Appendix A Traffic Count Worksheets

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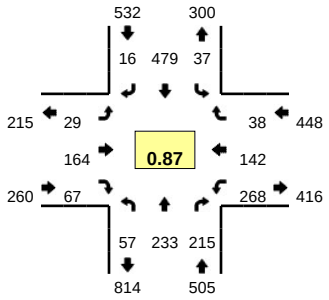
Type of peak hour being reported: Intersection Peak

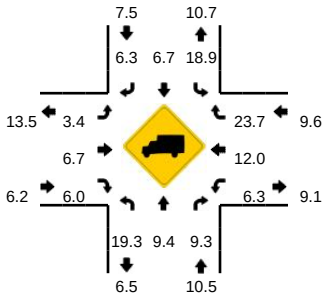
Method for determining peak hour: Total Entering Volume

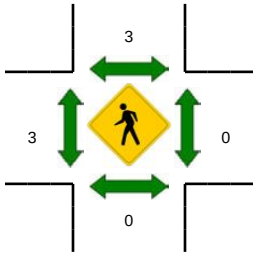
LOCATION: NE 72nd Ave -- NE 119th St
CITY/STATE: Vancouver, WA

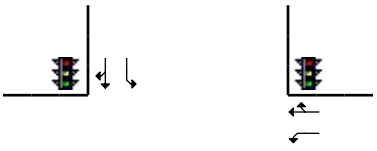
QC JOB #: 13790401
DATE: Tue, Jun 07 2016

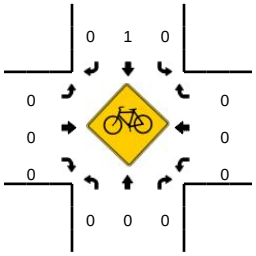
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

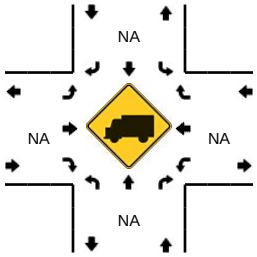


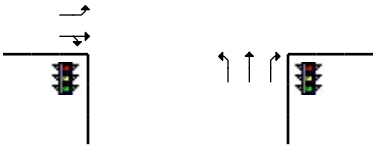


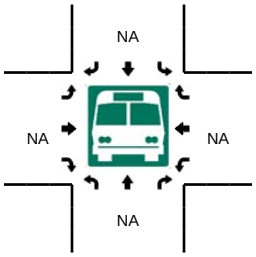












5-Min Count Period Beginning At	NE 72nd Ave (Northbound)				NE 72nd Ave (Southbound)				NE 119th St (Eastbound)				NE 119th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	11	14	0	4	36	5	0	1	6	3	0	25	13	1	0	123	
7:05 AM	1	11	10	0	2	44	0	0	1	11	10	0	8	7	2	0	107	
7:10 AM	2	21	9	0	1	34	2	0	1	9	7	0	18	9	5	0	118	
7:15 AM	1	12	17	0	3	45	1	0	2	13	3	0	17	7	1	0	122	
7:20 AM	2	14	14	0	2	43	2	0	5	16	4	0	29	16	6	0	153	
7:25 AM	8	26	13	0	4	34	1	0	0	9	4	0	24	6	4	0	133	
7:30 AM	2	10	21	0	4	35	3	0	4	15	3	0	13	10	1	0	121	
7:35 AM	4	15	20	0	5	37	0	0	2	24	7	0	24	13	1	0	152	
7:40 AM	8	27	27	0	1	44	1	0	5	13	8	0	25	12	3	0	174	
7:45 AM	4	20	27	0	3	59	1	0	0	10	6	0	24	10	1	0	165	
7:50 AM	6	26	19	0	2	41	1	0	1	21	7	0	26	12	2	0	164	
7:55 AM	7	16	20	0	7	32	1	0	3	16	6	0	32	16	7	0	163	1695
8:00 AM	5	14	11	0	1	47	0	0	1	12	6	0	20	11	2	0	130	1702
8:05 AM	3	24	15	0	4	31	1	0	5	15	3	0	21	15	1	0	138	1733
8:10 AM	5	11	13	0	4	41	1	0	3	6	8	0	16	16	5	0	129	1744
8:15 AM	3	30	15	0	0	35	4	0	0	7	5	0	14	5	5	0	123	1745
8:20 AM	4	14	18	0	3	29	1	0	0	12	7	0	12	12	3	0	115	1707
8:25 AM	4	18	17	0	7	41	4	0	2	10	3	0	24	12	4	0	146	1720
8:30 AM	6	21	9	0	6	38	2	0	5	6	3	0	12	10	1	0	119	1718
8:35 AM	4	17	19	0	8	47	1	0	1	3	2	0	11	12	3	0	128	1694
8:40 AM	3	18	19	0	5	34	2	0	1	9	6	0	23	12	1	0	133	1653
8:45 AM	3	15	13	0	2	28	1	0	1	7	5	0	24	12	4	0	115	1603
8:50 AM	2	25	15	0	5	42	1	0	1	13	4	0	8	9	2	0	127	1566
8:55 AM	4	24	10	0	1	33	3	0	0	15	5	0	14	7	6	0	122	1525

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	72	292	292	0	24	576	12	0	24	176	84	0	300	136	24	0	2012
Heavy Trucks	16	24	16		4	40	0		4	8	4		24	16	12		168
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:29 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

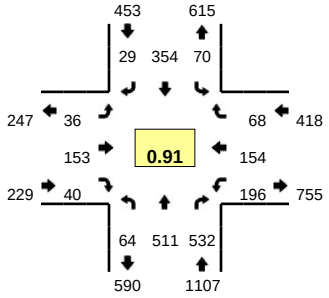
Type of peak hour being reported: Intersection Peak

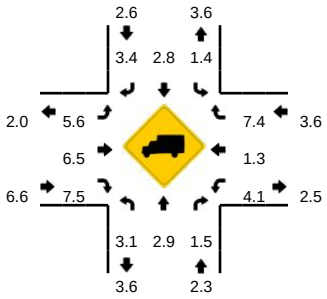
Method for determining peak hour: Total Entering Volume

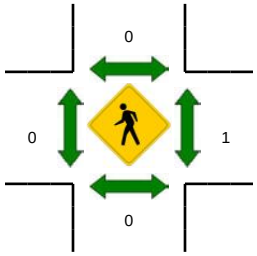
LOCATION: NE 72nd Ave -- NE 119th St
CITY/STATE: Vancouver, WA

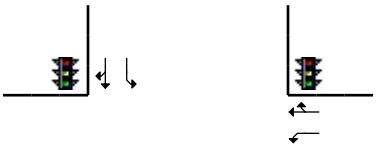
QC JOB #: 13790402
DATE: Tue, Jun 07 2016

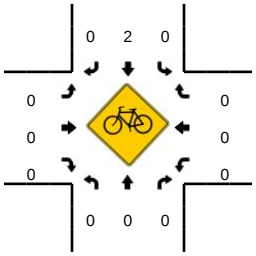
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

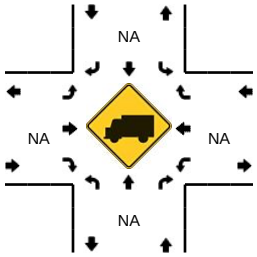


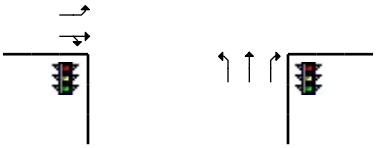


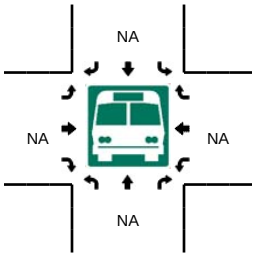












5-Min Count Period Beginning At	NE 72nd Ave (Northbound)				NE 72nd Ave (Southbound)				NE 119th St (Eastbound)				NE 119th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	56	28	0	6	16	1	0	0	13	2	0	14	8	6	0	154	
4:05 PM	9	58	35	0	4	23	2	0	1	6	5	0	15	8	6	0	172	
4:10 PM	5	29	26	0	4	28	2	0	6	21	5	0	20	13	3	0	162	
4:15 PM	8	76	31	0	6	20	0	0	1	7	3	0	11	9	1	0	173	
4:20 PM	5	38	26	0	3	19	2	0	6	9	1	0	22	22	9	0	162	
4:25 PM	4	33	33	0	7	49	4	0	2	18	5	0	5	2	7	0	169	
4:30 PM	4	67	27	0	1	29	0	0	2	6	3	0	13	11	3	0	166	
4:35 PM	1	33	17	0	4	24	5	0	8	16	4	0	18	17	8	0	155	
4:40 PM	14	59	37	0	2	30	3	0	3	10	3	0	14	18	3	0	196	
4:45 PM	4	50	22	0	2	10	1	0	5	15	8	0	28	13	8	0	166	
4:50 PM	6	44	23	0	4	38	1	0	1	7	2	0	15	13	7	0	161	
4:55 PM	6	50	26	0	3	19	3	0	5	13	3	0	16	17	4	0	165	2001
5:00 PM	5	34	40	0	6	47	3	0	3	20	6	0	11	11	6	0	192	2039
5:05 PM	10	72	42	0	5	20	2	0	2	10	3	0	9	8	5	0	188	2055
5:10 PM	5	31	47	0	12	34	4	0	2	12	6	0	22	21	6	0	202	2095
5:15 PM	6	55	55	0	6	28	2	0	6	9	6	0	16	21	4	0	214	2136
5:20 PM	1	28	58	0	4	31	4	0	4	16	0	0	20	16	4	0	186	2160
5:25 PM	6	35	53	0	6	40	1	0	1	8	4	0	18	6	3	0	181	2172
5:30 PM	5	56	49	0	2	14	1	0	3	9	3	0	23	7	7	0	179	2185
5:35 PM	1	41	37	0	3	25	2	0	8	12	3	0	25	15	4	0	176	2206
5:40 PM	10	42	41	0	11	26	1	0	2	12	3	0	10	13	4	0	175	2185
5:45 PM	6	47	38	0	1	29	2	0	2	13	3	0	15	11	7	0	174	2193
5:50 PM	6	33	28	0	5	26	3	0	3	19	2	0	11	7	7	0	150	2182
5:55 PM	3	37	44	0	9	34	4	0	0	13	1	0	16	18	11	0	190	2207

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	632	576	0	92	328	32	0	40	124	60	0	188	200	60	0	2416
Heavy Trucks	0	4	12		0	8	0		0	8	4		12	4	8		60
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:29 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

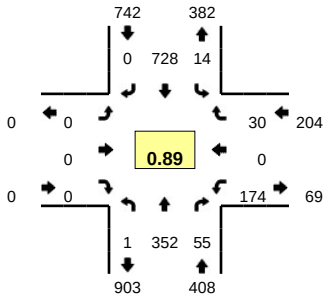
Type of peak hour being reported: Intersection Peak

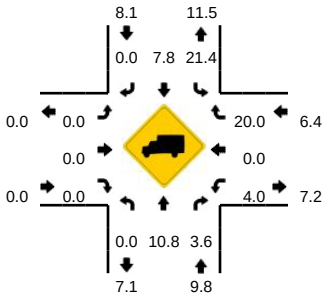
Method for determining peak hour: Total Entering Volume

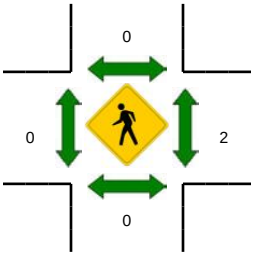
LOCATION: NE 72nd Ave -- NE 88th St
CITY/STATE: Vancouver, WA

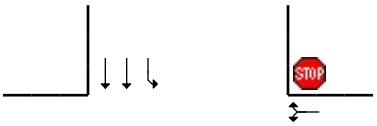
QC JOB #: 13790403
DATE: Tue, Jun 07 2016

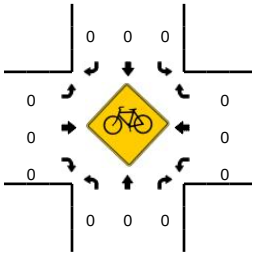
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

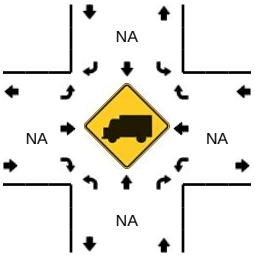


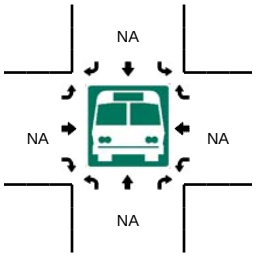












5-Min Count Period Beginning At	NE 72nd Ave (Northbound)				NE 72nd Ave (Southbound)				NE 88th St (Eastbound)				NE 88th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	24	2	0	0	62	0	0	0	0	0	0	4	0	1	0	93	
7:05 AM	0	20	1	0	1	60	0	0	0	0	0	0	12	0	0	0	94	
7:10 AM	0	18	1	0	0	56	0	0	0	0	0	0	7	0	2	0	84	
7:15 AM	0	20	2	0	1	33	0	0	0	0	0	0	13	0	0	0	69	
7:20 AM	0	31	3	0	0	72	0	0	0	0	0	0	11	0	2	0	119	
7:25 AM	0	24	2	0	3	60	0	0	0	0	0	0	13	0	1	0	103	
7:30 AM	0	25	5	0	0	44	0	0	0	0	0	0	17	0	5	0	96	
7:35 AM	0	22	7	0	2	58	0	0	0	0	0	0	17	0	5	0	111	
7:40 AM	0	29	4	0	0	70	0	0	0	0	0	0	21	0	4	0	128	
7:45 AM	0	31	0	0	1	70	0	0	0	0	0	0	16	0	4	0	122	
7:50 AM	0	35	2	0	2	74	0	0	0	0	0	0	17	0	2	0	132	
7:55 AM	0	33	7	0	1	66	0	0	0	0	0	0	12	0	2	0	121	1272
8:00 AM	0	28	3	1	3	57	0	0	0	0	0	0	10	0	3	0	105	1284
8:05 AM	0	27	6	0	2	61	0	0	0	0	0	0	11	0	1	0	108	1298
8:10 AM	0	32	9	0	0	42	0	0	0	0	0	0	18	0	0	0	101	1315
8:15 AM	0	35	7	0	0	54	0	0	0	0	0	0	11	0	1	0	108	1354
8:20 AM	0	29	7	0	0	53	0	0	0	0	0	0	12	0	0	0	101	1336
8:25 AM	0	31	7	0	1	46	0	0	0	0	0	0	6	0	2	0	93	1326
8:30 AM	0	17	4	0	2	66	0	0	0	0	0	0	8	0	0	0	97	1327
8:35 AM	0	27	2	0	1	50	0	0	0	0	0	0	13	0	3	0	96	1312
8:40 AM	0	14	4	0	0	51	0	0	0	0	0	0	4	0	2	0	75	1259
8:45 AM	0	22	3	0	2	43	0	0	0	0	0	0	9	0	2	0	81	1218
8:50 AM	0	29	8	0	0	54	0	0	0	0	0	0	11	0	2	0	104	1190
8:55 AM	0	19	1	0	1	59	0	0	0	0	0	0	10	0	1	0	91	1160

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	380	24	0	12	856	0	0	0	0	0	0	216	0	40	0	1528
Heavy Trucks	0	44	4		0	76	0		0	0	0		12	0	8		144
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:29 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

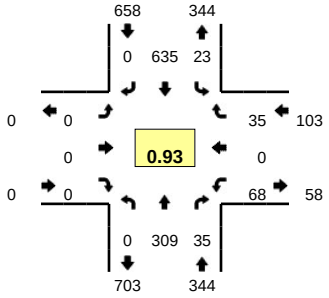
Type of peak hour being reported: Intersection Peak

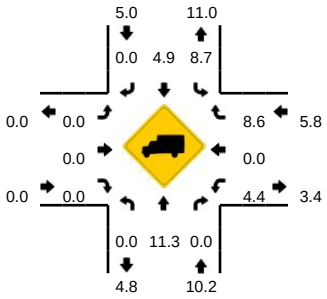
Method for determining peak hour: Total Entering Volume

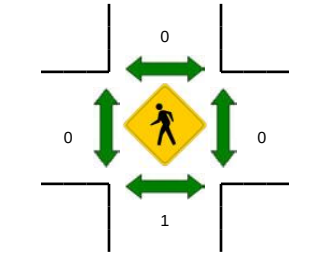
LOCATION: NE 72nd Ave -- NE 88th St
CITY/STATE: Vancouver, WA

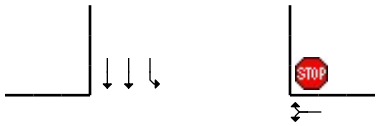
QC JOB #: 13593903
DATE: Tue, Sep 29 2015

