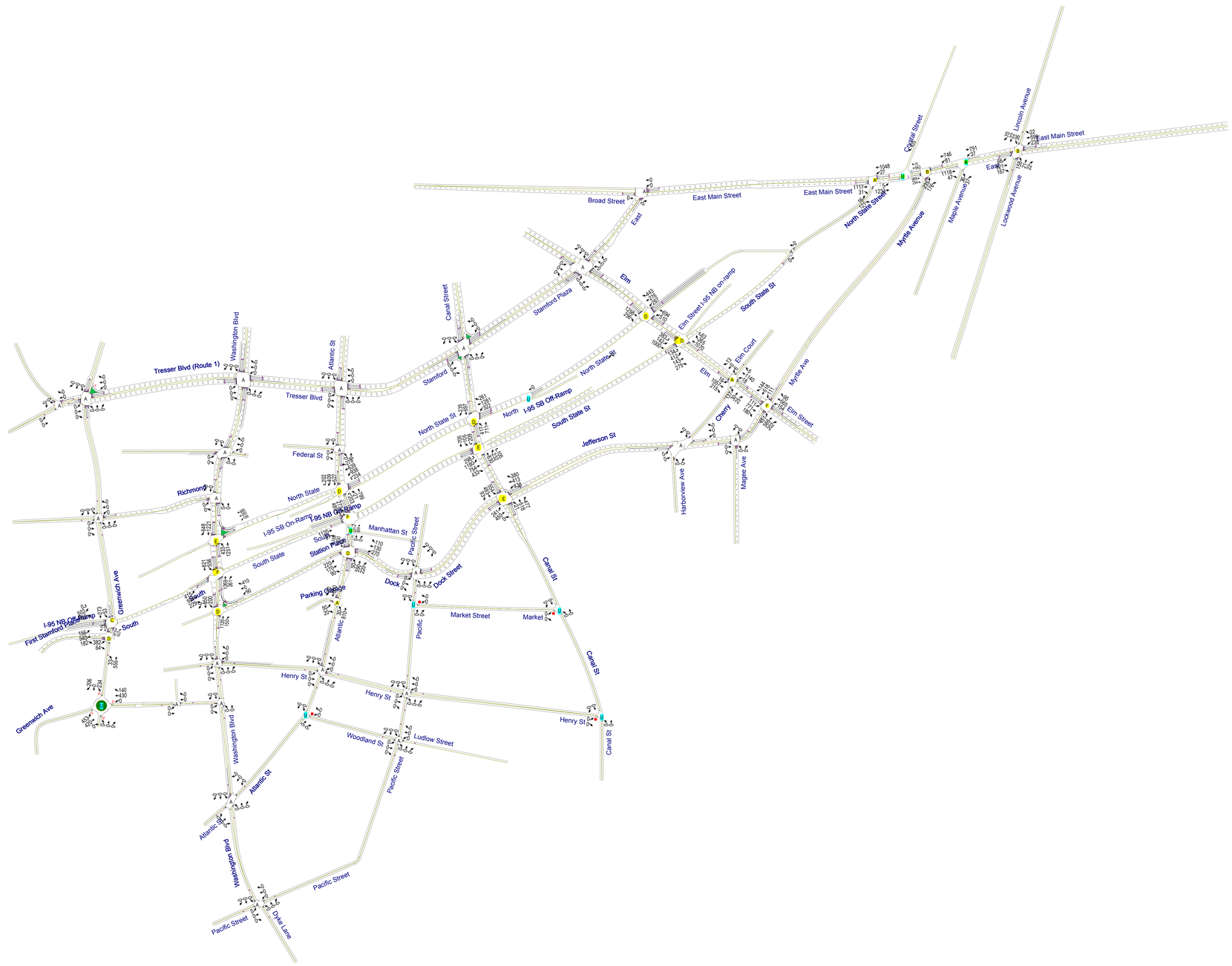
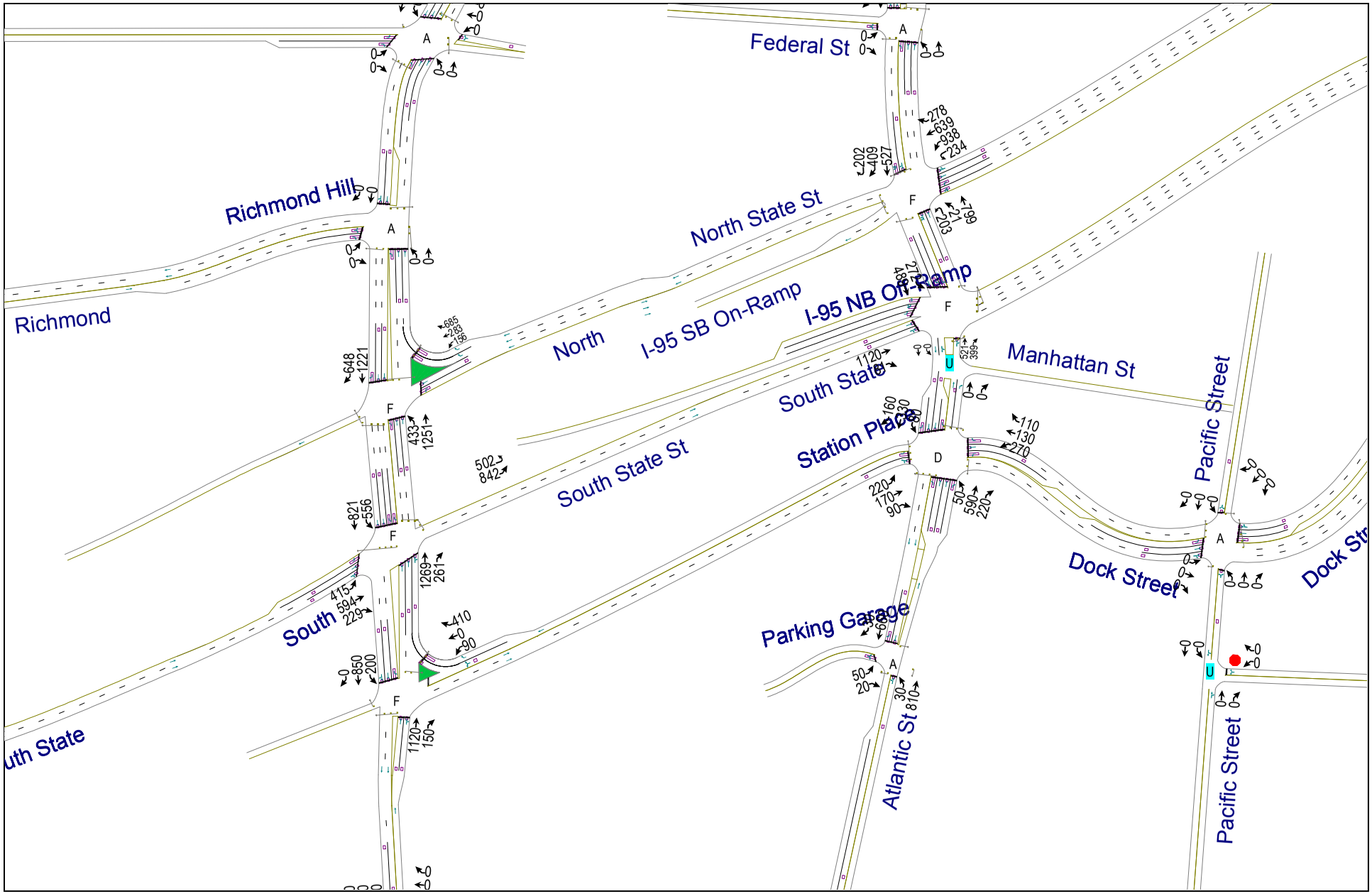

Broad Street
East
East Main Street
East Main Street
East Main Street
East Main Street
Canal Street
North State Street
Myrtle Avenue
Maple Avenue
Lockwood Avenue
Lincoln Avenue
Elm
Stamford Plaza
Elm Street I-95 NB on-ramp
South State St
Elm Court
Myrtle Ave
Elm Street
Cherry
Jefferson St
Harborview Ave
Magee Ave
Tresser Blvd (Route 1)
Washington Blvd
Tresser Blvd
Atlantic St
Canal Street
Stamford
North State St
North I-95 SB Off-Ramp
South State St
North State St.
Federal St
Richmond
North State
I-95 SB On-Ramp
I-95 NB Off-Ramp
Manhattan St
Pacific Street
Station Plaza
South State
Parking Garage
Dock
Dock Street
Canal St
Market Street
Market
Greenwich Ave
First Stamford
I-95 NB Off-Ramp
South
Greenwich Ave
South
Atlantic St
Pacific
Henry St
Henry St
Henry St
Canal St
Washington Blvd
Woodland St
Ludlow Street
Pacific Street
Atlantic St
Atlantic St
Washington Blvd
Pacific Street
Pacific Street
Dyke Lane


Federal St
Richmond Hill
North State St
Richmond
North
I-95 SB On-Ramp
I-95 NB Off-Ramp
South State
Manhattan St
Station Place
Pacific Street
South State St
Dock Street
Parking Garage
Atlantic St
Pacific Street

MOVEMENT SUMMARY

Site: New Site - 1

Greenwich Avenue at Pulaski Street
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Pulaski Street											
5	T	453	2.0	0.521	6.4	LOS A	4.6	32.9	0.54	0.57	48.5
6	R	147	2.0	0.521	12.6	LOS B	4.6	32.9	0.54	0.78	45.9
Approach		600	2.0	0.521	7.9	LOS B	4.6	32.9	0.54	0.62	47.8
North: Greenwich Avenue											
7	L	246	2.0	0.504	8.5	LOS A	4.4	31.2	0.69	0.76	47.1
9	R	217	2.0	0.504	14.3	LOS B	4.4	31.2	0.69	0.87	44.4
Approach		463	2.0	0.504	11.2	LOS B	4.4	31.2	0.69	0.81	45.7
West: Greenwich Avenue											
10	L	477	2.0	0.714	6.6	LOS A	8.6	60.9	0.59	0.57	48.6
11	T	442	2.0	0.714	5.7	LOS A	8.6	60.9	0.59	0.51	48.7
Approach		919	2.0	0.714	6.2	LOS A	8.6	60.9	0.59	0.54	48.6
All Vehicles		1982	2.0	0.714	7.9	LOS A	8.6	60.9	0.60	0.63	47.7

Level of Service (Aver. Int. Delay): LOS A. Based on average delay for all vehicle movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS B. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.
Roundabout LOS Method: Same as Signalised Intersections.
Roundabout Capacity Model: SIDRA Standard.

SIDRA INTERSECTION

DETAILED OUTPUT

Site: New Site - 1

Greenwich Avenue at Pulaski Street
Roundabout

Roundabouts

Roundabout Basic Parameters
Site:New Site - 1

Intersection ID: 1
Roundabout

	Cent Island Diam	Circ Width	Insc Diam.	No.of Circ. Lanes	No.of Entry Lanes	Av.Ent Lane Width	Circulating/Exiting Stream Flow	%HV	Adjust. Flow	%Exit Incl. Constr. Effect	Cap.	O-D Factor
	m	m	m			m	veh/h		pcu/h			
East: Pulaski Street												
Environment Factor: 1.00							Entry/Circulating Flow Adjustment: Medium					
	30	10	50	2	1	4.00	217	2.0	217	0	N	0.965
North: Greenwich Avenue												
Environment Factor: 1.00							Entry/Circulating Flow Adjustment: Medium					
	30	10	50	2	1	4.00	442	2.0	442	0	N	0.934
West: Greenwich Avenue												
Environment Factor: 1.00							Entry/Circulating Flow Adjustment: Medium					
	30	10	50	2	1	4.00	147	2.0	147	0	N	0.981

Roundabout Capacity Model: SIDRA Standard

Roundabout Gap Acceptance Parameters
Site:New Site - 1

Intersection ID: 1
Roundabout

Turn	Lane No.	Lane Type	Circulating/Exiting Stream Flow Rate	Aver Speed	Aver In-Bnch Dist	Prop Headway	Bunched	Critical Gap Hdwy	Dist	Foll-up Headway
			pcu/h	km/h	m	sec		sec	m	sec
East: Pulaski Street										
Environment Factor: 1.00						Entry/Circulating Flow Adjustment: Medium				
Thru	1	Dominant	217	24.1	111.1	2.00	0.232	4.07	27.2	2.54
Right	1	Dominant	217	24.1	111.1	2.00	0.232	4.07	27.2	2.54
North: Greenwich Avenue										
Environment Factor: 1.00						Entry/Circulating Flow Adjustment: Medium				
Left	1	Dominant	442	39.1	88.4	2.00	0.417	3.94	42.8	2.58
Right	1	Dominant	442	39.1	88.4	2.00	0.417	3.94	42.8	2.58
West: Greenwich Avenue										
Environment Factor: 1.00						Entry/Circulating Flow Adjustment: Medium				
Left	1	Dominant	147	24.1	163.5	2.00	0.164	3.98	26.6	2.45
Thru	1	Dominant	147	24.1	163.5	2.00	0.164	3.98	26.6	2.45

Roundabout Capacity Model: SIDRA Standard
P Priority sharing is implied for some movements (Follow-up Headway plus Intra-bunch Headway is larger than the Critical Gap). The O-D Factor (Roundabout Basic Parameters table) allows for priority sharing and priority emphasis.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating or exiting stream

