

SimTraffic Simulation Summary
Baseline 2014/4/5

Summary of All Intervals

Start Time	2:50
End Time	4:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intvls	1
Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Baseline 2014/4/5

6: Broad St & Larimer Ave Performance by movement

Movement	EBT	WBT	NETSWT	All		
Total Delay (hr)	0.6	0.4	0.7	0.3	2.0	
Delay / Veh (s)	12.3	8.8	28.9	23.8	15.6	
Total Stops	82	54	65	25	226	
Travel Dist (mi)	11.0	8.0	4.7	3.1	26.9	
Travel Time (hr)		1.3	0.6	0.9	0.4	3.3
Avg Speed (mph)		8	13	5	8	8
Fuel Used (gal)	0.9	0.3	0.3	0.2	1.7	
HC Emissions (g)	9	2	3	1	14	
CO Emissions (g)	394	88	92	40	614	
NOx Emissions (g)	34	7	9	3	53	
Vehicles Entered	183	146	91	41	461	
Vehicles Exited	183	146	94	42	465	
Hourly Exit Rate	183	146	94	42	465	
Input Volume	214	128	96	39	477	
% of Volume	86	114	98	108	97	
Denied Entry Before	0	0	0	0	0	
Denied Entry After	0	0	0	0	0	

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Queuing and Blocking Report
Baseline 2014/4/5

Intersection: 6: Broad St & Larimer Ave

Movement	EB	EB	WB	WB	NE	SW
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	66	97	88	64	111	43
Average Queue (ft)	18	48	34	12	50	21
95th Queue (ft)	51	92	75	38	93	47
Link Distance (ft)	236	236	282	282	258	391
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

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Actuated Signals, Observed Splits
Baseline 2014/4/5

Intersection: 6: Broad St & Larimer Ave

Phase	2	4	6	8
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Movement(s) Served	EBTL	SWTL	WBTL	NETL
Maximum Green (s)	66.0	31.0	66.0	31.0
Minimum Green (s)	66.0	31.0	66.0	31.0
Recall	C-Max	Max	C-Max	Max
Avg. Green (s)	66.0	31.0	66.0	31.0
g/C Ratio	0.60	0.28	0.60	0.28
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)		100	100	100
Cycles Maxed Out (%)	100	100	100	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): 110.0
Number of Complete Cycles : 32

SimTraffic Simulation Summary
Baseline 2014/4/5

Summary of All Intervals

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Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Baseline 2014/4/5

7: Broad St & Penn Cir E Performance by movement

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	All
Total Delay (hr)	1.9	0.6	0.1	0.6	0.1	0.0	0.1	3.4
Delay / Veh (s)	31.0	31.2	13.1	6.6	1.7	5.1	7.9	14.0
Total Stops	137	50	12	63	61	2	22	347
Travel Dist (mi)	10.8	3.1	0.8	9.6	5.5	0.3	4.7	34.8
Travel Time (hr)	2.3	0.7	0.1	1.0	0.4	0.0	0.3	4.9
Avg Speed (mph)	5	4	6	10	13	18	16	7
Fuel Used (gal)	0.9	0.2	0.1	0.8	0.2	0.0	0.1	2.4
HC Emissions (g)	5	3	1	13	2	0	3	27
CO Emissions (g)	236	77	16	485	63	2	61	940
NOx Emissions (g)	21	8	2	43	8	0	7	90
Vehicles Entered	224	68	23	314	180	4	61	874
Vehicles Exited	226	67	23	316	179	4	60	875
Hourly Exit Rate	226	67	23	316	179	4	60	875
Input Volume	196	65	33	378	208	6	70	956
% of Volume	115	103	70	84	86	67	86	92
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

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Queuing and Blocking Report
Baseline 2014/4/5

Intersection: 7: Broad St & Penn Cir E

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	R	L	T	R	L	TR
Maximum Queue (ft)	184	110	52	69	52	30	71
Average Queue (ft)	112	50	10	41	28	2	21
95th Queue (ft)	170	88	34	54	42	14	55
Link Distance (ft)	236	236	30	30	30	299	299
Upstream Blk Time (%)			1	18	4		
Queuing Penalty (veh)			2	38	9		
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