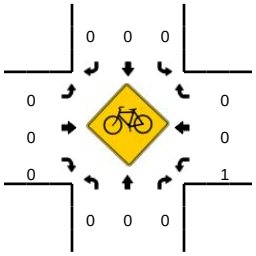
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

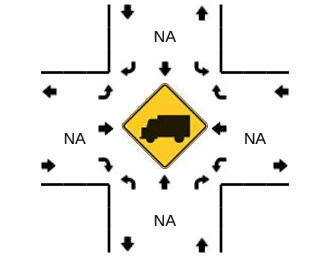


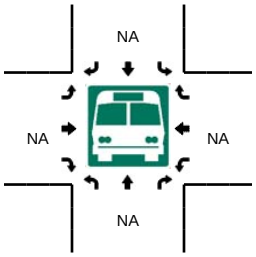












5-Min Count Period Beginning At	NE 72nd Ave (Northbound)				NE 72nd Ave (Southbound)				NE 88th St (Eastbound)				NE 88th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	14	4	0	5	66	0	0	0	0	0	0	7	0	0	0	96	
7:05 AM	0	23	2	0	3	62	0	0	0	0	0	0	5	0	3	0	98	
7:10 AM	0	23	2	0	3	55	0	0	0	0	0	0	8	0	0	0	91	
7:15 AM	0	18	4	0	2	44	0	0	0	0	0	0	8	0	4	0	80	
7:20 AM	0	27	2	0	7	57	0	0	0	0	0	0	3	0	6	0	102	
7:25 AM	0	19	0	0	3	42	0	0	0	0	0	0	8	0	1	0	73	
7:30 AM	0	20	2	0	3	39	0	0	0	0	0	0	2	0	4	0	70	
7:35 AM	0	17	2	0	5	55	0	0	0	0	0	0	5	0	2	0	86	
7:40 AM	0	24	2	0	3	62	0	0	0	0	0	0	4	0	7	0	102	
7:45 AM	0	25	1	0	3	60	0	0	0	0	0	0	5	0	3	0	97	
7:50 AM	0	23	4	0	1	57	0	0	0	0	0	0	6	0	7	0	98	
7:55 AM	0	26	2	0	0	51	0	0	0	0	0	0	6	0	1	0	86	1079
8:00 AM	0	23	1	0	5	59	0	0	0	0	0	0	4	0	3	0	95	1078
8:05 AM	0	34	2	0	5	42	0	0	0	0	0	0	7	0	0	0	90	1070
8:10 AM	0	31	4	0	1	66	0	0	0	0	0	0	5	0	2	0	109	1088
8:15 AM	0	24	5	0	1	49	0	0	0	0	0	0	9	0	3	0	91	1099
8:20 AM	0	21	0	0	1	52	0	0	0	0	0	0	3	0	2	0	79	1076
8:25 AM	0	32	9	0	0	31	0	0	0	0	0	0	3	0	2	0	77	1080
8:30 AM	0	18	3	0	1	54	0	0	0	0	0	0	4	0	2	0	82	1092
8:35 AM	0	28	2	0	2	52	0	0	0	0	0	0	12	0	3	0	99	1105
8:40 AM	0	29	1	0	0	38	0	0	0	0	0	0	8	0	0	0	76	1079
8:45 AM	0	29	5	0	1	44	0	0	0	0	0	0	12	0	1	0	92	1074
8:50 AM	0	38	4	0	1	20	0	0	0	0	0	0	10	0	1	0	74	1050
8:55 AM	0	19	8	0	6	37	0	0	0	0	0	0	7	0	5	0	82	1046

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	288	28	0	28	716	0	0	0	0	0	0	60	0	68	0	1188
Heavy Trucks	0	24	0		4	12	0		0	0	0		8	0	4		52
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/2/2015 3:54 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

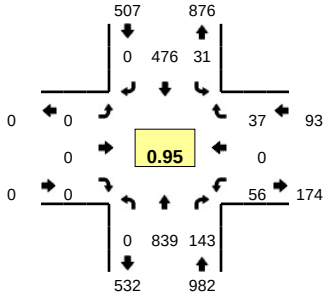
Type of peak hour being reported: Intersection Peak

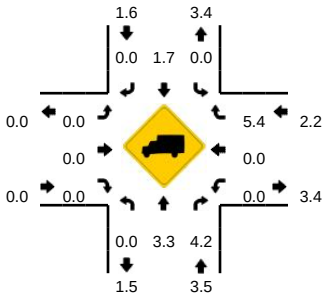
Method for determining peak hour: Total Entering Volume

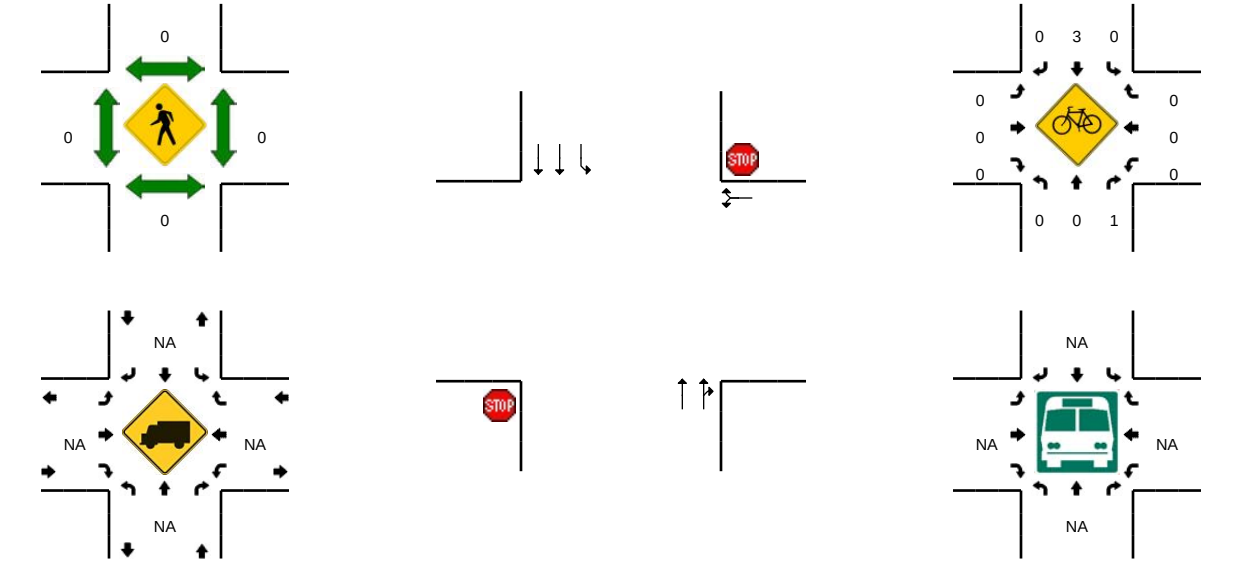
LOCATION: NE 72nd Ave -- NE 88th St
CITY/STATE: Vancouver, WA

QC JOB #: 13593911
DATE: Tue, Sep 29 2015

Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:15 PM -- 5:30 PM







5-Min Count Period Beginning At	NE 72nd Ave (Northbound)				NE 72nd Ave (Southbound)				NE 88th St (Eastbound)				NE 88th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	58	15	0	2	42	0	0	0	0	0	0	5	0	5	0	127	
4:05 PM	0	62	8	0	3	42	0	0	0	0	0	0	5	0	0	0	120	
4:10 PM	0	54	9	0	3	35	0	0	0	0	0	0	3	0	4	0	108	
4:15 PM	0	66	13	0	3	39	0	0	0	0	0	0	7	0	4	0	132	
4:20 PM	0	64	6	0	3	41	0	0	0	0	0	0	8	0	4	0	126	
4:25 PM	0	63	13	0	3	31	0	0	0	0	0	0	5	0	7	0	122	
4:30 PM	0	61	9	0	3	32	0	0	0	0	0	0	3	0	4	0	112	
4:35 PM	0	67	13	0	1	48	0	0	0	0	0	0	4	0	1	0	134	
4:40 PM	0	68	18	0	2	36	0	0	0	0	0	0	8	0	3	0	135	
4:45 PM	0	73	8	0	4	46	0	0	0	0	0	0	6	0	3	0	140	
4:50 PM	0	65	10	0	6	49	0	0	0	0	0	0	4	0	4	0	138	
4:55 PM	0	57	11	0	4	29	0	0	0	0	0	0	3	0	3	0	107	1501
5:00 PM	0	64	13	0	3	31	0	0	0	0	0	0	2	0	2	0	115	1489
5:05 PM	0	65	7	0	0	46	0	0	0	0	0	0	6	0	6	0	130	1499
5:10 PM	0	67	7	0	1	48	0	0	0	0	0	0	6	0	4	0	133	1524
5:15 PM	0	78	13	0	5	38	0	0	0	0	0	0	4	0	4	0	142	1534
5:20 PM	0	83	14	0	2	29	0	0	0	0	0	0	5	0	2	0	135	1543
5:25 PM	0	75	14	0	3	42	0	0	0	0	0	0	3	0	2	0	139	1560
5:30 PM	0	77	15	0	0	34	0	0	0	0	0	0	5	0	3	0	134	1582
5:35 PM	0	57	16	0	4	36	0	0	0	0	0	0	6	0	3	0	122	1570
5:40 PM	0	54	12	0	2	34	0	0	0	0	0	0	4	0	5	0	111	1546
5:45 PM	0	57	11	0	2	35	0	0	0	0	0	0	8	0	5	0	118	1524
5:50 PM	0	50	12	0	4	34	0	0	0	0	0	0	7	0	2	0	109	1495
5:55 PM	0	45	8	0	3	34	0	0	0	0	0	0	5	0	1	0	96	1484

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	944	164	0	40	436	0	0	0	0	0	0	48	0	32	0	1664
Heavy Trucks	0	36	12		0	8	0		0	0	0		0	0	0		56
Pedestrians		0				0				0				0			0
Bicycles	0	0	1		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 10/2/2015 3:54 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

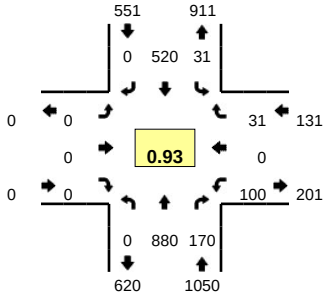
Type of peak hour being reported: Intersection Peak

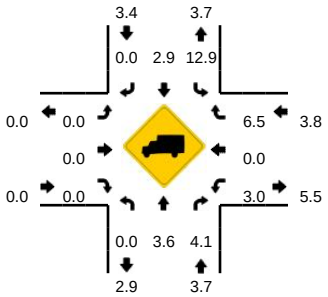
Method for determining peak hour: Total Entering Volume

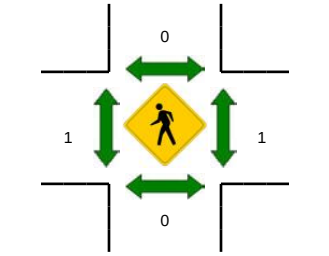
LOCATION: NE 72nd Ave -- NE 88th St
CITY/STATE: Vancouver, WA

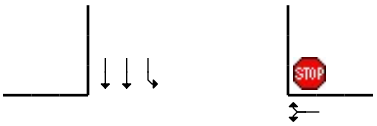
QC JOB #: 13790404
DATE: Tue, Jun 07 2016

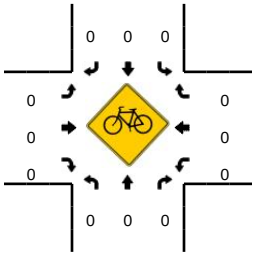
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

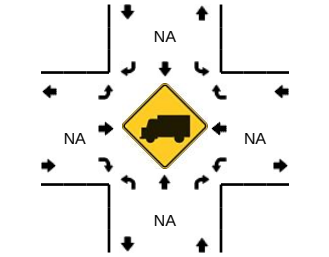


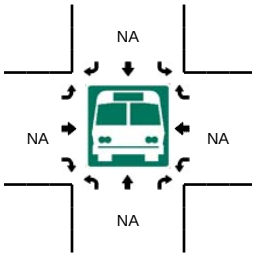












5-Min Count Period Beginning At	NE 72nd Ave (Northbound)				NE 72nd Ave (Southbound)				NE 88th St (Eastbound)				NE 88th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	72	4	0	0	41	0	0	0	0	0	0	10	0	3	0	130	
4:05 PM	0	75	19	0	2	34	0	0	0	0	0	0	12	0	3	0	145	
4:10 PM	0	71	15	0	1	49	0	0	0	0	0	0	17	0	3	0	156	
4:15 PM	0	68	11	0	0	45	0	0	0	0	0	0	8	0	5	0	137	
4:20 PM	0	77	10	0	0	35	0	0	0	0	0	0	11	0	2	0	135	
4:25 PM	0	69	10	0	2	30	0	0	0	0	0	0	5	0	0	0	116	
4:30 PM	0	74	11	0	1	56	0	0	0	0	0	0	11	0	1	0	154	
4:35 PM	0	80	15	0	2	37	0	0	0	0	0	0	9	0	2	0	145	
4:40 PM	0	69	13	0	1	38	0	0	0	0	0	0	8	0	3	0	132	
4:45 PM	0	60	18	0	3	34	0	0	0	0	0	0	10	0	2	0	127	
4:50 PM	0	58	22	0	2	41	0	0	0	0	0	0	8	0	4	0	135	
4:55 PM	0	64	12	0	2	54	0	0	0	0	0	0	4	0	4	0	140	1652
5:00 PM	0	61	17	0	0	40	0	0	0	0	0	0	9	0	0	0	127	1649
5:05 PM	0	77	10	0	3	47	0	0	0	0	0	0	8	0	1	0	146	1650
5:10 PM	0	93	13	0	2	41	0	0	0	0	0	0	9	0	6	0	164	1658
5:15 PM	0	80	9	0	12	31	0	0	0	0	0	0	11	0	1	0	144	1665
5:20 PM	0	86	14	0	2	41	0	0	0	0	0	0	8	0	5	0	156	1686
5:25 PM	0	78	16	0	1	60	0	0	0	0	0	0	5	0	2	0	162	1732
5:30 PM	0	78	14	0	5	31	0	0	0	0	0	0	9	0	3	0	140	1718
5:35 PM	0	67	10	0	3	42	0	0	0	0	0	0	4	0	1	0	127	1700
5:40 PM	0	67	13	0	4	34	0	0	0	0	0	0	9	0	2	0	129	1697
5:45 PM	0	74	11	0	2	26	0	0	0	0	0	0	7	0	6	0	126	1696
5:50 PM	0	81	11	0	1	46	0	0	0	0	0	0	7	0	4	0	150	1711
5:55 PM	0	58	10	0	2	47	0	0	0	0	0	0	5	0	1	0	123	1694

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1036	144	0	64	452	0	0	0	0	0	0	112	0	48	0	1856
Heavy Trucks	0	36	8		12	8	0		0	0	0		0	0	8		72
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

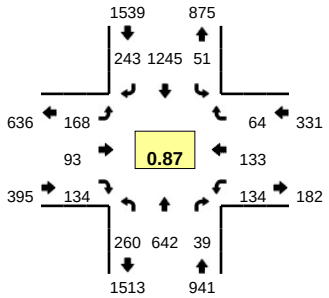
LOCATION: NE 117th Ave -- NE 119th St

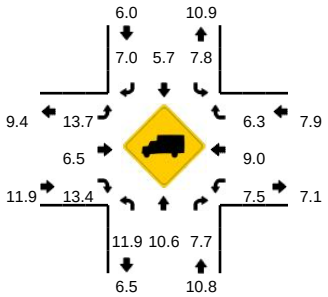
CITY/STATE: Vancouver, WA

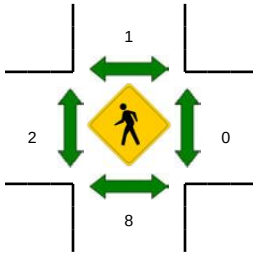
QC JOB #: 13790407

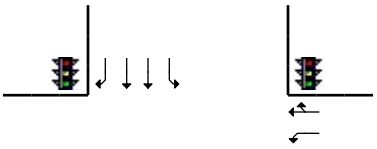
DATE: Tue, Jun 07 2016

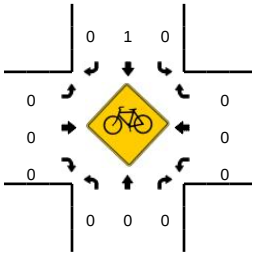
Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