Movements

Movement Capacity Parameters
Site:New Site - 1

Intersection ID: 1
Roundabout

Mov ID	Demand Flow veh/h	HV %	Opposing Flow veh/h	Opposing HV %	Movement Adjust. Flow pcu/h	Total Cap. veh/h	Prac. Deg. Satn xp	Prac. Spare Cap. %	Lane Util %	Deg. Satn x
East: Pulaski Street										
5 T	453	2.0	217	2.0	217	869	0.85	63	100	0.521
6 R	147	2.0	217	2.0	217	283	0.85	63	100	0.521
North: Greenwich Avenue										
7 L	246	2.0	442	2.0	442	489	0.85	69	100	0.504
9 R	217	2.0	442	2.0	442	430	0.85	69	100	0.504
West: Greenwich Avenue										
10 L	477	2.0	147	2.0	147	668	0.85	19	100	0.714*
11 T	442	2.0	147	2.0	147	619	0.85	19	100	0.714*

* Maximum degree of saturation

Movement Performance
Site:New Site - 1

Intersection ID: 1
Roundabout

Mov ID	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Eff. Stop Rate	Total Stops	Perf. Index	Tot.Trav. Distance (veh-km/h)	Tot.Trav. Time (veh-h/h)	Aver. Speed (km/h)
East: Pulaski Street									
5 T	0.81	0.97	6.4	0.57	257.1	7.98	275.3	5.7	48.5
6 R	0.51	0.62	12.6	0.78	115.5	3.12	95.5	2.1	45.9
North: Greenwich Avenue									
7 L	0.58	0.70	8.5	0.76	186.4	4.88	149.6	3.2	47.1
9 R	0.86	1.04	14.3	0.87	188.7	4.93	140.6	3.2	44.4
West: Greenwich Avenue									
10 L	0.88	1.05	6.6	0.57	272.1	8.72	289.7	6.0	48.6
11 T	0.70	0.83	5.7	0.51	227.4	7.86	270.6	5.6	48.7

Fuel Consumption, Emissions and Cost (Total)
Site:New Site - 1

Intersection ID: 1
Roundabout

Mov ID	Cost Total $/h	Fuel Total L/h	CO2 Total kg/h	CO Total kg/h	HC Total kg/h	NOX Total kg/h
East: Pulaski Street						
5 T	186.25	30.8	77.1	5.85	0.124	0.184
6 R	68.98	11.1	27.8	2.16	0.046	0.066
	255.23	41.9	104.8	8.01	0.170	0.250

North: Greenwich Avenue							
7	L	103.95	17.3	43.2	3.40	0.071	0.104
9	R	104.21	16.6	41.6	3.27	0.069	0.099
		208.16	33.9	84.8	6.67	0.140	0.203
West: Greenwich Avenue							
10	L	198.26	32.9	82.2	6.30	0.133	0.197
11	T	182.04	29.9	74.8	5.58	0.120	0.178
		380.29	62.8	157.1	11.88	0.252	0.375
INTERSECTION:		843.68	138.6	346.7	26.56	0.562	0.828

Fuel Consumption, Emissions and Cost (Rate)
Site:New Site - 1

Intersection ID: 1
Roundabout

Mov ID		Cost Rate $/km	Fuel Rate L/100km	CO2 Rate g/km	CO Rate g/km	HC Rate g/km	NOX Rate g/km
East: Pulaski Street							
5	T	0.68	11.2	279.9	21.24	0.450	0.668
6	R	0.72	11.6	290.7	22.64	0.478	0.689
		0.69	11.3	282.7	21.60	0.458	0.674
North: Greenwich Avenue							
7	L	0.69	11.5	288.8	22.69	0.472	0.698
9	R	0.74	11.8	295.9	23.27	0.490	0.702
		0.72	11.7	292.3	22.97	0.481	0.700
West: Greenwich Avenue							
10	L	0.68	11.3	283.8	21.76	0.458	0.682
11	T	0.67	11.1	276.6	20.62	0.442	0.657
		0.68	11.2	280.3	21.21	0.450	0.669
INTERSECTION:		0.69	11.3	283.9	21.75	0.460	0.678

Intersection Negotiation Data
Site:New Site - 1

Intersection ID: 1
Roundabout

From Approach	To Approach	Turn	Negn Radius m	Negn Speed km/h	Negn Dist. m	Appr. Dist. m	Downstream m	Distance User Spec?
East: Pulaski Street								
	North	Right	16.0	24.1	62.7	500	141	No
	West	Thru	43.1	35.1	36.2	500	116	No
North: Greenwich Avenue								
	East	Left	39.0	33.8	19.3	500	117	No
	West	Right	16.0	24.1	62.7	500	146	No
West: Greenwich Avenue								
	East	Thru	57.3	39.1	47.1	500	120	No
	North	Left	39.0	33.8	19.3	500	106	No

```
--------------------------------------------------------------------------------

  Maximum Negotiation (Design) Speed =  50.0 km/h

  Downstream distance is distance travelled from the stopline until exit
  cruise speed is reached (includes negotiation distance).  Acceleration
  distance is weighted for light and heavy vehicles.  The same distance
  applies for both stopped and unstopped vehicles.
```

Movement Speeds and Geometric Delay
Site:New Site - 1

```
Intersection ID: 1
Roundabout

------------------------------------------------------------------------------
                                    Queue Move-up
          App. Speeds    Exit Speeds  -------------  Av. Section Spd  Geom
  Mov     ------------   -----------    1st   2nd    ---------------  Delay
  ID      Cruise  Negn   Negn Cruise    Grn   Grn    Running Overall   sec
------------------------------------------------------------------------------
 East: Pulaski Street
    5 T     60.0  35.1   35.1  60.0                    48.5    48.5     5.1
    6 R     60.0  24.1   24.1  60.0                    45.9    45.9    11.2
------------------------------------------------------------------------------
 North: Greenwich Avenue
    7 L     60.0  33.8   33.8  60.0    22.2            47.1    47.1     5.4
    9 R     60.0  24.1   24.1  60.0    22.2            44.8    44.4    11.2
------------------------------------------------------------------------------
 West: Greenwich Avenue
   10 L     60.0  33.8   33.8  60.0                    48.6    48.6     5.4
   11 T     60.0  39.1   39.1  60.0                    48.7    48.7     4.4
------------------------------------------------------------------------------
  "Running Speed" is the average speed excluding stopped periods.
```

Lanes

Lane Performance
Site:New Site - 1

```
Intersection ID: 1
Roundabout

------------------------------------------------------------
                                        Q u e u e
          Flow   Cap  Deg.  Aver.  Eff.    95% Back      Lane
 Lane                Satn  Delay  Stop  ------------   Length
 No.      veh/h veh/h   x    sec   Rate    veh     m       m
------------------------------------------------------------
 East: Pulaski Street
 1 TR       600  1151 0.521    7.9  0.62    4.6   32.9    500.0
------------------------------------------------------------
 North: Greenwich Avenue
 1 LR       463   919 0.504   11.2  0.81    4.4   31.2    500.0
------------------------------------------------------------
 West: Greenwich Avenue
 1 LT       919  1287 0.714    6.2  0.54    8.6   60.9    500.0
------------------------------------------------------------
```

Lane Flow and Capacity Information
Site:New Site - 1

```
Intersection ID: 1
Roundabout

-----------------------------------------------------
 Lane     Dem Flow (veh/h)     Min    Tot    Deg. Lane
```

No.	Lef	Thru	Rig	Tot	Cap veh/h	Cap veh/h	Satn x	Util %
East: Pulaski Street								
1 TR	0	453	147	600	150	1151	0.521	100
North: Greenwich Avenue								
1 LR	246	0	217	463	150	919	0.504	100
West: Greenwich Avenue								
1 LT	477	442	0	919	150	1287	0.714	100

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

Lane, Approach and Intersection Performance
Site:New Site - 1

Intersection ID: 1
Roundabout

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (sec) 1st	2nd	Deg Sat x	Aver. Delay sec	Longest Queue m	Shrt Lane m
East: Pulaski Street												
1 TR		453	147	600	2				0.521	7.9	33	500
	0	453	147	600	2				0.521	7.9	33	
North: Greenwich Avenue												
1 LR	246		217	463	2				0.504	11.2	31	500
	246	0	217	463	2				0.504	11.2	31	
West: Greenwich Avenue												
1 LT	477	442		919	2				0.714	6.2	61	500
	477	442	0	919	2				0.714	6.2	61	

ALL VEHICLES	Total Flow	% HV	Max X	Aver. Delay	Max Queue
	1982	2	0.714	7.9	61

Peak flow period = 30 minutes.

Queue values in this table are 95% queue (metres)
Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Driver Characteristics
Site:New Site - 1

Intersection ID: 1
Roundabout

Lane No.	Satn Speed km/h	Satn Flow veh/h	Satn Hdwy sec	Satn Spacing m	Average Queue Space m	Driver Response Time sec
East: Pulaski Street						
1 TR	32.4	1418	2.54	22.86	7.12	1.75
North: Greenwich Avenue						
1 LR	29.3	1398	2.58	20.94	7.12	1.70

```
-----------------------------------------------------------
 West: Greenwich Avenue
 1 LT    36.4   1471    2.45    24.72     7.12    1.74
-----------------------------------------------------------

  Saturation Flow and Saturation Headway are derived from follow-up headway.
```

Lane Delays
Site:New Site - 1

```
Intersection ID: 1
Roundabout

------------------------------------------------------------------------
                --------------  Delay (seconds/veh)  ----------------
         Deg.   Stop-line Delay  Acc.    Queuing    Stopd
 Lane    Satn   1st    2nd Total  Dec.  Total MvUp (Idle) Geom Control
 No.       x     d1     d2   dSL   dn    dq   dqm    di    dig   dic
------------------------------------------------------------------------
 East: Pulaski Street
 1 TR   0.521   1.3    0.0   1.3   2.9   0.0   0.0   0.0   6.6    7.9
------------------------------------------------------------------------
 North: Greenwich Avenue
 1 LR   0.504   2.8    0.3   3.1   3.3   0.3   0.1   0.2   8.1   11.2
------------------------------------------------------------------------
 West: Greenwich Avenue
 1 LT   0.714   1.3    0.0   1.3   3.7   0.0   0.0   0.0   4.9    6.2
------------------------------------------------------------------------
  dn is average stop-start delay for all vehicles queued and unqueued
```

Lane Queues (Vehicles)
Site:New Site - 1

```
Intersection ID: 1
Roundabout

-------------------------------------------------------------------------------------
        Deg.  Ovrfl.     Back of Queue (veh)      Queue  Prob.  P'ile   Cyc-Av. Queue
 Lane   Satn  Queue ---------------------------  Stor.  Block  Block   -------------
 No.      x    No      Nb1    Nb2    Nb     95%  Ratio     %      %     Nc     95%
-------------------------------------------------------------------------------------
 East: Pulaski Street
 1 TR  0.521    0.0    1.5    0.0    1.5    4.6   0.07    0.0  100.0    0.2     0.6
-------------------------------------------------------------------------------------
 North: Greenwich Avenue
 1 LR  0.504    0.1    1.4    0.1    1.4    4.4   0.06    0.0  100.0    0.4     1.0
-------------------------------------------------------------------------------------
 West: Greenwich Avenue
 1 LT  0.714    0.0    2.9    0.0    2.9    8.6   0.12    0.0  100.0    0.3     0.8
-------------------------------------------------------------------------------------
```

Lane Queues (Distance)
Site:New Site - 1

```
Intersection ID: 1
Roundabout

-------------------------------------------------------------------------------------
        Deg.  Ovrfl.     Back of Queue (m)        Queue  Prob.  P'ile   Cyc-Av. Queue
 Lane   Satn  Queue ---------------------------  Stor.  Block  Block   -------------
 No.      x    No      Nb1    Nb2    Nb     95%  Ratio     %      %     Nc     95%
-------------------------------------------------------------------------------------
 East: Pulaski Street
 1 TR  0.521    0.0   10.8    0.0   10.8   32.9   0.07    0.0  100.0    1.6     3.9
-------------------------------------------------------------------------------------
 North: Greenwich Avenue
 1 LR  0.504    0.4    9.7    0.6   10.3   31.2   0.06    0.0  100.0    2.8     7.1
```

```
-------------------------------------------------------------------------------------
 West: Greenwich Avenue
 1 LT  0.714    0.0   20.6    0.0   20.6   60.9   0.12    0.0  100.0    2.3     5.8
-------------------------------------------------------------------------------------
```

Lane Queue Percentiles (Vehicles)
Site:New Site - 1

```
Intersection ID: 1
Roundabout

-----------------------------------------------------
        Deg.              Percentile (veh)
 Lane   Satn   ----------------------------------------
 No.      x     50%    70%    85%    90%    95%    98%
-----------------------------------------------------
 East: Pulaski Street
 1 TR  0.521    1.5    2.0    3.1    3.7    4.6    5.3
-----------------------------------------------------
 North: Greenwich Avenue
 1 LR  0.504    1.4    1.9    2.9    3.5    4.4    5.1
-----------------------------------------------------
 West: Greenwich Avenue
 1 LT  0.714    2.9    3.9    5.8    6.9    8.6    9.8
-----------------------------------------------------
```

Lane Queue Percentiles (Distance)
Site:New Site - 1

```
Intersection ID: 1
Roundabout

-----------------------------------------------------
        Deg.              Percentile (metres)
 Lane   Satn   ----------------------------------------
 No.      x     50%    70%    85%    90%    95%    98%
-----------------------------------------------------
 East: Pulaski Street
 1 TR  0.521   10.9   14.5   21.9   26.5   32.9   37.9
-----------------------------------------------------
 North: Greenwich Avenue
 1 LR  0.504   10.3   13.7   20.8   25.1   31.2   36.0
-----------------------------------------------------
 West: Greenwich Avenue
 1 LT  0.714   20.7   27.5   41.1   49.4   60.9   70.0
-----------------------------------------------------
```