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Actuated Signals, Observed Splits
Baseline 2014/4/5

Intersection: 7: Broad St & Penn Cir E

Phase	2	6	8
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Movement(s) Served	NBTL	SBTL	WBTL
Maximum Green (s)	59.0	59.0	39.0
Minimum Green (s)	59.0	59.0	39.0
Recall	C-Max	C-Max	None
Avg. Green (s)	59.0	59.0	39.0
g/C Ratio	0.54	0.54	0.35
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)		100	100 100
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): 110.0

Number of Complete Cycles : 32

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SimTraffic Simulation Summary
Baseline 2014/4/5

Summary of All Intervals

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Total Time (min)	70
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# of Intervals	2
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Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Baseline 2014/4/5

5: Kirkwood St & Penn Cir E Performance by movement

Movement	EBLEBTWBL				WBR		NBT		SBT All
Total Delay (hr)	0.7	0.1	1.1	0.4	2.1	1.0	5.5		
Delay / Veh (s)	30.2	21.4	31.4	27.8	19.4	29.3	24.7		
Total Stops	68	14	90	36	163	59	430		
Travel Dist (mi)	3.2	0.9	18.5	7.4	14.0	2.2	46.2		
Travel Time (hr)		0.9	0.2	1.8	0.7	3.0	1.1	7.7	
Avg Speed (mph)		4	5	10	10	5	3	6	
Fuel Used (gal)	0.3	0.1	0.9	0.3	1.3	0.3	3.2		
HC Emissions (g)		3	0	15	3	12	4	37	
CO Emissions (g)		64	15	414	92	369	81	1035	
NOx Emissions (g)		7	1	42	8	42	8	109	
Vehicles Entered		83	23	130	53	385	128	802	
Vehicles Exited		83	24	132	55	382	127	803	
Hourly Exit Rate		83	24	132	55	382	127	803	
Input Volume		68	17	131	49	508	131	904	
% of Volume		122	141	101	112	75	97	89	
Denied Entry Before		0	0	0	0	0	0	0	
Denied Entry After		0	0	0	0	0	1	1	

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Queuing and Blocking Report
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Intersection: 5: Kirkwood St & Penn Cir E

Movement	EB		WB		NB		SB	
Directions Served	L	TR	L	R	T	TR	LT	
Maximum Queue (ft)	110	54	133	91	74	101	62	
Average Queue (ft)	50	13	74	32	26	96	36	
95th Queue (ft)	101	40	126	74	77	102	63	
Link Distance (ft)	196	196	738	738	80	80	30	
Upstream Blk Time (%)					0	44	18	
Queuing Penalty (veh)					0	112	10	
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

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Actuated Signals, Observed Splits
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Intersection: 5: Kirkwood St & Penn Cir E

Phase	2	4	6	8
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Movement(s) Served	NBT	EBTL	SBTL	WBL
Maximum Green (s)	63.0	35.0	63.0	35.0
Minimum Green (s)	63.0	35.0	63.0	35.0
Recall	C-Max	None	C-Max	None
Avg. Green (s)	63.0	35.0	63.0	35.0
g/C Ratio	0.57	0.32	0.57	0.32
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)		100	100	100
Cycles Maxed Out (%)	100	100	100	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): 110.0

Number of Complete Cycles : 31

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SimTraffic Simulation Summary
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Summary of All Intervals

Start Time	2:50
End Time	4:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intvls	1
Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Baseline 2014/4/5

2: Penn Ave & EastsideIII Dr Performance by movement

Movement	EBT	WBT	All
Total Delay (hr)	1.0	3.2	4.2
Delay / Veh (s)	7.5	21.0	14.5
Total Stops	125	309	434
Travel Dist (mi)	24.4	37.8	62.2
Travel Time (hr)	2.0	4.6	6.6
Avg Speed (mph)	12	8	10
Fuel Used (gal)	1.7	2.0	3.7
HC Emissions (g)	18	14	32
CO Emissions (g)	753	505	1258
NOx Emissions (g)	72	48	121
Vehicles Entered	503	548	1051
Vehicles Exited	501	550	1051
Hourly Exit Rate	501	550	1051
Input Volume	651	527	1178
% of Volume	77	104	89
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