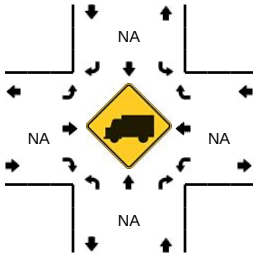


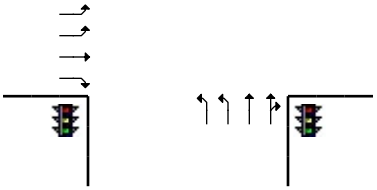


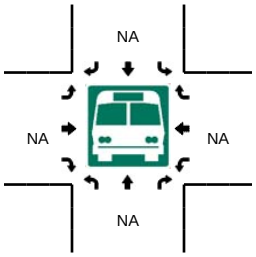












5-Min Count Period Beginning At	NE 117th Ave (Northbound)				NE 117th Ave (Southbound)				NE 119th St (Eastbound)				NE 119th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	11	29	1	0	3	100	13	0	7	6	1	0	3	11	4	0	189	
7:05 AM	12	38	0	0	3	102	13	0	9	1	5	0	7	6	1	0	197	
7:10 AM	17	45	3	0	7	117	12	0	10	7	13	0	7	8	1	0	247	
7:15 AM	17	44	5	0	3	87	20	0	15	4	4	0	11	10	6	0	226	
7:20 AM	9	53	5	0	2	83	18	0	6	11	10	0	10	15	9	0	231	
7:25 AM	15	33	1	0	9	91	14	0	6	9	13	0	9	6	3	0	209	
7:30 AM	19	48	4	0	5	127	22	0	7	8	8	0	7	12	4	0	271	
7:35 AM	26	53	2	0	4	119	27	0	15	10	9	0	17	13	1	0	296	
7:40 AM	27	51	4	0	2	87	28	0	15	6	16	0	12	15	5	0	268	
7:45 AM	17	56	3	0	2	124	30	1	13	5	6	0	16	12	5	0	290	
7:50 AM	37	77	6	0	5	125	26	0	22	6	11	0	22	10	9	0	356	
7:55 AM	30	53	3	0	5	97	18	0	22	6	17	0	6	13	4	0	274	3054
8:00 AM	19	66	2	0	3	109	17	0	14	12	15	0	7	11	7	0	282	3147
8:05 AM	27	63	1	0	3	79	11	0	23	9	12	0	10	8	10	0	256	3206
8:10 AM	8	48	1	0	5	80	5	0	14	9	11	0	2	17	6	0	206	3165
8:15 AM	14	43	3	0	10	87	9	0	7	6	18	0	3	8	5	0	213	3152
8:20 AM	13	63	1	0	3	126	11	0	6	5	15	0	2	9	3	0	257	3178
8:25 AM	12	41	2	0	6	69	7	0	18	6	14	0	4	12	4	0	195	3164
8:30 AM	17	61	3	0	2	121	10	0	8	5	6	0	4	7	3	0	247	3140
8:35 AM	8	47	3	0	3	90	11	0	4	5	10	0	7	11	2	0	201	3045
8:40 AM	10	46	6	0	2	71	21	0	13	8	16	0	5	15	6	0	219	2996
8:45 AM	17	71	3	0	5	77	12	0	4	6	13	0	0	7	8	0	223	2929
8:50 AM	11	41	2	0	8	90	15	0	11	3	6	0	5	10	7	0	209	2782
8:55 AM	9	47	1	0	2	86	21	0	7	5	12	0	5	11	6	0	212	2720

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	336	744	48	0	48	1384	296	4	228	68	136	0	176	140	72	0	3680
Heavy Trucks	28	104	4		0	120	16		28	4	20		0	12	4		340
Pedestrians		20				0				0				0			20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

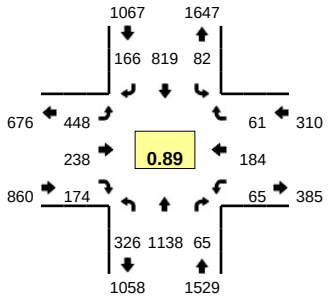
Type of peak hour being reported: Intersection Peak

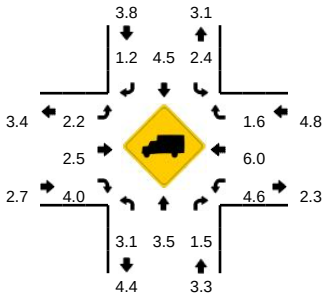
Method for determining peak hour: Total Entering Volume

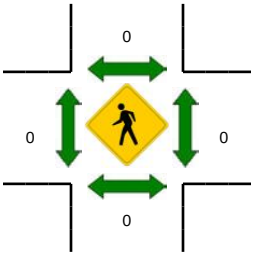
LOCATION: NE 117th Ave -- NE 119th St
CITY/STATE: Vancouver, WA

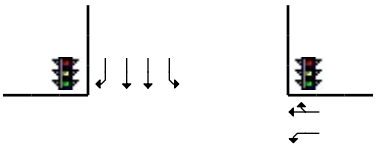
QC JOB #: 13790408
DATE: Tue, Jun 07 2016

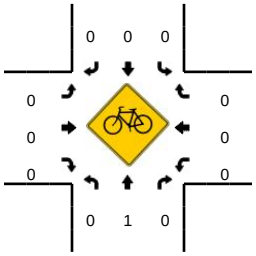
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

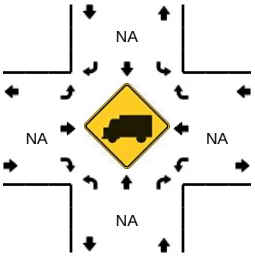


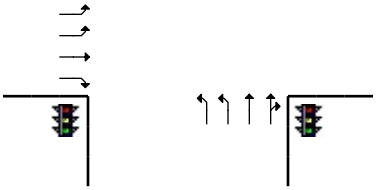


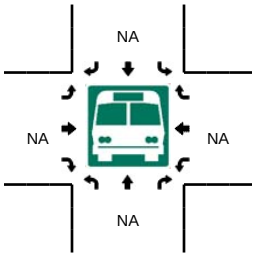












5-Min Count Period Beginning At	NE 117th Ave (Northbound)				NE 117th Ave (Southbound)				NE 119th St (Eastbound)				NE 119th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	25	107	10	0	8	74	9	0	19	14	19	0	4	12	7	0	308	
4:05 PM	25	92	7	0	10	78	11	0	24	20	11	0	5	14	3	0	300	
4:10 PM	20	94	4	0	9	74	6	0	33	20	20	0	4	16	4	0	304	
4:15 PM	15	95	3	0	4	75	12	0	28	10	21	0	5	11	5	0	284	
4:20 PM	21	103	6	0	7	76	11	0	36	11	15	0	5	1	2	0	294	
4:25 PM	21	93	8	0	9	86	12	0	25	12	20	0	8	16	12	0	322	
4:30 PM	12	78	6	0	7	55	17	0	30	13	21	0	4	9	2	0	254	
4:35 PM	27	109	4	0	4	62	12	0	25	15	14	0	4	11	3	0	290	
4:40 PM	21	93	4	0	9	76	11	0	23	18	14	0	2	14	2	0	287	
4:45 PM	34	99	9	0	5	70	17	0	35	17	9	0	2	15	1	0	313	
4:50 PM	18	92	9	0	9	69	12	0	21	16	8	0	1	7	2	0	264	
4:55 PM	22	84	3	0	9	66	21	0	23	21	12	0	2	11	3	0	277	3497
5:00 PM	24	88	9	0	6	51	9	0	39	14	24	0	6	22	8	0	300	3489
5:05 PM	18	87	2	0	5	62	12	0	46	18	11	0	10	21	4	0	296	3485
5:10 PM	31	101	3	0	11	80	11	0	44	21	21	0	8	10	2	0	343	3524
5:15 PM	30	121	9	0	5	77	17	0	30	13	12	0	10	12	4	0	340	3580
5:20 PM	38	114	5	0	11	90	18	0	32	28	13	0	3	11	5	0	368	3654
5:25 PM	31	97	11	0	6	71	16	0	46	26	12	0	6	18	4	0	344	3676
5:30 PM	28	81	1	0	10	67	13	0	44	23	15	0	4	14	6	0	306	3728
5:35 PM	26	82	6	0	4	53	17	0	37	15	15	0	3	15	4	0	277	3715
5:40 PM	23	70	8	0	7	66	12	0	39	22	14	0	5	19	8	0	293	3721
5:45 PM	30	112	4	0	2	68	11	0	34	17	14	0	4	24	9	0	329	3737
5:50 PM	25	101	4	0	6	68	9	0	34	20	11	0	4	7	4	0	293	3766
5:55 PM	22	95	5	0	2	58	10	0	29	4	12	0	5	15	6	0	263	3752

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	396	1328	100	0	88	952	204	0	432	268	148	0	76	164	52	0	4208
Heavy Trucks	12	28	0		4	44	0		8	0	4		8	12	4		124
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

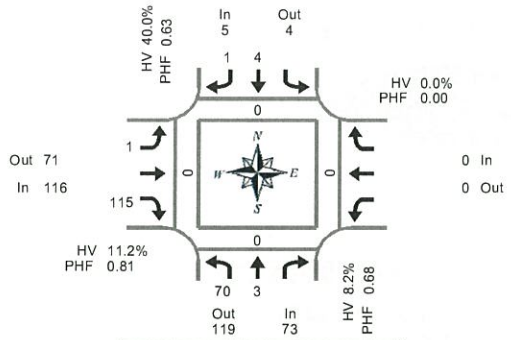
Report generated on 6/21/2016 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



NE 94th Ave & NE 105th St

Wednesday, September 30, 2015
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	1	1	0	0	0	0	0	7	0			0	9	0	0	0	0
7:05 AM	8	0	0	0	0	0	0	9	0			0	17	0	0	0	0
7:10 AM	6	0	0	2	0	0	0	8	0			0	16	0	0	0	0
7:15 AM	2	0	0	1	0	0	0	9	0			0	12	0	0	0	0
7:20 AM	2	0	0	0	0	0	0	9	0			0	11	0	0	0	0
7:25 AM	6	0	0	0	1	0	0	13	0			0	20	0	0	0	0
7:30 AM	6	0	0	1	0	0	1	10	0			0	18	0	0	0	0
7:35 AM	10	1	0	0	0	0	0	8	0			0	19	0	0	0	0
7:40 AM	9	0	0	0	0	0	0	7	0			0	16	0	0	0	0
7:45 AM	7	0	0	1	0	0	0	4	0			0	12	0	0	0	0
7:50 AM	3	0	0	0	0	0	0	8	0			0	11	0	0	0	0
7:55 AM	5	0	0	0	0	0	0	9	0			0	14	0	0	0	0
8:00 AM	8	1	0	0	0	0	0	12	0			0	21	0	0	0	0
8:05 AM	7	0	0	2	0	0	0	13	0			0	22	0	0	0	0
8:10 AM	3	1	0	0	0	0	0	11	0			0	15	0	0	0	0
8:15 AM	4	0	0	0	0	0	0	11	0			0	15	0	0	0	0
8:20 AM	4	0	0	1	0	0	0	5	0			0	10	0	0	0	0
8:25 AM	5	0	0	0	0	0	0	4	0			0	9	0	0	0	0
8:30 AM	1	0	0	1	0	0	0	7	0			0	9	0	0	0	0
8:35 AM	7	0	0	0	0	0	0	6	0			0	13	0	0	0	0
8:40 AM	4	0	0	0	0	0	0	5	0			0	9	0	0	0	0
8:45 AM	8	0	0	0	0	0	0	7	0			0	15	0	0	0	0
8:50 AM	11	0	0	2	0	0	0	8	0			0	21	0	0	0	0
8:55 AM	6	0	0	0	1	0	1	5	0			0	13	0	0	0	0
Total Survey	133	4	0	11	2	0	2	195	0			0	347	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	15	1	0	2	0	0	0	24	0			0	42	0	0	0	0
7:15 AM	10	0	0	1	1	0	0	31	0			0	43	0	0	0	0
7:30 AM	25	1	0	1	0	0	1	25	0			0	53	0	0	0	0
7:45 AM	15	0	0	1	0	0	0	21	0			0	37	0	0	0	0
8:00 AM	18	2	0	2	0	0	0	36	0			0	58	0	0	0	0
8:15 AM	13	0	0	1	0	0	0	20	0			0	34	0	0	0	0
8:30 AM	12	0	0	1	0	0	0	18	0			0	31	0	0	0	0
8:45 AM	25	0	0	2	1	0	1	20	0			0	49	0	0	0	0
Total Survey	133	4	0	11	2	0	2	195	0			0	347	0	0	0	0

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound NE 94th Ave				Southbound NE 94th Ave				Eastbound NE 105th St				Westbound NE 105th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	73	119	192	0	5	4	9	0	116	71	187	0	0	0	0	0	194	0	0	0	0
%HV	8.2%				40.0%				11.2%				0.0%				10.8%				
PHF	0.68				0.63				0.81				0.00				0.84				

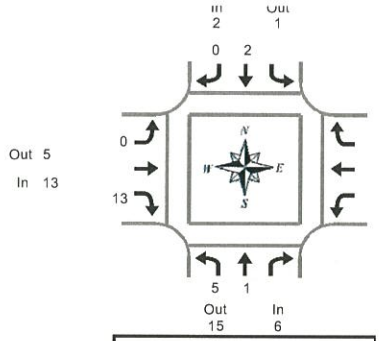
By Movement	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St				Total
	L	T		Total	T	R	Total	L	R	Total				Total	
Volume	70	3		73	4	1	5	1	115	116				0	194
%HV	7.1%	33.3%	NA	8.2%	NA	50.0%	0.0%	40.0%	0.0%	NA	11.3%	11.2%	NA	NA	NA	0.0%	10.8%
PHF	0.67	0.38		0.68		0.50	0.25	0.63	0.25		0.80	0.81				0.00	0.84

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	65	2	0	5	1	0	1	101	0			0	175	0	0	0	0
7:15 AM	68	3	0	5	1	0	1	113	0			0	191	0	0	0	0
7:30 AM	71	3	0	5	0	0	1	102	0			0	182	0	0	0	0
7:45 AM	58	2	0	5	0	0	0	95	0			0	160	0	0	0	0
8:00 AM	68	2	0	6	1	0	1	94	0			0	172	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



NE 94th Ave & NE 105th St

Wednesday, September 30, 2015
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	1	1	0	0	0	0	1	1			0	2
7:05 AM	1	0	1	0	0	0	0	0	0			0	1
7:10 AM	2	0	2	1	0	1	0	0	0			0	3
7:15 AM	1	0	1	0	0	0	0	0	0			0	1
7:20 AM	0	0	0	0	0	0	0	1	1			0	1
7:25 AM	0	0	0	0	0	0	0	3	3			0	3
7:30 AM	0	0	0	1	0	1	0	2	2			0	3
7:35 AM	3	0	3	0	0	0	0	0	0			0	3
7:40 AM	0	0	0	0	0	0	0	1	1			0	1
7:45 AM	0	0	0	0	0	0	0	0	0			0	0
7:50 AM	0	0	0	0	0	0	0	2	2			0	2
7:55 AM	0	0	0	0	0	0	0	0	0			0	0
8:00 AM	1	1	2	0	0	0	0	1	1			0	3
8:05 AM	1	0	1	1	0	1	0	0	0			0	2
8:10 AM	0	0	0	0	0	0	0	3	3			0	3
8:15 AM	0	0	0	0	0	0	0	0	0			0	0
8:20 AM	1	0	1	0	0	0	0	1	1			0	2
8:25 AM	0	0	0	0	0	0	0	2	2			0	2
8:30 AM	0	0	0	0	0	0	0	0	0			0	0
8:35 AM	2	0	2	0	0	0	0	0	0			0	2
8:40 AM	0	0	0	0	0	0	0	1	1			0	1
8:45 AM	1	0	1	0	0	0	0	0	0			0	1
8:50 AM	1	0	1	0	0	0	0	0	0			0	1
8:55 AM	1	0	1	0	0	0	0	1	1			0	2
Total Survey	15	2	17	3	0	3	0	19	19			0	39

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	3	1	4	1	0	1	0	1	1			0	6
7:15 AM	1	0	1	0	0	0	0	4	4			0	5
7:30 AM	3	0	3	1	0	1	0	3	3			0	7
7:45 AM	0	0	0	0	0	0	0	2	2			0	2
8:00 AM	2	1	3	1	0	1	0	4	4			0	8
8:15 AM	1	0	1	0	0	0	0	3	3			0	4
8:30 AM	2	0	2	0	0	0	0	1	1			0	3
8:45 AM	3	0	3	0	0	0	0	1	1			0	4
Total Survey	15	2	17	3	0	3	0	19	19			0	39

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	6	15	21	2	1	3	13	5	18	0	0	0	21
PHF	0.50			0.50			0.54			0.00			0.58

By Movement	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	5	1	6	2	0	2	0	13	13			0	21
PHF	0.42	0.25	0.50	0.50	0.00	0.50	0.00	0.54	0.54			0.00	0.58

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	7	1	8	2	0	2	0	10	10			0	20
7:15 AM	6	1	7	2	0	2	0	13	13			0	22
7:30 AM	6	1	7	2	0	2	0	12	12			0	21
7:45 AM	5	1	6	1	0	1	0	10	10			0	17
8:00 AM	8	1	9	1	0	1	0	9	9			0	19

