian Volume [ped/h]	0			0			2			2		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.02	0.01	0.00	0.08	0.08	0.03	0.08	0.08	0.03
d_M, Delay for Movement [s/veh]	10.46	0.00	0.00	9.56	0.00	0.00	29.41	29.25	15.83	25.70	28.97	14.35
Movement LOS	B	A	A	A	A	A	D	D	C	D	D	B
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.07	0.00	0.00	0.68	0.68	0.68	0.69	0.69	0.69
95th-Percentile Queue Length [ft/ln]	1.59	0.00	0.00	1.71	0.00	0.00	16.88	16.88	16.88	17.36	17.36	17.36
d_A, Approach Delay [s/veh]	0.18			0.16			24.83			22.07		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	1.25											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Stewart St / 5th St

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Stewart St			Stewart St			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	115.00	100.00	115.00	115.00	100.00	115.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			5th St			5th St		
Base Volume Input [veh/h]	47	423	75	26	203	46	47	91	104	100	248	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	31	0	0	70	0	0	61
Total Hourly Volume [veh/h]	61	550	47	34	264	29	61	118	65	130	322	56
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	153	13	9	73	8	17	33	18	36	89	16
Total Analysis Volume [veh/h]	68	611	52	38	293	32	68	131	72	144	358	62
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			2			1		
v_co, Outbound Pedestrian Volume crossing	0			0			1			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	40	0	0	40	0	0	30	0	0	30	0
Amber [s]	0.0	4.1	0.0	0.0	4.1	0.0	0.0	3.4	0.0	0.0	3.4	0.0
All red [s]	0.0	2.8	0.0	0.0	2.8	0.0	0.0	2.4	0.0	0.0	2.4	0.0
Split [s]	0	33	0	0	33	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0
Walk [s]	0	8	0	0	8	0	0	8	0	0	8	0
Pedestrian Clearance [s]	0	20	0	0	20	0	0	19	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.9	0.0	0.0	3.8	0.0	0.0	3.8	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	6.90	6.90	6.90	5.80	5.80	5.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	4.90	4.90	4.90	4.90	4.90	4.90	3.80	3.80	3.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	33	33	33	33	33	33	20	20	20	20	20	20
g / C, Green / Cycle	0.50	0.50	0.50	0.50	0.50	0.50	0.30	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.06	0.18	0.18	0.05	0.09	0.09	0.07	0.07	0.05	0.11	0.19	0.04
s, saturation flow rate [veh/h]	1063	1885	1834	778	1885	1821	1031	1885	1599	1267	1885	1577
c, Capacity [veh/h]	572	952	926	403	952	920	212	565	479	379	565	473
d1, Uniform Delay [s]	11.14	9.70	9.70	13.35	8.73	8.74	28.33	17.15	16.71	22.79	19.70	16.60
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.42	1.03	1.06	0.47	0.39	0.41	0.64	0.15	0.11	0.46	0.88	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.12	0.35	0.35	0.09	0.17	0.17	0.32	0.23	0.15	0.38	0.63	0.13
d, Delay for Lane Group [s/veh]	11.56	10.72	10.76	13.82	9.12	9.15	28.98	17.30	16.81	23.25	20.57	16.69
Lane Group LOS	B	B	B	B	A	A	C	B	B	C	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.59	2.66	2.60	0.38	1.16	1.14	1.03	1.43	0.77	1.93	4.55	0.66
50th-Percentile Queue Length [ft/ln]	14.64	66.47	64.98	9.48	28.88	28.41	25.75	35.73	19.17	48.19	113.72	16.40
95th-Percentile Queue Length [veh/ln]	1.05	4.79	4.68	0.68	2.08	2.05	1.85	2.57	1.38	3.47	8.05	1.18
95th-Percentile Queue Length [ft/ln]	26.35	119.65	116.96	17.07	51.98	51.13	46.34	64.32	34.50	86.75	201.17	29.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.56	10.74	10.76	13.82	9.14	9.15	28.98	17.30	16.81	23.25	20.57	16.69
Movement LOS	B	B	B	B	A	A	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	10.82			9.63			20.10			20.83		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]	14.82											
Intersection LOS	B											
Intersection V/C	0.368											

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	12.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	6886.55	14964.87	15276.22	0.00
d_p, Pedestrian Delay [s]	21.61	21.61	21.61	21.61
l_p,int, Pedestrian LOS Score for Intersection	2.867	2.693	2.477	2.435
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	806	806
d_b, Bicycle Delay [s]	11.64	11.64	11.58	11.60
l_b,int, Bicycle LOS Score for Intersection	2.205	1.885	2.122	2.591
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Stewart St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Stewart St		Stewart St		9th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Stewart St		Stewart St		9th St	
Base Volume Input [veh/h]	7	533	405	8	9	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	693	527	10	12	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	188	143	3	3	3
Total Analysis Volume [veh/h]	10	753	573	11	13	11
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.03	0.02
d_M, Delay for Movement [s/veh]	8.67	0.00	0.00	0.00	13.52	10.43
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	0.77	0.00	0.00	0.00	3.55	3.55
d_A, Approach Delay [s/veh]	0.11		0.00		12.11	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Stewart St / Little Ln

Control Type:	Two-way stop	Delay (sec / veh):	94.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.376

Intersection Setup

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Base Volume Input [veh/h]	5	368	13	126	232	69	30	37	16	54	33	106
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	478	17	164	302	90	39	48	21	70	43	138
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	130	5	45	82	24	11	13	6	19	12	38
Total Analysis Volume [veh/h]	8	520	18	178	328	98	42	52	23	76	47	150
Pedestrian Volume [ped/h]	0			3			1			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	1	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.17	0.00	0.00	0.38	0.39	0.03	0.31	0.17	0.21
d_M, Delay for Movement [s/veh]	8.19	0.00	0.00	9.21	0.00	0.00	94.44	88.95	66.76	25.87	21.76	13.95
Movement LOS	A	A	A	A	A	A	F	F	F	D	C	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.62	0.00	0.00	4.97	4.97	4.97	1.26	1.71	1.71
95th-Percentile Queue Length [ft/ln]	0.53	0.00	0.00	15.52	0.00	0.00	124.16	124.16	124.16	31.41	42.84	42.84
d_A, Approach Delay [s/veh]	0.12			2.71			86.56			18.61		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	10.98											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Little Ln / Roop St

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.260

Intersection Setup

Name	Roop St			Roop St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	75.00	100.00	75.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Roop St			Roop St			Little Ln			Little Ln		
Base Volume Input [veh/h]	14	283	38	65	172	8	75	135	52	36	20	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	5	0	0	35	0	0	41
Total Hourly Volume [veh/h]	18	368	24	85	224	5	98	176	33	47	26	37
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	99	6	23	60	1	26	47	9	13	7	10
Total Analysis Volume [veh/h]	19	396	26	91	241	5	105	189	35	51	28	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	40	0	0	40	0	15	14	0	20	14	0
Amber [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.0	3.4	0.0	3.0	3.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.2	1.0	0.0	2.1	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.5	1.7	0.0	1.5	1.7	0.0
Walk [s]	0	7	0	0	8	0	0	7	0	0	8	0
Pedestrian Clearance [s]	0	13	0	0	16	0	0	16	0	0	15	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.2	2.4	0.0	3.1	2.4	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	L	C
C, Cycle Length [s]	31	31	31	31	31	31	31	31	31
L, Total Lost Time per Cycle [s]	5.70	5.70	5.70	5.70	5.20	4.40	4.40	5.10	4.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.70	3.70	3.70	3.70	3.20	2.40	2.40	3.10	2.40
g_i, Effective Green Time [s]	10	10	10	10	3	4	4	2	3
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.10	0.14	0.14	0.06	0.10
(v / s)_i Volume / Saturation Flow Rate	0.13	0.12	0.09	0.13	0.06	0.10	0.02	0.03	0.04
s, saturation flow rate [veh/h]	1831	1678	973	1877	1795	1885	1602	1795	1708
c, Capacity [veh/h]	704	531	373	594	172	263	223	103	167
d1, Uniform Delay [s]	8.32	8.33	12.56	8.39	13.55	12.85	11.82	14.27	13.23
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.18	0.13	0.17	1.31	1.39	0.12	1.36	0.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.39	0.24	0.41	0.61	0.72	0.16	0.50	0.41
d, Delay for Lane Group [s/veh]	8.42	8.51	12.68	8.57	14.86	14.24	11.94	15.63	13.82
Lane Group LOS	A	A	B	A	B	B	B	B	B
Critical Lane Group	No	No	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.89	0.81	0.49	0.95	0.64	1.11	0.18	0.33	0.39
50th-Percentile Queue Length [ft/ln]	22.13	20.17	12.24	23.86	16.03	27.80	4.49	8.22	9.84
95th-Percentile Queue Length [veh/ln]	1.59	1.45	0.88	1.72	1.15	2.00	0.32	0.59	0.71
95th-Percentile Queue Length [ft/ln]	39.83	36.31	22.04	42.95	28.85	50.04	8.08	14.80	17.71