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Queuing and Blocking Report Baseline 2014/4/5

Intersection: 2: Penn Ave & EastsideIII Dr

Movement	EB	EB	WB	WB	WB
Directions Served	T	TR	LT	T	T
Maximum Queue (ft)	113	141	120	249	233
Average Queue (ft)	51	63	41	95	88
95th Queue (ft)	99	113	99	199	185
Link Distance (ft)	166	166	362	362	362
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

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Actuated Signals, Observed Splits Baseline 2014/4/5

Intersection: 2: Penn Ave & EastsideIII Dr

Phase	1	2	6	8
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Movement(s) Served	WBL	EBT	WBTL	NEL	
Maximum Green (s)	7.0	58.0	70.0	26.0	
Minimum Green (s)	7.0	58.0	70.0	26.0	
Recall	None	C-Max	C-Max	Max	
Avg. Green (s)	0.0	71.0	71.0	26.0	
g/C Ratio	0.00	0.65	0.65	0.24	
Cycles Skipped (%)	100	0	0	0	
Cycles @ Minimum (%)		0	0	0	100
Cycles Maxed Out (%)	0	100	100	100	
Cycles with Peds (%)	0	0	0	0	

Controller Summary

Average Cycle Length (s): 110.0

Number of Complete Cycles : 32

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SimTraffic Simulation Summary
Baseline 2014/4/5

Summary of All Intervals

Start Time	2:50
End Time	4:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intvls	1
Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Baseline 2014/4/5

9: Penn Ave & N Highland St Performance by movement

Movement	EB	LE	BT	WBL	WBT	NBL	NBT	SBL	SBT	All
Total Delay (hr)	0.3	1.1	0.4	1.0	0.3	0.2	0.3	0.4	3.9	
Delay / Veh (s)	20.5	12.5	21.5	12.1	16.1	9.7	13.5	8.8	12.7	
Total Stops	37	177	50	163	44	38	54	73	636	
Travel Dist (mi)	2.5	18.0	1.7	8.8	1.3	1.8	4.2	7.3	45.7	
Travel Time (hr)		0.4	1.8	0.4	1.4	0.3	0.3	0.5	0.7	5.8
Avg Speed (mph)		7	10	4	7	4	6	8	11	8
Fuel Used (gal)	0.1	1.0	0.1	0.7	0.1	0.1	0.2	0.4	2.7	
HC Emissions (g)	0	11	1	11	0	2	3	3	31	
CO Emissions (g)	20	336	29	281	11	68	72	123	940	
NOx Emissions (g)	2	38	4	33	1	6	8	11	103	
Vehicles Entered	46	321	58	291	57	77	87	153	1090	
Vehicles Exited	46	321	59	290	59	78	86	154	1093	
Hourly Exit Rate	46	321	59	290	59	78	86	154	1093	
Input Volume	47	322	58	283	45	75	99	157	1086	
% of Volume	98	100	102	102	131	104	87	98	101	
Denied Entry Before	0	0	0	0	0	0	0	0	0	
Denied Entry After	0	0	0	0	0	1	0	0	1	

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Queuing and Blocking Report
Baseline 2014/4/5

Intersection: 9: Penn Ave & N Highland St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	109	245	70	165	69	88	69	157
Average Queue (ft)	26	94	27	90	30	33	34	54
95th Queue (ft)	57	176	60	159	63	76	61	109
Link Distance (ft)	286	286	150	150	117	117	248	248
Upstream Blk Time (%)				1				
Queuing Penalty (veh)				0				
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

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Actuated Signals, Observed Splits
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Intersection: 9: Penn Ave & N Highland St

Phase	2	4	6	8
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Movement(s) Served	NBTL	EBTL	SBTL	WBTL
Maximum Green (s)	25.0	25.0	25.0	25.0
Minimum Green (s)	25.0	25.0	25.0	25.0
Recall	Max	None	Max	None
Avg. Green (s)	25.0	25.0	25.0	25.0
g/C Ratio	0.42	0.42	0.42	0.42
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)		100	100	100
Cycles Maxed Out (%)	100	100	100	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): 60.0
 Number of Complete Cycles : 59

SimTraffic Simulation Summary
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Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
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Total Time (min)	60

Volumes adjusted by Growth Factors.