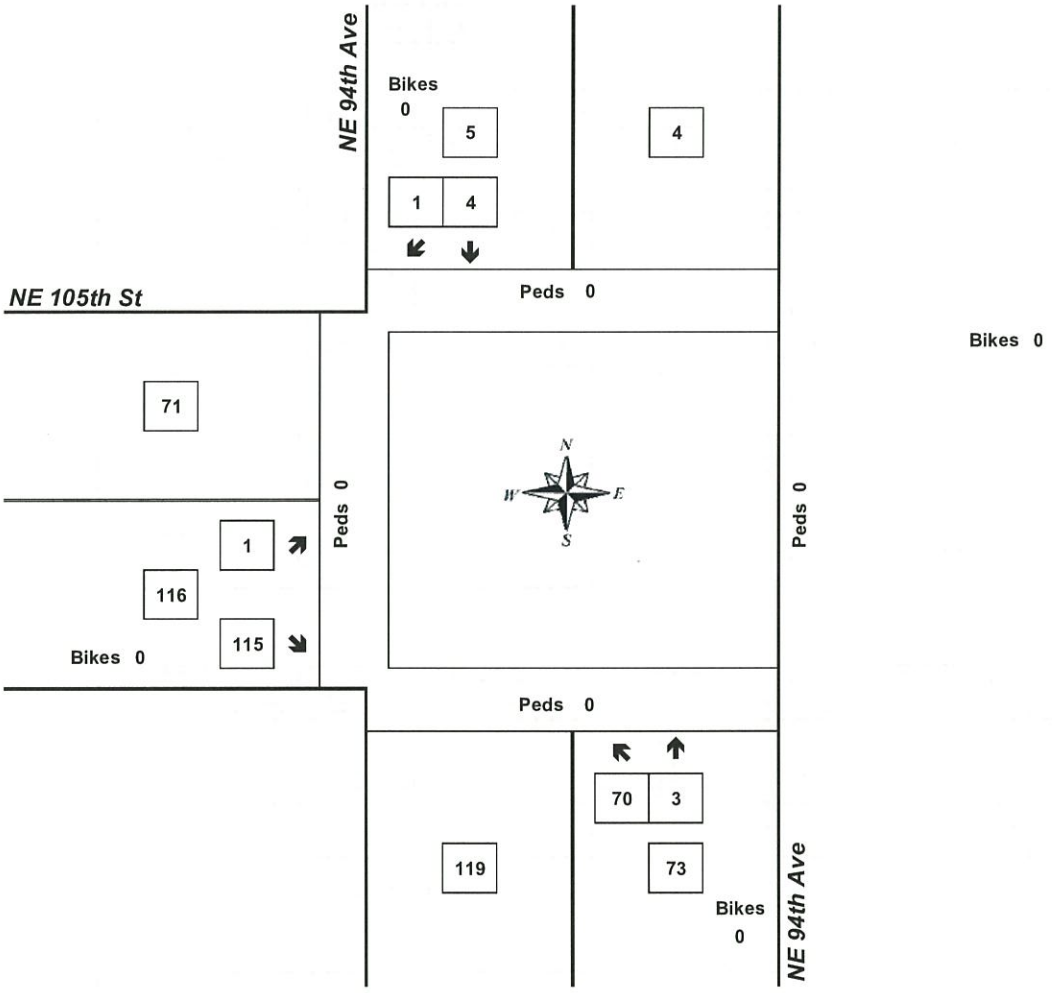
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

NE 94th Ave & NE 105th St

7:20 AM to 8:20 AM
Wednesday, September 30, 2015

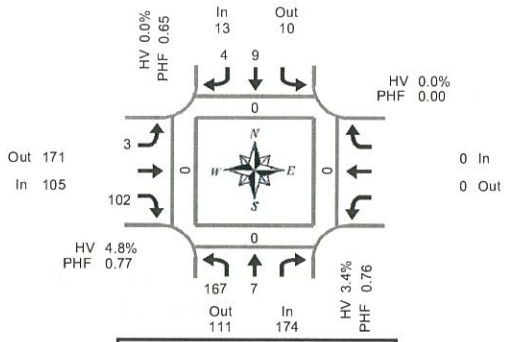


Approach	PHF	HV%	Volume
EB	0.81	11.2%	116
WB	0.00	0.0%	0
NB	0.68	8.2%	73
SB	0.63	40.0%	5
Intersection	0.84	10.8%	194

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



NE 94th Ave & NE 105th St

Tuesday, September 29, 2015
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval	Pedestrians Crosswalk			
Time	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes	Total	North	South	East	West
4:00 PM	10	0	0	0	0	1	0	7	0			0	17	0	0	0	1
4:05 PM	11	1	0	1	0	0	0	4	0			0	17	0	0	0	0
4:10 PM	7	0	0	0	0	0	0	8	0			0	15	0	0	0	0
4:15 PM	16	0	0	1	0	0	0	9	0			0	26	0	0	0	0
4:20 PM	8	0	0	0	0	0	0	6	0			0	14	0	0	0	0
4:25 PM	9	0	0	0	0	0	1	8	0			0	18	0	0	0	0
4:30 PM	8	1	0	1	1	0	1	9	0			0	21	0	0	0	0
4:35 PM	12	0	0	0	0	0	0	9	0			0	21	0	0	0	0
4:40 PM	11	0	0	2	1	0	0	7	0			0	21	0	0	0	0
4:45 PM	10	0	0	0	1	0	0	9	0			0	20	0	0	0	0
4:50 PM	13	1	0	1	0	0	0	4	0			0	19	0	0	0	0
4:55 PM	17	0	0	1	0	0	0	8	0			0	26	0	0	0	0
5:00 PM	15	1	0	0	0	0	0	7	0			0	23	0	0	0	0
5:05 PM	22	2	0	0	1	0	1	18	0			0	44	0	0	0	0
5:10 PM	12	2	0	1	0	0	1	6	0			0	22	0	0	0	0
5:15 PM	12	0	0	2	0	0	0	7	0			0	21	0	0	0	0
5:20 PM	14	0	0	1	0	0	0	6	0			0	21	0	0	0	0
5:25 PM	12	0	2	0	0	0	0	11	0			0	23	0	0	0	0
5:30 PM	15	1	1	1	0	0	1	9	0			0	27	0	0	0	0
5:35 PM	14	0	1	0	1	0	0	10	0			0	25	0	0	0	0
5:40 PM	10	0	0	0	0	0	0	11	0			0	21	0	0	0	0
5:45 PM	12	0	0	0	0	0	0	5	0			0	17	0	0	0	2
5:50 PM	6	1	0	0	0	2	0	4	0			0	11	0	0	0	1
5:55 PM	15	0	1	0	0	0	0	8	0			0	23	0	0	0	0
Total Survey	291	10	5	12	5	3	5	190	0			0	513	0	0	0	4

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval	Pedestrians Crosswalk			
Time	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes	Total	North	South	East	West
4:00 PM	28	1	0	1	0	1	0	19	0			0	49	0	0	0	1
4:15 PM	33	0	0	1	0	0	1	23	0			0	58	0	0	0	0
4:30 PM	31	1	0	3	2	0	1	25	0			0	63	0	0	0	0
4:45 PM	40	1	0	2	1	0	0	21	0			0	65	0	0	0	0
5:00 PM	49	5	0	1	1	0	2	31	0			0	89	0	0	0	0
5:15 PM	38	0	2	3	0	0	0	24	0			0	65	0	0	0	0
5:30 PM	39	1	2	1	1	0	1	30	0			0	73	0	0	0	0
5:45 PM	33	1	1	0	0	2	0	17	0			0	51	0	0	0	3
Total Survey	291	10	5	12	5	3	5	190	0			0	513	0	0	0	4

Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound NE 94th Ave				Southbound NE 94th Ave				Eastbound NE 105th St				Westbound NE 105th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	174	111	285	4	13	10	23	0	105	171	276	0	0	0	0	0	292	0	0	0	0
%HV	3.4%				0.0%				4.8%				0.0%				3.8%				
PHF	0.76				0.65				0.77				0.00				0.78				

By Movement	Northbound NE 94th Ave				Southbound NE 94th Ave				Eastbound NE 105th St				Westbound NE 105th St				Total
	L	T		Total	T	R	Total		L	R	Total					Total	
Volume	167	7		174	9	4	13		3	102	105					0	292
%HV	2.4%	28.6%	NA	3.4%	NA	0.0%	0.0%	0.0%	0.0%	NA	4.9%	4.8%	NA	NA	NA	0.0%	3.8%
PHF	0.77	0.35		0.76		0.56	0.50	0.65	0.38		0.77	0.77				0.00	0.78

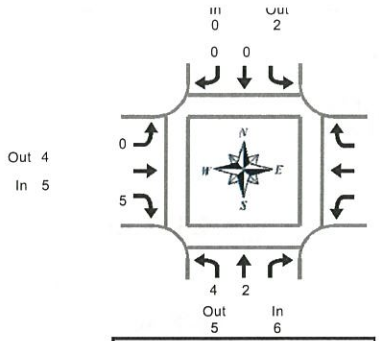
Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval	Pedestrians Crosswalk			
Time	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes	Total	North	South	East	West
4:00 PM	132	3	0	7	3	1	2	88	0			0	235	0	0	0	1
4:15 PM	153	7	0	7	4	0	4	100	0			0	275	0	0	0	0
4:30 PM	158	7	2	9	4	0	3	101	0			0	282	0	0	0	0
4:45 PM	166	7	4	7	3	0	3	106	0			0	292	0	0	0	0
5:00 PM	159	7	5	5	2	2	3	102	0			0	278	0	0	0	3

Heavy Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



NE 94th Ave & NE 105th St

Tuesday, September 29, 2015
4:00 PM to 6:00 PM

Peak Hour Summary
4:40 PM to 5:40 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	0	0	0	0	0	0	0	1	1			0	1
4:05 PM	2	0	2	0	0	0	0	1	1			0	3
4:10 PM	0	0	0	0	0	0	0	0	0			0	0
4:15 PM	0	0	0	0	0	0	0	1	1			0	1
4:20 PM	0	0	0	0	0	0	0	0	0			0	0
4:25 PM	0	0	0	0	0	0	0	0	0			0	0
4:30 PM	1	0	1	0	0	0	0	2	2			0	3
4:35 PM	3	0	3	0	0	0	0	0	0			0	3
4:40 PM	0	0	0	0	0	0	0	0	0			0	0
4:45 PM	1	0	1	0	0	0	0	1	1			0	2
4:50 PM	1	0	1	0	0	0	0	0	0			0	1
4:55 PM	0	0	0	0	0	0	0	0	0			0	0
5:00 PM	0	0	0	0	0	0	0	3	3			0	3
5:05 PM	1	0	1	0	0	0	0	0	0			0	1
5:10 PM	0	1	1	0	0	0	0	0	0			0	1
5:15 PM	0	0	0	0	0	0	0	0	0			0	0
5:20 PM	0	0	0	0	0	0	0	0	0			0	0
5:25 PM	1	0	1	0	0	0	0	0	0			0	1
5:30 PM	0	1	1	0	0	0	0	1	1			0	2
5:35 PM	0	0	0	0	0	0	0	0	0			0	0
5:40 PM	0	0	0	0	0	0	0	0	0			0	0
5:45 PM	0	0	0	0	0	0	0	0	0			0	0
5:50 PM	0	0	0	0	0	0	0	0	0			0	0
5:55 PM	0	0	0	0	0	0	0	0	0			0	0
Total Survey	10	2	12	0	0	0	0	10	10			0	22

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	2	0	2	0	0	0	0	2	2			0	4
4:15 PM	0	0	0	0	0	0	0	1	1			0	1
4:30 PM	4	0	4	0	0	0	0	2	2			0	6
4:45 PM	2	0	2	0	0	0	0	1	1			0	3
5:00 PM	1	1	2	0	0	0	0	3	3			0	5
5:15 PM	1	0	1	0	0	0	0	0	0			0	1
5:30 PM	0	1	1	0	0	0	0	1	1			0	2
5:45 PM	0	0	0	0	0	0	0	0	0			0	0
Total Survey	10	2	12	0	0	0	0	10	10			0	22

Heavy Vehicle Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	6	5	11	0	2	2	5	4	9	0	0	0	11
PHF	0.75			0.00			0.42			0.00			0.55

By Movement	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	4	2	6	0	0	0	0	5	5			0	11
PHF	0.50	0.50	0.75	0.00	0.00	0.00	0.00	0.42	0.42			0.00	0.55

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 105th St			Westbound NE 105th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	8	0	8	0	0	0	0	6	6			0	14
4:15 PM	7	1	8	0	0	0	0	7	7			0	15
4:30 PM	8	1	9	0	0	0	0	6	6			0	15
4:45 PM	4	2	6	0	0	0	0	5	5			0	11
5:00 PM	2	2	4	0	0	0	0	4	4			0	8

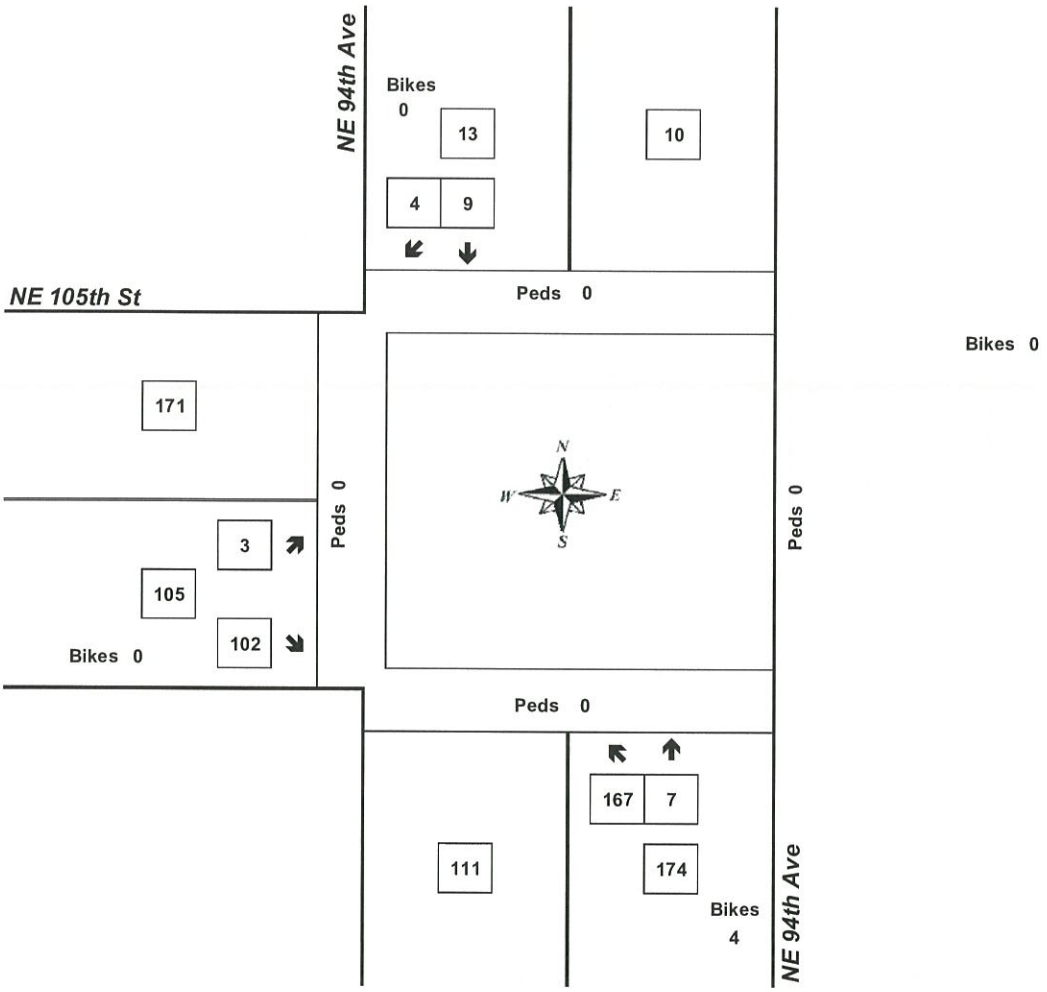
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

NE 94th Ave & NE 105th St

4:40 PM to 5:40 PM
Tuesday, September 29, 2015

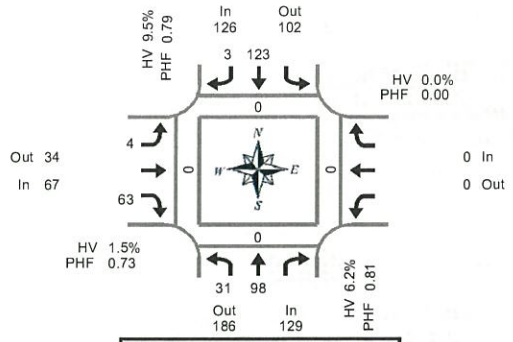


Approach	PHF	HV%	Volume
EB	0.77	4.8%	105
WB	0.00	0.0%	0
NB	0.76	3.4%	174
SB	0.65	0.0%	13
Intersection	0.78	3.8%	292