Movement, Approach, & Intersection Results

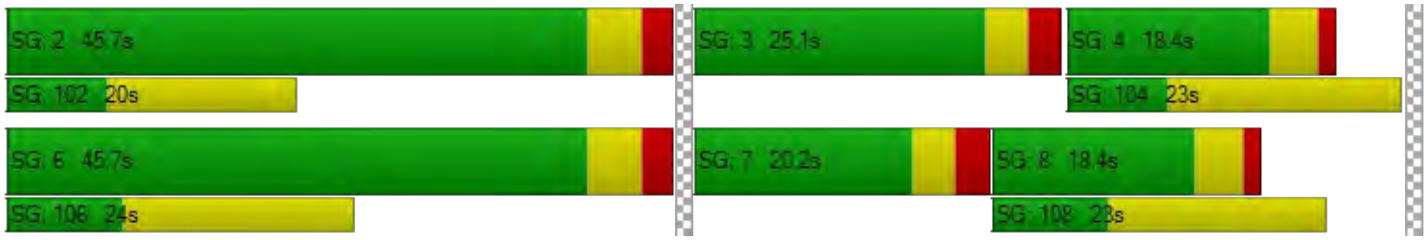
d_M, Delay for Movement [s/veh]	8.42	8.46	8.51	12.68	8.57	8.57	14.86	14.24	11.94	15.63	13.82	13.82
Movement LOS	A	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	8.46			9.68			14.19			14.60		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	10.93											
Intersection LOS	B											
Intersection V/C	0.260											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	12.0	12.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	33.80	33.80	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.200	2.324	2.292	2.260
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	889	889	311	311
d_b, Bicycle Delay [s]	13.89	13.90	32.09	32.09
l_b,int, Bicycle LOS Score for Intersection	1.944	2.124	2.160	1.824
Bicycle LOS	A	B	B	A

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Appendix D
Baseline Plus Project LOS Calculations

Intersection Level Of Service Report
Intersection 1: Carson St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Carson St			Carson St			9th St			9th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Carson St			Carson St			9th St			9th St		
Base Volume Input [veh/h]	5	469	9	11	401	5	5	5	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	2	0	0	0	0	0	6	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	469	11	13	401	5	5	5	5	11	5	9
Peak Hour Factor	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	140	3	4	119	1	1	1	1	3	1	3
Total Analysis Volume [veh/h]	6	558	13	15	477	6	6	6	6	13	6	11
Pedestrian Volume [ped/h]	0			0			3			3		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.02	0.00	0.00	0.02	0.02	0.01	0.04	0.02	0.02
d_M, Delay for Movement [s/veh]	8.36	0.00	0.00	8.66	0.00	0.00	14.95	16.52	10.13	15.70	16.65	10.71
Movement LOS	A	A	A	A	A	A	B	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.05	0.00	0.00	0.13	0.13	0.13	0.23	0.23	0.23
95th-Percentile Queue Length [ft/ln]	0.42	0.00	0.00	1.14	0.00	0.00	3.32	3.32	3.32	5.64	5.64	5.64
d_A, Approach Delay [s/veh]	0.09			0.26			13.87			14.06		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.76											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: 9th St / N. Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	N. Project Dwy		9th St		9th St	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	N. Project Dwy		9th St		9th St	
Base Volume Input [veh/h]	0	0	14	0	0	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	7	0	4	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	7	14	4	2	12
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	4	1	1	4
Total Analysis Volume [veh/h]	12	9	17	5	2	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.77	8.47	0.00	0.00	7.25	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.59	1.59	0.00	0.00	0.09	0.09
d_A, Approach Delay [s/veh]	8.64		0.00		0.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.27					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Stewart St / 5th St

Control Type:	Signalized	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.246

Intersection Setup

Name	Stewart St			Stewart St			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	115.00	100.00	115.00	115.00	100.00	115.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			5th St			5th St		
Base Volume Input [veh/h]	25	191	48	133	341	109	27	152	21	11	94	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	23	5	0	7	0	0	0	5	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	28	0	0	57	0	0	14	0	0	18
Total Hourly Volume [veh/h]	39	214	25	133	348	52	27	152	12	12	94	17
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	65	8	41	106	16	8	46	4	4	29	5
Total Analysis Volume [veh/h]	48	261	30	162	424	63	33	185	15	15	115	21
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	3			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			0			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	40	0	0	40	0	0	30	0	0	30	0
Amber [s]	0.0	4.1	0.0	0.0	4.1	0.0	0.0	3.4	0.0	0.0	3.4	0.0
All red [s]	0.0	2.8	0.0	0.0	2.8	0.0	0.0	2.4	0.0	0.0	2.4	0.0
Split [s]	0	33	0	0	33	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0
Walk [s]	0	8	0	0	8	0	0	8	0	0	8	0
Pedestrian Clearance [s]	0	20	0	0	20	0	0	19	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.9	0.0	0.0	3.8	0.0	0.0	3.8	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	6.90	6.90	6.90	5.80	5.80	5.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	4.90	4.90	4.90	4.90	4.90	4.90	3.80	3.80	3.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	42	42	42	42	42	42	10	10	10	10	10	10
g / C, Green / Cycle	0.64	0.64	0.64	0.64	0.64	0.64	0.16	0.16	0.16	0.16	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.05	0.08	0.08	0.15	0.13	0.13	0.03	0.10	0.01	0.01	0.06	0.01
s, saturation flow rate [veh/h]	916	1885	1808	1095	1885	1801	1287	1885	1581	1208	1885	1602
c, Capacity [veh/h]	627	1215	1166	753	1215	1161	203	302	253	152	302	256
d1, Uniform Delay [s]	6.53	4.45	4.46	6.51	4.73	4.73	28.75	25.43	23.15	30.68	24.43	23.24
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.24	0.20	0.22	0.65	0.38	0.40	0.28	1.51	0.07	0.21	0.59	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.08	0.12	0.12	0.22	0.20	0.21	0.16	0.61	0.06	0.10	0.38	0.08
d, Delay for Lane Group [s/veh]	6.77	4.66	4.68	7.17	5.11	5.13	29.03	26.94	23.22	30.89	25.01	23.34
Lane Group LOS	A	A	A	A	A	A	C	C	C	C	C	C
Critical Lane Group	No	No	No	Yes	No	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.28	0.60	0.59	0.96	1.07	1.04	0.49	2.69	0.19	0.23	1.58	0.27
50th-Percentile Queue Length [ft/ln]	7.08	14.90	14.69	24.10	26.86	25.96	12.33	67.31	4.86	5.83	39.53	6.83
95th-Percentile Queue Length [veh/ln]	0.51	1.07	1.06	1.74	1.93	1.87	0.89	4.85	0.35	0.42	2.85	0.49
95th-Percentile Queue Length [ft/ln]	12.74	26.82	26.44	43.38	48.35	46.72	22.20	121.15	8.75	10.49	71.16	12.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.77	4.66	4.68	7.17	5.12	5.13	29.03	26.94	23.22	30.89	25.01	23.34
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.96			5.63			26.99			25.36		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.27											
Intersection LOS	B											
Intersection V/C	0.246											

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	12.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	4733.72
d_p, Pedestrian Delay [s]	21.61	21.61	21.61	21.61
l_p,int, Pedestrian LOS Score for Intersection	2.532	2.645	2.307	2.484
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	806	806
d_b, Bicycle Delay [s]	11.65	11.64	11.59	11.58
l_b,int, Bicycle LOS Score for Intersection	1.862	2.142	1.967	1.838
Bicycle LOS	A	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Stewart St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Stewart St		Stewart St		9th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Stewart St		Stewart St		9th St	
Base Volume Input [veh/h]	6	264	360	7	4	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	11	2	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	299	371	9	11	3
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	91	113	3	3	1
Total Analysis Volume [veh/h]	7	365	452	11	13	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	8.29	0.00	0.00	0.00	11.75	9.83
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.48	0.00	0.00	0.00	2.23	2.23
d_A, Approach Delay [s/veh]	0.16		0.00		11.30	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.29					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Stewart St / East Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

