

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

Baseline 2014/4/5

6: Broad St & Larimer Ave Performance by movement

Movement	EBTWBT		NETSWT		All	
Total Delay (hr)	0.4	0.4	0.7	0.2	1.7	
Delay / Veh (s)	7.6	9.3	24.5	23.4	13.0	
Total Stops	62	48	70	26	206	
Travel Dist (mi)	11.6	7.7	5.2	2.8	27.2	
Travel Time (hr)		1.1	0.6	0.9	0.3	3.0
Avg Speed (mph)		10	12	6	8	9
Fuel Used (gal)	0.9	0.3	0.4	0.1	1.7	
HC Emissions (g)		10	4	1	1	15
CO Emissions (g)		456	103	65	31	656
NOx Emissions (g)		36	10	6	3	56
Vehicles Entered		194	139	102	36	471
Vehicles Exited		193	139	103	38	473
Hourly Exit Rate		193	139	103	38	473
Input Volume		214	128	96	39	477
% of Volume		90	109	107	97	99
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)	82	95	66	28	174	62
Average Queue (ft)	15	37	28	11	55	17
95th Queue (ft)	48	79	62	32	117	49
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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# of Recorded Intvls	1
Vehs Entered	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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)	1.3	0.4	0.1	0.4	0.1	0.0	0.1	2.5	
Delay / Veh (s)	23.3	19.2	13.7	4.6	1.5	25.2	5.6	9.8	
Total Stops	125	48	27	57	45	2	20	324	
Travel Dist (mi)	9.6	3.5	1.2	9.9	5.9	0.2	5.4	35.7	
Travel Time (hr)		1.6	0.6	0.2	0.9	0.4	0.0	0.3	4.0
Avg Speed (mph)		6	6	6	12	13	8	19	9
Fuel Used (gal)	0.7	0.2	0.1	0.8	0.3	0.0	0.2	2.2	
HC Emissions (g)	7	1	0	14	2	0	1	26	
CO Emissions (g)	212	46	16	505	66	0	39	884	
NOx Emissions (g)	23	3	2	49	8	0	3	90	
Vehicles Entered	204	72	36	331	191	2	69	905	
Vehicles Exited	198	73	36	332	192	2	70	903	
Hourly Exit Rate	198	73	36	332	192	2	70	903	
Input Volume	196	65	33	378	208	6	70	956	
% of Volume	101	112	109	88	92	33	100	94	
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)	160	98	38	45	46	29	53
Average Queue (ft)	89	41	16	30	22	2	19
95th Queue (ft)	147	80	38	55	46	14	50
Link Distance (ft)	236	236	30	30	30	299	299
Upstream Blk Time (%)			2	11	3		
Queuing Penalty (veh)			4	23	6		
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)	46.0	46.0	20.0
Minimum Green (s)	46.0	46.0	20.0
Recall	Max	Max	None
Avg. Green (s)	46.8	46.8	20.0
g/C Ratio	0.59	0.59	0.25
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)		91	91 100
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): 78.8

Number of Complete Cycles : 45

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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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

Baseline 2014/4/5

5: Kirkwood St & Penn Cir E Performance by movement

Movement	EBLEBTWBL				WBR		NBT		SBT All
Total Delay (hr)	0.4	0.0	0.8	0.3	2.6	0.6	4.8		
Delay / Veh (s)	21.8	8.4	24.0	17.4	22.2	17.4	20.9		
Total Stops	46	7	88	46	222	47	456		
Travel Dist (mi)	2.6	0.7	16.9	9.4	17.0	2.6	49.2		
Travel Time (hr)		0.5	0.1	1.4	0.7	3.6	0.7	7.0	
Avg Speed (mph)		5	10	12	14	5	5	7	
Fuel Used (gal)	0.2	0.0	0.7	0.3	1.5	0.3	3.0		
HC Emissions (g)	1	0	7	7	13	1	29		
CO Emissions (g)	35	12	231	148	395	41	862		
NOx Emissions (g)	4	1	19	18	47	5	93		
Vehicles Entered	68	19	119	67	430	131	834		
Vehicles Exited	67	19	119	66	429	130	830		
Hourly Exit Rate	67	19	119	66	429	130	830		
Input Volume	68	17	131	49	508	131	904		
% of Volume	99	112	91	135	84	99	92		
Denied Entry Before	0	0	0	0	0	0	0		
Denied Entry After	0	0	0	0	0	0	0		