Lane Stops
Site:New Site - 1

```
Intersection ID: 1
Roundabout

-------------------------------------------------------------------------
                                                  Queue   Total
        Deg.  -- Effective Stop Rate --  Total  Move-up  Queue   Prop.
 Lane   Satn             Geom. Overall  Stops    Rate  Move-ups Queued
 No.      x    he1   he2   hig     h       H      hqm     Hqm     pq
-------------------------------------------------------------------------
 East: Pulaski Street
 1 TR  0.521  0.37  0.00  0.25   0.62    372.6    0.00     0.0   0.54
-------------------------------------------------------------------------
 North: Greenwich Avenue
 1 LR  0.504  0.60  0.02  0.19   0.81    375.1    0.04    18.1   0.69
-------------------------------------------------------------------------
```

```
 West: Greenwich Avenue
 1 LT  0.714  0.37  0.00  0.18   0.54    499.5    0.00     0.0   0.59
-------------------------------------------------------------------------
  hig is the average value for all movements in a shared lane
  hqm is average queue move-up rate for all vehicles queued and unqueued
```

Flow Rates and Demand Analysis

Movement Definitions and Flow Rates (O-D)
Site:New Site - 1

```
Intersection ID: 1
Roundabout

-------------------------------------------------------------------------
 From      To          Mov           Flow Rate   Flow Scale   Peak Flow
 Approach  Approach    ID    Turn     LV    HV   Fixed   Var    Factor
-------------------------------------------------------------------------
 East: Pulaski Street
           North        6   Right   144     3    1.00   1.00     0.95
           West         5   Thru    444     9    1.00   1.00     0.95
-------------------------------------------------------------------------
 North: Greenwich Avenue
           East         7   Left    241     5    1.00   1.00     0.95
           West         9   Right   213     4    1.00   1.00     0.95
-------------------------------------------------------------------------
 West: Greenwich Avenue
           East        11   Thru    433     9    1.00   1.00     0.95
           North       10   Left    467    10    1.00   1.00     0.95
-------------------------------------------------------------------------
Unit Time for Volumes =  60 minutes
Peak Flow Period =  30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor
```

Flow Rates (Separate Light and Heavy Vehicles)
Site:New Site - 1

```
Intersection ID: 1
Roundabout

-----------------------------------------------
  Mov          Left       Through       Right
  ID        ---------    ---------    ---------
             LV    HV     LV    HV     LV    HV
-----------------------------------------------
Demand flows in veh/h as used by the program
East: Pulaski Street
    5 T       0     0    444     9      0     0
    6 R       0     0      0     0    144     3
-----------------------------------------------
North: Greenwich Avenue
    7 L     241     5      0     0      0     0
    9 R       0     0      0     0    213     4
-----------------------------------------------
West: Greenwich Avenue
   10 L     467    10      0     0      0     0
   11 T       0     0    433     9      0     0
-----------------------------------------------
Unit Time for Volumes =  60 minutes
Peak Flow Period =  30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor
```

Flow Rates (Total Vehicles and Percent Heavy)
Site:New Site - 1

```
Intersection ID: 1
Roundabout

------------------------------------------------
  Mov          Left        Through        Right
  ID        ----------    ----------    ----------
            Total  %HV    Total  %HV    Total  %HV
------------------------------------------------
Demand flows in veh/h as used by the program
East: Pulaski Street
    5 T        0   0.0     453   2.0       0   0.0
    6 R        0   0.0       0   0.0     147   2.0
------------------------------------------------
North: Greenwich Avenue
    7 L      246   2.0       0   0.0       0   0.0
    9 R        0   0.0       0   0.0     217   2.0
------------------------------------------------
West: Greenwich Avenue
   10 L      477   2.0       0   0.0       0   0.0
   11 T        0   0.0     442   2.0       0   0.0
------------------------------------------------
Unit Time for Volumes =  60 minutes
Peak Flow Period =  30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor
```

Other

Model Settings
Site:New Site - 1

```
Intersection ID: 1
Roundabout

* Basic Parameters:
  Intersection Type: Roundabout
  Driving on the left-hand side of the road
  Input data specified in Metric units
  Model Defaults: Standard Left
  Peak Flow Period (for performance): 30 minutes
  Unit time (for volumes): 60 minutes.
  SIDRA Standard Delay model used
  SIDRA Standard Queue model used
  Level of Service based on: Delay (HCM method)
  Queue percentile: 95%
```

Parameters Used in Cost Calculations
Site:New Site - 1

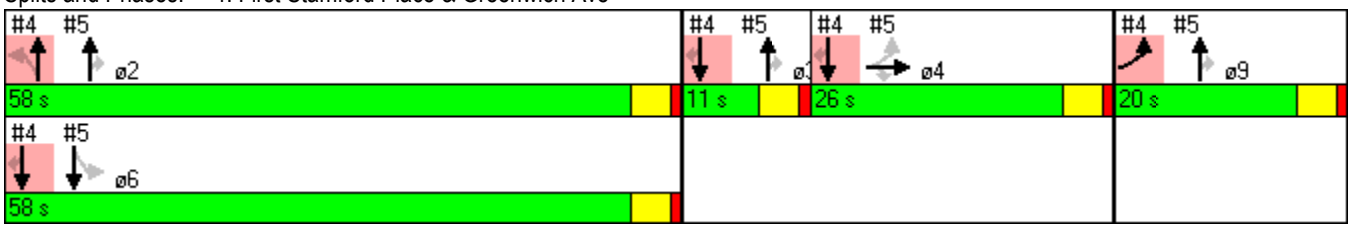
```
Intersection ID: 1
Roundabout


   Pump price of fuel ($/L)                 =     1.200
   Fuel resource cost factor                =      0.50
   Ratio of running cost to fuel cost       =       3.0
   Average income ($/h)                     =     32.00
   Time value factor                        =      0.60
   Light vehicle mass (1000 kg)             =       1.4
   Heavy vehicle mass (1000 kg)             =      11.0
   Light vehicle idle fuel rate (L/h)       =     1.350
   Heavy vehicle idle fuel rate (L/h)       =     2.000
```

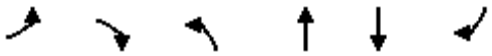
Diagnostics
Site:New Site - 1

Lane Group	EBL	NBL	NBT	SBT	SBR	ø3	ø4	ø6
Lane Configurations								
Volume (vph)	382	33	555	381	74			
Lane Group Flow (vph)	485	0	639	422	72			
Turn Type		Perm			Perm			
Protected Phases	9		2	6 3 4		3	4	6
Permitted Phases		2			6 3 4			
Detector Phase	9	2	2	6 3 4	6 3 4			
Switch Phase								
Minimum Initial (s)	8.0	12.0	12.0			2.0	12.0	12.0
Minimum Split (s)	20.0	24.5	24.5			6.5	24.5	24.5
Total Split (s)	20.0	58.0	58.0	95.0	95.0	11.0	26.0	58.0
Total Split (%)	17.4%	50.4%	50.4%	82.6%	82.6%	10%	23%	50%
Yellow Time (s)	3.5	3.5	3.5			3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-0.5	-0.5	-0.5	-0.5			
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0			
Lead/Lag						Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	
Recall Mode	Min	C-Min	C-Min			None	None	C-Min
v/c Ratio	0.92		0.80	0.31	0.06			
Control Delay	70.9		35.5	2.6	0.1			
Queue Delay	0.5		0.0	0.6	1.6			
Total Delay	71.4		35.5	3.2	1.7			
Queue Length 50th (ft)	~183		381	24	0			
Queue Length 95th (ft)	#296		536	55	0			
Internal Link Dist (ft)	173		439	64				
Turn Bay Length (ft)								
Base Capacity (vph)	529		837	1373	1186			
Starvation Cap Reductn	0		0	579	992			
Spillback Cap Reductn	3		1	0	0			
Storage Cap Reductn	0		0	0	0			
Reduced v/c Ratio	0.92		0.76	0.53	0.37			

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: First Stamford Place & Greenwich Ave





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	382	64	33	555	381	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.97			1.00	0.95	0.95
Frt	0.98			1.00	1.00	0.85
Flt Protected	0.96			1.00	1.00	1.00
Satd. Flow (prot)	3390			1858	1765	1504
Flt Permitted	0.96			0.96	1.00	1.00
Satd. Flow (perm)	3390			1783	1765	1504
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	415	70	36	603	414	80
RTOR Reduction (vph)	12	0	0	0	1	16
Lane Group Flow (vph)	473	0	0	639	421	56
Turn Type			Perm			Perm
Protected Phases	9			2	6 3 4	
Permitted Phases			2			6 3 4
Actuated Green, G (s)	17.0			51.2	89.0	89.0
Effective Green, g (s)	17.5			51.7	89.5	89.5
Actuated g/C Ratio	0.15			0.45	0.78	0.78
Clearance Time (s)	4.5			4.5		
Vehicle Extension (s)	3.0			3.5		
Lane Grp Cap (vph)	516			802	1374	1171
v/s Ratio Prot	c0.14				c0.24	
v/s Ratio Perm				c0.36		0.04
v/c Ratio	0.92			0.80	0.31	0.05
Uniform Delay, d1	48.0			27.1	3.7	2.9
Progression Factor	1.00			1.00	0.58	0.00
Incremental Delay, d2	21.1			8.1	0.1	0.0
Delay (s)	69.1			35.2	2.3	0.0
Level of Service	E			D	A	A
Approach Delay (s)	69.1			35.2	1.9	
Approach LOS	E			D	A	

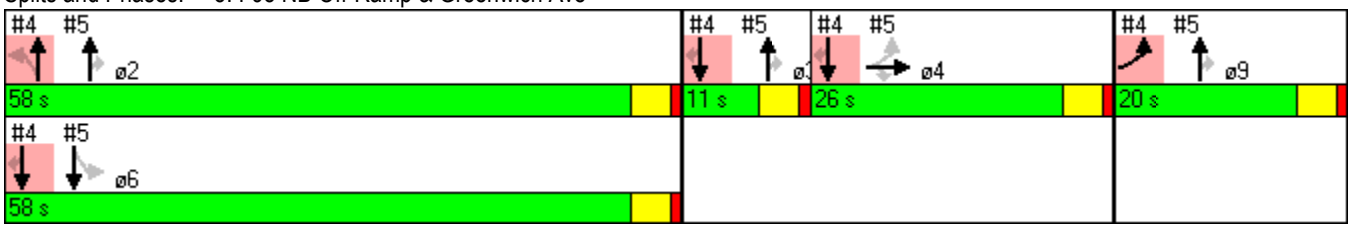
Intersection Summary			
HCM Average Control Delay	35.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

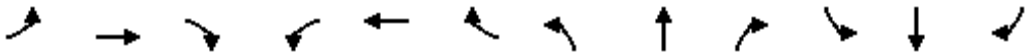
Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT	ø2	ø3	ø9
Lane Configurations										
Volume (vph)	156	540	182	415	522	53	273			
Lane Group Flow (vph)	170	587	198	451	567	58	297			
Turn Type	Perm		Perm		Perm	Perm				
Protected Phases		4		2 9 3			6	2	3	9
Permitted Phases	4		4		2 9 3	6				
Detector Phase	4	4	4	2 9 3	2 9 3	6	6			
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0			12.0	12.0	12.0	2.0	8.0
Minimum Split (s)	24.5	24.5	24.5			24.5	24.5	24.5	6.5	20.0
Total Split (s)	26.0	26.0	26.0	89.0	89.0	58.0	58.0	58.0	11.0	20.0
Total Split (%)	22.6%	22.6%	22.6%	77.4%	77.4%	50.4%	50.4%	50%	10%	17%
Yellow Time (s)	3.5	3.5	3.5			3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0			1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5			
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Lead/Lag	Lag	Lag	Lag						Lead	
Lead-Lag Optimize?	Yes	Yes	Yes						Yes	
Recall Mode	None	None	None			C-Min	C-Min	C-Min	None	Min
v/c Ratio	0.49	0.84	0.42	0.33	0.49	0.91	0.19			
Control Delay	46.9	57.1	8.5	0.4	1.2	122.7	18.9			
Queue Delay	0.0	0.0	0.0	2.9	2.6	0.0	0.0			
Total Delay	46.9	57.1	8.5	3.2	3.8	122.7	18.9			
Queue Length 50th (ft)	114	223	0	1	3	37	65			
Queue Length 95th (ft)	185	#316	63	m1	m29	#126	93			
Internal Link Dist (ft)		744		64			707			
Turn Bay Length (ft)	300		300			100				
Base Capacity (vph)	348	695	470	1367	1166	67	1662			
Starvation Cap Reductn	0	0	0	783	461	0	0			
Spillback Cap Reductn	0	0	4	0	0	0	71			
Storage Cap Reductn	0	0	0	0	0	0	0			
Reduced v/c Ratio	0.49	0.84	0.42	0.77	0.80	0.87	0.19			