Intersection Setup

Name	Stewart St			Stewart St			East Project Dwy			Commercial Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			East Project Dwy			Commercial Dwy		
Base Volume Input [veh/h]	0	241	59	88	275	0	0	0	0	19	0	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	0	0	0	11	35	0	38	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	241	59	88	275	11	35	0	38	19	0	29
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	75	18	28	86	3	11	0	12	6	0	9
Total Analysis Volume [veh/h]	14	301	74	110	344	14	44	0	48	24	0	36
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.09	0.00	0.00	0.13	0.00	0.06	0.06	0.00	0.04
d_M, Delay for Movement [s/veh]	8.02	0.00	0.00	8.34	0.00	0.00	16.92	17.93	10.91	15.29	16.34	9.56
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	A
95th-Percentile Queue Length [veh/ln]	0.04	0.00	0.00	0.31	0.00	0.00	0.67	0.67	0.67	0.20	0.20	0.14
95th-Percentile Queue Length [ft/ln]	0.88	0.00	0.00	7.64	0.00	0.00	16.64	16.64	16.64	5.12	5.12	3.41
d_A, Approach Delay [s/veh]	0.29			1.96			13.79			11.85		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.98											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: Stewart St / Little Ln

Control Type:	Two-way stop	Delay (sec / veh):	22.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.118

Intersection Setup

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Base Volume Input [veh/h]	5	254	52	71	159	64	10	23	9	34	24	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	19	19	0	0	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	260	52	90	178	64	10	23	9	34	24	41
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	83	17	29	57	21	3	7	3	11	8	13
Total Analysis Volume [veh/h]	6	333	67	115	228	82	13	29	12	44	31	53
Pedestrian Volume [ped/h]	0			3			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	1	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.10	0.00	0.00	0.05	0.12	0.01	0.10	0.08	0.07
d_M, Delay for Movement [s/veh]	7.88	0.00	0.00	8.44	0.00	0.00	21.12	22.26	11.78	14.22	14.96	10.49
Movement LOS	A	A	A	A	A	A	C	C	B	B	B	B
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.33	0.00	0.00	0.65	0.65	0.65	0.34	0.50	0.50
95th-Percentile Queue Length [ft/ln]	0.36	0.00	0.00	8.21	0.00	0.00	16.17	16.17	16.17	8.40	12.41	12.41
d_A, Approach Delay [s/veh]	0.12			2.28			19.66			12.86		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	3.68											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 7: Little Ln / Roop St

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.238

Intersection Setup

Name	Roop St			Roop St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	75.00	100.00	75.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Roop St			Roop St			Little Ln			Little Ln		
Base Volume Input [veh/h]	44	212	20	36	196	48	13	23	15	56	90	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	0	0	14	5	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	25	0	0	10	0	0	25
Total Hourly Volume [veh/h]	45	212	10	36	196	23	13	37	10	56	94	24
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	66	3	11	61	7	4	12	3	18	29	8
Total Analysis Volume [veh/h]	56	265	13	45	245	29	16	46	13	70	118	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			2		
v_di, Inbound Pedestrian Volume crossing m	0			2			0			0		
v_co, Outbound Pedestrian Volume crossing	2			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	40	0	0	40	0	15	14	0	20	14	0
Amber [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.0	3.4	0.0	3.0	3.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.2	1.0	0.0	2.1	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.5	1.7	0.0	1.5	1.7	0.0
Walk [s]	0	7	0	0	8	0	0	7	0	0	8	0
Pedestrian Clearance [s]	0	13	0	0	16	0	0	16	0	0	15	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.2	2.4	0.0	3.1	2.4	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	L	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	5.70	5.70	5.70	5.70	5.20	4.40	4.40	5.10	4.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.70	3.70	3.70	3.70	3.20	2.40	2.40	3.10	2.40
g_i, Effective Green Time [s]	8	8	8	8	1	2	2	2	3
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.02	0.08	0.08	0.08	0.13
(v / s)_i Volume / Saturation Flow Rate	0.14	0.11	0.04	0.15	0.01	0.02	0.01	0.04	0.08
s, saturation flow rate [veh/h]	1049	1694	1108	1850	1795	1885	1602	1795	1818
c, Capacity [veh/h]	479	476	390	520	38	149	126	136	236
d1, Uniform Delay [s]	7.72	7.82	11.10	8.17	13.01	11.70	11.51	11.97	11.10
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	0.20	0.05	0.31	2.79	0.43	0.13	1.13	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.39	0.12	0.53	0.42	0.31	0.10	0.52	0.63
d, Delay for Lane Group [s/veh]	7.86	8.02	11.15	8.48	15.81	12.14	11.64	13.09	12.12
Lane Group LOS	A	A	B	A	B	B	B	B	B
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.45	0.60	0.19	0.92	0.10	0.22	0.06	0.35	0.69
50th-Percentile Queue Length [ft/ln]	11.28	14.93	4.81	22.98	2.62	5.44	1.50	8.82	17.21
95th-Percentile Queue Length [veh/ln]	0.81	1.08	0.35	1.65	0.19	0.39	0.11	0.64	1.24
95th-Percentile Queue Length [ft/ln]	20.31	26.88	8.66	41.36	4.71	9.80	2.71	15.88	30.98

Movement, Approach, & Intersection Results

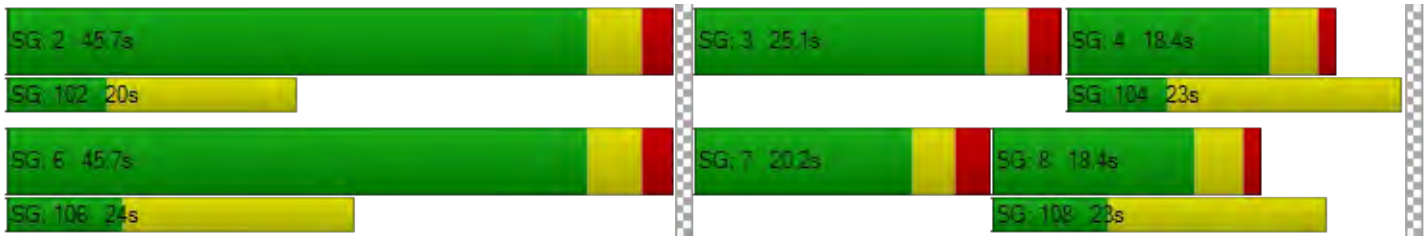
d_M, Delay for Movement [s/veh]	7.86	7.96	8.02	11.15	8.48	8.48	15.81	12.14	11.64	13.09	12.12	12.12
Movement LOS	A	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	7.95			8.86			12.84			12.43		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	9.67											
Intersection LOS	A											
Intersection V/C	0.238											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	12.0	12.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	5508.85	0.00	4624.29
d_p, Pedestrian Delay [s]	34.67	33.80	33.80	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.139	2.303	2.287	2.136
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	889	889	311	311
d_b, Bicycle Delay [s]	13.89	13.89	32.09	32.09
l_b,int, Bicycle LOS Score for Intersection	1.843	2.127	1.700	1.961
Bicycle LOS	A	B	A	A

