

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

Baseline 2014/4/5

6: Broad St & Larimer Ave Performance by movement

Movement	EBTWBT		NETSWT		All	
Total Delay (hr)	0.7	0.3	0.7	0.2	1.9	
Delay / Veh (s)	13.6	7.6	28.6	25.2	15.1	
Total Stops	91	50	58	15	214	
Travel Dist (mi)	10.8	8.3	4.3	1.8	25.2	
Travel Time (hr)		1.3	0.6	0.9	0.2	3.0
Avg Speed (mph)		8	14	5	8	8
Fuel Used (gal)	0.8	0.3	0.3	0.1	1.6	
HC Emissions (g)		10	2	3	0	16
CO Emissions (g)		395	76	93	15	579
NOx Emissions (g)		36	7	11	1	56
Vehicles Entered		180	151	85	23	439
Vehicles Exited		180	151	87	24	442
Hourly Exit Rate		180	151	87	24	442
Input Volume		214	128	96	39	477
% of Volume		84	118	91	62	93
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)	51	95	134	71	87	42
Average Queue (ft)	22	51	26	15	45	12
95th Queue (ft)	49	80	76	42	84	34
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

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SimTraffic Simulation Summary
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Summary of All Intervals

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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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
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Total Stops	4776
Fuel Used (gal)	68.9

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)	2.3	0.7	0.1	0.6	0.1	0.0	0.2	4.1
Delay / Veh (s)	35.3	36.0	14.5	6.8	1.7	23.0	9.5	15.8
Total Stops	150	53	14	59	65	4	21	366
Travel Dist (mi)	11.1	3.2	1.0	10.4	5.3	0.5	4.8	36.4
Travel Time (hr)	2.7	0.9	0.2	1.1	0.4	0.1	0.3	5.6
Avg Speed (mph)	4	4	6	10	13	9	15	7
Fuel Used (gal)	1.0	0.3	0.1	0.9	0.2	0.0	0.2	2.7
HC Emissions (g)	6	2	0	10	3	0	6	26
CO Emissions (g)	219	59	12	452	78	4	121	946
NOx Emissions (g)	21	5	2	37	10	0	15	90
Vehicles Entered	233	69	31	343	174	6	65	921
Vehicles Exited	234	72	31	343	174	6	64	924
Hourly Exit Rate	234	72	31	343	174	6	64	924
Input Volume	196	65	33	378	208	6	70	956
% of Volume	119	111	94	91	84	100	91	97
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)	183	142	38	45	47	30	74
Average Queue (ft)	124	51	12	38	27	4	19
95th Queue (ft)	182	104	37	52	45	21	52
Link Distance (ft)	236	236	30	30	30	299	299
Upstream Blk Time (%)			2	23	4		
Queuing Penalty (veh)			5	46	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 (%)	34	0	6

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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Vehs Entered	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

Baseline 2014/4/5

5: Kirkwood St & Penn Cir E Performance by movement

Movement	EBLEBTWBL				WBR		NBT		SBT All
Total Delay (hr)	0.8	0.1	2.3	0.4	2.1	0.9	6.7		
Delay / Veh (s)	35.9	18.4	62.9	26.6	18.3	27.1	29.0		
Total Stops	69	11	127	39	178	45	469		
Travel Dist (mi)	3.2	0.9	18.7	7.1	16.3	2.1	48.3		
Travel Time (hr)		1.0	0.2	3.0	0.7	3.0	1.0	8.9	
Avg Speed (mph)		3	6	6	11	5	3	6	
Fuel Used (gal)	0.3	0.1	1.2	0.3	1.5	0.3	3.6		
HC Emissions (g)		2	0	7	1	10	1	21	
CO Emissions (g)		59	22	304	45	396	44	869	
NOx Emissions (g)		6	1	22	4	45	5	84	
Vehicles Entered		82	24	132	51	419	120	828	
Vehicles Exited		84	24	133	51	418	120	830	
Hourly Exit Rate		84	24	133	51	418	120	830	
Input Volume		68	17	131	49	508	131	904	
% of Volume		124	141	102	104	82	92	92	
Denied Entry Before		0	0	0	0	0	3	3	
Denied Entry After		0	0	0	0	0	3	3	