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Baseline 2014/4/5

1: Penn Ave & Penn Cir E Performance by movement

Movement	EBLEBT		WBL		WBT		WBR		NETNER		SWL	SWT	All
Total Delay (hr)	0.8	1.3	8.5	14.1	9.6	8.6	0.4	1.7	1.4	46.4			
Delay / Veh (s)	36.8	22.2	200.6		156.0		137.0		317.7	25.9	73.2	26.5	115.3
Total Stops	63	137	211	210	256	91	22	84	90	1164			
Travel Dist (mi)	3.2	8.9	7.7	15.5	12.5	5.4	3.6	3.3	7.6	67.7			
Travel Time (hr)		0.9	1.7	8.8	14.6	10.2	8.7	0.6	1.9	1.7	49.3		
Avg Speed (mph)		3	5	2	5	3	1	6	2	4	2		
Fuel Used (gal)	0.3	0.7	2.2	3.9	2.6	2.2	0.2	0.5	0.8	13.4			
HC Emissions (g)		1	5	4	18	11	18	1	3	11	72		
CO Emissions (g)		42	191	181	500	318	377	48	93	309	2059		
NOx Emissions (g)		4	17	13	42	23	26	4	10	34	172		
Vehicles Entered		74	218	155	328	255	97	55	86	190	1458		
Vehicles Exited		74	214	152	324	252	97	54	85	191	1443		
Hourly Exit Rate		74	214	152	324	252	97	54	85	191	1443		
Input Volume		70	237	139	332	261	302	210	82	194	1827		
% of Volume		106	90	109	98	97	32	26	104	98	79		
Denied Entry Before		0	0	1	0	4	0	0	0	0	5		
Denied Entry After		0	0	5	10	7	0	0	0	0	22		

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Queuing and Blocking Report
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Intersection: 1: Penn Ave & Penn Cir E

Movement	EB		EB		WB		WB		NE		NE		SW		SW	
Directions Served	L	T	L	T	L	T	L	T	L	T	L	T	L	T	L	T
Maximum Queue (ft)	141	105	114	183	179	186	200	102	90	84						
Average Queue (ft)	34	45	55	151	148	150	184	14	65	66						
95th Queue (ft)	87	87	95	186	206	205	194	64	101	103						
Link Distance (ft)	206	206	206	166	166	166	180	180	80	80						
Upstream Blk Time (%)				15	17	17	89		15	20						
Queuing Penalty (veh)				26	30	31	228		20	26						
Storage Bay Dist (ft)																
Storage Blk Time (%)																
Queuing Penalty (veh)																

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Actuated Signals, Observed Splits
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Intersection: 1: Penn Ave & Penn Cir E

Phase	1	2	3	4	6	7	8
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Movement(s) Served	SWL	NETWBL	EBTL	SWT	EBL	WBT
Maximum Green (s)	8.0	21.0	9.0	42.0	36.0	26.0
Minimum Green (s)	8.0	21.0	9.0	42.0	36.0	26.0
Recall	None	C-Max	None	None	C-Max	None
Avg. Green (s)	8.0	21.3	10.2	42.0	36.3	26.0
g/C Ratio	0.07	0.19	0.09	0.37	0.33	0.16
Cycles Skipped (%)	3	0	0	3	0	34
Cycles @ Minimum (%)		97	97	97	97	66
Cycles Maxed Out (%)	94	100	100	97	100	66
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): 110.0

Number of Complete Cycles : 32

SimTraffic Report

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SimTraffic Simulation Summary
Baseline 2014/4/5