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Carson St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	Carson St			Carson St			9th St			9th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Carson St			Carson St			9th St			9th St		
Base Volume Input [veh/h]	10	586	10	12	744	10	10	10	10	11	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	7	5	0	0	0	0	0	4	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	586	17	17	744	10	10	10	10	15	10	17
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	168	5	5	214	3	3	3	3	4	3	5
Total Analysis Volume [veh/h]	11	674	20	20	855	11	11	11	11	17	11	20
Pedestrian Volume [ped/h]	0			0			2			2		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.02	0.01	0.00	0.05	0.05	0.02	0.07	0.05	0.03
d_M, Delay for Movement [s/veh]	9.70	0.00	0.00	9.09	0.00	0.00	23.05	23.44	13.08	20.86	23.52	12.45
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.04	0.00	0.00	0.07	0.00	0.00	0.40	0.40	0.40	0.51	0.51	0.51
95th-Percentile Queue Length [ft/ln]	1.08	0.00	0.00	1.70	0.00	0.00	10.09	10.09	10.09	12.79	12.79	12.79
d_A, Approach Delay [s/veh]	0.15			0.21			19.86			17.97		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	1.08											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: 9th St / N. Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	N. Project Dwy		9th St		9th St	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	N. Project Dwy		9th St		9th St	
Base Volume Input [veh/h]	0	0	20	0	0	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	4	0	12	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	4	20	12	7	20
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	6	3	2	6
Total Analysis Volume [veh/h]	8	4	22	13	8	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.89	8.48	0.00	0.00	7.29	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.94	0.94	0.00	0.00	0.38	0.38
d_A, Approach Delay [s/veh]	8.75		0.00		1.94	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.12					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Stewart St / 5th St

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.298

Intersection Setup

Name	Stewart St			Stewart St			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	115.00	100.00	115.00	115.00	100.00	115.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			5th St			5th St		
Base Volume Input [veh/h]	47	423	75	26	203	46	47	91	104	100	248	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	13	3	0	22	0	0	0	14	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	41	0	0	24	0	0	61	0	0	47
Total Hourly Volume [veh/h]	55	436	37	26	225	22	47	91	57	104	248	43
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	125	11	7	65	6	14	26	16	30	71	12
Total Analysis Volume [veh/h]	63	501	43	30	259	25	54	105	66	120	285	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			2			1		
v_co, Outbound Pedestrian Volume crossing	0			0			1			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	40	0	0	40	0	0	30	0	0	30	0
Amber [s]	0.0	4.1	0.0	0.0	4.1	0.0	0.0	3.4	0.0	0.0	3.4	0.0
All red [s]	0.0	2.8	0.0	0.0	2.8	0.0	0.0	2.4	0.0	0.0	2.4	0.0
Split [s]	0	33	0	0	33	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0
Walk [s]	0	8	0	0	8	0	0	8	0	0	8	0
Pedestrian Clearance [s]	0	20	0	0	20	0	0	19	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.9	0.0	0.0	3.8	0.0	0.0	3.8	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	6.90	6.90	6.90	5.80	5.80	5.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	4.90	4.90	4.90	4.90	4.90	4.90	3.80	3.80	3.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	36	36	36	36	36	36	16	16	16	16	16	16
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.06	0.15	0.15	0.03	0.08	0.08	0.05	0.06	0.04	0.09	0.15	0.03
s, saturation flow rate [veh/h]	1103	1885	1833	869	1885	1827	1102	1885	1598	1297	1885	1576
c, Capacity [veh/h]	652	1040	1012	504	1040	1008	201	477	404	335	477	398
d1, Uniform Delay [s]	8.94	7.65	7.65	10.11	7.07	7.08	28.80	19.22	18.93	24.52	21.38	18.72
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.29	0.62	0.64	0.23	0.28	0.29	0.52	0.17	0.14	0.48	0.90	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.10	0.26	0.27	0.06	0.14	0.14	0.27	0.22	0.16	0.36	0.60	0.12
d, Delay for Lane Group [s/veh]	9.23	8.27	8.29	10.34	7.34	7.37	29.33	19.39	19.07	25.01	22.28	18.83
Lane Group LOS	A	A	A	B	A	A	C	B	B	C	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.46	1.78	1.75	0.24	0.85	0.84	0.82	1.23	0.76	1.67	3.76	0.56
50th-Percentile Queue Length [ft/ln]	11.49	44.58	43.69	6.06	21.27	21.00	20.50	30.71	19.05	41.75	93.99	13.98
95th-Percentile Queue Length [veh/ln]	0.83	3.21	3.15	0.44	1.53	1.51	1.48	2.21	1.37	3.01	6.77	1.01
95th-Percentile Queue Length [ft/ln]	20.68	80.25	78.63	10.90	38.29	37.81	36.91	55.28	34.29	75.15	169.18	25.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.23	8.28	8.29	10.34	7.35	7.37	29.33	19.39	19.07	25.01	22.28	18.83
Movement LOS	A	A	A	B	A	A	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	8.38			7.64			21.68			22.63		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	14.15											
Intersection LOS	B											
Intersection V/C	0.298											

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	12.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	7066.76	15275.94	15415.91	0.00
d_p, Pedestrian Delay [s]	21.61	21.61	21.61	21.61
l_p,int, Pedestrian LOS Score for Intersection	2.772	2.616	2.427	2.367
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	806	806
d_b, Bicycle Delay [s]	11.64	11.64	11.58	11.60
l_b,int, Bicycle LOS Score for Intersection	2.094	1.838	2.032	2.386
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Stewart St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Stewart St		Stewart St		9th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Stewart St		Stewart St		9th St	
Base Volume Input [veh/h]	7	533	405	8	9	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	34	7	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	553	439	15	13	8
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	154	122	4	4	2
Total Analysis Volume [veh/h]	8	614	488	17	14	9
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	8.43	0.00	0.00	0.00	12.56	10.09
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.57	0.00	0.00	0.00	3.15	3.15
d_A, Approach Delay [s/veh]	0.11		0.00		11.59	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.29					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Stewart St / East Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.102

Intersection Setup

Name	Stewart St			Stewart St			East Project Dwy			Commercial Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			East Project Dwy			Commercial Dwy		
Base Volume Input [veh/h]	0	494	10	15	397	0	0	0	0	30	0	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	37	0	0	0	0	34	20	0	22	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	494	10	15	397	34	20	0	22	30	0	45
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	137	3	4	110	9	6	0	6	8	0	13
Total Analysis Volume [veh/h]	41	549	11	17	441	38	22	0	24	33	0	50
Pedestrian Volume [ped/h]	0			0			0			2		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.00	0.02	0.00	0.00	0.06	0.00	0.03	0.10	0.00	0.07
d_M, Delay for Movement [s/veh]	8.44	0.00	0.00	8.62	0.00	0.00	16.08	17.60	10.48	17.34	18.28	10.40
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.05	0.00	0.00	0.31	0.31	0.31	0.34	0.34	0.22
95th-Percentile Queue Length [ft/ln]	2.94	0.00	0.00	1.28	0.00	0.00	7.77	7.77	7.77	8.41	8.41	5.61
d_A, Approach Delay [s/veh]	0.58			0.30			13.15			13.16		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.79											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: Stewart St / Little Ln

Control Type:	Two-way stop	Delay (sec / veh):	38.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.196

Intersection Setup

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Base Volume Input [veh/h]	5	368	13	126	232	69	30	37	16	54	33	106
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	11	11	0	0	0	0	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	388	13	137	243	69	30	37	16	54	33	123
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	108	4	38	68	19	8	10	4	15	9	34
Total Analysis Volume [veh/h]	6	431	14	152	270	77	33	41	18	60	37	137
Pedestrian Volume [ped/h]	0			3			1			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	1	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.00	0.00	0.20	0.22	0.02	0.18	0.11	0.18
d_M, Delay for Movement [s/veh]	7.98	0.00	0.00	8.72	0.00	0.00	38.71	36.30	21.63	17.83	17.84	11.94
Movement LOS	A	A	A	A	A	A	E	E	C	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.47	0.00	0.00	2.02	2.02	2.02	0.63	1.17	1.17
95th-Percentile Queue Length [ft/ln]	0.37	0.00	0.00	11.75	0.00	0.00	50.51	50.51	50.51	15.77	29.15	29.15
d_A, Approach Delay [s/veh]	0.11			2.66			34.29			14.39		
Approach LOS	A			A			D			B		
d_I, Intersection Delay [s/veh]	6.19											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 7: Little Ln / Roop St

Control Type:	Signalized	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.208