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Queuing and Blocking Report
Baseline 2014/4/5

Intersection: 5: Kirkwood St & Penn Cir E

Movement	EB	EB	WB	WB	NB	NB	SB	
Directions Served	L	TR	L	R	T	TR	LT	
Maximum Queue (ft)	127	50	305	53	89	111	62	
Average Queue (ft)	49	11	100	29	27	96	33	
95th Queue (ft)	94	38	216	58	76	104	63	
Link Distance (ft)	196	196	738	738	80	80	30	
Upstream Blk Time (%)					1	40	17	
Queuing Penalty (veh)					2	101	10	
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

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Actuated Signals, Observed Splits
Baseline 2014/4/5

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 (%)	19	28	0	34

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

Baseline 2014/4/5

2: Penn Ave & EastsideIII Dr Performance by movement

Movement	EBT	WBT	All
Total Delay (hr)	1.9	6.5	8.4
Delay / Veh (s)	10.3	45.6	25.7
Total Stops	235	383	618
Travel Dist (mi)	34.3	35.2	69.5
Travel Time (hr)	3.4	7.8	11.2
Avg Speed (mph)	10	5	6
Fuel Used (gal)	2.4	2.7	5.1
HC Emissions (g)	31	15	46
CO Emissions (g)	1019	545	1564
NOx Emissions (g)	110	54	165
Vehicles Entered	658	520	1178
Vehicles Exited	656	505	1161
Hourly Exit Rate	656	505	1161
Input Volume	651	527	1178
% of Volume	101	96	99
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)	175	186	74	377	377
Average Queue (ft)	89	109	33	104	169
95th Queue (ft)	156	174	71	230	349
Link Distance (ft)	166	166	362	362	362
Upstream Blk Time (%)	0	1		0	4
Queuing Penalty (veh)	0	2		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: 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	39	

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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)	0.2	1.3	0.4	0.8	0.1	0.2	0.4	0.4	3.8	
Delay / Veh (s)	14.5	13.0	26.1	10.2	12.4	10.5	13.8	10.0	12.5	
Total Stops	34	214	49	143	28	48	64	77	657	
Travel Dist (mi)	2.6	20.4	1.6	8.5	0.9	1.8	4.8	7.1	47.7	
Travel Time (hr)		0.3	2.1	0.5	1.2	0.2	0.3	0.6	0.7	5.8
Avg Speed (mph)		9	10	3	8	5	6	8	11	8
Fuel Used (gal)	0.1	1.1	0.1	0.6	0.1	0.1	0.2	0.3	2.7	
HC Emissions (g)	0	9	1	5	0	1	2	5	24	
CO Emissions (g)	18	299	22	209	10	51	62	156	826	
NOx Emissions (g)	2	33	2	18	1	5	7	16	84	
Vehicles Entered	47	365	55	280	40	77	100	149	1113	
Vehicles Exited	47	364	55	280	40	76	100	148	1110	
Hourly Exit Rate	47	364	55	280	40	76	100	148	1110	
Input Volume	47	322	58	283	45	75	99	157	1086	
% of Volume	100	113	95	99	89	101	101	94	102	
Denied Entry Before	0	0	0	0	0	0	0	0	0	
Denied Entry After	0	0	0	0	0	0	0	0	0	

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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)	69	240	106	165	72	73	111	136
Average Queue (ft)	22	109	34	77	25	36	43	53
95th Queue (ft)	53	190	74	163	53	69	88	97
Link Distance (ft)	286	286	150	150	117	117	248	248
Upstream Blk Time (%)					2			
Queuing Penalty (veh)					0			
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

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Actuated Signals, Observed Splits
Baseline 2014/4/5

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 (%)		98	100	98 100
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 : 58

SimTraffic Simulation Summary
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Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