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



NE 94th Ave & NE 99th St

Wednesday, September 30, 2015
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave L	T	Bikes	Southbound NE 94th Ave T	R	Bikes	Eastbound NE 99th St L	R	Bikes	Westbound NE 99th St	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
7:00 AM	1	7	0	7	0	0	0	4	0		0	19	0	0	0	0
7:05 AM	2	2	0	6	0	0	0	5	0		0	15	0	0	0	0
7:10 AM	0	8	0	13	0	0	1	7	0		0	29	0	0	0	2
7:15 AM	1	5	0	7	0	0	0	8	0		0	21	0	0	0	0
7:20 AM	2	3	0	14	0	0	0	5	0		0	24	0	0	0	0
7:25 AM	0	4	0	13	0	0	1	6	0		0	24	0	0	0	0
7:30 AM	1	11	0	14	2	0	0	2	0		0	30	0	0	0	0
7:35 AM	2	8	0	7	0	0	0	5	0		0	22	0	0	0	0
7:40 AM	0	11	0	12	0	0	0	10	0		0	33	0	0	0	0
7:45 AM	3	9	0	9	0	0	0	8	0		0	29	0	0	0	0
7:50 AM	2	3	0	11	0	0	0	4	0		0	20	0	0	0	1
7:55 AM	4	8	0	12	0	0	0	2	0		0	26	0	0	0	0
8:00 AM	1	11	0	12	0	0	0	6	0		0	30	0	0	0	0
8:05 AM	2	8	0	15	0	0	1	2	0		0	28	0	0	0	0
8:10 AM	1	10	0	13	0	0	1	3	0		0	28	0	0	0	0
8:15 AM	0	6	0	7	1	0	0	5	0		0	19	0	0	0	0
8:20 AM	2	9	0	12	0	0	0	2	0		0	25	0	0	0	0
8:25 AM	3	4	0	10	0	0	0	5	0		0	22	0	0	0	0
8:30 AM	5	7	0	7	0	0	0	10	0		0	29	0	0	0	0
8:35 AM	4	4	0	11	2	0	0	8	0		0	29	0	0	0	0
8:40 AM	1	11	0	5	0	0	0	5	0		0	22	0	0	0	0
8:45 AM	2	9	0	12	0	0	0	9	0		0	32	0	0	0	0
8:50 AM	6	11	0	7	0	0	2	6	0		0	32	0	0	0	0
8:55 AM	3	7	0	9	0	0	0	3	0		0	22	0	0	0	0
Total Survey	48	176	0	245	5	0	6	130	0		0	610	0	0	0	3

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave L	T	Bikes	Southbound NE 94th Ave T	R	Bikes	Eastbound NE 99th St L	R	Bikes	Westbound NE 99th St	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
7:00 AM	3	17	0	26	0	0	1	16	0		0	63	0	0	0	2
7:15 AM	3	12	0	34	0	0	1	19	0		0	69	0	0	0	0
7:30 AM	3	30	0	33	2	0	0	17	0		0	85	0	0	0	0
7:45 AM	9	20	0	32	0	0	0	14	0		0	75	0	0	0	1
8:00 AM	4	29	0	40	0	0	2	11	0		0	86	0	0	0	0
8:15 AM	5	19	0	29	1	0	0	12	0		0	66	0	0	0	0
8:30 AM	10	22	0	23	2	0	0	23	0		0	80	0	0	0	0
8:45 AM	11	27	0	28	0	0	2	18	0		0	86	0	0	0	0
Total Survey	48	176	0	245	5	0	6	130	0		0	610	0	0	0	3

Peak Hour Summary
7:55 AM to 8:55 AM

By Approach	Northbound NE 94th Ave In	Out	Total	Bikes	Southbound NE 94th Ave In	Out	Total	Bikes	Eastbound NE 99th St In	Out	Total	Bikes	Westbound NE 99th St In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	129	186	315	0	126	102	228	0	67	34	101	0	0	0	0	0	322	0	0	0	0
%HV	6.2%				9.5%				1.5%				0.0%				6.5%				
PHF	0.81				0.79				0.73				0.00				0.94				

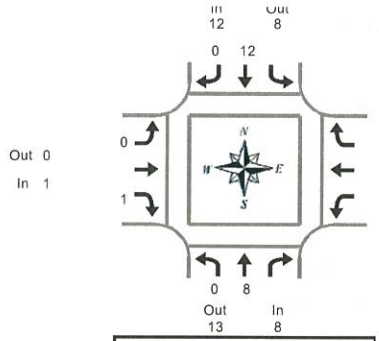
By Movement	Northbound NE 94th Ave L	T	Total	Southbound NE 94th Ave T	R	Total	Eastbound NE 99th St L	R	Total	Westbound NE 99th St		Total	Total
Volume	31	98	129	123	3	126	4	63	67			0	322
%HV	0.0%	8.2%	NA 6.2%	NA 9.8%	0.0%	9.5%	0.0% NA	1.6%	1.5%	NA	NA NA	0.0%	6.5%
PHF	0.65	0.79	0.81	0.77	0.38	0.79	0.50	0.68	0.73			0.00	0.94

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave L	T	Bikes	Southbound NE 94th Ave T	R	Bikes	Eastbound NE 99th St L	R	Bikes	Westbound NE 99th St	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
7:00 AM	18	79	0	125	2	0	2	66	0		0	292	0	0	0	3
7:15 AM	19	91	0	139	2	0	3	61	0		0	315	0	0	0	1
7:30 AM	21	98	0	134	3	0	2	54	0		0	312	0	0	0	1
7:45 AM	28	90	0	124	3	0	2	60	0		0	307	0	0	0	1
8:00 AM	30	97	0	120	3	0	4	64	0		0	318	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:55 AM to 8:55 AM

NE 94th Ave & NE 99th St

Wednesday, September 30, 2015
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	1	1	0	0	0	0	0	0			0	1
7:05 AM	0	0	0	0	0	0	0	0	0			0	0
7:10 AM	0	1	1	1	0	1	0	0	0			0	2
7:15 AM	0	1	1	1	0	1	0	0	0			0	2
7:20 AM	0	0	0	1	0	1	0	0	0			0	1
7:25 AM	0	0	0	2	0	2	0	0	0			0	2
7:30 AM	0	1	1	0	0	0	0	0	0			0	1
7:35 AM	0	1	1	2	0	2	0	0	0			0	3
7:40 AM	0	1	1	1	0	1	0	1	1			0	3
7:45 AM	0	0	0	1	0	1	0	0	0			0	1
7:50 AM	0	0	0	0	0	0	0	0	0			0	0
7:55 AM	0	0	0	2	0	2	0	0	0			0	2
8:00 AM	0	0	0	1	0	1	0	0	0			0	1
8:05 AM	0	1	1	1	0	1	0	0	0			0	2
8:10 AM	0	2	2	2	0	2	0	0	0			0	4
8:15 AM	0	0	0	1	0	1	0	0	0			0	1
8:20 AM	0	1	1	2	0	2	0	0	0			0	3
8:25 AM	0	0	0	1	0	1	0	1	1			0	2
8:30 AM	0	0	0	0	0	0	0	0	0			0	0
8:35 AM	0	0	0	0	0	0	0	0	0			0	0
8:40 AM	0	2	2	1	0	1	0	0	0			0	3
8:45 AM	0	1	1	0	0	0	0	0	0			0	1
8:50 AM	0	1	1	1	0	1	0	0	0			0	2
8:55 AM	0	1	1	0	0	0	0	0	0			0	1
Total Survey	0	15	15	21	0	21	0	2	2			0	38

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	2	2	1	0	1	0	0	0			0	3
7:15 AM	0	1	1	4	0	4	0	0	0			0	5
7:30 AM	0	3	3	3	0	3	0	1	1			0	7
7:45 AM	0	0	0	3	0	3	0	0	0			0	3
8:00 AM	0	3	3	4	0	4	0	0	0			0	7
8:15 AM	0	1	1	4	0	4	0	1	1			0	6
8:30 AM	0	2	2	1	0	1	0	0	0			0	3
8:45 AM	0	3	3	1	0	1	0	0	0			0	4
Total Survey	0	15	15	21	0	21	0	2	2			0	38

Heavy Vehicle Peak Hour Summary
7:55 AM to 8:55 AM

By Approach	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	13	21	12	8	20	1	0	1	0	0	0	21
PHF	0.50			0.60			0.25			0.00			0.66

By Movement	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	0	8	8	12	0	12	0	1	1			0	21
PHF	0.00	0.50	0.50	0.60	0.00	0.60	0.00	0.25	0.25			0.00	0.66

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	6	6	11	0	11	0	1	1			0	18
7:15 AM	0	7	7	14	0	14	0	1	1			0	22
7:30 AM	0	7	7	14	0	14	0	2	2			0	23
7:45 AM	0	6	6	12	0	12	0	1	1			0	19
8:00 AM	0	9	9	10	0	10	0	1	1			0	20

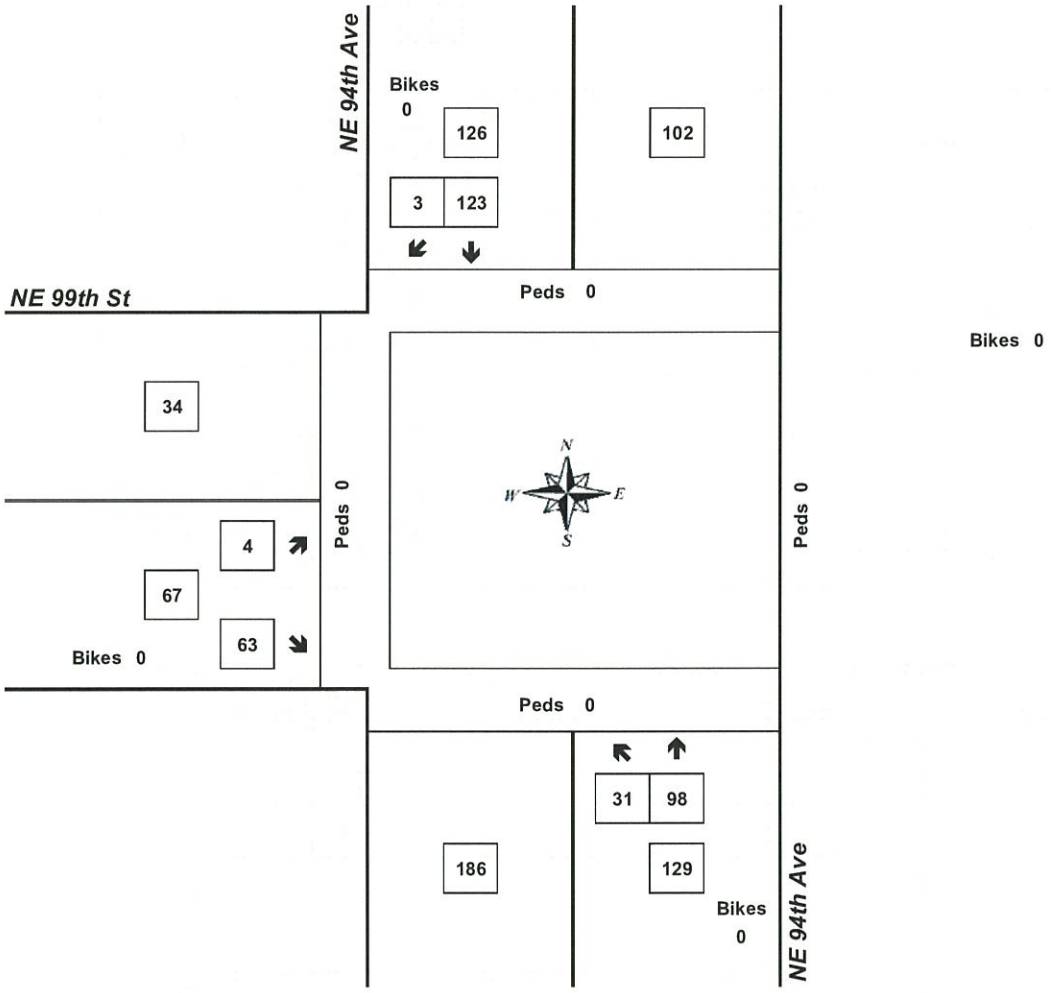
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

NE 94th Ave & NE 99th St

7:55 AM to 8:55 AM
Wednesday, September 30, 2015

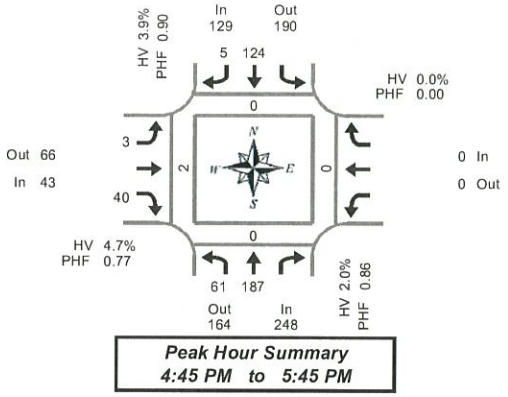


Approach	PHF	HV%	Volume
EB	0.73	1.5%	67
WB	0.00	0.0%	0
NB	0.81	6.2%	129
SB	0.79	9.5%	126
Intersection	0.94	6.5%	322

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



NE 94th Ave & NE 99th St

Tuesday, September 29, 2015
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes			Bikes		North	South	East	West
4:00 PM	4	10		0	9	0	0	0		2	0			0	25	0	0	0	0
4:05 PM	2	10		0	11	0	0	0		6	0			0	29	0	0	0	0
4:10 PM	5	13		0	7	0	0	0		1	0			0	26	0	0	0	0
4:15 PM	6	11		0	12	0	0	0		2	0			0	31	0	0	0	0
4:20 PM	2	14		0	6	1	0	1		3	0			0	27	0	0	0	0
4:25 PM	3	8		0	10	0	0	0		2	0			0	23	0	0	0	0
4:30 PM	5	12		0	13	0	0	0		4	0			0	34	0	0	0	0
4:35 PM	2	14		0	9	0	0	0		1	0			0	26	0	0	0	1
4:40 PM	4	9		0	11	0	0	1		2	0			0	27	0	0	0	0
4:45 PM	5	14		0	10	0	0	1		1	0			0	31	0	0	0	0
4:50 PM	7	19		0	11	1	0	0		3	0			0	41	0	0	0	0
4:55 PM	9	12		0	8	0	0	0		4	0			0	33	0	0	0	0
5:00 PM	5	20		0	13	1	0	1		1	0			0	41	0	0	0	0
5:05 PM	1	21		0	10	2	0	0		2	0			0	36	0	0	0	0
5:10 PM	4	17		0	8	0	0	0		5	0			0	34	0	0	0	0
5:15 PM	2	16		0	12	0	0	0		6	0			0	36	0	0	0	0
5:20 PM	5	13		0	11	0	0	0		3	0			0	32	0	0	0	0
5:25 PM	7	13		0	11	0	0	0		3	0			0	34	0	0	0	0
5:30 PM	3	14		0	13	1	0	1		2	0			0	34	0	0	0	2
5:35 PM	5	17		0	11	0	0	0		4	0			0	37	0	0	0	0
5:40 PM	8	11		2	6	0	0	0		6	0			0	31	0	0	0	0
5:45 PM	5	10		0	13	0	0	0		2	0			0	30	0	0	0	0
5:50 PM	2	13		0	7	0	0	0		2	0			0	24	0	0	0	0
5:55 PM	6	12		0	10	0	0	0		4	0			0	32	0	0	0	0
Total Survey	107	323		2	242	6	0	5		71	0			0	754	0	0	0	3

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes			Bikes		North	South	East	West
4:00 PM	11	33		0	27	0	0	0		9	0			0	80	0	0	0	0
4:15 PM	11	33		0	28	1	0	1		7	0			0	81	0	0	0	0
4:30 PM	11	35		0	33	0	0	1		7	0			0	87	0	0	0	1
4:45 PM	21	45		0	29	1	0	1		8	0			0	105	0	0	0	0
5:00 PM	10	58		0	31	3	0	1		8	0			0	111	0	0	0	0
5:15 PM	14	42		0	34	0	0	0		12	0			0	102	0	0	0	0
5:30 PM	16	42		2	30	1	0	1		12	0			0	102	0	0	0	2
5:45 PM	13	35		0	30	0	0	0		8	0			0	86	0	0	0	0
Total Survey	107	323		2	242	6	0	5		71	0			0	754	0	0	0	3

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound NE 94th Ave				Southbound NE 94th Ave				Eastbound NE 99th St				Westbound NE 99th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	248	164	412	2	129	190	319	0	43	66	109	0	0	0	0	0	420	0	0	0	2
%HV	2.0%				3.9%				4.7%				0.0%				2.9%				
PHF	0.86				0.90				0.77				0.00				0.91				