Intersection Setup

Name	Roop St			Roop St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	75.00	100.00	75.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Roop St			Roop St			Little Ln			Little Ln		
Base Volume Input [veh/h]	14	283	38	65	172	8	75	135	52	36	20	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	0	0	8	3	0	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	20	0	0	4	0	0	29	0	0	31
Total Hourly Volume [veh/h]	18	283	18	65	172	4	75	143	26	36	33	29
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	76	5	17	46	1	20	38	7	10	9	8
Total Analysis Volume [veh/h]	19	304	19	70	185	4	81	154	28	39	35	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	40	0	0	40	0	15	14	0	20	14	0
Amber [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.0	3.4	0.0	3.0	3.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.2	1.0	0.0	2.1	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.5	1.7	0.0	1.5	1.7	0.0
Walk [s]	0	7	0	0	8	0	0	7	0	0	8	0
Pedestrian Clearance [s]	0	13	0	0	16	0	0	16	0	0	15	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.2	2.4	0.0	3.1	2.4	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	L	C
C, Cycle Length [s]	28	28	28	28	28	28	28	28	28
L, Total Lost Time per Cycle [s]	5.70	5.70	5.70	5.70	5.20	4.40	4.40	5.10	4.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.70	3.70	3.70	3.70	3.20	2.40	2.40	3.10	2.40
g_i, Effective Green Time [s]	7	7	7	7	2	4	4	1	3
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.08	0.14	0.14	0.05	0.10
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.07	0.10	0.05	0.08	0.02	0.02	0.04
s, saturation flow rate [veh/h]	1650	1682	1065	1877	1795	1885	1602	1795	1741
c, Capacity [veh/h]	585	449	371	501	150	256	218	84	166
d1, Uniform Delay [s]	8.18	8.25	11.88	8.25	12.15	11.23	10.49	12.83	11.74
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.19	0.09	0.17	1.13	0.84	0.10	1.49	0.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.38	0.19	0.38	0.54	0.60	0.13	0.47	0.40
d, Delay for Lane Group [s/veh]	8.28	8.44	11.97	8.42	13.28	12.07	10.59	14.32	12.31
Lane Group LOS	A	A	B	A	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.58	0.58	0.33	0.65	0.42	0.73	0.12	0.22	0.32
50th-Percentile Queue Length [ft/ln]	14.51	14.58	8.14	16.19	10.45	18.15	2.98	5.51	8.00
95th-Percentile Queue Length [veh/ln]	1.04	1.05	0.59	1.17	0.75	1.31	0.21	0.40	0.58
95th-Percentile Queue Length [ft/ln]	26.11	26.24	14.65	29.14	18.81	32.67	5.36	9.91	14.40

Movement, Approach, & Intersection Results

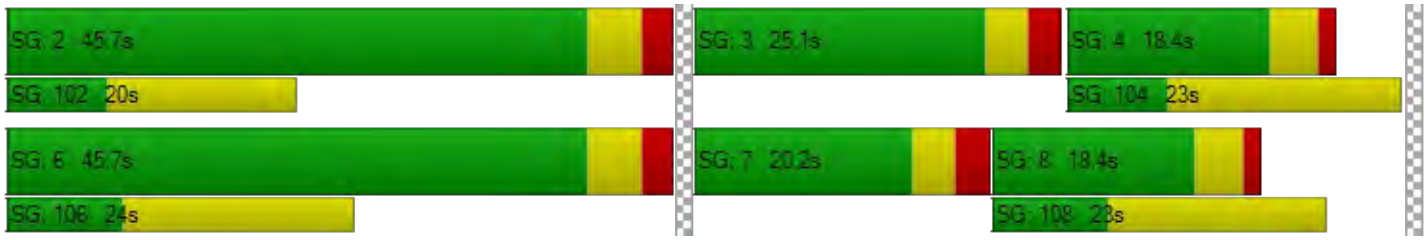
d_M, Delay for Movement [s/veh]	8.28	8.36	8.44	11.97	8.42	8.42	13.28	12.07	10.59	14.32	12.31	12.31
Movement LOS	A	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	8.36			9.38			12.29			13.06		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	10.21											
Intersection LOS	B											
Intersection V/C	0.208											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	12.0	12.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	33.80	33.80	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.142	2.279	2.270	2.191
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	889	889	311	311
d_b, Bicycle Delay [s]	13.89	13.90	32.09	32.09
l_b,int, Bicycle LOS Score for Intersection	1.858	1.994	2.041	1.784
Bicycle LOS	A	A	B	A

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Appendix E
2040 Plus Project LOS Calculations

Intersection Level Of Service Report
Intersection 1: Carson St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Carson St			Carson St			9th St			9th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Carson St			Carson St			9th St			9th St		
Base Volume Input [veh/h]	5	649	9	11	486	5	5	5	5	5	5	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.0000	1.3000	1.3000	1.0000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	2	0	0	0	0	0	6	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	649	14	16	486	7	7	7	7	13	7	12
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	191	4	5	143	2	2	2	2	4	2	4
Total Analysis Volume [veh/h]	8	764	16	19	572	8	8	8	8	15	8	14
Pedestrian Volume [ped/h]	0			0			3			3		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.02	0.01	0.00	0.03	0.03	0.01	0.06	0.03	0.02
d_M, Delay for Movement [s/veh]	8.66	0.00	0.00	9.41	0.00	0.00	17.73	20.21	10.90	19.94	20.48	12.28
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.07	0.00	0.00	0.22	0.22	0.22	0.37	0.37	0.37
95th-Percentile Queue Length [ft/ln]	0.61	0.00	0.00	1.75	0.00	0.00	5.61	5.61	5.61	9.28	9.28	9.28
d_A, Approach Delay [s/veh]	0.09			0.30			16.28			17.16		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.88											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 2: 9th St / N. Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	N. Project Dwy		9th St		9th St	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	N. Project Dwy		9th St		9th St	
Base Volume Input [veh/h]	0	0	14	0	0	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	7	0	4	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	7	18	4	2	16
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	5	1	1	5
Total Analysis Volume [veh/h]	12	8	21	5	2	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.81	8.48	0.00	0.00	7.26	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.53	1.53	0.00	0.00	0.09	0.09
d_A, Approach Delay [s/veh]	8.68		0.00		0.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.81					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Stewart St / 5th St

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.321

Intersection Setup

Name	Stewart St			Stewart St			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	115.00	100.00	115.00	115.00	100.00	115.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			5th St			5th St		
Base Volume Input [veh/h]	25	191	48	133	341	109	27	152	21	11	94	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	23	5	0	7	0	0	0	5	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	35	0	0	74	0	0	17	0	0	24
Total Hourly Volume [veh/h]	47	271	32	173	450	68	35	198	15	15	122	22
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	80	9	51	132	20	10	58	4	4	36	6
Total Analysis Volume [veh/h]	55	319	38	204	529	80	41	233	18	18	144	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	3			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			0			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	40	0	0	40	0	0	30	0	0	30	0
Amber [s]	0.0	4.1	0.0	0.0	4.1	0.0	0.0	3.4	0.0	0.0	3.4	0.0
All red [s]	0.0	2.8	0.0	0.0	2.8	0.0	0.0	2.4	0.0	0.0	2.4	0.0
Split [s]	0	33	0	0	33	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0
Walk [s]	0	8	0	0	8	0	0	8	0	0	8	0
Pedestrian Clearance [s]	0	20	0	0	20	0	0	19	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.9	0.0	0.0	3.8	0.0	0.0	3.8	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	6.90	6.90	6.90	5.80	5.80	5.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	4.90	4.90	4.90	4.90	4.90	4.90	3.80	3.80	3.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	40	40	40	40	40	40	12	12	12	12	12	12
g / C, Green / Cycle	0.61	0.61	0.61	0.61	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.07	0.10	0.10	0.20	0.17	0.17	0.03	0.12	0.01	0.02	0.08	0.02
s, saturation flow rate [veh/h]	818	1885	1806	1031	1885	1800	1254	1885	1581	1156	1885	1602
c, Capacity [veh/h]	530	1156	1107	674	1156	1103	223	361	303	159	361	307
d1, Uniform Delay [s]	8.30	5.38	5.39	8.34	5.83	5.83	27.87	24.24	21.49	30.34	23.00	21.60
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.39	0.29	0.31	1.16	0.57	0.60	0.29	1.44	0.06	0.23	0.53	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.10	0.16	0.16	0.30	0.27	0.27	0.18	0.65	0.06	0.11	0.40	0.08
d, Delay for Lane Group [s/veh]	8.69	5.67	5.70	9.50	6.40	6.43	28.17	25.68	21.55	30.57	23.53	21.68
Lane Group LOS	A	A	A	A	A	A	C	C	C	C	C	C
Critical Lane Group	No	No	No	Yes	No	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.39	0.87	0.85	1.51	1.63	1.57	0.60	3.32	0.22	0.28	1.91	0.32
50th-Percentile Queue Length [ft/ln]	9.87	21.75	21.35	37.80	40.86	39.27	15.05	82.90	5.56	6.95	47.82	8.07
95th-Percentile Queue Length [veh/ln]	0.71	1.57	1.54	2.72	2.94	2.83	1.08	5.97	0.40	0.50	3.44	0.58
95th-Percentile Queue Length [ft/ln]	17.76	39.14	38.43	68.05	73.54	70.69	27.09	149.22	10.00	12.51	86.08	14.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.69	5.68	5.70	9.50	6.41	6.43	28.17	25.68	21.55	30.57	23.53	21.68
Movement LOS	A	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.09			7.19			25.78			23.95		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.95											
Intersection LOS	B											
Intersection V/C	0.321											