Interval #0 Information Seeding

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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	EB	LE	BT	WBL	WBT	WBR	NET	NER	SWL	SWT	All
Total Delay (hr)	1.7	1.9	12.3	23.5	25.7	5.9	2.2	1.5	1.2	75.9	
Delay / Veh (s)	96.6	25.0	367.1	303.9	447.7	80.8	40.2	67.9	23.2	164.4	
Total Stops	63	178	167	181	233	191	154	71	87	1325	
Travel Dist (mi)	2.7	10.9	6.3	14.8	10.6	14.4	12.8	3.0	7.6	83.1	
Travel Time (hr)		1.8	2.3	12.6	24.0	26.3	6.4	2.8	1.6	1.6	79.4
Avg Speed (mph)		2	5	2	5	2	2	5	2	5	3
Fuel Used (gal)	0.5	0.9	3.1	6.0	6.3	1.9	0.9	0.5	0.7	20.8	
HC Emissions (g)	1	10	6	8	5	15	5	5	3	58	
CO Emissions (g)	54	302	255	456	402	378	178	106	184	2315	
NOx Emissions (g)	5	31	16	29	17	35	19	12	17	181	
Vehicles Entered	67	266	119	279	209	265	195	77	192	1669	
Vehicles Exited	60	267	122	277	206	263	194	77	188	1654	
Hourly Exit Rate	60	267	122	277	206	263	194	77	188	1654	
Input Volume	70	237	139	332	261	302	210	82	194	1827	
% of Volume	86	113	88	83	79	87	92	94	97	91	
Denied Entry Before	0	0	1	6	5	0	0	0	0	12	
Denied Entry After	0	0	18	48	42	0	0	0	0	108	

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

Movement	EB	EB	EB	WB	WB	WB	NE	NE	SW	SW
Directions Served	L	T	TR	L	T	R	T	R	L	TR
Maximum Queue (ft)	202	124	154	175	180	186	201	215	89	100
Average Queue (ft)	55	59	75	127	136	165	170	91	55	60
95th Queue (ft)	155	103	122	201	209	207	228	227	93	104
Link Distance (ft)	206	206	206	166	166	166	180	180	80	80
Upstream Blk Time (%)	1			6	12	45	45	9	9	15
Queuing Penalty (veh)	0			11	21	79	115	23	12	19
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	28.0	9.0	42.0	43.0	26.0	26.0	
Minimum Green (s)	8.0	28.0	9.0	42.0	36.0	26.0	26.0	
Recall	None	C-Max	None	None	C-Max	None	None	
Avg. Green (s)	8.0	28.0	9.0	42.0	43.0	26.0	32.6	
g/C Ratio	0.07	0.24	0.08	0.36	0.37	0.18	0.28	
Cycles Skipped (%)	0	0	0	0	0	19	0	
Cycles @ Minimum (%)		100	100	100	100	0	81	80
Cycles Maxed Out (%)	100	100	100	100	100	81	100	
Cycles with Peds (%)	0	0	0	43	3	0	93	

Controller Summary

Average Cycle Length (s): 117.0

Number of Complete Cycles : 30

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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)	2.7	33.0	2.5	0.7	0.8	0.3	1.0	3.7	1.6	46.3			
Delay / Veh (s)	214.9		337.1		197.0		40.1	12.5	30.0	19.7	186.1	35.4	139.7
Total Stops	25	271	13	50	114	27	104	82	96	782			
Travel Dist (mi)	2.1	15.5	2.0	3.0	11.0	1.2	6.9	2.7	6.5	50.9			
Travel Time (hr)		2.8	33.5	2.6	0.8	1.2	0.4	1.3	3.8	1.9	48.3		
Avg Speed (mph)		6	2	9	4	10	3	5	1	5	3		
Fuel Used (gal)	0.7	8.2	0.6	0.2	0.6	0.1	0.6	1.0	0.7	12.6			
HC Emissions (g)	0	25	0	0	4	0	6	2	5	43			
CO Emissions (g)	45	724	39	35	143	13	183	88	163	1431			
NOx Emissions (g)	2	42	1	3	17	1	17	7	17	105			
Vehicles Entered	46	355	46	66	233	34	182	72	164	1198			
Vehicles Exited	46	350	46	60	233	35	187	70	164	1191			
Hourly Exit Rate	46	350	46	60	233	35	187	70	164	1191			
Input Volume	61	392	59	60	256	34	173	72	171	1278			
% of Volume	75	89	78	100	91	103	108	97	96	93			
Denied Entry Before	0	0	0	0	0	0	0	0	0	0			
Denied Entry After	2	27	5	1	1	0	0	0	0	36			