Summary of All Intervals

Start Time	2:50
End Time	4:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intvls	1
Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Baseline 2014/4/5

4: Penn Cir S & Performance by movement

Movement	EB	LE	TE	BR	WBL	WBT	NBL	NBT	SBL	SBT	All
Total Delay (hr)	26.9	158.2	28.2	0.4	1.4	0.2	1.2	30.3	46.3	293.1	
Delay / Veh (s)	3461.0	4519.2	3378.1	25.4	19.5	24.0	23.0	6807.8	3877.8	1352.6	
Total Stops	22	185	21	44	108	22	106	24	10	542	
Travel Dist (mi)	1.3	5.5	1.3	3.1	11.6	1.1	6.8	0.6	1.7	32.8	
Travel Time (hr)	27.0	158.4	28.2	0.6	1.8	0.3	1.4	30.3	46.4	294.3	
Avg Speed (mph)	3	1	3	6	7	4	5	0	7	1	
Fuel Used (gal)	6.3	36.3	6.3	0.2	0.7	0.1	0.6	7.0	10.6	67.9	
HC Emissions (g)	0	130	75	0	6	1	4	2	31	250	
CO Emissions (g)	299	3265	1179	22	167	20	182	358	876	6369	
NOx Emissions (g)	1	102	53	2	20	2	15	3	23	220	
Vehicles Entered	28	124	30	60	263	30	182	19	43	779	
Vehicles Exited	28	127	30	61	264	31	183	13	43	780	
Hourly Exit Rate	28	127	30	61	264	31	183	13	43	780	
Input Volume	61	392	59	60	256	34	173	72	171	1278	
% of Volume	46	32	51	102	103	91	106	18	25	61	
Denied Entry Before	1	12	4	0	0	0	0	0	0	17	
Denied Entry After	44	271	50	0	0	0	0	51	92	508	

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Queuing and Blocking Report
Baseline 2014/4/5

Intersection: 4: Penn Cir S &

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	77	253	113	61	178	39	186	201	75
Average Queue (ft)	11	231	22	20	83	15	66	184	8
95th Queue (ft)	40	246	63	48	128	38	148	200	43
Link Distance (ft)	219	219	219	168	168	171	171	186	186
Upstream Blk Time (%)		94			0		1	96	
Queuing Penalty (veh)		0			0		0	0	
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

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Actuated Signals, Observed Splits
Baseline 2014/4/5

Intersection: 4: Penn Cir S &

Phase	2	4	6	8
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Movement(s) Served	EBTL	SBTL	WBTL	NBTL
Maximum Green (s)	53.0	43.0	53.0	43.0
Minimum Green (s)	53.0	43.0	53.0	43.0
Recall	C-Max	Max	C-Max	Max
Avg. Green (s)	53.0	43.0	53.0	43.0
g/C Ratio	0.48	0.39	0.48	0.39
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)		100	100	100
Cycles Maxed Out (%)	100	100	100	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): 110.0

Number of Complete Cycles : 32

SimTraffic Report

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SimTraffic Simulation Summary
Baseline 2014/4/5

Summary of All Intervals

Start Time	2:50
End Time	4:00
Total Time (min)	70
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# of Recorded Intvls	1
Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Baseline 2014/4/5

3: Penn Cir S & Shakespeare St Performance by movement

Movement	EBT	WBT	NBR	All
Total Delay (hr)	27.7	0.2	1.1	29.0
Delay / Veh (s)	683.2	1.9	647.9	211.1
Total Stops	150	11	8	169
Travel Dist (mi)	9.4	21.4	0.3	31.0
Travel Time (hr)	28.0	1.1	1.1	30.2
Avg Speed (mph)	1	20	0	3
Fuel Used (gal)	6.7	1.2	0.3	8.2
HC Emissions (g)	49	21	0	70
CO Emissions (g)	945	716	14	1675
NOx Emissions (g)	53	72	0	125
Vehicles Entered	145	343	8	496
Vehicles Exited	147	341	5	493
Hourly Exit Rate	147	341	5	493
Input Volume	504	333	8	845
% of Volume	29	102	62	58
Denied Entry Before	2	0	0	2
Denied Entry After	35	0	0	35