By Movement	Northbound NE 94th Ave				Southbound NE 94th Ave				Eastbound NE 99th St				Westbound NE 99th St				Total
	L	T		Total		T	R	Total	L		R	Total				Total	
Volume	61	187		248		124	5	129	3		40	43				0	420
%HV	1.6%	2.1%	NA	2.0%	NA	3.2%	20.0%	3.9%	33.3%	NA	2.5%	4.7%	NA	NA	NA	0.0%	2.9%
PHF	0.73	0.81		0.86		0.89	0.42	0.90	0.75		0.71	0.77				0.00	0.91

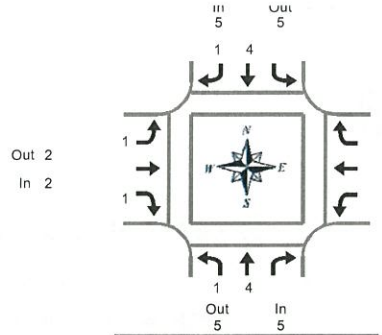
Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes			Bikes		North	South	East	West
4:00 PM	54	146		0	117	2	0	3		31	0			0	353	0	0	0	1
4:15 PM	53	171		0	121	5	0	4		30	0			0	384	0	0	0	1
4:30 PM	56	180		0	127	4	0	3		35	0			0	405	0	0	0	1
4:45 PM	61	187		2	124	5	0	3		40	0			0	420	0	0	0	2
5:00 PM	53	177		2	125	4	0	2		40	0			0	401	0	0	0	2

Heavy Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
4:45 PM to 5:45 PM

NE 94th Ave & NE 99th St

Tuesday, September 29, 2015
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	0	0	0	1	0	1	0	0	0			0	1
4:05 PM	0	2	2	1	0	1	0	2	2			0	5
4:10 PM	0	0	0	0	0	0	0	0	0			0	0
4:15 PM	0	0	0	1	0	1	0	0	0			0	1
4:20 PM	0	0	0	0	0	0	0	0	0			0	0
4:25 PM	0	0	0	0	0	0	0	0	0			0	0
4:30 PM	0	1	1	1	0	1	0	0	0			0	2
4:35 PM	0	3	3	0	0	0	0	0	0			0	3
4:40 PM	0	0	0	0	0	0	0	0	0			0	0
4:45 PM	0	0	0	1	0	1	1	0	1			0	2
4:50 PM	0	1	1	0	0	0	0	1	1			0	2
4:55 PM	0	0	0	0	0	0	0	0	0			0	0
5:00 PM	0	0	0	2	1	3	0	0	0			0	3
5:05 PM	0	1	1	0	0	0	0	0	0			0	1
5:10 PM	0	1	1	0	0	0	0	0	0			0	1
5:15 PM	0	0	0	0	0	0	0	0	0			0	0
5:20 PM	0	0	0	0	0	0	0	0	0			0	0
5:25 PM	1	0	1	0	0	0	0	0	0			0	1
5:30 PM	0	1	1	1	0	1	0	0	0			0	2
5:35 PM	0	0	0	0	0	0	0	0	0			0	0
5:40 PM	0	0	0	0	0	0	0	0	0			0	0
5:45 PM	0	0	0	0	0	0	0	0	0			0	0
5:50 PM	0	0	0	0	0	0	0	1	1			0	1
5:55 PM	0	0	0	0	0	0	0	0	0			0	0
Total Survey	1	10	11	8	1	9	1	4	5			0	25

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	0	2	2	2	0	2	0	2	2			0	6
4:15 PM	0	0	0	1	0	1	0	0	0			0	1
4:30 PM	0	4	4	1	0	1	0	0	0			0	5
4:45 PM	0	1	1	1	0	1	1	1	2			0	4
5:00 PM	0	2	2	2	1	3	0	0	0			0	5
5:15 PM	1	0	1	0	0	0	0	0	0			0	1
5:30 PM	0	1	1	1	0	1	0	0	0			0	2
5:45 PM	0	0	0	0	0	0	0	1	1			0	1
Total Survey	1	10	11	8	1	9	1	4	5			0	25

Heavy Vehicle Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	5	10	5	5	10	2	2	4	0	0	0	12
PHF	0.63			0.42			0.25			0.00			0.60

By Movement	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	1	4	5	4	1	5	1	1	2			0	12
PHF	0.25	0.50	0.63	0.50	0.25	0.42	0.25	0.25	0.25			0.00	0.60

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 99th St			Westbound NE 99th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	0	7	7	5	0	5	1	3	4			0	16
4:15 PM	0	7	7	5	1	6	1	1	2			0	15
4:30 PM	1	7	8	4	1	5	1	1	2			0	15
4:45 PM	1	4	5	4	1	5	1	1	2			0	12
5:00 PM	1	3	4	3	1	4	0	1	1			0	9

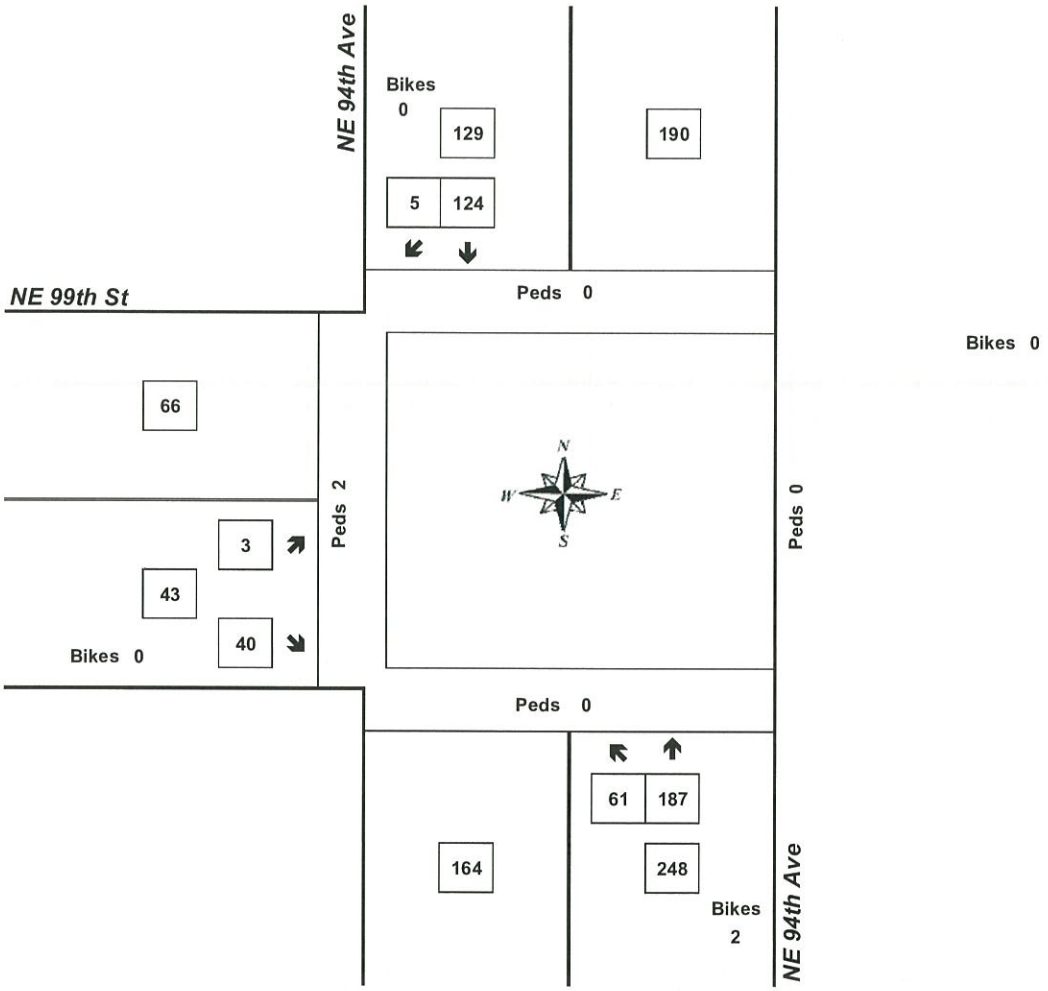
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

NE 94th Ave & NE 99th St

4:45 PM to 5:45 PM
Tuesday, September 29, 2015



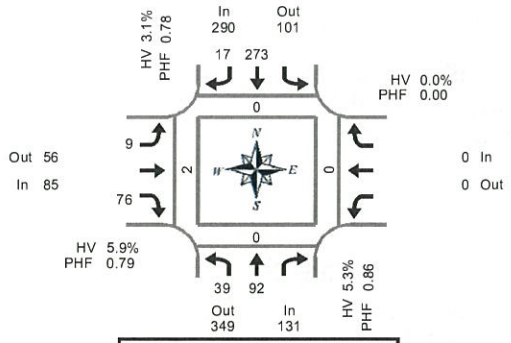
Approach	PHF	HV%	Volume
EB	0.77	4.7%	43
WB	0.00	0.0%	0
NB	0.86	2.0%	248
SB	0.90	3.9%	129
Intersection	0.91	2.9%	420

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
7:25 AM to 8:25 AM

NE 94th Ave & NE 88th St

Thursday, August 21, 2014
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	0	9		0	15	0	0	0	4	0			0	28	0	0	0	1
7:05 AM	3	6		0	20	0	0	0	7	0			0	36	0	0	0	0
7:10 AM	1	2		0	18	2	0	0	2	0			0	25	0	0	0	0
7:15 AM	0	7		0	28	2	0	0	4	0			0	41	0	0	0	0
7:20 AM	3	3		0	21	3	0	0	7	0			0	37	0	0	0	0
7:25 AM	6	5		0	25	2	0	0	6	0			0	44	0	0	0	0
7:30 AM	5	11		0	19	0	0	0	7	0			0	42	0	0	0	0
7:35 AM	3	5		0	36	4	0	0	10	0			0	58	0	0	0	1
7:40 AM	3	3		0	25	2	0	0	8	0			0	41	0	0	0	0
7:45 AM	4	9		0	25	1	0	1	6	0			0	46	0	0	0	1
7:50 AM	3	10		0	25	0	0	2	7	0			0	47	0	0	0	0
7:55 AM	4	6		0	20	2	0	1	3	0			0	36	0	0	0	0
8:00 AM	3	7		0	24	2	0	0	3	0			0	39	0	0	0	0
8:05 AM	3	3		0	16	1	0	1	3	0			0	27	0	0	0	0
8:10 AM	0	7		0	24	1	0	1	5	0			0	38	0	0	0	0
8:15 AM	2	14		0	20	1	0	0	12	0			0	49	0	0	0	0
8:20 AM	3	12		1	14	1	0	3	6	0			0	39	0	0	0	0
8:25 AM	4	8		0	18	1	0	0	4	0			0	35	0	0	0	0
8:30 AM	6	6		0	17	0	0	2	4	0			0	35	0	0	0	0
8:35 AM	2	12		0	17	1	0	1	3	0			0	36	0	0	0	0
8:40 AM	2	9		0	18	1	0	0	8	0			0	38	0	0	0	0
8:45 AM	5	9		0	17	1	0	0	9	0			0	41	0	0	0	0
8:50 AM	1	7		0	17	1	0	0	5	0			0	31	0	0	0	0
8:55 AM	5	8		0	14	2	0	1	8	0			0	38	0	0	0	0
Total Survey	71	178		1	493	31	0	13	141	0			0	927	0	0	0	3

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	4	17		0	53	2	0	0	13	0			0	89	0	0	0	1
7:15 AM	9	15		0	74	7	0	0	17	0			0	122	0	0	0	0
7:30 AM	11	19		0	80	6	0	0	25	0			0	141	0	0	0	1
7:45 AM	11	25		0	70	3	0	4	16	0			0	129	0	0	0	1
8:00 AM	6	17		0	64	4	0	2	11	0			0	104	0	0	0	0
8:15 AM	9	34		1	52	3	0	3	22	0			0	123	0	0	0	0
8:30 AM	10	27		0	52	2	0	3	15	0			0	109	0	0	0	0
8:45 AM	11	24		0	48	4	0	1	22	0			0	110	0	0	0	0
Total Survey	71	178		1	493	31	0	13	141	0			0	927	0	0	0	3

Peak Hour Summary
7:25 AM to 8:25 AM

By Approach	Northbound NE 94th Ave				Southbound NE 94th Ave				Eastbound NE 88th St				Westbound NE 88th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	131	349	480	1	290	101	391	0	85	56	141	0	0	0	0	0	506	0	0	0	2
%HV	5.3%				3.1%				5.9%				0.0%				4.2%				
PHF	0.86				0.78				0.79				0.00				0.87				

By Movement	Northbound NE 94th Ave				Southbound NE 94th Ave				Eastbound NE 88th St				Westbound NE 88th St				Total
	L	T		Total		T	R	Total	L		R	Total				Total	
Volume	39	92		131		273	17	290	9		76	85				0	506
%HV	2.6%	6.5%	NA	5.3%	NA	2.9%	5.9%	3.1%	22.2%	NA	3.9%	5.9%	NA	NA	NA	0.0%	4.2%
PHF	0.70	0.70		0.86		0.79	0.61	0.78	0.56		0.76	0.79				0.00	0.87

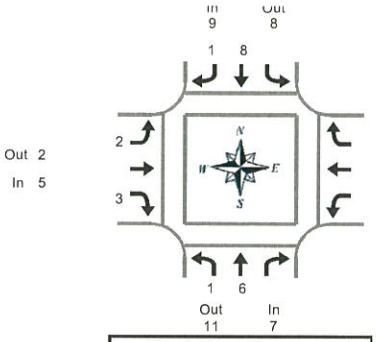
Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	35	76		0	277	18	0	4	71	0			0	481	0	0	0	3
7:15 AM	37	76		0	288	20	0	6	69	0			0	496	0	0	0	2
7:30 AM	37	95		1	266	16	0	9	74	0			0	497	0	0	0	2
7:45 AM	36	103		1	238	12	0	12	64	0			0	465	0	0	0	1
8:00 AM	36	102		1	216	13	0	9	70	0			0	446	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
7:25 AM to 8:25 AM

NE 94th Ave & NE 88th St

Thursday, August 21, 2014
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	0	0	3	0	3	0	1	1			0	4
7:05 AM	0	1	1	3	0	3	0	0	0			0	4
7:10 AM	0	0	0	3	0	3	0	0	0			0	3
7:15 AM	0	0	0	0	0	0	0	0	0			0	0
7:20 AM	0	0	0	0	0	0	0	0	0			0	0
7:25 AM	0	1	1	0	0	0	0	0	0			0	1
7:30 AM	0	1	1	1	0	1	0	0	0			0	2
7:35 AM	0	0	0	0	0	0	0	1	1			0	1
7:40 AM	0	0	0	1	0	1	0	0	0			0	1
7:45 AM	0	2	2	0	1	1	0	0	0			0	3
7:50 AM	1	2	3	0	0	0	1	0	1			0	4
7:55 AM	0	0	0	2	0	2	0	0	0			0	2
8:00 AM	0	0	0	1	0	1	0	0	0			0	1
8:05 AM	0	0	0	0	0	0	0	0	0			0	0
8:10 AM	0	0	0	3	0	3	0	1	1			0	4
8:15 AM	0	0	0	0	0	0	0	0	0			0	0
8:20 AM	0	0	0	0	0	0	1	1	2			0	2
8:25 AM	0	0	0	0	0	0	0	0	0			0	0
8:30 AM	1	0	1	0	0	0	0	0	0			0	1
8:35 AM	0	1	1	0	0	0	0	0	0			0	1
8:40 AM	0	0	0	0	0	0	0	0	0			0	0
8:45 AM	1	0	1	2	1	3	0	0	0			0	4
8:50 AM	0	0	0	0	0	0	0	0	0			0	0
8:55 AM	0	3	3	0	0	0	0	1	1			0	4
Total Survey	3	11	14	19	2	21	2	5	7			0	42

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	1	1	9	0	9	0	1	1			0	11
7:15 AM	0	1	1	0	0	0	0	0	0			0	1
7:30 AM	0	1	1	2	0	2	0	1	1			0	4
7:45 AM	1	4	5	2	1	3	1	0	1			0	9
8:00 AM	0	0	0	4	0	4	0	1	1			0	5
8:15 AM	0	0	0	0	0	0	1	1	2			0	2
8:30 AM	1	1	2	0	0	0	0	0	0			0	2
8:45 AM	1	3	4	2	1	3	0	1	1			0	8
Total Survey	3	11	14	19	2	21	2	5	7			0	42

Heavy Vehicle Peak Hour Summary
7:25 AM to 8:25 AM

By Approach	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	11	18	9	8	17	5	2	7	0	0	0	21
PHF	0.35			0.56			0.42			0.00			0.58

By Movement	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	1	6	7	8	1	9	2	3	5			0	21
PHF	0.25	0.38	0.35	0.50	0.25	0.56	0.50	0.38	0.42			0.00	0.58