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	12.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	4539.77
d_p, Pedestrian Delay [s]	21.61	21.61	21.61	21.61
l_p,int, Pedestrian LOS Score for Intersection	2.590	2.739	2.349	2.583
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	806	806
d_b, Bicycle Delay [s]	11.65	11.64	11.59	11.58
l_b,int, Bicycle LOS Score for Intersection	1.928	2.291	2.069	1.909
Bicycle LOS	A	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Stewart St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	Stewart St		Stewart St		9th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Stewart St		Stewart St		9th St	
Base Volume Input [veh/h]	6	264	360	7	4	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	11	2	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	378	479	11	12	4
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	111	141	3	4	1
Total Analysis Volume [veh/h]	9	445	564	13	14	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	8.63	0.00	0.00	0.00	12.79	10.32
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.00	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.68	0.00	0.00	0.00	2.82	2.82
d_A, Approach Delay [s/veh]	0.17		0.00		12.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.29					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Stewart St / East Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.141

Intersection Setup

Name	Stewart St			Stewart St			East Project Dwy			Commercial Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			East Project Dwy			Commercial Dwy		
Base Volume Input [veh/h]	0	241	59	88	275	0	0	0	0	19	0	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.3000	1.0000	1.0000	1.3000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	0	0	0	11	35	0	38	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	313	59	88	358	11	35	0	38	19	0	29
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	95	18	27	109	3	11	0	12	6	0	9
Total Analysis Volume [veh/h]	13	382	72	107	437	13	43	0	46	23	0	35
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.10	0.00	0.00	0.14	0.00	0.06	0.07	0.00	0.04
d_M, Delay for Movement [s/veh]	8.27	0.00	0.00	8.59	0.00	0.00	18.86	19.97	11.63	16.60	17.94	9.84
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	A
95th-Percentile Queue Length [veh/ln]	0.04	0.00	0.00	0.32	0.00	0.00	0.74	0.74	0.74	0.22	0.22	0.14
95th-Percentile Queue Length [ft/ln]	0.89	0.00	0.00	7.98	0.00	0.00	18.48	18.48	18.48	5.53	5.53	3.52
d_A, Approach Delay [s/veh]	0.23			1.65			15.12			12.52		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	2.65											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: Stewart St / Little Ln

Control Type:	Two-way stop	Delay (sec / veh):	31.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.203

Intersection Setup

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Base Volume Input [veh/h]	5	254	52	71	159	64	10	23	9	34	24	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	19	19	0	0	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	336	68	111	226	83	13	30	12	44	31	52
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	102	21	34	69	25	4	9	4	13	9	16
Total Analysis Volume [veh/h]	9	410	83	135	276	101	16	37	15	54	38	63
Pedestrian Volume [ped/h]	0			3			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	1	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.13	0.00	0.00	0.08	0.20	0.02	0.15	0.11	0.08
d_M, Delay for Movement [s/veh]	8.06	0.00	0.00	8.83	0.00	0.00	30.28	31.56	16.19	17.03	17.19	11.46
Movement LOS	A	A	A	A	A	A	D	D	C	C	C	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.43	0.00	0.00	1.23	1.23	1.23	0.53	0.72	0.72
95th-Percentile Queue Length [ft/ln]	0.57	0.00	0.00	10.75	0.00	0.00	30.68	30.68	30.68	13.35	17.90	17.90
d_A, Approach Delay [s/veh]	0.14			2.33			27.87			14.80		
Approach LOS	A			A			D			B		
d_I, Intersection Delay [s/veh]	4.41											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 7: Little Ln / Roop St

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	Roop St			Roop St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	75.00	100.00	75.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Roop St			Roop St			Little Ln			Little Ln		
Base Volume Input [veh/h]	44	212	20	36	196	48	13	23	15	56	90	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	0	0	14	5	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	32	0	0	13	0	0	33
Total Hourly Volume [veh/h]	58	276	12	47	255	30	17	44	12	73	121	31
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	84	4	14	78	9	5	13	4	22	37	9
Total Analysis Volume [veh/h]	71	337	15	57	311	37	21	54	15	89	148	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			2		
v_di, Inbound Pedestrian Volume crossing m	0			2			0			0		
v_co, Outbound Pedestrian Volume crossing	2			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	40	0	0	40	0	15	14	0	20	14	0
Amber [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.0	3.4	0.0	3.0	3.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.2	1.0	0.0	2.1	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.5	1.7	0.0	1.5	1.7	0.0
Walk [s]	0	7	0	0	8	0	0	7	0	0	8	0
Pedestrian Clearance [s]	0	13	0	0	16	0	0	16	0	0	15	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.2	2.4	0.0	3.1	2.4	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	L	C
C, Cycle Length [s]	30	30	30	30	30	30	30	30	30
L, Total Lost Time per Cycle [s]	5.70	5.70	5.70	5.70	5.20	4.40	4.40	5.10	4.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.70	3.70	3.70	3.70	3.20	2.40	2.40	3.10	2.40
g_i, Effective Green Time [s]	10	10	10	10	1	2	2	3	4
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.03	0.08	0.08	0.09	0.14
(v / s)_i Volume / Saturation Flow Rate	0.19	0.15	0.06	0.19	0.01	0.03	0.01	0.05	0.10
s, saturation flow rate [veh/h]	908	1697	1036	1850	1795	1885	1602	1795	1818
c, Capacity [veh/h]	463	546	378	596	49	152	129	158	251
d1, Uniform Delay [s]	7.90	8.05	11.89	8.45	14.28	12.98	12.72	13.05	12.34
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	0.23	0.07	0.34	2.23	0.52	0.15	1.17	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.46	0.15	0.58	0.43	0.36	0.12	0.56	0.74
d, Delay for Lane Group [s/veh]	8.08	8.28	11.96	8.79	16.51	13.50	12.87	14.23	13.96
Lane Group LOS	A	A	B	A	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.58	0.91	0.28	1.32	0.15	0.30	0.08	0.51	1.05
50th-Percentile Queue Length [ft/ln]	14.54	22.67	7.01	33.09	3.63	7.47	2.02	12.81	26.16
95th-Percentile Queue Length [veh/ln]	1.05	1.63	0.50	2.38	0.26	0.54	0.15	0.92	1.88
95th-Percentile Queue Length [ft/ln]	26.18	40.81	12.62	59.56	6.54	13.45	3.63	23.05	47.10

Movement, Approach, & Intersection Results

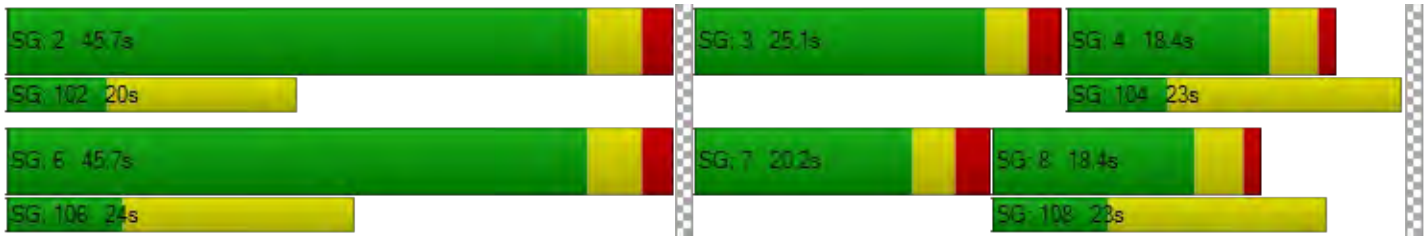
d_M, Delay for Movement [s/veh]	8.08	8.22	8.28	11.96	8.79	8.79	16.51	13.50	12.87	14.23	13.96	13.96
Movement LOS	A	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	8.20			9.23			14.10			14.05		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	10.34											
Intersection LOS	B											
Intersection V/C	0.303											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	12.0	12.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	5450.09	0.00	4505.94
d_p, Pedestrian Delay [s]	34.67	33.80	33.80	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.194	2.351	2.328	2.189
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	889	889	311	311
d_b, Bicycle Delay [s]	13.89	13.89	32.09	32.09
l_b,int, Bicycle LOS Score for Intersection	1.920	2.281	1.730	2.068
Bicycle LOS	A	B	A	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Carson St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	30.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.082