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: I-95 NB Off-Ramp & Greenwich Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	540	182	0	0	0	0	415	522	53	273	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00					1.00	1.00	1.00	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583					1863	1583	1770	3539	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.08	1.00	
Satd. Flow (perm)	1770	3539	1583					1863	1583	144	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	587	198	0	0	0	0	451	567	58	297	0
RTOR Reduction (vph)	0	0	159	0	0	0	0	0	5	0	0	0
Lane Group Flow (vph)	170	587	39	0	0	0	0	451	562	58	297	0
Turn Type	Perm		Perm						Perm	Perm		
Protected Phases		4						2 9 3			6	
Permitted Phases	4		4						2 9 3	6		
Actuated Green, G (s)	22.1	22.1	22.1					83.9	83.9	51.2	51.2	
Effective Green, g (s)	22.6	22.6	22.6					84.4	84.4	51.7	51.7	
Actuated g/C Ratio	0.20	0.20	0.20					0.73	0.73	0.45	0.45	
Clearance Time (s)	4.5	4.5	4.5							4.5	4.5	
Vehicle Extension (s)	4.0	4.0	4.0							3.5	3.5	
Lane Grp Cap (vph)	348	695	311					1367	1162	65	1591	
v/s Ratio Prot		c0.17						0.24			0.08	
v/s Ratio Perm	0.10		0.02						c0.36	c0.40		
v/c Ratio	0.49	0.84	0.13					0.33	0.48	0.89	0.19	
Uniform Delay, d1	41.1	44.5	38.1					5.4	6.3	29.1	19.0	
Progression Factor	1.00	1.00	1.00					0.01	0.07	1.00	1.00	
Incremental Delay, d2	1.5	9.6	0.2					0.1	0.2	84.0	0.3	
Delay (s)	42.5	54.1	38.3					0.1	0.6	113.1	19.3	
Level of Service	D	D	D					A	A	F	B	
Approach Delay (s)		48.8			0.0			0.4			34.6	
Approach LOS		D			A			A			C	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	156	283	685	433	1251	1221	648
Lane Group Flow (vph)	164	298	721	456	1317	1285	682
Turn Type	Perm		Perm	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	20.0	20.0	20.0
Minimum Split (s)	29.0	29.0	29.0	9.0	25.0	25.0	25.0
Total Split (s)	33.0	33.0	33.0	31.0	82.0	51.0	51.0
Total Split (%)	28.7%	28.7%	28.7%	27.0%	71.3%	44.3%	44.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	Min	C-Max	C-Max	C-Max
v/c Ratio	0.41	0.70	1.10	1.13	0.63	1.02	0.99
Control Delay	25.3	33.5	93.3	101.6	16.3	65.1	58.6
Queue Delay	0.0	0.0	0.0	273.1	92.2	169.2	87.9
Total Delay	25.3	33.5	93.3	374.7	108.5	234.3	146.5
Queue Length 50th (ft)	75	173	~351	~358	271	~532	403
Queue Length 95th (ft)	m108	m247	m#466	m280	m125	#669	#671
Internal Link Dist (ft)		134			155	253	
Turn Bay Length (ft)							
Base Capacity (vph)	402	423	654	404	2088	1258	687
Starvation Cap Reductn	0	0	0	143	990	350	129
Spillback Cap Reductn	0	0	0	0	0	92	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.70	1.10	1.75	1.20	1.42	1.22

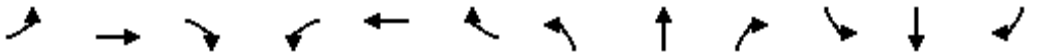
Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 34 (30%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 6: North State St & Washington Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	156	283	685	433	1251	0	0	1221	648
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	13	10	11	11	11	11	12
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor				1.00	1.00	0.88	1.00	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1593	1676	2592	1486	3079			3079	1425
Flt Permitted				0.95	1.00	1.00	0.08	1.00			1.00	1.00
Satd. Flow (perm)				1593	1676	2592	125	3079			3079	1425
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	164	298	721	456	1317	0	0	1285	682
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	105
Lane Group Flow (vph)	0	0	0	164	298	721	456	1317	0	0	1285	577
Turn Type				Perm		Perm	pm+pt					Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				28.0	28.0	28.0	77.0	77.0			46.0	46.0
Effective Green, g (s)				29.0	29.0	29.0	77.0	78.0			47.0	47.0
Actuated g/C Ratio				0.25	0.25	0.25	0.67	0.68			0.41	0.41
Clearance Time (s)				5.0	5.0	5.0	4.0	5.0			5.0	5.0
Vehicle Extension (s)				2.0	2.0	2.0	2.0	0.2			0.2	0.2
Lane Grp Cap (vph)				402	423	654	403	2088			1258	582
v/s Ratio Prot					0.18		c0.27	0.43			0.42	
v/s Ratio Perm				0.10		c0.28	c0.49					0.41
v/c Ratio				0.41	0.70	1.10	1.13	0.63			1.02	0.99
Uniform Delay, d1				35.8	39.1	43.0	36.4	10.4			34.0	33.8
Progression Factor				0.63	0.65	0.68	1.32	1.52			1.00	1.00
Incremental Delay, d2				0.2	3.5	63.5	62.5	0.1			30.9	35.4
Delay (s)				22.6	28.7	92.6	110.5	15.9			64.9	69.2
Level of Service				C	C	F	F	B			E	E
Approach Delay (s)		0.0			66.8			40.3			66.4	
Approach LOS		A			E			D			E	

Intersection Summary			
HCM Average Control Delay	57.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	135.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	NBT	SBL	SBT	ø3
Lane Configurations						
Volume (vph)	415	594	1269	556	821	
Lane Group Flow (vph)	437	866	1611	585	864	
Turn Type	Prot			Prot		
Protected Phases	4		2	1	6	3
Permitted Phases		4				
Detector Phase	4	4	2	1	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	7.0	7.0	4.0	4.0
Minimum Split (s)	20.0	20.0	17.0	11.0	20.0	30.0
Total Split (s)	30.0	30.0	34.0	21.0	55.0	30.0
Total Split (%)	26.1%	26.1%	29.6%	18.3%	47.8%	26%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?			Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	Ped
v/c Ratio	0.78	0.78	1.35	1.37	0.63	
Control Delay	37.4	31.5	189.2	221.0	10.7	
Queue Delay	123.8	0.0	79.7	41.4	3.4	
Total Delay	161.1	31.5	268.8	262.5	14.1	
Queue Length 50th (ft)	295	293	~560	~288	70	
Queue Length 95th (ft)	m399	m372	m#558	m#292	m70	
Internal Link Dist (ft)		350	225		155	
Turn Bay Length (ft)	150					
Base Capacity (vph)	562	1106	1190	426	1365	
Starvation Cap Reductn	0	0	138	27	392	
Spillback Cap Reductn	217	0	103	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.27	0.78	1.53	1.47	0.89	

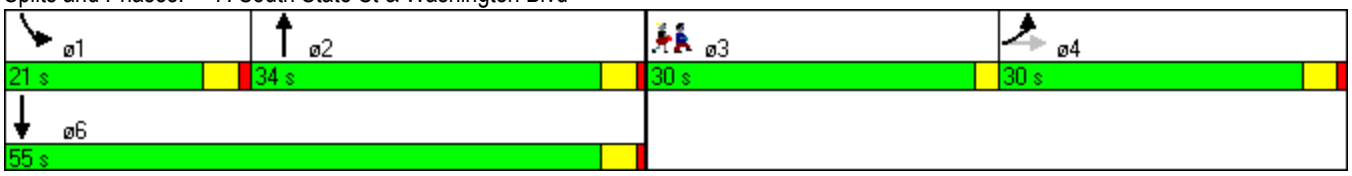
Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 36 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

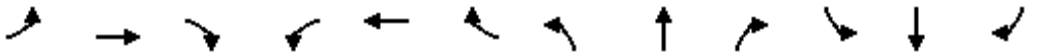
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 7: South State St & Washington Blvd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	415	594	229	0	0	0	0	1269	261	556	821	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	12	12	12	10	11	11
Total Lost time (s)	4.0	4.0						4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95						0.91		0.97	0.95	
Frt	1.00	0.96						0.97		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (prot)	1540	2951						4460		2884	3079	
Flt Permitted	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (perm)	1540	2951						4460		2884	3079	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	437	625	241	0	0	0	0	1336	275	585	864	0
RTOR Reduction (vph)	0	29	0	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	437	837	0	0	0	0	0	1584	0	585	864	0
Turn Type	Prot									Prot		
Protected Phases	4							2		1	6	
Permitted Phases		4										
Actuated Green, G (s)	42.0	42.0						30.0		17.0	51.0	
Effective Green, g (s)	42.0	42.0						30.0		17.0	51.0	
Actuated g/C Ratio	0.37	0.37						0.26		0.15	0.44	
Clearance Time (s)	4.0	4.0						4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)	562	1078						1163		426	1365	
v/s Ratio Prot	0.28							c0.36		c0.20	0.28	
v/s Ratio Perm		c0.28										
v/c Ratio	0.78	0.78						1.36		1.37	0.63	
Uniform Delay, d1	32.4	32.3						42.5		49.0	24.8	
Progression Factor	0.88	0.87						0.73		1.40	0.40	
Incremental Delay, d2	5.3	2.8						164.8		172.8	0.7	
Delay (s)	33.6	31.0						195.7		241.5	10.5	
Level of Service	C	C						F		F	B	
Approach Delay (s)		31.9			0.0			195.7			103.8	
Approach LOS		C			A			F			F	

Intersection Summary			
HCM Average Control Delay	116.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	135.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT	ø3
Lane Configurations						
Volume (vph)	0	410	1120	200	850	
Lane Group Flow (vph)	276	268	1380	217	924	
Turn Type		pm+ov		pm+pt		
Protected Phases	8	1	2	1	6	3
Permitted Phases		8		6		
Detector Phase	8	1	2	1	6	
Switch Phase						
Minimum Initial (s)	9.0	7.0	15.0	7.0	15.0	4.0
Minimum Split (s)	14.0	11.0	20.0	11.0	20.0	20.0
Total Split (s)	25.0	16.0	54.0	16.0	70.0	20.0
Total Split (%)	21.7%	13.9%	47.0%	13.9%	60.9%	17%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	1.0	2.0	1.0	2.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	0.0	-1.0	
Total Lost Time (s)	4.0	3.0	4.0	4.0	4.0	
Lead/Lag		Lead	Lag	Lead		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Max	None	C-Max	Ped
v/c Ratio	0.78	0.52	1.04	0.96	0.50	
Control Delay	65.5	34.2	68.7	87.4	6.3	
Queue Delay	0.0	0.0	125.8	0.0	0.2	
Total Delay	65.5	34.2	194.4	87.4	6.5	
Queue Length 50th (ft)	217	141	~580	128	94	
Queue Length 95th (ft)	#345	291	#720	m#264	95	
Internal Link Dist (ft)	179		86		225	
Turn Bay Length (ft)						
Base Capacity (vph)	353	518	1324	226	1830	
Starvation Cap Reductn	0	0	289	0	261	
Spillback Cap Reductn	0	0	1	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.78	0.52	1.33	0.96	0.59	

Intersection Summary

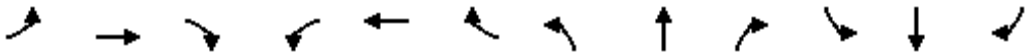
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 39 (34%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 8: Station Place & Washington Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	90	0	410	0	1120	150	200	850	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	14	12	12	11	12	12	12	12
Total Lost time (s)					4.0	3.0		4.0		4.0	4.0	
Lane Util. Factor					0.95	0.95		0.95		1.00	0.95	
Frt					0.90	0.85		0.98		1.00	1.00	
Flt Protected					0.98	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1508	1354		3025		1593	3185	
Flt Permitted					0.98	1.00		1.00		0.08	1.00	
Satd. Flow (perm)					1508	1354		3025		127	3185	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	98	0	446	0	1217	163	217	924	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	9	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	276	268	0	1371	0	217	924	0
Turn Type				Perm		pm+ov				pm+pt		
Protected Phases					8	1		2		1	6	
Permitted Phases				8		8				6		
Actuated Green, G (s)					25.9	38.0		49.0		65.1	65.1	
Effective Green, g (s)					26.9	40.0		50.0		65.1	66.1	
Actuated g/C Ratio					0.23	0.35		0.43		0.57	0.57	
Clearance Time (s)					5.0	4.0		5.0		4.0	5.0	
Vehicle Extension (s)					2.0	2.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					353	471		1315		226	1831	
v/s Ratio Prot						0.06		c0.45		c0.10	0.29	
v/s Ratio Perm					0.18	0.13				0.44		
v/c Ratio					0.78	0.57		1.04		0.96	0.50	
Uniform Delay, d1					41.3	30.5		32.5		35.0	14.6	
Progression Factor					1.19	1.09		1.00		1.63	0.37	
Incremental Delay, d2					9.9	0.9		36.7		41.1	0.8	
Delay (s)					59.0	34.2		69.2		98.0	6.2	
Level of Service					E	C		E		F	A	
Approach Delay (s)		0.0			46.8			69.2			23.7	
Approach LOS		A			D			E			C	