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	1	7	8	13	1	14	1	2	3			0	25
7:15 AM	1	6	7	8	1	9	1	2	3			0	19
7:30 AM	1	5	6	8	1	9	2	3	5			0	20
7:45 AM	2	5	7	6	1	7	2	2	4			0	18
8:00 AM	2	4	6	6	1	7	1	3	4			0	17

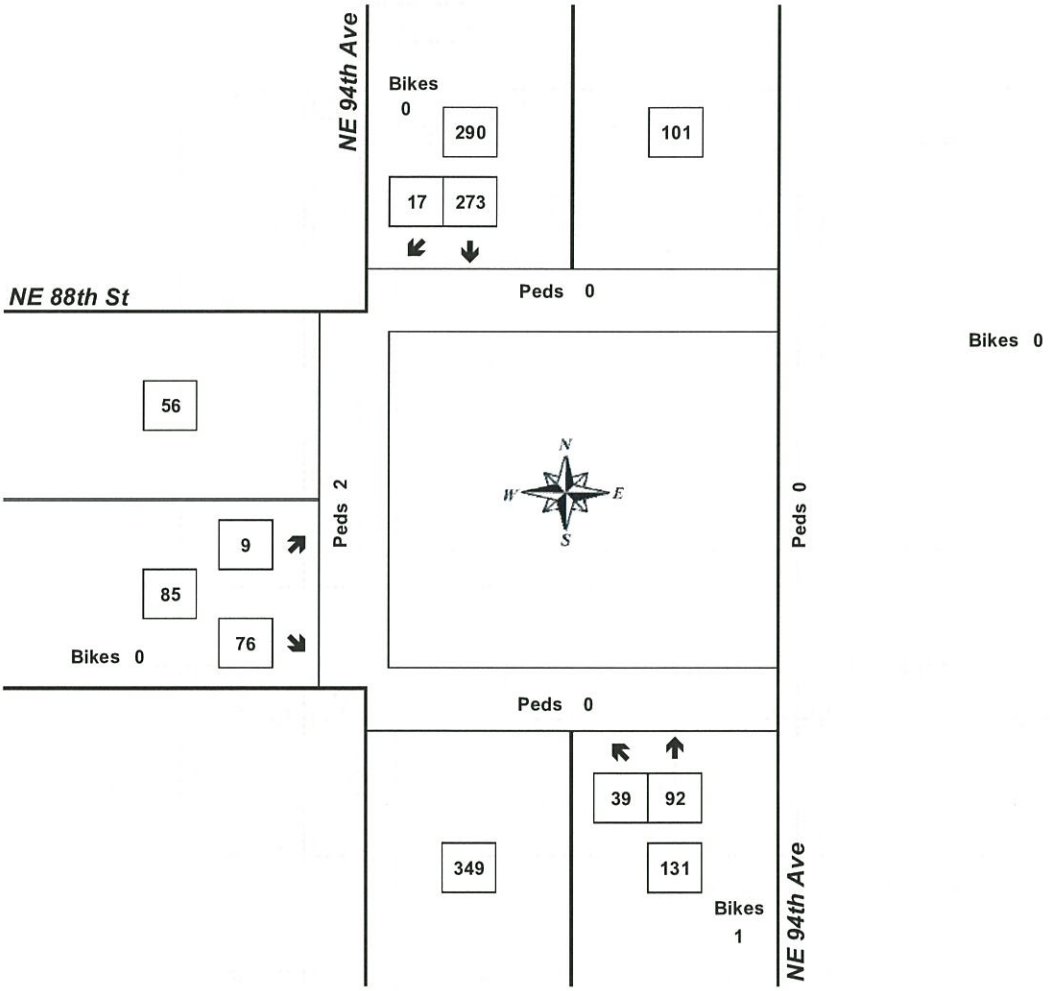
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

NE 94th Ave & NE 88th St

7:25 AM to 8:25 AM
Thursday, August 21, 2014

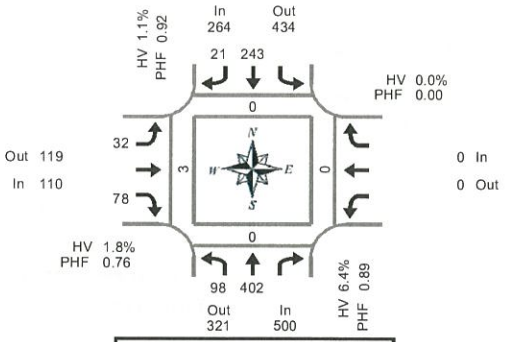


Approach	PHF	HV%	Volume
EB	0.79	5.9%	85
WB	0.00	0.0%	0
NB	0.86	5.3%	131
SB	0.78	3.1%	290
Intersection	0.87	4.2%	506

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



NE 94th Ave & NE 88th St

Thursday, August 21, 2014
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	2	32		1	18	1	1	2	3	0			0	58	0	0	0	0
4:05 PM	9	18		0	20	1	0	6	5	0			0	59	0	0	0	0
4:10 PM	6	17		0	28	2	0	1	7	0			0	61	0	0	0	1
4:15 PM	6	24		0	19	0	0	2	8	0			0	59	0	0	0	0
4:20 PM	6	20		0	23	2	0	4	7	0			0	62	0	0	0	2
4:25 PM	4	33		0	19	1	2	0	4	0			0	61	2	0	0	0
4:30 PM	9	27		0	19	1	0	3	10	0			0	69	0	0	0	0
4:35 PM	8	31		0	17	0	0	2	5	0			0	63	0	0	0	0
4:40 PM	6	30		0	29	0	0	4	7	0			0	76	0	0	0	0
4:45 PM	8	29		0	11	4	0	4	6	0			0	62	0	0	0	0
4:50 PM	7	28		0	21	4	2	4	6	0			0	70	0	0	0	2
4:55 PM	8	36		0	21	0	0	2	7	0			0	74	0	0	0	0
5:00 PM	7	31		0	19	1	2	1	4	0			0	63	0	0	0	0
5:05 PM	14	39		0	18	4	0	3	5	0			0	83	0	0	0	0
5:10 PM	10	27		0	24	2	0	2	7	0			0	72	0	0	0	0
5:15 PM	10	32		0	16	0	0	3	12	0			0	73	0	0	0	1
5:20 PM	5	33		2	26	4	0	3	9	0			0	80	0	0	0	0
5:25 PM	6	41		0	20	0	0	2	6	0			0	75	0	0	0	0
5:30 PM	7	38		0	16	1	2	3	7	0			0	72	0	0	0	0
5:35 PM	10	38		0	22	1	0	1	2	0			0	74	0	0	0	0
5:40 PM	1	38		0	17	1	0	0	8	0			0	65	0	0	0	0
5:45 PM	3	32		0	27	2	0	3	5	0			0	72	0	0	0	0
5:50 PM	12	26		0	24	0	0	4	4	0			0	70	0	0	0	0
5:55 PM	3	27		0	24	3	0	0	9	0			0	66	0	0	0	0
Total Survey	167	727		3	498	35	9	59	153	0			0	1,639	2	0	0	6

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	17	67		1	66	4	1	9	15	0			0	178	0	0	0	1
4:15 PM	16	77		0	61	3	2	6	19	0			0	182	2	0	0	2
4:30 PM	23	88		0	65	1	0	9	22	0			0	208	0	0	0	0
4:45 PM	23	93		0	53	8	2	10	19	0			0	206	0	0	0	2
5:00 PM	31	97		0	61	7	2	6	16	0			0	218	0	0	0	0
5:15 PM	21	106		2	62	4	0	8	27	0			0	228	0	0	0	1
5:30 PM	18	114		0	55	3	2	4	17	0			0	211	0	0	0	0
5:45 PM	18	85		0	75	5	0	7	18	0			0	208	0	0	0	0
Total Survey	167	727		3	498	35	9	59	153	0			0	1,639	2	0	0	6

Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound NE 94th Ave				Southbound NE 94th Ave				Eastbound NE 88th St				Westbound NE 88th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	500	321	821	2	264	434	698	6	110	119	229	0	0	0	0	0	874	0	0	0	3
%HV	6.4%				1.1%				1.8%				0.0%				4.2%				
PHF	0.89				0.92				0.76				0.00				0.96				

By Movement	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 88th St				Westbound NE 88th St				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	98	402		500	243	21	264	32		78	110				0	874
%HV	2.0%	7.5%	NA	6.4%	NA 1.2%	0.0%	1.1%	3.1%	NA	1.3%	1.8%	NA	NA	NA	0.0%	4.2%
PHF	0.72	0.86		0.89	0.92	0.66	0.92	0.67		0.70	0.76				0.00	0.96

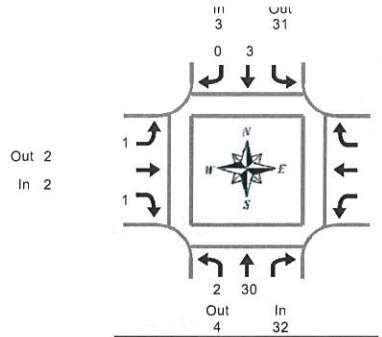
Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave				Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	79	325		1	245	16	5	34	75	0			0	774	2	0	0	5
4:15 PM	93	355		0	240	19	6	31	76	0			0	814	2	0	0	4
4:30 PM	98	384		2	241	20	4	33	84	0			0	860	0	0	0	3
4:45 PM	93	410		2	231	22	6	28	79	0			0	863	0	0	0	3
5:00 PM	88	402		2	253	19	4	25	78	0			0	865	0	0	0	1

Heavy Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

NE 94th Ave & NE 88th St

Thursday, August 21, 2014
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	0	3	3	0	0	0	0	0	0			0	3
4:05 PM	0	1	1	1	0	1	0	0	0			0	2
4:10 PM	0	0	0	1	0	1	0	0	0			0	1
4:15 PM	0	2	2	0	0	0	0	0	0			0	2
4:20 PM	1	1	2	0	0	0	0	0	0			0	2
4:25 PM	0	2	2	0	0	0	0	0	0			0	2
4:30 PM	0	4	4	0	0	0	0	0	0			0	4
4:35 PM	0	2	2	0	0	0	0	0	0			0	2
4:40 PM	0	2	2	1	0	1	1	1	2			0	5
4:45 PM	0	3	3	0	0	0	0	0	0			0	3
4:50 PM	0	2	2	0	0	0	0	0	0			0	2
4:55 PM	0	5	5	0	0	0	0	0	0			0	5
5:00 PM	0	3	3	0	0	0	0	0	0			0	3
5:05 PM	1	2	3	0	0	0	0	0	0			0	3
5:10 PM	0	2	2	0	0	0	0	0	0			0	2
5:15 PM	1	4	5	0	0	0	0	0	0			0	5
5:20 PM	0	2	2	1	0	1	0	0	0			0	3
5:25 PM	0	2	2	0	0	0	0	0	0			0	2
5:30 PM	0	2	2	0	0	0	0	0	0			0	2
5:35 PM	0	1	1	1	0	1	0	0	0			0	2
5:40 PM	0	0	0	0	0	0	0	0	0			0	0
5:45 PM	0	1	1	0	0	0	0	0	0			0	1
5:50 PM	0	1	1	0	0	0	0	0	0			0	1
5:55 PM	1	0	1	0	1	1	0	0	0			0	2
Total Survey	4	47	51	5	1	6	1	1	2			0	59

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	0	4	4	2	0	2	0	0	0			0	6
4:15 PM	1	5	6	0	0	0	0	0	0			0	6
4:30 PM	0	8	8	1	0	1	1	1	2			0	11
4:45 PM	0	10	10	0	0	0	0	0	0			0	10
5:00 PM	1	7	8	0	0	0	0	0	0			0	8
5:15 PM	1	8	9	1	0	1	0	0	0			0	10
5:30 PM	0	3	3	1	0	1	0	0	0			0	4
5:45 PM	1	2	3	0	1	1	0	0	0			0	4
Total Survey	4	47	51	5	1	6	1	1	2			0	59

Heavy Vehicle Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	32	4	36	3	31	34	2	2	4	0	0	0	37
PHF	0.73			0.75			0.25			0.00			0.84

By Movement	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	2	30	32	3	0	3	1	1	2			0	37
PHF	0.25	0.75	0.73	0.75	0.00	0.75	0.25	0.25	0.25			0.00	0.84

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound NE 94th Ave			Southbound NE 94th Ave			Eastbound NE 88th St			Westbound NE 88th St			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	1	27	28	3	0	3	1	1	2			0	33
4:15 PM	2	30	32	1	0	1	1	1	2			0	35
4:30 PM	2	33	35	2	0	2	1	1	2			0	39
4:45 PM	2	28	30	2	0	2	0	0	0			0	32
5:00 PM	3	20	23	2	1	3	0	0	0			0	26

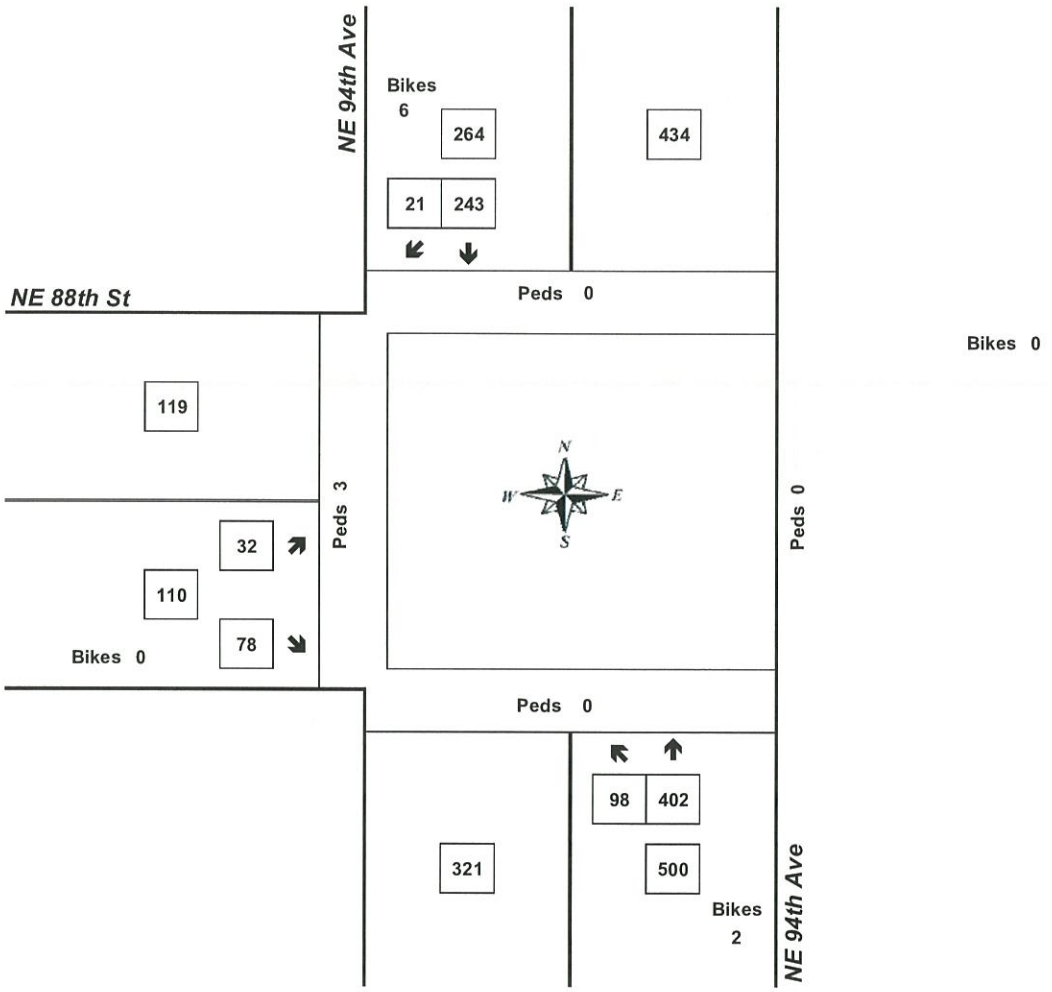
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

NE 94th Ave & NE 88th St

4:40 PM to 5:40 PM
Thursday, August 21, 2014



Approach	PHF	HV%	Volume
EB	0.76	1.8%	110
WB	0.00	0.0%	0
NB	0.89	6.4%	500
SB	0.92	1.1%	264
Intersection	0.96	4.2%	874

Count Period: 4:00 PM to 6:00 PM

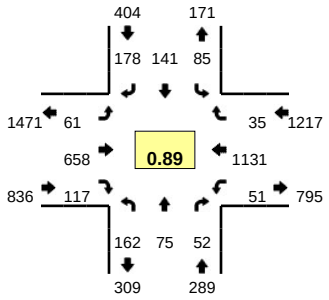
Type of peak hour being reported: Intersection Peak