Intersection Setup

Name	Carson St			Carson St			9th St			9th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Carson St			Carson St			9th St			9th St		
Base Volume Input [veh/h]	10	725	10	12	914	11	10	10	10	11	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.0000	1.3000	1.3000	1.0000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	7	5	0	0	0	0	0	4	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	725	20	21	914	14	13	13	13	18	13	21
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	201	6	6	254	4	4	4	4	5	4	6
Total Analysis Volume [veh/h]	14	806	22	23	1016	16	14	14	14	20	14	23
Pedestrian Volume [ped/h]	0			0			2			2		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.03	0.01	0.00	0.08	0.08	0.03	0.10	0.08	0.04
d_M, Delay for Movement [s/veh]	10.47	0.00	0.00	9.62	0.00	0.00	30.04	29.89	16.01	26.57	29.92	14.99
Movement LOS	B	A	A	A	A	A	D	D	C	D	D	B
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.09	0.00	0.00	0.69	0.69	0.69	0.82	0.82	0.82
95th-Percentile Queue Length [ft/ln]	1.59	0.00	0.00	2.21	0.00	0.00	17.27	17.27	17.27	20.43	20.43	20.43
d_A, Approach Delay [s/veh]	0.17			0.21			25.31			22.72		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	1.37											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 2: 9th St / N. Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	N. Project Dwy		9th St		9th St	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	N. Project Dwy		9th St		9th St	
Base Volume Input [veh/h]	0	0	20	0	0	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	4	0	12	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	4	26	12	7	26
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	7	3	2	7
Total Analysis Volume [veh/h]	8	4	29	13	8	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.96	8.51	0.00	0.00	7.30	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.95	0.95	0.00	0.00	0.38	0.38
d_A, Approach Delay [s/veh]	8.81		0.00		1.58	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.80					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Stewart St / 5th St

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.373

Intersection Setup

Name	Stewart St			Stewart St			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	100.00	115.00	100.00	115.00	115.00	100.00	115.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			5th St			5th St		
Base Volume Input [veh/h]	47	423	75	26	203	46	47	91	104	100	248	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	13	3	0	22	0	0	0	14	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	53	0	0	31	0	0	77	0	0	61
Total Hourly Volume [veh/h]	69	563	48	34	286	29	61	118	72	134	322	56
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	156	13	9	79	8	17	33	20	37	89	16
Total Analysis Volume [veh/h]	77	626	53	38	318	32	68	131	80	149	358	62
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			2			1		
v_co, Outbound Pedestrian Volume crossing	0			0			1			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	40	0	0	40	0	0	30	0	0	30	0
Amber [s]	0.0	4.1	0.0	0.0	4.1	0.0	0.0	3.4	0.0	0.0	3.4	0.0
All red [s]	0.0	2.8	0.0	0.0	2.8	0.0	0.0	2.4	0.0	0.0	2.4	0.0
Split [s]	0	33	0	0	33	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0
Walk [s]	0	8	0	0	8	0	0	8	0	0	8	0
Pedestrian Clearance [s]	0	20	0	0	20	0	0	19	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.9	0.0	0.0	4.9	0.0	0.0	3.8	0.0	0.0	3.8	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	6.90	6.90	6.90	6.90	6.90	6.90	5.80	5.80	5.80	5.80	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	4.90	4.90	4.90	4.90	4.90	4.90	3.80	3.80	3.80	3.80	3.80	3.80
g_i, Effective Green Time [s]	33	33	33	33	33	33	20	20	20	20	20	20
g / C, Green / Cycle	0.50	0.50	0.50	0.50	0.50	0.50	0.30	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.07	0.18	0.18	0.05	0.09	0.09	0.07	0.07	0.05	0.12	0.19	0.04
s, saturation flow rate [veh/h]	1038	1885	1834	767	1885	1825	1031	1885	1599	1267	1885	1577
c, Capacity [veh/h]	557	951	926	396	951	921	212	566	480	380	566	473
d1, Uniform Delay [s]	11.43	9.76	9.76	13.52	8.81	8.82	28.31	17.13	16.78	22.86	19.68	16.58
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.08	0.08	0.08	0.08	0.08
I, Upstream Filtering 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
d2, Incremental Delay [s]	0.52	1.07	1.10	0.48	0.43	0.45	0.64	0.15	0.12	0.49	0.87	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.14	0.36	0.36	0.10	0.19	0.19	0.32	0.23	0.17	0.39	0.63	0.13
d, Delay for Lane Group [s/veh]	11.95	10.83	10.86	14.00	9.24	9.27	28.94	17.28	16.90	23.35	20.55	16.67
Lane Group LOS	B	B	B	B	A	A	C	B	B	C	C	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.68	2.74	2.68	0.38	1.26	1.23	1.03	1.43	0.86	2.00	4.55	0.66
50th-Percentile Queue Length [ft/ln]	16.99	68.57	67.01	9.58	31.38	30.87	25.73	35.71	21.40	50.08	113.64	16.39
95th-Percentile Queue Length [veh/ln]	1.22	4.94	4.83	0.69	2.26	2.22	1.85	2.57	1.54	3.61	8.04	1.18
95th-Percentile Queue Length [ft/ln]	30.58	123.43	120.63	17.24	56.48	55.57	46.31	64.28	38.52	90.14	201.06	29.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.95	10.84	10.86	14.00	9.25	9.27	28.94	17.28	16.90	23.35	20.55	16.67
Movement LOS	B	B	B	B	A	A	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	10.96			9.72			20.01			20.86		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]	14.81											
Intersection LOS	B											
Intersection V/C	0.373											

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	12.0	12.0	12.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	6808.47	14964.87	15171.45	0.00
d_p, Pedestrian Delay [s]	21.61	21.61	21.61	21.61
l_p,int, Pedestrian LOS Score for Intersection	2.894	2.702	2.504	2.436
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	803	803	806	806
d_b, Bicycle Delay [s]	11.64	11.64	11.58	11.60
l_b,int, Bicycle LOS Score for Intersection	2.227	1.905	2.147	2.599
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Stewart St / 9th St

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	Stewart St		Stewart St		9th St	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	50.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Stewart St		Stewart St		9th St	
Base Volume Input [veh/h]	7	533	405	8	9	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	34	7	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	713	561	17	16	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	194	152	5	4	3
Total Analysis Volume [veh/h]	10	775	610	18	17	11
Pedestrian Volume [ped/h]	0		0		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.04	0.02
d_M, Delay for Movement [s/veh]	8.82	0.00	0.00	0.00	14.00	10.72
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	0.79	0.00	0.00	0.00	4.48	4.48
d_A, Approach Delay [s/veh]	0.11		0.00		12.71	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Stewart St / East Project Dwy

Control Type:	Two-way stop	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name	Stewart St			Stewart St			East Project Dwy			Commercial Dwy		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			East Project Dwy			Commercial Dwy		
Base Volume Input [veh/h]	0	494	10	15	397	0	0	0	0	30	0	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.3000	1.0000	1.0000	1.3000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	37	0	0	0	0	34	20	0	22	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	642	10	15	516	34	20	0	22	30	0	45
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	178	3	4	143	9	6	0	6	8	0	13
Total Analysis Volume [veh/h]	41	713	11	17	573	38	22	0	24	33	0	50
Pedestrian Volume [ped/h]	0			0			0			2		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.00	0.02	0.01	0.00	0.08	0.00	0.03	0.13	0.00	0.08
d_M, Delay for Movement [s/veh]	8.87	0.00	0.00	9.18	0.00	0.00	18.94	21.02	11.31	21.31	22.27	11.16
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.13	0.00	0.00	0.06	0.00	0.00	0.38	0.38	0.38	0.44	0.44	0.26
95th-Percentile Queue Length [ft/ln]	3.30	0.00	0.00	1.48	0.00	0.00	9.47	9.47	9.47	11.05	11.05	6.39
d_A, Approach Delay [s/veh]	0.48			0.25			14.96			15.20		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	1.62											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 6: Stewart St / Little Ln