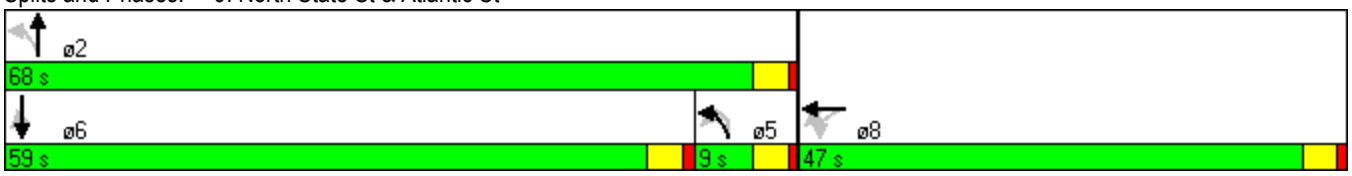
Intersection Summary			
HCM Average Control Delay	48.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBT	NBL2	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	938	639	203	21	799	527	409
Lane Group Flow (vph)	1274	997	0	0	1112	662	576
Turn Type	Perm		custom	pm+pt			Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		5	2			6
Detector Phase	8	8	5	5	2	6	6
Switch Phase							
Minimum Initial (s)	12.0	12.0	5.0	5.0	15.0	15.0	15.0
Minimum Split (s)	26.0	26.0	9.0	9.0	22.0	22.0	22.0
Total Split (s)	47.0	47.0	9.0	9.0	68.0	59.0	59.0
Total Split (%)	40.9%	40.9%	7.8%	7.8%	59.1%	51.3%	51.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag		Lead	Lead
Lead-Lag Optimize?			Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.99	0.76			1.05dl	0.69	0.68
Control Delay	64.4	44.2			45.0	22.9	21.7
Queue Delay	20.6	0.0			68.7	79.4	46.3
Total Delay	85.0	44.2			113.7	102.4	68.0
Queue Length 50th (ft)	504	362			~191	351	285
Queue Length 95th (ft)	m#598	m404			m164	498	424
Internal Link Dist (ft)		1065			128	237	
Turn Bay Length (ft)							
Base Capacity (vph)	1284	1306			1089	965	853
Starvation Cap Reductn	0	0			155	397	321
Spillback Cap Reductn	80	0			0	50	0
Storage Cap Reductn	0	0			0	0	0
Reduced v/c Ratio	1.06	0.76			1.19	1.17	1.08

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 108 (94%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: North State St & Atlantic St



Movement	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	SBT	SBR	SBR2
Lane Configurations										
Volume (vph)	234	938	639	278	203	21	799	527	409	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0				4.0	4.0	4.0	
Lane Util. Factor		0.97	0.95				0.95	0.95	0.95	
Frt		1.00	0.95				1.00	0.98	0.85	
Flt Protected		0.95	1.00				0.99	1.00	1.00	
Satd. Flow (prot)		3433	3378				3501	1734	1504	
Flt Permitted		0.95	1.00				0.55	1.00	1.00	
Satd. Flow (perm)		3433	3378				1956	1734	1504	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	254	1020	695	302	221	23	868	573	445	220
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	1274	954	0	0	0	1112	662	560	0
Turn Type	Perm	Perm			custom	pm+pt			Perm	
Protected Phases			8			5	2	6		
Permitted Phases	8	8			5	2			6	
Actuated Green, G (s)		43.0	43.0				64.0	64.0	64.0	
Effective Green, g (s)		43.0	43.0				64.0	64.0	64.0	
Actuated g/C Ratio		0.37	0.37				0.56	0.56	0.56	
Clearance Time (s)		4.0	4.0				4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0	3.0	
Lane Grp Cap (vph)		1284	1263				1089	965	837	
v/s Ratio Prot			0.28					0.38		
v/s Ratio Perm		c0.37					c0.57		0.37	
v/c Ratio		0.99	0.76				1.05dl	0.69	0.67	
Uniform Delay, d1		35.8	31.4				25.5	18.3	18.0	
Progression Factor		1.37	1.42				0.50	1.00	1.00	
Incremental Delay, d2		15.6	1.3				29.6	4.0	4.2	
Delay (s)		64.8	46.0				42.5	22.3	22.2	
Level of Service		E	D				D	C	C	
Approach Delay (s)			56.5				42.5	22.2		
Approach LOS			E				D	C		

Intersection Summary			
HCM Average Control Delay	44.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

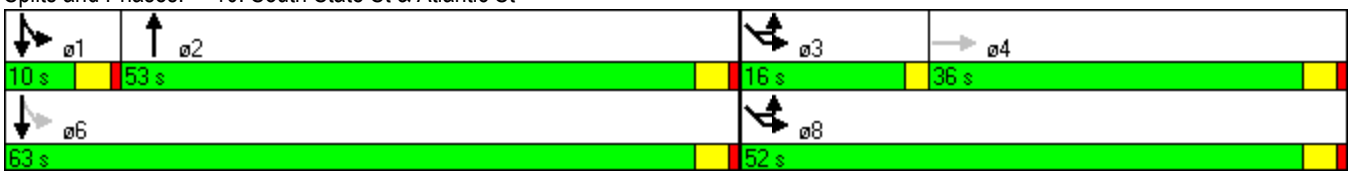
c Critical Lane Group

Lane Group	EBT	NBT	SBL	SBT	SEL	ø3	ø6	ø8
Lane Configurations								
Volume (vph)	1120	521	272	489	502			
Lane Group Flow (vph)	1264	968	286	515	1414			
Turn Type			pm+pt					
Protected Phases		2	1	1 6	3 8	3	6	8
Permitted Phases	4		1 6					
Detector Phase	4	2	1	1 6	3 8			
Switch Phase								
Minimum Initial (s)	12.0	15.0	6.0			3.0	4.0	4.0
Minimum Split (s)	20.0	25.0	10.0			5.0	25.0	29.0
Total Split (s)	36.0	53.0	10.0	73.0	68.0	16.0	63.0	52.0
Total Split (%)	31.3%	46.1%	8.7%	63.5%	59.1%	14%	55%	45%
Yellow Time (s)	3.0	3.0	3.0			2.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0			0.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0	4.0	4.0	4.0	2.0			
Lead/Lag	Lag	Lag	Lead			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes			Yes		
Recall Mode	None	C-Max	None			None	C-Max	None
v/c Ratio	1.29	1.26	0.94	0.54	1.35dr			
Control Delay	163.0	155.0	54.0	14.9	81.1			
Queue Delay	0.0	198.2	0.0	7.9	0.0			
Total Delay	163.0	353.2	54.0	22.9	81.1			
Queue Length 50th (ft)	~635	~885	54	203	~642			
Queue Length 95th (ft)	m#531	#1137	m#116	m243	#786			
Internal Link Dist (ft)	392	25		128	750			
Turn Bay Length (ft)					250			
Base Capacity (vph)	979	771	304	956	1311			
Starvation Cap Reductn	0	201	0	394	0			
Spillback Cap Reductn	0	10	0	0	0			
Storage Cap Reductn	0	0	0	0	0			
Reduced v/c Ratio	1.29	1.70	0.94	0.92	1.08			

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 2 (2%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 10: South State St & Atlantic St



Movement	EBT	EBR	NBT	NBR	SBL	SBT	SEL2	SEL	SER
Lane Configurations									
Volume (vph)	1120	81	521	399	272	489	0	502	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0		2.0	
Lane Util. Factor	0.95		1.00		0.97	1.00		0.91	
Frt	0.99		0.94		1.00	1.00		0.91	
Flt Protected	1.00		1.00		0.95	1.00		0.98	
Satd. Flow (prot)	3504		1754		3433	1863		3015	
Flt Permitted	1.00		1.00		0.08	1.00		0.98	
Satd. Flow (perm)	3504		1754		273	1863		3015	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1179	85	548	420	286	515	0	528	886
RTOR Reduction (vph)	4	0	24	0	0	0	0	0	0
Lane Group Flow (vph)	1260	0	944	0	286	515	0	1414	0
Turn Type					pm+pt		Split		
Protected Phases			2		1	1 6	3 8	3 8	
Permitted Phases	4				1 6				
Actuated Green, G (s)	32.0		49.0		59.0	59.0		48.0	
Effective Green, g (s)	32.0		49.0		59.0	59.0		48.0	
Actuated g/C Ratio	0.28		0.43		0.51	0.51		0.42	
Clearance Time (s)	4.0		4.0		4.0				
Vehicle Extension (s)	3.0		3.0		3.0				
Lane Grp Cap (vph)	975		747		305	956		1258	
v/s Ratio Prot			c0.54		c0.05	0.28		c0.47	
v/s Ratio Perm	c0.36				0.43				
v/c Ratio	1.29		1.26		0.94	0.54		1.35dr	
Uniform Delay, d1	41.5		33.0		27.5	18.8		33.5	
Progression Factor	0.84		1.00		1.31	0.71		1.00	
Incremental Delay, d2	132.1		129.2		25.0	0.4		66.7	
Delay (s)	167.0		162.2		61.2	13.7		100.2	
Level of Service	F		F		E	B		F	
Approach Delay (s)	167.0		162.2			30.6		100.2	
Approach LOS	F		F			C		F	

Intersection Summary			
HCM Average Control Delay	120.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	147.4%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

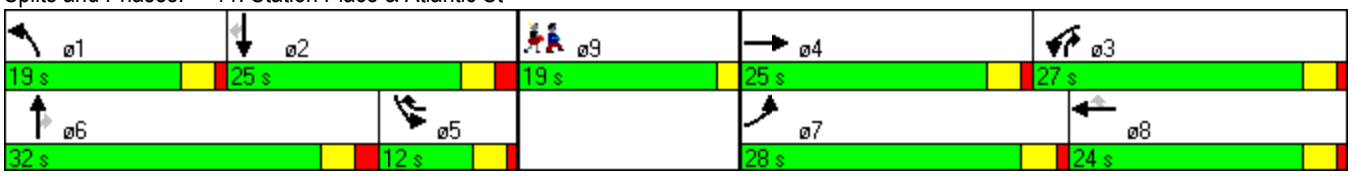
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations												
Volume (vph)	220	170	270	130	110	50	590	220	80	330	160	
Lane Group Flow (vph)	239	283	293	141	120	54	641	239	87	359	174	
Turn Type	Prot		Prot		pm+ov	Prot		pm+ov	Prot		Perm	
Protected Phases	7	4	3	8	5	1	6	3	5	2		9
Permitted Phases					8			6			2	
Detector Phase	7	4	3	8	5	1	6	3	5	2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	5.0	15.0	15.0	7.0
Minimum Split (s)	21.0	21.0	9.0	20.0	9.0	19.0	21.0	9.0	9.0	21.0	21.0	19.0
Total Split (s)	28.0	25.0	27.0	24.0	12.0	19.0	32.0	27.0	12.0	25.0	25.0	19.0
Total Split (%)	24.3%	21.7%	23.5%	20.9%	10.4%	16.5%	27.8%	23.5%	10.4%	21.7%	21.7%	17%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	2.0	2.0	0.0
Lost Time Adjust (s)	-1.0	0.0	0.0	0.0	0.0	-1.0	-1.0	0.0	0.0	-1.0	-1.0	
Total Lost Time (s)	3.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	C-Max	None	None	C-Max	C-Max	None
v/c Ratio	0.74	0.82	0.83	0.35	0.22	0.22	0.49	0.23	0.71	0.30	0.28	
Control Delay	47.3	48.3	63.5	41.3	4.0	42.0	28.0	1.6	82.2	32.8	16.5	
Queue Delay	0.0	0.0	0.4	0.0	0.0	0.0	0.4	0.3	0.0	0.3	0.4	
Total Delay	47.3	48.3	63.9	41.3	4.0	42.0	28.4	1.9	82.2	33.1	16.8	
Queue Length 50th (ft)	164	185	205	86	0	37	194	3	64	107	36	
Queue Length 95th (ft)	m208	m234	#353	158	26	m56	292	20	#146	178	112	
Internal Link Dist (ft)		765		481			121			95		
Turn Bay Length (ft)			150			100		100	50		50	
Base Capacity (vph)	385	363	375	399	534	246	1314	1037	123	1215	613	
Starvation Cap Reductn	0	0	0	0	0	0	270	393	0	395	152	
Spillback Cap Reductn	0	0	6	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.62	0.78	0.79	0.35	0.22	0.22	0.61	0.37	0.71	0.44	0.38	

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 20 (17%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Station Place & Atlantic St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	170	90	270	130	110	50	590	220	80	330	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1766		1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1766		1770	1863	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	185	98	293	141	120	54	641	239	87	359	174
RTOR Reduction (vph)	0	16	0	0	0	85	0	0	97	0	0	72
Lane Group Flow (vph)	239	267	0	293	141	35	54	641	142	87	359	102
Turn Type	Prot			Prot		pm+ov	Prot		pm+ov	Prot		Perm
Protected Phases	7	4		3	8	5	1	6	3	5	2	
Permitted Phases						8			6			2
Actuated Green, G (s)	19.9	21.4		23.1	24.6	33.4	12.0	39.3	62.4	8.8	36.1	36.1
Effective Green, g (s)	20.9	21.4		23.1	24.6	33.4	13.0	40.3	62.4	8.8	37.1	37.1
Actuated g/C Ratio	0.18	0.19		0.20	0.21	0.29	0.11	0.35	0.54	0.08	0.32	0.32
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	5.0	4.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	322	329		356	399	460	200	1240	914	135	1142	511
v/s Ratio Prot	0.14	c0.15		c0.17	0.08	0.01	0.03	c0.18	0.03	c0.05	0.10	
v/s Ratio Perm						0.02			0.06			0.06
v/c Ratio	0.74	0.81		0.82	0.35	0.08	0.27	0.52	0.15	0.64	0.31	0.20
Uniform Delay, d1	44.5	44.9		44.0	38.4	29.6	46.7	29.6	13.1	51.6	29.4	28.2
Progression Factor	0.85	0.82		1.00	1.00	1.00	0.91	0.89	0.41	1.00	1.00	1.00
Incremental Delay, d2	6.1	9.8		14.2	0.5	0.1	0.6	1.3	0.1	10.1	0.7	0.9
Delay (s)	43.9	46.4		58.2	39.0	29.7	42.8	27.5	5.5	61.7	30.1	29.1
Level of Service	D	D		E	D	C	D	C	A	E	C	C
Approach Delay (s)		45.2			47.1			22.8			34.2	
Approach LOS		D			D			C			C	