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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)	125	28	154	92	96	123	61	
Average Queue (ft)	33	6	57	32	40	99	29	
95th Queue (ft)	80	25	127	68	84	111	54	
Link Distance (ft)	196	196	738	738	80	80	30	
Upstream Blk Time (%)					1	48	9	
Queuing Penalty (veh)					2	122	5	
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)	28.0	29.0	28.0	29.0
Minimum Green (s)	28.0	29.0	28.0	29.0
Recall	Max	None	Max	None
Avg. Green (s)	28.2	29.0	28.2	29.0
g/C Ratio	0.41	0.42	0.41	0.42
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)		98	100	98 100
Cycles Maxed Out (%)	100	100	100	100
Cycles with Peds (%)	4	15	0	35

Controller Summary

Average Cycle Length (s): 69.2

Number of Complete Cycles : 51

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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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

Baseline 2014/4/5

2: Penn Ave & EastsideIII Dr Performance by movement

Movement	EBT	WBT	All
Total Delay (hr)	0.9	10.9	11.8
Delay / Veh (s)	4.7	76.9	35.9
Total Stops	120	440	560
Travel Dist (mi)	34.3	35.2	69.5
Travel Time (hr)	2.5	12.2	14.6
Avg Speed (mph)	14	3	5
Fuel Used (gal)	2.5	3.7	6.1
HC Emissions (g)	31	9	40
CO Emissions (g)	1241	422	1664
NOx Emissions (g)	117	38	155
Vehicles Entered	671	514	1185
Vehicles Exited	671	507	1178
Hourly Exit Rate	671	507	1178
Input Volume	651	527	1178
% of Volume	103	96	100
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)	147	160	53	248	377
Average Queue (ft)	48	68	9	66	287
95th Queue (ft)	116	146	34	171	440
Link Distance (ft)	166	166	362	362	362
Upstream Blk Time (%)	0	0			14
Queuing Penalty (veh)	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: 2: Penn Ave & EastsideIII Dr

Phase	2	6	8
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Movement(s) Served	EBT	WBTL	NEL
Maximum Green (s)	140.0	140.0	18.0
Minimum Green (s)	140.0	140.0	18.0
Recall	None	None	Max
Avg. Green (s)	140.0	140.0	18.0
g/C Ratio	0.82	0.82	0.11
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): 171.0

Number of Complete Cycles : 20

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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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	1.0	0.4	0.9	0.2	0.2	0.4	0.4	3.6	
Delay / Veh (s)	19.7	11.3	20.3	10.1	15.1	8.7	13.4	10.9	11.9	
Total Stops	28	156	54	160	33	38	64	82	615	
Travel Dist (mi)	2.2	17.8	2.1	9.3	1.1	1.7	4.7	6.9	45.8	
Travel Time (hr)		0.3	1.7	0.5	1.3	0.3	0.3	0.6	0.7	5.6
Avg Speed (mph)		7	11	4	8	4	7	8	10	8
Fuel Used (gal)	0.1	0.9	0.2	0.7	0.1	0.1	0.2	0.3	2.7	
HC Emissions (g)	0	7	1	7	0	1	1	5	24	
CO Emissions (g)	21	288	30	223	9	68	52	133	825	
NOx Emissions (g)	2	29	4	25	1	5	5	18	88	
Vehicles Entered	40	317	71	305	47	75	98	145	1098	
Vehicles Exited	40	319	70	304	47	75	98	146	1099	
Hourly Exit Rate	40	319	70	304	47	75	98	146	1099	
Input Volume	47	322	58	283	45	75	99	157	1086	
% of Volume	85	99	121	107	104	100	99	93	101	
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	223	96	189	65	77	119	137	
Average Queue (ft)	23	83	32	82	23	32	41	57	
95th Queue (ft)	57	159	69	158	54	64	86	102	
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)	25.3	25.0	25.3	25.0
g/C Ratio	0.42	0.41	0.42	0.41
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)		97	100	97 100
Cycles Maxed Out (%)	100	100	100	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): 60.3