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Queuing and Blocking Report Baseline 2014/4/5

Intersection: 3: Penn Cir S & Shakespeare St

Movement	EB	WB	NB
Directions Served	TR	LT	R
Maximum Queue (ft)	208	97	68
Average Queue (ft)	198	10	24
95th Queue (ft)	210	43	63
Link Distance (ft)	168	180	179
Upstream Blk Time (%)	86		
Queuing Penalty (veh)	401		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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Actuated Signals, Observed Splits Baseline 2014/4/5

Intersection: 3: Penn Cir S & Shakespeare St

Phase	2	6	8
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Movement(s) Served	EBT	WBTL	NBL
Maximum Green (s)	82.0	82.0	16.0
Minimum Green (s)	82.0	82.0	16.0
Recall	C-Max	C-Max	Max
Avg. Green (s)	82.0	82.0	16.0
g/C Ratio	0.75	0.75	0.15
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)		100	100 100
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): 110.0

Number of Complete Cycles : 32

SimTraffic Report

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SimTraffic Simulation Summary
Baseline 2014/4/5

Summary of All Intervals

Start Time	2:50
End Time	4:00
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intvls	1
Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Interval #0 Information Seeding

Start Time	2:50
End Time	3:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	3:00
End Time	4:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3733
Vehs Exited	3735
Starting Vehs	106
Ending Vehs	104
Denied Entry Before	24
Denied Entry After	567
Travel Distance (mi)	618
Travel Time (hr)	413.2
Total Delay (hr)	389.0
Total Stops	3977
Fuel Used (gal)	117.8

Baseline 2014/4/5

8: Station St & Penn Cir E Performance by movement

Movement	WBT	NBL	NBT	SBL	SBT	All	
Total Delay (hr)	0.2	0.1	0.0	0.0	0.0	0.3	
Delay / Veh (s)	66.4	3.4	0.9	8.1	0.3	3.4	
Total Stops	9	15	2	3	0	29	
Travel Dist (mi)	0.4	9.6	11.2	0.4	2.2	23.7	
Travel Time (hr)		0.2	0.5	0.5	0.0	0.1	1.3
Avg Speed (mph)		2	19	23	9	27	18
Fuel Used (gal)	0.0	0.4	0.6	0.0	0.1	1.2	
HC Emissions (g)		0	6	14	0	3	23
CO Emissions (g)		3	189	415	3	120	730
NOx Emissions (g)		0	21	41	0	10	72
Vehicles Entered		10	116	165	11	65	367
Vehicles Exited		9	117	166	11	65	368
Hourly Exit Rate		9	117	166	11	65	368
Input Volume		12	129	176	16	76	409
% of Volume		75	91	94	69	86	90
Denied Entry Before		0	0	0	0	0	0
Denied Entry After		0	0	0	0	0	0

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Queuing and Blocking Report Baseline 2014/4/5

Intersection: 8: Station St & Penn Cir E

Movement	WB	NB	NB	SB	
Directions Served		LTRL	TR	L	
Maximum Queue (ft)		52	69	29	27
Average Queue (ft)		11	11	2	3
95th Queue (ft)	35	40	14	17	
Link Distance (ft)		193	299	299	173
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

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Actuated Signals, Observed Splits Baseline 2014/4/5

Intersection: 8: Station St & Penn Cir E

Phase	2	6	8
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Movement(s) Served	NBTL	SBTL	WBTL
Maximum Green (s)	80.0	80.0	18.0
Minimum Green (s)	80.0	80.0	18.0
Recall	C-Max	C-Max	None
Avg. Green (s)	318.3	318.3	18.0
g/C Ratio	0.56	0.56	0.04
Cycles Skipped (%)	81	81	78
Cycles @ Minimum (%)		0	0
Cycles Maxed Out (%)	19	19	22
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): 110.0

Number of Complete Cycles : 32

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