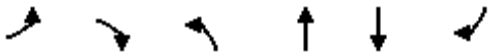
Intersection Summary			
HCM Average Control Delay	35.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	NBL	NBT	SBT	SBR
Lane Configurations					
Volume (vph)	50	30	810	660	30
Lane Group Flow (vph)	76	0	913	717	33
Turn Type		pm+pt			Perm
Protected Phases	4	5	2	6	
Permitted Phases		2			6
Detector Phase	4	5	2	6	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	20.0	20.0	20.0
Minimum Split (s)	24.0	9.0	25.0	25.0	25.0
Total Split (s)	24.0	9.0	91.0	82.0	82.0
Total Split (%)	20.9%	7.8%	79.1%	71.3%	71.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	5.0
Lead/Lag		Lead		Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes
Recall Mode	None	Min	C-Max	C-Max	C-Max
v/c Ratio	0.47		0.60	0.50	0.03
Control Delay	47.9		6.1	6.1	0.2
Queue Delay	0.0		1.9	0.8	0.0
Total Delay	47.9		8.1	6.9	0.2
Queue Length 50th (ft)	44		156	100	0
Queue Length 95th (ft)	84		405	143	m1
Internal Link Dist (ft)	170		445	110	
Turn Bay Length (ft)					
Base Capacity (vph)	298		1514	1427	1220
Starvation Cap Reductn	0		425	388	0
Spillback Cap Reductn	0		29	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.26		0.84	0.69	0.03

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 88 (77%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

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

Splits and Phases: 12: Parking Garage & Atlantic St



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	20	30	810	660	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0	5.0	5.0
Lane Util. Factor	1.00			1.00	1.00	1.00
Frt	0.96			1.00	1.00	0.85
Flt Protected	0.97			1.00	1.00	1.00
Satd. Flow (prot)	1729			1859	1863	1583
Flt Permitted	0.97			0.96	1.00	1.00
Satd. Flow (perm)	1729			1790	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	22	33	880	717	33
RTOR Reduction (vph)	14	0	0	0	0	8
Lane Group Flow (vph)	62	0	0	913	717	25
Turn Type			pm+pt			Perm
Protected Phases	4		5	2	6	
Permitted Phases			2			6
Actuated Green, G (s)	8.9			96.1	87.1	87.1
Effective Green, g (s)	8.9			96.1	87.1	87.1
Actuated g/C Ratio	0.08			0.84	0.76	0.76
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	2.0			0.2	0.2	0.2
Lane Grp Cap (vph)	134			1499	1411	1199
v/s Ratio Prot	c0.04			c0.03	0.38	
v/s Ratio Perm				c0.48		0.02
v/c Ratio	0.46			0.61	0.51	0.02
Uniform Delay, d1	50.8			3.2	5.5	3.4
Progression Factor	1.00			1.00	0.77	0.06
Incremental Delay, d2	0.9			0.5	1.1	0.0
Delay (s)	51.7			3.6	5.3	0.2
Level of Service	D			A	A	A
Approach Delay (s)	51.7			3.6	5.1	
Approach LOS	D			A	A	

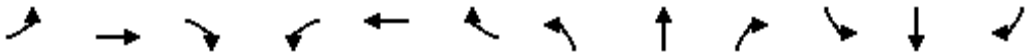
Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBT	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	1281	417	711	697
Lane Group Flow (vph)	2026	453	773	1013
Turn Type		pm+pt		
Protected Phases	8	5	2	6
Permitted Phases		2		
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	12.0	6.0	15.0	15.0
Minimum Split (s)	22.0	19.0	27.0	27.0
Total Split (s)	41.0	32.0	74.0	42.0
Total Split (%)	35.7%	27.8%	64.3%	36.5%
Yellow Time (s)	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	5.0	5.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	None	None	C-Min	C-Min
v/c Ratio	0.94	0.96	0.38	0.93
Control Delay	45.7	75.0	10.5	51.4
Queue Delay	60.2	344.8	3.7	8.7
Total Delay	105.9	419.7	14.2	60.1
Queue Length 50th (ft)	427	306	88	362
Queue Length 95th (ft)	#525	m#373	m115	#486
Internal Link Dist (ft)	377		118	106
Turn Bay Length (ft)				
Base Capacity (vph)	2166	495	2123	1124
Starvation Cap Reductn	0	240	1236	0
Spillback Cap Reductn	382	0	0	98
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.14	1.78	0.87	0.99

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 107 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: North State St & Canal St



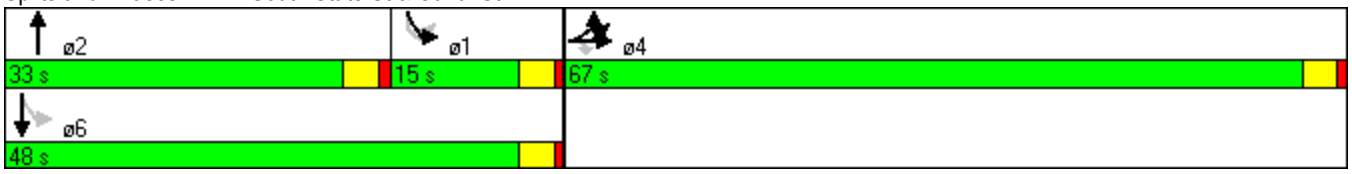
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	322	1281	261	417	711	0	0	697	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	5.0			5.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frt					0.98		1.00	1.00			0.96	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6219		1770	3539			3406	
Flt Permitted					0.99		0.10	1.00			1.00	
Satd. Flow (perm)					6219		187	3539			3406	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	350	1392	284	453	773	0	0	758	255
RTOR Reduction (vph)	0	0	0	0	25	0	0	0	0	0	29	0
Lane Group Flow (vph)	0	0	0	0	2001	0	453	773	0	0	984	0
Turn Type				Perm			pm+pt					
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					39.6		66.4	66.4			35.9	
Effective Green, g (s)					39.6		66.4	66.4			35.9	
Actuated g/C Ratio					0.34		0.58	0.58			0.31	
Clearance Time (s)					4.0		4.0	5.0			5.0	
Vehicle Extension (s)					5.0		1.0	0.2			0.2	
Lane Grp Cap (vph)					2141		473	2043			1063	
v/s Ratio Prot							c0.22	0.22			0.29	
v/s Ratio Perm					0.32		c0.33					
v/c Ratio					0.93		0.96	0.38			0.93	
Uniform Delay, d1					36.4		34.3	13.1			38.3	
Progression Factor					1.00		1.63	0.78			1.00	
Incremental Delay, d2					8.6		23.5	0.4			14.7	
Delay (s)					45.1		79.4	10.7			52.9	
Level of Service					D		E	B			D	
Approach Delay (s)		0.0			45.1			36.0			52.9	
Approach LOS		A			D			D			D	

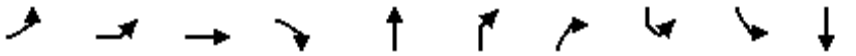
Intersection Summary			
HCM Average Control Delay	44.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL2	EBL	EBT	EBR	NBT	SBL2	SBL	SBT
Lane Configurations								
Volume (vph)	298	1180	754	433	830	209	105	705
Lane Group Flow (vph)	274	981	1022	442	1191	0	0	1039
Turn Type	Split	Split		Perm		custom	pm+pt	
Protected Phases	4	4	4		2		1	6
Permitted Phases				4		1	6	
Detector Phase	4	4	4	4	2	1	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	25.0	5.0	5.0	25.0
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	16.0	16.0	29.0
Total Split (s)	67.0	67.0	67.0	67.0	33.0	15.0	15.0	48.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	28.7%	13.0%	13.0%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lag	Lag	
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Min	None	None	C-Min
v/c Ratio	0.30	1.11	1.11	0.48	0.92			4.92dl
Control Delay	7.4	70.7	71.1	4.3	20.0			224.6
Queue Delay	0.2	119.4	0.0	0.0	37.2			0.0
Total Delay	7.5	190.1	71.1	4.3	57.2			224.6
Queue Length 50th (ft)	53	~930	~971	41	260			~552
Queue Length 95th (ft)	m48	m725	m754	m32	m#295			m#621
Internal Link Dist (ft)			1037		363			118
Turn Bay Length (ft)								
Base Capacity (vph)	921	882	918	916	1301			722
Starvation Cap Reductn	0	0	0	0	63			0
Spillback Cap Reductn	179	173	0	6	197			0
Storage Cap Reductn	0	0	0	0	0			0
Reduced v/c Ratio	0.37	1.38	1.11	0.49	1.08			1.44

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 16 (14%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 14: South State St & Canal St





Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Volume (vph)	298	1180	754	433	830	232	105	209	105	705
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0					4.0
Lane Util. Factor	0.95	0.91	0.91	1.00	0.95					0.95
Frt	1.00	1.00	1.00	0.85	0.96					1.00
Flt Protected	0.95	0.95	0.99	1.00	1.00					0.98
Satd. Flow (prot)	1681	1610	1674	1583	3386					3486
Flt Permitted	0.95	0.95	0.99	1.00	1.00					0.53
Satd. Flow (perm)	1681	1610	1674	1583	3386					1887
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	304	1204	769	442	847	237	107	213	107	719
RTOR Reduction (vph)	0	0	0	49	6	0	0	0	0	0
Lane Group Flow (vph)	274	981	1022	393	1185	0	0	0	0	1039
Turn Type	Split	Split		Perm				custom	pm+pt	
Protected Phases	4	4	4		2				1	6
Permitted Phases				4				1	6	
Actuated Green, G (s)	63.0	63.0	63.0	63.0	44.0					44.0
Effective Green, g (s)	63.0	63.0	63.0	63.0	44.0					44.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.38					0.38
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0					4.0
Vehicle Extension (s)	3.5	3.5	3.5	3.5	0.2					0.2
Lane Grp Cap (vph)	921	882	917	867	1296					722
v/s Ratio Prot	0.16	0.61	c0.61		0.35					
v/s Ratio Perm				0.25						c0.55
v/c Ratio	0.30	1.11	1.11	0.45	0.91					4.92dl
Uniform Delay, d1	14.0	26.0	26.0	15.6	33.7					35.5
Progression Factor	0.51	0.58	0.58	0.35	0.41					0.65
Incremental Delay, d2	0.0	52.3	53.2	0.0	5.4					200.7
Delay (s)	7.2	67.4	68.4	5.5	19.0					223.8
Level of Service	A	E	E	A	B					F
Approach Delay (s)			51.7		19.0					223.8
Approach LOS			D		B					F

Intersection Summary			
HCM Average Control Delay	80.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.8%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	241	450	438	413	21	518	477	554	493
Lane Group Flow (vph)	262	489	476	862	0	586	518	602	637
Turn Type	Prot		Prot		Perm		pm+ov	pm+pt	
Protected Phases	7	4	3	8		2	3	1	6
Permitted Phases					2		2	6	
Detector Phase	7	4	3	8	2	2	3	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0	10.0
Minimum Split (s)	14.0	20.0	14.0	20.0	21.0	21.0	14.0	15.0	15.0
Total Split (s)	22.0	21.0	35.0	34.0	27.0	27.0	35.0	32.0	59.0
Total Split (%)	19.1%	18.3%	30.4%	29.6%	23.5%	23.5%	30.4%	27.8%	51.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	C-Max	C-Max	None	None	C-Max
v/c Ratio	0.95	0.93	1.00	0.86		0.91	0.65	1.15	0.38
Control Delay	90.6	75.0	83.3	41.0		64.3	14.6	98.2	10.8
Queue Delay	0.0	0.0	0.0	0.0		10.3	0.0	303.7	0.6
Total Delay	90.6	75.0	83.3	41.0		74.7	14.6	401.9	11.4
Queue Length 50th (ft)	194	191	353	254		224	137	~371	72
Queue Length 95th (ft)	#357	#294	#571	#348		#330	204	m#391	m67
Internal Link Dist (ft)		841		1377		257			363
Turn Bay Length (ft)			150				100		
Base Capacity (vph)	277	523	477	1002		643	797	525	1695
Starvation Cap Reductn	0	0	0	0		0	0	196	644
Spillback Cap Reductn	0	0	0	1		50	0	0	0
Storage Cap Reductn	0	0	0	0		0	0	0	0
Reduced v/c Ratio	0.95	0.93	1.00	0.86		0.99	0.65	1.83	0.61

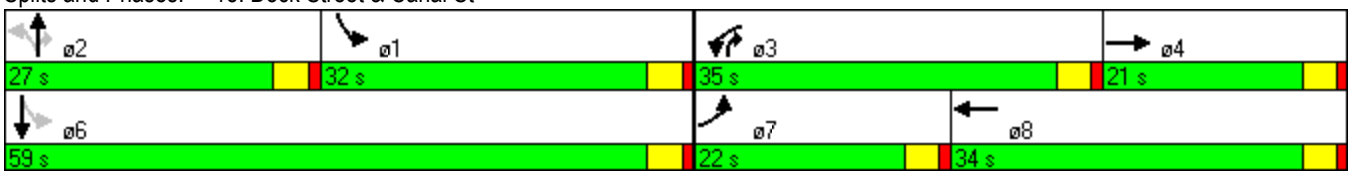
Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 112 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