Number of Complete Cycles : 58

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Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
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Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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)	1.8	2.1	20.4	47.4	49.1	5.5	1.5	1.5	1.0	130.3	
Delay / Veh (s)	83.2	32.9	798.9	713.3	939.5	70.2	23.4	66.4	20.8	292.7	
Total Stops	77	175	86	166	210	183	131	78	79	1185	
Travel Dist (mi)	3.4	9.6	5.5	14.0	10.8	15.4	15.1	3.3	7.1	84.1	
Travel Time (hr)		2.0	2.6	20.6	47.8	49.6	6.0	2.3	1.7	1.3	133.9
Avg Speed (mph)		2	4	4	4	2	3	7	2	5	3
Fuel Used (gal)	0.6	0.9	4.7	11.3	11.4	1.7	0.8	0.5	0.7	32.5	
HC Emissions (g)	1	6	53	50	6	16	7	1	6	146	
CO Emissions (g)	56	197	861	1168	638	372	198	59	229	3778	
NOx Emissions (g)	5	22	41	49	17	31	20	6	22	214	
Vehicles Entered	78	234	93	240	190	280	230	85	178	1608	
Vehicles Exited	79	235	92	238	186	281	228	82	178	1599	
Hourly Exit Rate	79	235	92	238	186	281	228	82	178	1599	
Input Volume	70	237	139	332	261	302	210	82	194	1827	
% of Volume	113	99	66	72	71	93	109	100	92	88	
Denied Entry Before	0	0	1	5	5	0	0	0	0	11	
Denied Entry After	0	0	35	89	84	0	0	0	0	208	

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Queuing and Blocking Report
Baseline 2014/4/5

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)	200	130	136	131	179	185	200	189	89	86
Average Queue (ft)	60	63	74	64	133	176	166	94	60	64
95th Queue (ft)	150	109	125	119	206	187	225	196	104	102
Link Distance (ft)	206	206	206	166	166	166	180	180	80	80
Upstream Blk Time (%)	0				15	72	32	2	13	8
Queuing Penalty (veh)	0				26	126	83	6	17	10
Storage Bay Dist (ft)										
Storage Blk Time (%)										
Queuing Penalty (veh)										

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Actuated Signals, Observed Splits
Baseline 2014/4/5

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)	11.0	37.0	15.0	31.0	55.0	16.0 31.0
Minimum Green (s)	11.0	37.0	15.0	31.0	55.0	16.0 31.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	11.0	37.0	15.0	31.8	55.0	16.0 33.4
g/C Ratio	0.09	0.30	0.12	0.26	0.44	0.12 0.27
Cycles Skipped (%)	0	0	3	0	0	10 0
Cycles @ Minimum (%)		100	100	97	97	100 90 90
Cycles Maxed Out (%)	100	100	97	100	100	90 100
Cycles with Peds (%)	0	0	0	34	0	0 90

Controller Summary
Average Cycle Length (s): 124.0
Number of Complete Cycles : 28

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

Baseline 2014/4/5

4: Penn Cir S & Performance by movement

Movement	EB	LEB	TEB	RWBL	WBT	NBL	NBT	SBL	SBT	All	
Total Delay (hr)	0.5	4.7	0.3	0.4	0.9	0.3	0.8	1.0	0.8	9.6	
Delay / Veh (s)	29.8	44.2	17.2	28.7	14.0	32.5	16.2	43.0	17.4	27.9	
Total Stops	41	289	24	45	105	28	112	75	111	830	
Travel Dist (mi)	2.6	16.8	2.8	2.2	10.1	1.0	6.7	3.2	6.9	52.2	
Travel Time (hr)		0.6	5.3	0.5	0.5	1.2	0.3	1.1	1.2	1.1	11.8
Avg Speed (mph)		6	4	9	4	9	3	6	3	6	5
Fuel Used (gal)	0.2	1.8	0.1	0.1	0.5	0.1	0.5	0.3	0.5	4.2	
HC Emissions (g)	0	14	1	0	2	0	4	1	3	27	
CO Emissions (g)	28	365	33	15	87	8	165	40	135	876	
NOx Emissions (g)	2	43	2	1	11	1	17	4	13	95	
Vehicles Entered	56	383	65	52	223	28	181	82	172	1242	
Vehicles Exited	56	377	66	51	223	28	183	85	174	1243	
Hourly Exit Rate	56	377	66	51	223	28	183	85	174	1243	
Input Volume	61	392	59	60	256	34	173	72	171	1278	
% of Volume	92	96	112	85	87	82	106	118	102	97	
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	
Denied Entry After	0	0	0	0	0	0	0	0	0	0	