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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)	54	278	91	123	182	79	186	201	201
Average Queue (ft)	10	231	11	30	87	16	66	100	61
95th Queue (ft)	34	297	46	78	160	44	137	207	138
Link Distance (ft)	219	219	219	168	168	171	171	186	186
Upstream Blk Time (%)		69			0		1	16	1
Queuing Penalty (veh)		0			1		0	0	0
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

SimTraffic Report
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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 (%)	72	78	50	16

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

Baseline 2014/4/5

3: Penn Cir S & Shakespeare St Performance by movement

Movement	EBT	WBT	NBR	All
Total Delay (hr)	7.5	0.5	0.2	8.2
Delay / Veh (s)	59.9	6.3	60.7	38.4
Total Stops	234	75	8	317
Travel Dist (mi)	27.9	19.6	0.3	47.9
Travel Time (hr)	8.5	1.3	0.2	10.0
Avg Speed (mph)	4	15	2	6
Fuel Used (gal)	2.9	1.1	0.0	4.1
HC Emissions (g)	20	11	0	31
CO Emissions (g)	498	466	3	968
NOx Emissions (g)	64	44	0	109
Vehicles Entered	456	310	9	775
Vehicles Exited	451	310	9	770
Hourly Exit Rate	451	310	9	770
Input Volume	504	333	8	845
% of Volume	89	93	112	91
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

SimTraffic Report
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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)	211	165	50
Average Queue (ft)	191	60	9
95th Queue (ft)	252	143	35
Link Distance (ft)	168	180	179
Upstream Blk Time (%)	56	0	
Queuing Penalty (veh)	260	0	
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)	76.0	76.0	22.0
Minimum Green (s)	76.0	76.0	22.0
Recall	C-Max	C-Max	Max
Avg. Green (s)	76.0	76.0	22.0
g/C Ratio	0.69	0.69	0.20
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)		100	100 100
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	3	0	25

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

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	4099
Vehs Exited	4063
Starting Vehs	89
Ending Vehs	125
Denied Entry Before	15
Denied Entry After	147
Travel Distance (mi)	698
Travel Time (hr)	184.1
Total Delay (hr)	156.9
Total Stops	4776
Fuel Used (gal)	68.9

Baseline 2014/4/5

8: Station St & Penn Cir E Performance by movement

Movement	WBT	NBL	NBT	SBL	SBT	All	
Total Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.3	
Delay / Veh (s)	55.6	2.9	0.9	8.0	1.3	3.0	
Total Stops	6	11	2	6	3	28	
Travel Dist (mi)	0.3	9.5	11.4	0.5	2.4	24.1	
Travel Time (hr)		0.1	0.5	0.5	0.1	0.1	1.3
Avg Speed (mph)		2	19	23	9	22	19
Fuel Used (gal)	0.0	0.4	0.6	0.0	0.1	1.2	
HC Emissions (g)		0	6	6	0	5	17
CO Emissions (g)		2	219	312	3	164	702
NOx Emissions (g)		0	20	22	0	14	57
Vehicles Entered		7	115	168	16	71	377
Vehicles Exited		8	116	168	16	71	379
Hourly Exit Rate		8	116	168	16	71	379
Input Volume		12	129	176	16	76	409
% of Volume		67	90	95	100	93	93
Denied Entry Before		0	0	0	0	0	0
Denied Entry After		0	0	0	0	0	0

SimTraffic Report
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Queuing and Blocking Report Baseline 2014/4/5

Intersection: 8: Station St & Penn Cir E

Movement	WB	NB	NB	SB	SB
Directions Served		L	R	L	R
Maximum Queue (ft)	30	50	29	27	70
Average Queue (ft)	9	8	2	5	3
95th Queue (ft)	29	33	14	23	26
Link Distance (ft)	193	299	299	173	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)	71.0	71.0	27.0
Minimum Green (s)	71.0	71.0	27.0
Recall	C-Max	C-Max	None
Avg. Green (s)	529.3	529.3	27.0
g/C Ratio	0.90	0.90	0.05
Cycles Skipped (%)	81	81	79
Cycles @ Minimum (%)		0	0
Cycles Maxed Out (%)	19	19	21
Cycles with Peds (%)	19	6	0

Controller Summary

Average Cycle Length (s): 110.0

Number of Complete Cycles : 32

SimTraffic Report

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