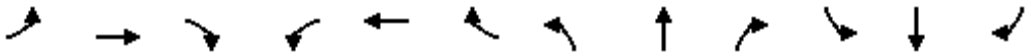
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 15: Dock Street & Canal St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	241	450	0	438	413	380	21	518	477	554	493	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00	1.00	0.95	
Frt	1.00	1.00		1.00	0.93			1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539		1770	3285			3532	1583	1770	3455	
Flt Permitted	0.95	1.00		0.95	1.00			0.87	1.00	0.18	1.00	
Satd. Flow (perm)	1770	3539		1770	3285			3083	1583	333	3455	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	489	0	476	449	413	23	563	518	602	536	101
RTOR Reduction (vph)	0	0	0	0	146	0	0	0	26	0	13	0
Lane Group Flow (vph)	262	489	0	476	716	0	0	586	492	602	624	0
Turn Type	Prot			Prot			Perm		pm+ov	pm+pt		
Protected Phases	7	4		3	8			2	3	1	6	
Permitted Phases							2		2	6		
Actuated Green, G (s)	18.0	17.0		31.0	30.0			23.0	54.0	55.0	55.0	
Effective Green, g (s)	18.0	17.0		31.0	30.0			24.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.16	0.15		0.27	0.26			0.21	0.49	0.49	0.49	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			0.2	5.0	5.0	0.2	
Lane Grp Cap (vph)	277	523		477	857			643	771	525	1682	
v/s Ratio Prot	0.15	0.14		c0.27	c0.22				0.18	c0.29	0.18	
v/s Ratio Perm								0.19	0.13	c0.27		
v/c Ratio	0.95	0.93		1.00	0.84			0.91	0.64	1.15	0.37	
Uniform Delay, d1	48.0	48.5		42.0	40.2			44.5	22.0	36.7	18.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	0.77	0.60	
Incremental Delay, d2	40.2	24.9		40.5	7.9			19.4	2.4	68.3	0.1	
Delay (s)	88.3	73.3		82.5	48.1			63.8	24.4	96.4	11.1	
Level of Service	F	E		F	D			E	C	F	B	
Approach Delay (s)		78.5			60.3			45.3			52.6	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	57.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

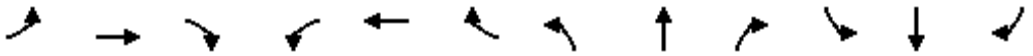
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations						
Volume (vph)	267	276	443	510	694	1258
Lane Group Flow (vph)	290	536	246	554	754	1645
Turn Type	Perm		Perm	pm+pt		
Protected Phases		8		5	2	6
Permitted Phases	8		8	2		
Detector Phase	8	8	8	5	2	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	6.0	20.0	20.0
Minimum Split (s)	22.0	22.0	22.0	10.0	24.0	24.0
Total Split (s)	27.0	27.0	27.0	41.0	88.0	47.0
Total Split (%)	23.5%	23.5%	23.5%	35.7%	76.5%	40.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lead		Lag
Lead-Lag Optimize?				Yes		Yes
Recall Mode	None	None	None	None	C-Min	C-Min
v/c Ratio	0.88	0.75	0.53	0.96	0.29	0.78
Control Delay	73.3	38.3	9.4	47.2	12.4	32.5
Queue Delay	9.0	0.0	0.0	193.1	1.7	0.2
Total Delay	82.2	38.3	9.4	240.2	14.1	32.7
Queue Length 50th (ft)	204	143	0	420	195	407
Queue Length 95th (ft)	#347	212	75	m455	m206	469
Internal Link Dist (ft)		759			227	555
Turn Bay Length (ft)	500		500			
Base Capacity (vph)	358	763	488	630	2646	2119
Starvation Cap Reductn	0	0	0	243	1665	0
Spillback Cap Reductn	45	0	0	0	0	70
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.70	0.50	1.43	0.77	0.80

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 75 (65%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 16: North State St & Elm Street



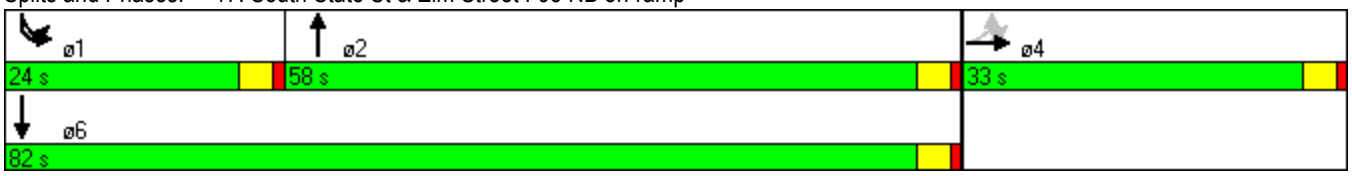
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	267	276	443	510	694	0	0	1258	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor				1.00	0.91	0.91	1.00	0.95			0.91	
Frt				1.00	0.93	0.85	1.00	1.00			0.97	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1770	3166	1441	1770	3539			4956	
Flt Permitted				0.95	1.00	1.00	0.08	1.00			1.00	
Satd. Flow (perm)				1770	3166	1441	142	3539			4956	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	290	300	482	554	754	0	0	1367	278
RTOR Reduction (vph)	0	0	0	0	125	200	0	0	0	0	25	0
Lane Group Flow (vph)	0	0	0	290	411	46	554	754	0	0	1620	0
Turn Type				Perm		Perm	pm+pt					
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)				21.3	21.3	21.3	85.7	85.7			48.4	
Effective Green, g (s)				21.3	21.3	21.3	85.7	85.7			48.4	
Actuated g/C Ratio				0.19	0.19	0.19	0.75	0.75			0.42	
Clearance Time (s)				4.0	4.0	4.0	4.0	4.0			4.0	
Vehicle Extension (s)				1.0	1.0	1.0	1.0	0.2			0.2	
Lane Grp Cap (vph)				328	586	267	577	2637			2086	
v/s Ratio Prot					0.13		c0.28	0.21			0.33	
v/s Ratio Perm				c0.16		0.03	c0.44					
v/c Ratio				0.88	0.70	0.17	0.96	0.29			0.78	
Uniform Delay, d1				45.6	43.9	39.4	33.7	4.7			28.6	
Progression Factor				1.00	1.00	1.00	0.94	2.44			1.00	
Incremental Delay, d2				22.8	3.1	0.1	16.5	0.1			2.9	
Delay (s)				68.5	47.0	39.5	48.3	11.7			31.6	
Level of Service				E	D	D	D	B			C	
Approach Delay (s)		0.0			51.1			27.2			31.6	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM Average Control Delay	35.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL2	EBT	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	134	143	1070	142	1000
Lane Group Flow (vph)	146	902	1519	570	1087
Turn Type	Perm			Prot	
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	12.0	12.0	15.0	6.0	15.0
Minimum Split (s)	22.0	22.0	22.0	10.0	22.0
Total Split (s)	33.0	33.0	58.0	24.0	82.0
Total Split (%)	28.7%	28.7%	50.4%	20.9%	71.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.32	0.99	0.96	1.36dl	0.87
Control Delay	23.7	35.5	38.3	76.8	19.8
Queue Delay	0.1	0.0	34.0	5.1	15.8
Total Delay	23.8	35.5	72.3	81.9	35.6
Queue Length 50th (ft)	75	~332	482	191	307
Queue Length 95th (ft)	m69	m273	#709	m#316	435
Internal Link Dist (ft)		1681	420		227
Turn Bay Length (ft)					
Base Capacity (vph)	463	912	1606	597	1264
Starvation Cap Reductn	0	0	22	18	191
Spillback Cap Reductn	43	0	194	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.99	1.08	0.98	1.01

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 105 (91%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 17: South State St & Elm Street I-95 NB on-ramp



Movement	EBL2	EBL	EBT	EBR	NBT	NBR	NBR2	SBL2	SBL	SBT
Lane Configurations										
Volume (vph)	134	412	143	275	1070	265	63	383	142	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0				4.0	4.0
Lane Util. Factor	1.00		0.95		0.95				0.97	1.00
Frt	1.00		0.95		0.96				1.00	1.00
Flt Protected	0.95		0.98		1.00				0.95	1.00
Satd. Flow (prot)	1770		3282		3415				3433	1863
Flt Permitted	0.95		0.98		1.00				0.95	1.00
Satd. Flow (perm)	1770		3282		3415				3433	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	448	155	299	1163	288	68	416	154	1087
RTOR Reduction (vph)	0	0	52	0	3	0	0	0	0	0
Lane Group Flow (vph)	146	0	850	0	1516	0	0	0	570	1087
Turn Type	Perm	Perm						Prot	Prot	
Protected Phases			4		2			1	1	6
Permitted Phases	4	4								
Actuated Green, G (s)	30.1		30.1		53.0				19.9	76.9
Effective Green, g (s)	30.1		30.1		53.0				19.9	76.9
Actuated g/C Ratio	0.26		0.26		0.46				0.17	0.67
Clearance Time (s)	4.0		4.0		4.0				4.0	4.0
Vehicle Extension (s)	5.0		5.0		0.2				1.0	0.2
Lane Grp Cap (vph)	463		859		1574				594	1246
v/s Ratio Prot					c0.44				c0.17	0.58
v/s Ratio Perm	0.08		0.26							
v/c Ratio	0.32		0.99		0.96				1.36dl	0.87
Uniform Delay, d1	34.2		42.3		30.1				47.2	15.1
Progression Factor	0.67		0.68		0.78				1.20	0.90
Incremental Delay, d2	0.1		6.9		14.4				19.1	5.4
Delay (s)	22.9		35.8		37.8				75.7	19.0
Level of Service	C		D		D				E	B
Approach Delay (s)			34.0		37.8					38.5
Approach LOS			C		D					D

Intersection Summary			
HCM Average Control Delay	37.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

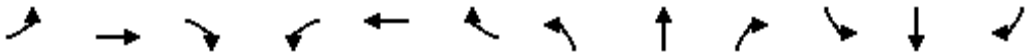
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	137	30	6	0	18	1140	16	1057
Lane Group Flow (vph)	0	209	0	21	0	1264	0	1400
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	35.0	35.0	35.0	35.0	80.0	80.0	80.0	80.0
Total Split (%)	30.4%	30.4%	30.4%	30.4%	69.6%	69.6%	69.6%	69.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio		0.73		0.07		0.52		0.58
Control Delay		56.4		19.4		4.7		4.9
Queue Delay		8.0		0.0		0.6		0.8
Total Delay		64.4		19.4		5.3		5.7
Queue Length 50th (ft)		142		4		80		146
Queue Length 95th (ft)		209		24		m216		m197
Internal Link Dist (ft)		565		410		256		420
Turn Bay Length (ft)								
Base Capacity (vph)		399		448		2420		2416
Starvation Cap Reductn		0		0		691		545
Spillback Cap Reductn		148		0		638		633
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.83		0.05		0.73		0.79

Intersection Summary

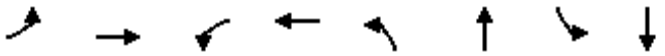
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 31 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Cherry Street & Elm Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	30	25	6	0	13	18	1140	5	16	1057	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.91			1.00			0.97	
Flt Protected		0.97			0.98			1.00			1.00	
Satd. Flow (prot)		1767			1667			3534			3448	
Flt Permitted		0.78			0.93			0.91			0.93	
Satd. Flow (perm)		1419			1574			3227			3204	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	149	33	27	7	0	14	20	1239	5	17	1149	234
RTOR Reduction (vph)	0	5	0	0	11	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	204	0	0	10	0	0	1264	0	0	1389	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		21.7			21.7			85.3			85.3	
Effective Green, g (s)		22.7			22.7			86.3			86.3	
Actuated g/C Ratio		0.20			0.20			0.75			0.75	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		280			311			2422			2404	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.01			0.39			c0.43	
v/c Ratio		0.73			0.03			0.52			0.58	
Uniform Delay, d1		43.3			37.3			5.9			6.3	
Progression Factor		1.00			1.00			0.63			0.64	
Incremental Delay, d2		9.1			0.0			0.5			0.5	
Delay (s)		52.4			37.3			4.2			4.5	
Level of Service		D			D			A			A	
Approach Delay (s)		52.4			37.3			4.2			4.5	
Approach LOS		D			D			A			A	

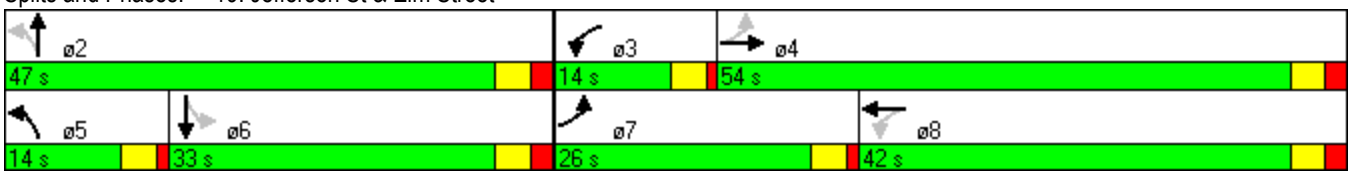
Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

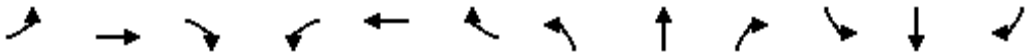


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	451	586	111	518	154	565	111	771
Lane Group Flow (vph)	460	804	113	676	157	674	113	971
Turn Type	pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	7	4	3	8	5	2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	21.0	14.0	21.0	14.0	21.0	21.0	21.0
Total Split (s)	26.0	54.0	14.0	42.0	14.0	47.0	33.0	33.0
Total Split (%)	22.6%	47.0%	12.2%	36.5%	12.2%	40.9%	28.7%	28.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	1.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	0.0	-1.0	0.0	-1.0	0.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	1.14	0.99	0.57	1.12	0.71	0.52	0.63	1.10
Control Delay	119.1	61.6	28.3	110.5	43.8	28.8	56.4	100.0
Queue Delay	0.0	159.5	0.0	0.0	0.0	0.1	0.0	51.4
Total Delay	119.1	221.1	28.3	110.5	43.8	28.9	56.4	151.4
Queue Length 50th (ft)	~345	571	39	~559	79	195	84	~418
Queue Length 95th (ft)	#551	#866	85	#815	#155	253	#150	#542
Internal Link Dist (ft)		290		495		389		256
Turn Bay Length (ft)	200		150		250		225	
Base Capacity (vph)	405	811	220	604	221	1306	179	885
Starvation Cap Reductn	0	229	0	0	0	0	0	87
Spillback Cap Reductn	0	0	0	0	0	103	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	1.38	0.51	1.12	0.71	0.56	0.63	1.22