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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)	75	234	68	81	156	60	159	149	118
Average Queue (ft)	17	182	19	26	73	15	58	46	60
95th Queue (ft)	47	274	53	61	135	39	138	103	110
Link Distance (ft)	219	219	219	168	168	171	171	186	186
Upstream Blk Time (%)		15			0		0		
Queuing Penalty (veh)		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)	38.0	30.0	38.0	30.0
Minimum Green (s)	38.0	24.0	38.0	24.0
Recall	None	Max	None	Max
Avg. Green (s)	38.0	30.0	38.0	30.0
g/C Ratio	0.46	0.37	0.46	0.37
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)		100	0	100
Cycles Maxed Out (%)	100	100	100	100
Cycles with Peds (%)	67	77	33	9

Controller Summary

Average Cycle Length (s): 82.0

Number of Complete Cycles : 43

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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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

Baseline 2014/4/5

3: Penn Cir S & Shakespeare St Performance by movement

Movement	EBT	WBT	NBR	All
Total Delay (hr)	3.1	0.1	0.1	3.3
Delay / Veh (s)	22.0	2.0	79.2	15.4
Total Stops	148	11	4	163
Travel Dist (mi)	30.9	17.0	0.1	48.1
Travel Time (hr)	4.2	0.8	0.1	5.1
Avg Speed (mph)	8	21	1	10
Fuel Used (gal)	2.2	1.0	0.0	3.2
HC Emissions (g)	20	12	0	32
CO Emissions (g)	629	498	1	1128
NOx Emissions (g)	81	45	0	125
Vehicles Entered	511	270	4	785
Vehicles Exited	506	270	4	780
Hourly Exit Rate	506	270	4	780
Input Volume	504	333	8	845
% of Volume	100	81	50	92
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

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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)	210	96	29
Average Queue (ft)	130	12	5
95th Queue (ft)	261	57	21
Link Distance (ft)	168	180	179
Upstream Blk Time (%)	20		
Queuing Penalty (veh)	93		
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)	428.0	428.0	22.0
Minimum Green (s)	428.0	428.0	22.0
Recall	None	None	Max
Avg. Green (s)	428.0	428.0	22.0
g/C Ratio	0.93	0.93	0.05
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): 462.0

Number of Complete Cycles : 7

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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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

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	4051
Vehs Exited	4020
Starting Vehs	72
Ending Vehs	103
Denied Entry Before	11
Denied Entry After	208
Travel Distance (mi)	701
Travel Time (hr)	197.2
Total Delay (hr)	169.6
Total Stops	4391
Fuel Used (gal)	70.9

Baseline 2014/4/5

8: Station St & Penn Cir E Performance by movement

Movement	WBT	NBL	NBT	SBL	SBT	All	
Total Delay (hr)	0.3	0.2	0.1	0.0	0.0	0.6	
Delay / Veh (s)	62.9	5.9	1.4	5.9	1.4	5.9	
Total Stops	16	21	7	4	4	52	
Travel Dist (mi)	0.7	9.8	11.3	0.4	2.4	24.6	
Travel Time (hr)		0.4	0.6	0.5	0.0	0.1	1.6
Avg Speed (mph)		2	16	22	10	21	15
Fuel Used (gal)	0.1	0.4	0.6	0.0	0.1	1.3	
HC Emissions (g)		0	5	9	0	1	16
CO Emissions (g)		9	206	351	3	100	668
NOx Emissions (g)		1	20	31	0	5	56
Vehicles Entered		20	117	169	12	71	389
Vehicles Exited		19	119	168	12	71	389
Hourly Exit Rate		19	119	168	12	71	389
Input Volume		12	129	176	16	76	409
% of Volume		158	92	95	75	93	95
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	SB
Directions Served		L	R	L	R
Maximum Queue (ft)	96	94	50	27	51
Average Queue (ft)	22	16	6	4	4
95th Queue (ft)	60	60	30	19	23
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)	103.0	103.0	19.0	
Minimum Green (s)	103.0	103.0	19.0	
Recall	None	None	None	
Avg. Green (s)	309.1	309.1	21.7	
g/C Ratio	0.90	0.90	0.06	
Cycles Skipped (%)	0	0	0	
Cycles @ Minimum (%)		0	0	40
Cycles Maxed Out (%)	100	100	100	
Cycles with Peds (%)	0	0	0	

Controller Summary

Average Cycle Length (s): 343.3

Number of Complete Cycles : 9

Average All-Red Dwell (s): 2.2

Cycles with All-Red Dwell (%): 11

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