Control Type:	Two-way stop	Delay (sec / veh):	123.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Stewart St			Stewart St			Little Ln			Little Ln		
Base Volume Input [veh/h]	5	368	13	126	232	69	30	37	16	54	33	106
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	11	11	0	0	0	0	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	498	17	175	313	90	39	48	21	70	43	155
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	135	5	48	85	24	11	13	6	19	12	42
Total Analysis Volume [veh/h]	8	541	18	190	340	98	42	52	23	76	47	168
Pedestrian Volume [ped/h]	0			3			1			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	Yes
Number of Storage Spaces in Median	0	0	1	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.19	0.00	0.00	0.43	0.43	0.03	0.34	0.18	0.23
d_M, Delay for Movement [s/veh]	8.23	0.00	0.00	9.36	0.00	0.00	123.42	115.97	91.09	28.90	23.20	14.75
Movement LOS	A	A	A	A	A	A	F	F	F	D	C	B
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.69	0.00	0.00	5.74	5.74	5.74	1.42	1.99	1.99
95th-Percentile Queue Length [ft/ln]	0.54	0.00	0.00	17.16	0.00	0.00	143.60	143.60	143.60	35.48	49.73	49.73
d_A, Approach Delay [s/veh]	0.12			2.83			113.76			19.81		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	13.05											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 7: Little Ln / Roop St

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.264

Intersection Setup

Name	Roop St			Roop St			Little Ln			Little Ln		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	75.00	100.00	75.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Roop St			Roop St			Little Ln			Little Ln		
Base Volume Input [veh/h]	14	283	38	65	172	8	75	135	52	36	20	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	0	0	8	3	0	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	5	0	0	37	0	0	41
Total Hourly Volume [veh/h]	22	368	24	85	224	5	98	184	34	47	39	37
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	99	6	23	60	1	26	49	9	13	10	10
Total Analysis Volume [veh/h]	24	396	26	91	241	5	105	198	37	51	42	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	40	0	0	40	0	15	14	0	20	14	0
Amber [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.0	3.4	0.0	3.0	3.4	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.2	1.0	0.0	2.1	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	1.5	1.7	0.0	1.5	1.7	0.0
Walk [s]	0	7	0	0	8	0	0	7	0	0	8	0
Pedestrian Clearance [s]	0	13	0	0	16	0	0	16	0	0	15	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.7	0.0	0.0	3.7	0.0	3.2	2.4	0.0	3.1	2.4	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	R	L	C
C, Cycle Length [s]	32	32	32	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	5.70	5.70	5.70	5.70	5.20	4.40	4.40	5.10	4.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.70	3.70	3.70	3.70	3.20	2.40	2.40	3.10	2.40
g_i, Effective Green Time [s]	10	10	10	10	3	5	5	2	3
g / C, Green / Cycle	0.32	0.32	0.32	0.32	0.09	0.15	0.15	0.06	0.10
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.09	0.13	0.06	0.11	0.02	0.03	0.05
s, saturation flow rate [veh/h]	1789	1679	973	1877	1795	1885	1602	1795	1736
c, Capacity [veh/h]	696	536	369	600	170	272	232	102	180
d1, Uniform Delay [s]	8.38	8.42	12.77	8.46	13.80	12.97	11.88	14.52	13.38
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.18	0.13	0.17	1.35	1.39	0.12	1.39	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.40	0.25	0.41	0.62	0.73	0.16	0.50	0.46
d, Delay for Lane Group [s/veh]	8.49	8.59	12.90	8.62	15.15	14.36	12.00	15.91	14.05
Lane Group LOS	A	A	B	A	B	B	B	B	B
Critical Lane Group	No	No	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.91	0.84	0.50	0.98	0.66	1.19	0.19	0.34	0.49
50th-Percentile Queue Length [ft/ln]	22.72	21.09	12.57	24.38	16.46	29.66	4.82	8.42	12.13
95th-Percentile Queue Length [veh/ln]	1.64	1.52	0.91	1.76	1.18	2.14	0.35	0.61	0.87
95th-Percentile Queue Length [ft/ln]	40.89	37.97	22.63	43.88	29.62	53.39	8.67	15.16	21.84

Movement, Approach, & Intersection Results

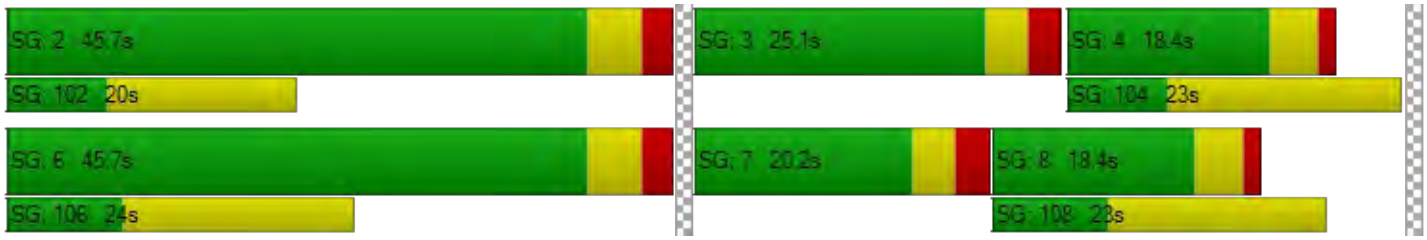
d_M, Delay for Movement [s/veh]	8.49	8.54	8.59	12.90	8.62	8.62	15.15	14.36	12.00	15.91	14.05	14.05
Movement LOS	A	A	A	B	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	8.54			9.78			14.35			14.76		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	11.10											
Intersection LOS	B											
Intersection V/C	0.264											

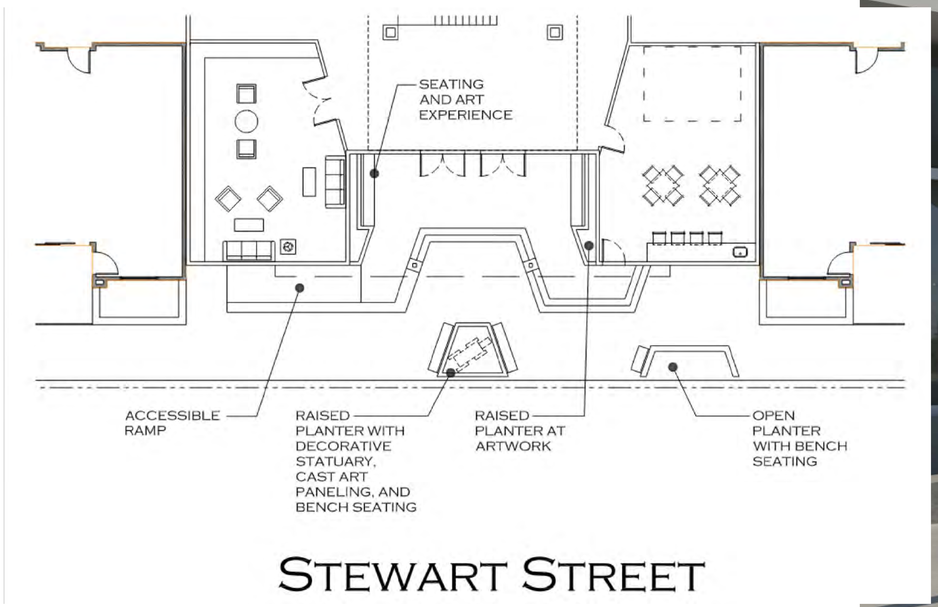
Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	12.0	12.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	33.80	33.80	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.202	2.324	2.308	2.267
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	889	889	311	311
d_b, Bicycle Delay [s]	13.89	13.90	32.09	32.09
l_b,int, Bicycle LOS Score for Intersection	1.948	2.124	2.182	1.847
Bicycle LOS	A	B	B	A

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Renderings - Club House Entry along Stewart Street

Stewart Street Apartments

November 05, 2020

906 South Stewart Street, Carson City, Nevada, 89701
Consolidated Municipality of Carson City, Nevada

Pillar Income
ASSET MANAGEMENT

Perlman
ARCHITECTS