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 34 (30%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Jefferson St & Elm Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	451	586	202	111	518	144	154	565	95	111	771	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		5.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.97		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1791		1770	1802		1770	3463		1770	3439	
Flt Permitted	0.10	1.00		0.11	1.00		0.12	1.00		0.40	1.00	
Satd. Flow (perm)	182	1791		201	1802		233	3463		737	3439	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	460	598	206	113	529	147	157	577	97	113	787	184
RTOR Reduction (vph)	0	11	0	0	9	0	0	12	0	0	18	0
Lane Group Flow (vph)	460	793	0	113	667	0	157	662	0	113	953	0
Turn Type	pm+pt			pm+pt			pm+pt			Perm		
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	63.0	50.3		45.7	37.0		42.0	42.0		28.0	28.0	
Effective Green, g (s)	63.0	51.3		45.7	38.0		42.0	43.0		28.0	29.0	
Actuated g/C Ratio	0.55	0.45		0.40	0.33		0.37	0.37		0.24	0.25	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	403	799		199	595		219	1295		179	867	
v/s Ratio Prot	c0.22	0.44		0.04	0.37		c0.06	0.19			c0.28	
v/s Ratio Perm	c0.41			0.18			0.20			0.15		
v/c Ratio	1.14	0.99		0.57	1.12		0.72	0.51		0.63	1.10	
Uniform Delay, d1	36.0	31.7		27.3	38.5		29.1	27.9		38.9	43.0	
Progression Factor	1.00	1.00		0.93	1.03		1.00	1.00		1.06	1.07	
Incremental Delay, d2	89.3	30.0		3.6	74.7		10.6	1.4		13.1	59.0	
Delay (s)	125.4	61.6		28.9	114.4		39.8	29.3		54.6	104.9	
Level of Service	F	E		C	F		D	C		D	F	
Approach Delay (s)		84.8			102.1			31.3			99.7	
Approach LOS		F			F			C			F	

Intersection Summary			
HCM Average Control Delay	81.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	1117	27	1048	16
Lane Group Flow (vph)	1248	0	1168	149
Turn Type		Perm		
Protected Phases	2		6	8
Permitted Phases		6		
Detector Phase	2	6	6	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	7.0
Minimum Split (s)	20.0	20.0	20.0	22.0
Total Split (s)	84.0	84.0	84.0	31.0
Total Split (%)	73.0%	73.0%	73.0%	27.0%
Yellow Time (s)	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	C-Min	None
v/c Ratio	0.37		0.39	0.62
Control Delay	2.7		2.8	27.3
Queue Delay	0.0		0.2	0.0
Total Delay	2.7		3.0	27.3
Queue Length 50th (ft)	69		26	29
Queue Length 95th (ft)	152		113	90
Internal Link Dist (ft)	848		136	779
Turn Bay Length (ft)				
Base Capacity (vph)	3366		3004	465
Starvation Cap Reductn	0		886	0
Spillback Cap Reductn	92		0	2
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.38		0.55	0.32

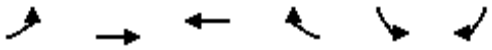
Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 103 (90%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated

Splits and Phases: 20: East Main Street & North State Street

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1117	31	27	1048	16	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	16	16	16	12	12
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	1.00			1.00	0.88	
Flt Protected	1.00			1.00	0.99	
Satd. Flow (prot)	3995			4006	1631	
Flt Permitted	1.00			0.89	0.99	
Satd. Flow (perm)	3995			3565	1631	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1214	34	29	1139	17	132
RTOR Reduction (vph)	1	0	0	0	99	0
Lane Group Flow (vph)	1247	0	0	1168	50	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	96.9			96.9	10.1	
Effective Green, g (s)	96.9			96.9	10.1	
Actuated g/C Ratio	0.84			0.84	0.09	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	0.2			0.2	3.0	
Lane Grp Cap (vph)	3366			3004	143	
v/s Ratio Prot	0.31				c0.03	
v/s Ratio Perm				c0.33		
v/c Ratio	0.37			0.39	0.35	
Uniform Delay, d1	2.1			2.1	49.4	
Progression Factor	1.00			1.01	1.00	
Incremental Delay, d2	0.3			0.3	1.5	
Delay (s)	2.4			2.5	50.9	
Level of Service	A			A	D	
Approach Delay (s)	2.4			2.5	50.9	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	5.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	1233	943	10	0	105
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1340	1025	11	0	114
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		216	192			
pX, platoon unblocked	0.92				0.96	0.92
vC, conflicting volume	1036				1711	518
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	860				1279	296
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	82
cM capacity (veh/h)	713				150	643

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	452	893	683	353
Volume Left	5	0	0	0
Volume Right	0	0	0	11
cSH	713	1700	1700	1700
Volume to Capacity	0.01	0.53	0.40	0.21
Queue Length 95th (ft)	1	0	0	0
Control Delay (s)	0.2	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.1		0.0	
Approach LOS				

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	989	81	746	235	176
Lane Group Flow (vph)	1351	0	899	255	191
Turn Type		Perm			Perm
Protected Phases	2		6	8	
Permitted Phases		6			8
Detector Phase	2	6	6	8	8
Switch Phase					
Minimum Initial (s)	7.0	5.0	5.0	7.0	7.0
Minimum Split (s)	22.0	20.0	20.0	22.0	22.0
Total Split (s)	80.0	80.0	80.0	35.0	35.0
Total Split (%)	69.6%	69.6%	69.6%	30.4%	30.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.53		0.53	0.76	0.47
Control Delay	6.3		8.3	40.8	9.7
Queue Delay	0.1		0.4	0.0	0.0
Total Delay	6.4		8.7	40.8	9.7
Queue Length 50th (ft)	200		95	160	26
Queue Length 95th (ft)	325		123	m207	m71
Internal Link Dist (ft)	112		226	1534	
Turn Bay Length (ft)				250	
Base Capacity (vph)	2557		1707	477	519
Starvation Cap Reductn	210		360	0	0
Spillback Cap Reductn	134		0	0	5
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.58		0.67	0.53	0.37

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 87 (76%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated

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

Splits and Phases: 22: East Main Street & Myrtle Avenue

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	989	254	81	746	235	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frt	0.97			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3431			3522	1770	1583
Flt Permitted	1.00			0.65	0.95	1.00
Satd. Flow (perm)	3431			2304	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1075	276	88	811	255	191
RTOR Reduction (vph)	15	0	0	0	0	103
Lane Group Flow (vph)	1336	0	0	899	255	88
Turn Type			Perm			Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	85.2			85.2	21.8	21.8
Effective Green, g (s)	85.2			85.2	21.8	21.8
Actuated g/C Ratio	0.74			0.74	0.19	0.19
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2542			1707	336	300
v/s Ratio Prot	0.39				c0.14	
v/s Ratio Perm				c0.39		0.06
v/c Ratio	0.53			0.53	0.76	0.29
Uniform Delay, d1	6.3			6.3	44.1	40.0
Progression Factor	0.83			0.99	0.78	0.56
Incremental Delay, d2	0.7			1.1	4.4	0.2
Delay (s)	6.0			7.4	38.6	22.8
Level of Service	A			A	D	C
Approach Delay (s)	6.0			7.4	31.8	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	1118	37	791	36
Lane Group Flow (vph)	1266	0	900	79
Turn Type		Perm		
Protected Phases	2		6	8
Permitted Phases		6		
Detector Phase	2	6	6	8
Switch Phase				
Minimum Initial (s)	15.0	15.0	15.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	90.0	90.0	90.0	25.0
Total Split (%)	78.3%	78.3%	78.3%	21.7%
Yellow Time (s)	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	Max
v/c Ratio	0.48		0.41	0.23
Control Delay	8.8		8.1	24.4
Queue Delay	0.5		0.5	0.0
Total Delay	9.3		8.5	24.4
Queue Length 50th (ft)	192		74	25
Queue Length 95th (ft)	363		233	69
Internal Link Dist (ft)	226		325	1016
Turn Bay Length (ft)				
Base Capacity (vph)	2633		2197	341
Starvation Cap Reductn	830		756	0
Spillback Cap Reductn	84		0	2
Storage Cap Reductn	0		0	0
Reduced v/c Ratio	0.70		0.62	0.23

Intersection Summary
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated

Splits and Phases: 23: East Main Street & Maple Avenue

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1118	47	37	791	36	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frt	0.99			1.00	0.93	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	3518			3531	1694	
Flt Permitted	1.00			0.83	0.98	
Satd. Flow (perm)	3518			2938	1694	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1215	51	40	860	39	40
RTOR Reduction (vph)	3	0	0	0	32	0
Lane Group Flow (vph)	1263	0	0	900	47	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	86.0			86.0	21.0	
Effective Green, g (s)	86.0			86.0	21.0	
Actuated g/C Ratio	0.75			0.75	0.18	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	2631			2197	309	
v/s Ratio Prot	c0.36				c0.03	
v/s Ratio Perm				0.31		
v/c Ratio	0.48			0.41	0.15	
Uniform Delay, d1	5.7			5.3	39.5	
Progression Factor	1.43			1.40	1.00	
Incremental Delay, d2	0.6			0.1	1.0	
Delay (s)	8.7			7.5	40.6	
Level of Service	A			A	D	
Approach Delay (s)	8.7			7.5	40.6	
Approach LOS	A			A	D	

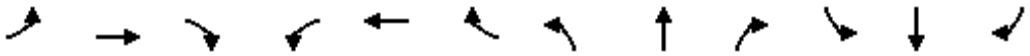
Intersection Summary			
HCM Average Control Delay	9.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	66	921	238	599	158	21	22	36	22
Lane Group Flow (vph)	72	1183	259	675	0	195	24	0	139
Turn Type	pm+pt		pm+pt		Perm		Perm	Perm	
Protected Phases	5	2	1	6		8			4
Permitted Phases	2		6		8		8	4	
Detector Phase	5	2	1	6	8	8	8	4	4
Switch Phase									
Minimum Initial (s)	4.0	8.0	4.0	8.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	8.0	20.0	8.0	20.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	8.0	55.0	25.0	72.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	7.0%	47.8%	21.7%	62.6%	30.4%	30.4%	30.4%	30.4%	30.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
v/c Ratio	0.15	0.63	0.64	0.29		0.86	0.07		0.42
Control Delay	10.0	24.1	18.8	10.0		75.8	12.2		26.6
Queue Delay	0.0	1.8	0.0	0.0		0.0	0.0		0.0
Total Delay	10.0	25.9	18.8	10.0		75.8	12.2		26.6
Queue Length 50th (ft)	21	381	58	111		139	0		54
Queue Length 95th (ft)	32	230	159	160		#219	21		108
Internal Link Dist (ft)		325		1546		1598			1086
Turn Bay Length (ft)	120		180						
Base Capacity (vph)	479	1882	461	2311		289	444		411
Starvation Cap Reductn	0	505	0	0		0	0		0
Spillback Cap Reductn	0	0	0	0		0	0		0
Storage Cap Reductn	0	0	0	0		0	0		0
Reduced v/c Ratio	0.15	0.86	0.56	0.29		0.67	0.05		0.34

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 39 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 24: East Main Street & Lincoln Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	921	167	238	599	22	158	21	22	36	22	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1770	3458		1770	3520			1784	1583		1701	
Flt Permitted	0.40	1.00		0.14	1.00			0.58	1.00		0.80	
Satd. Flow (perm)	736	3458		257	3520			1074	1583		1383	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	1001	182	259	651	24	172	23	24	39	24	76
RTOR Reduction (vph)	0	11	0	0	2	0	0	0	19	0	41	0
Lane Group Flow (vph)	72	1172	0	259	673	0	0	195	5	0	98	0
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	66.5	62.2		82.8	74.5			24.2	24.2		24.2	
Effective Green, g (s)	66.5	62.2		82.8	74.5			24.2	24.2		24.2	
Actuated g/C Ratio	0.58	0.54		0.72	0.65			0.21	0.21		0.21	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Vehicle Extension (s)	2.0	0.2		2.0	0.2			3.0	3.0		3.0	
Lane Grp Cap (vph)	464	1870		403	2280			226	333		291	
v/s Ratio Prot	0.01	0.34		c0.09	0.19							
v/s Ratio Perm	0.08			c0.37				c0.18	0.00		0.07	
v/c Ratio	0.16	0.63		0.64	0.30			0.86	0.02		0.34	
Uniform Delay, d1	10.7	18.3		13.6	8.8			43.8	36.0		38.6	
Progression Factor	1.26	1.13		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.4		2.6	0.3			27.0	0.0		0.7	
Delay (s)	13.5	22.1		16.2	9.1			70.8	36.0		39.3	
Level of Service	B	C		B	A			E	D		D	
Approach Delay (s)		21.6			11.1			67.0			39.3	
Approach LOS		C			B			E			D	

Intersection Summary			
HCM Average Control Delay	22.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			