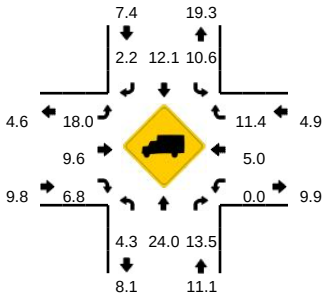
Method for determining peak hour: Total Entering Volume

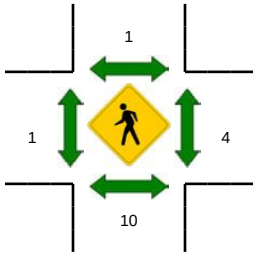
LOCATION: NE 94th Ave -- NE Padden Pkwy
CITY/STATE: Vancouver, WA

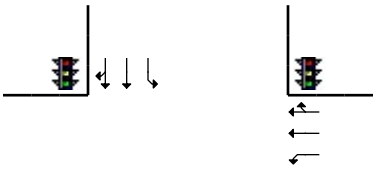
QC JOB #: 13790417
DATE: Tue, Jun 07 2016

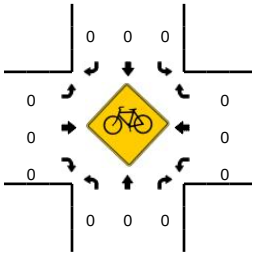
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

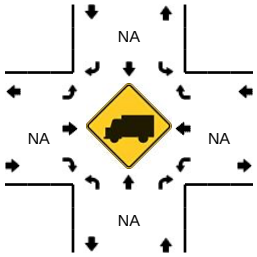


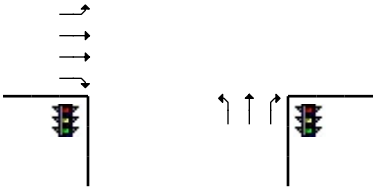


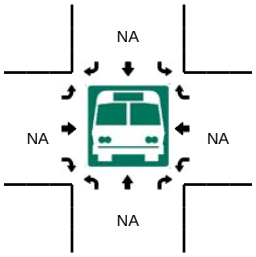












5-Min Count Period Beginning At	NE 94th Ave (Northbound)				NE 94th Ave (Southbound)				NE Padden Pkwy (Eastbound)				NE Padden Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	15	6	4	0	8	10	15	0	4	45	4	0	4	104	1	0	220	
7:05 AM	15	2	3	0	6	10	25	0	4	39	9	0	1	88	2	0	204	
7:10 AM	13	3	3	0	5	8	13	0	8	64	8	0	6	91	2	0	224	
7:15 AM	16	9	5	0	9	14	12	0	10	27	7	0	2	66	4	0	181	
7:20 AM	18	6	1	0	12	5	9	0	4	58	8	0	3	109	3	0	236	
7:25 AM	6	8	5	0	4	16	17	0	2	53	8	0	6	80	1	0	206	
7:30 AM	11	6	6	0	10	12	10	0	3	63	12	0	6	119	2	0	260	
7:35 AM	20	6	4	0	11	21	21	0	1	51	12	0	1	84	2	0	234	
7:40 AM	16	6	5	0	3	9	12	0	5	61	14	0	4	95	3	0	233	
7:45 AM	14	9	6	0	2	13	10	0	7	86	13	0	7	134	6	0	307	
7:50 AM	9	7	5	0	8	14	22	0	5	58	9	0	4	84	4	0	229	
7:55 AM	9	7	5	0	7	9	12	0	8	53	13	0	7	77	5	0	212	2746
8:00 AM	13	11	4	0	8	14	5	0	4	35	8	0	5	88	6	0	201	2727
8:05 AM	17	3	8	0	1	15	13	0	7	45	7	0	11	86	1	0	214	2737
8:10 AM	16	5	3	0	6	9	8	0	12	51	11	0	3	89	5	0	218	2731
8:15 AM	15	11	6	0	2	16	21	0	5	29	9	0	5	54	1	0	174	2724
8:20 AM	11	8	3	0	1	9	15	0	6	56	9	0	10	85	5	0	218	2706
8:25 AM	16	11	2	0	5	11	10	0	4	66	7	0	6	85	5	0	228	2728
8:30 AM	5	5	4	0	11	9	17	0	5	46	10	0	6	68	5	0	191	2659
8:35 AM	5	6	5	0	3	9	14	0	12	45	7	0	4	72	0	0	182	2607
8:40 AM	21	17	3	0	14	12	20	0	3	46	12	0	2	62	7	0	219	2593
8:45 AM	12	7	2	0	1	13	11	0	10	46	15	0	3	61	3	0	184	2470
8:50 AM	7	12	1	0	14	12	13	0	7	59	6	0	6	89	5	0	231	2472
8:55 AM	9	19	8	0	6	9	9	0	6	37	5	0	1	65	9	0	183	2443

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	200	84	60	0	64	172	172	0	52	792	156	0	48	1252	44	0	3096
Heavy Trucks	8	20	16		8	24	4		4	56	4		0	56	0		200
Pedestrians		12				4				0				16			32
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

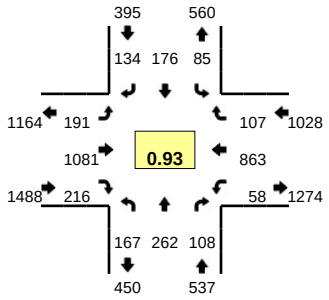
LOCATION: NE 94th Ave -- NE Padden Pkwy

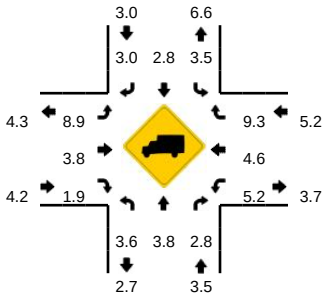
CITY/STATE: Vancouver, WA

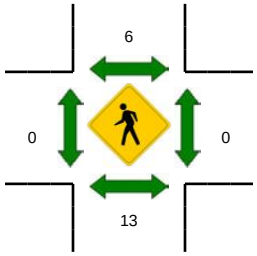
QC JOB #: 13790418

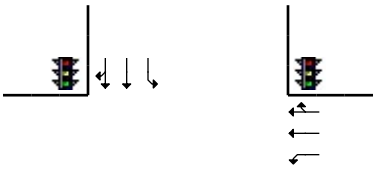
DATE: Tue, Jun 07 2016

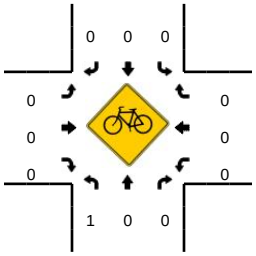
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

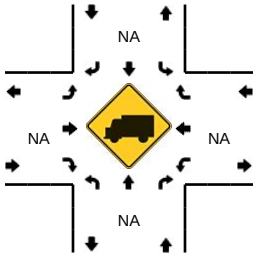


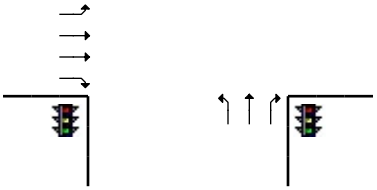


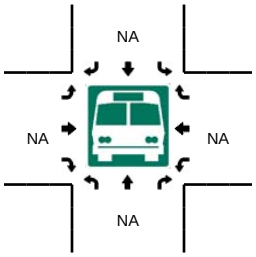












5-Min Count Period Beginning At	NE 94th Ave (Northbound)				NE 94th Ave (Southbound)				NE Padden Pkwy (Eastbound)				NE Padden Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	15	2	0	6	18	9	0	21	72	19	0	5	76	2	0	256	
4:05 PM	14	21	8	0	6	15	5	0	15	81	19	0	8	77	6	0	275	
4:10 PM	13	18	13	0	10	22	4	0	7	91	19	0	6	82	11	0	296	
4:15 PM	6	16	3	0	3	16	7	0	19	110	13	0	1	83	10	0	287	
4:20 PM	19	13	8	0	12	15	4	0	13	91	13	0	3	58	8	0	257	
4:25 PM	15	19	15	0	3	25	7	0	13	86	15	0	6	58	6	0	268	
4:30 PM	21	22	7	0	4	13	10	0	22	80	21	0	11	55	4	0	270	
4:35 PM	16	21	5	0	5	14	5	0	24	88	9	0	3	63	9	0	262	
4:40 PM	14	14	10	0	3	12	10	0	8	78	18	0	5	93	6	0	271	
4:45 PM	15	26	14	0	13	10	16	0	14	92	21	0	4	81	9	0	315	
4:50 PM	12	18	17	0	7	15	10	0	19	112	17	0	2	74	5	0	308	
4:55 PM	12	30	5	0	7	15	14	0	17	78	23	0	2	55	12	0	270	3335
5:00 PM	11	15	8	0	8	15	9	0	23	87	13	0	10	52	10	0	261	3340
5:05 PM	16	22	10	0	3	16	11	0	20	106	13	0	4	66	10	0	297	3362
5:10 PM	15	16	10	0	5	13	12	0	19	87	14	0	9	74	7	0	281	3347
5:15 PM	15	28	9	0	9	18	9	0	11	113	20	0	7	98	7	0	344	3404
5:20 PM	12	19	7	0	12	10	7	0	15	87	21	0	6	71	10	0	277	3424
5:25 PM	12	23	5	0	8	14	13	0	12	89	16	0	4	67	18	0	281	3437
5:30 PM	15	35	6	0	4	23	11	0	20	67	23	0	3	63	7	0	277	3444
5:35 PM	18	16	7	0	6	15	12	0	13	85	17	0	2	69	6	0	266	3448
5:40 PM	13	19	9	0	6	11	12	0	19	89	15	0	3	67	6	0	269	3446
5:45 PM	7	29	7	0	6	11	10	0	11	104	12	0	3	78	12	0	290	3421
5:50 PM	7	16	8	0	6	21	5	0	21	74	13	0	6	50	7	0	234	3347
5:55 PM	14	24	4	0	5	11	14	0	22	58	13	0	4	49	6	0	224	3301

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	184	264	116	0	68	188	128	0	200	1224	188	0	80	952	96	0	3688
Heavy Trucks	12	8	8		4	0	0		12	52	4		4	44	16		164
Pedestrians		28				0				0				0			28
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

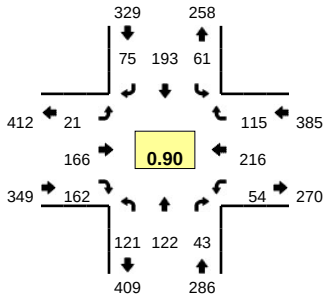
Type of peak hour being reported: Intersection Peak

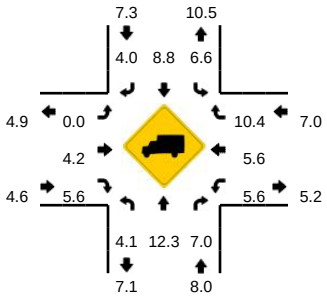
Method for determining peak hour: Total Entering Volume

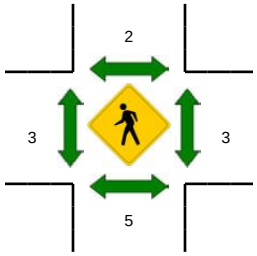
LOCATION: NE 94th Ave -- NE 76th St
CITY/STATE: Vancouver, WA

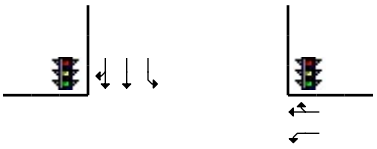
QC JOB #: 13790419
DATE: Tue, Jun 07 2016

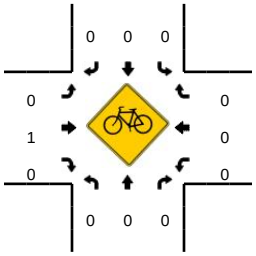
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:35 AM -- 7:50 AM

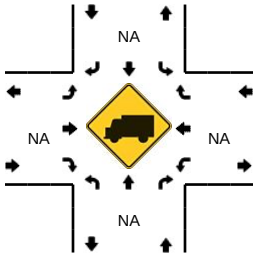


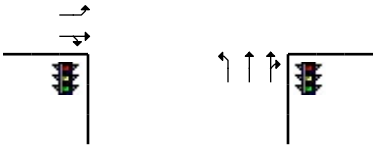


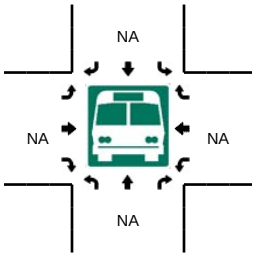












5-Min Count Period Beginning At	NE 94th Ave (Northbound)				NE 94th Ave (Southbound)				NE 76th St (Eastbound)				NE 76th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	11	1	0	4	11	4	0	2	11	6	0	6	17	7	0	85	
7:05 AM	8	12	3	0	8	12	1	0	0	4	12	0	3	8	5	0	76	
7:10 AM	5	12	1	0	2	16	2	0	0	9	14	0	2	15	8	0	86	
7:15 AM	3	12	2	0	4	16	2	0	2	13	14	0	5	9	10	0	92	
7:20 AM	5	13	5	0	4	14	0	0	2	17	10	0	1	11	9	0	91	
7:25 AM	6	10	2	0	3	15	3	0	0	13	11	0	6	20	8	0	97	
7:30 AM	9	19	6	0	3	28	3	0	0	13	5	0	1	12	4	0	103	
7:35 AM	13	11	6	0	5	17	1	0	0	7	14	0	4	25	14	0	117	
7:40 AM	7	15	5	0	11	20	3	0	1	15	17	0	7	21	12	0	134	
7:45 AM	13	8	3	0	4	30	4	0	1	19	14	0	4	17	6	0	123	
7:50 AM	4	7	2	0	1	14	4	0	4	11	19	0	6	23	8	0	103	
7:55 AM	12	16	4	0	3	22	4	0	2	11	8	0	5	18	7	0	112	1219
8:00 AM	8	5	4	0	7	14	5	0	1	10	12	0	6	26	10	0	108	1242
8:05 AM	16	13	4	0	3	18	10	0	2	9	7	0	2	13	10	0	107	1273
8:10 AM	9	9	2	0	5	11	11	0	1	11	16	0	2	20	11	0	108	1295
8:15 AM	11	14	4	0	8	13	8	0	2	19	10	0	3	11	11	0	114	1317
8:20 AM	8	5	4	0	3	11	10	0	2	13	18	0	4	17	13	0	108	1334
8:25 AM	9	11	3	0	7	11	9	0	3	13	17	0	5	9	8	0	105	1342
8:30 AM	11	8	2	0	4	12	6	0	2	28	10	0	6	16	5	0	110	1349
8:35 AM	6	17	5	0	9	12	5	0	1	8	12	0	2	13	4	0	94	1326
8:40 AM	9	12	3	0	10	10	3	0	3	16	5	0	2	19	16	0	108	1300
8:45 AM	5	14	2	0	6	22	1	0	2	16	6	0	6	18	9	0	107	1284
8:50 AM	8	6	3	0	6	9	3	0	0	7	8	0	5	15	9	0	79	1260
8:55 AM	6	13	6	0	7	9	2	0	6	15	7	0	6	13	10	0	100	1248

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	132	136	56	0	80	268	32	0	8	164	180	0	60	252	128	0	1496
Heavy Trucks	4	24	4		0	16	0		0	12	4		0	8	16		88
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

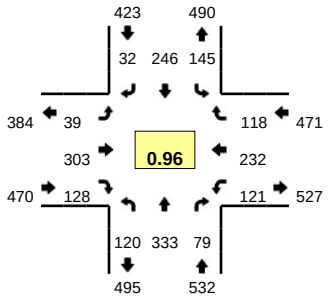
Type of peak hour being reported: Intersection Peak

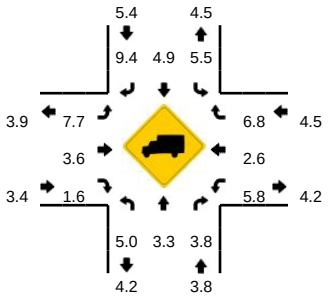
Method for determining peak hour: Total Entering Volume

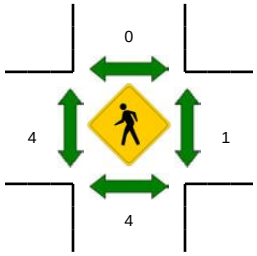
LOCATION: NE 94th Ave -- NE 76th St
CITY/STATE: Vancouver, WA

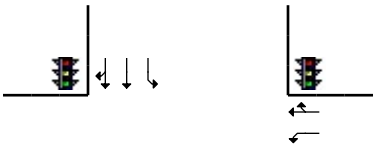
QC JOB #: 13790420
DATE: Tue, Jun 07 2016

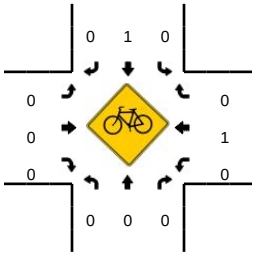
Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:05 PM -- 4:20 PM

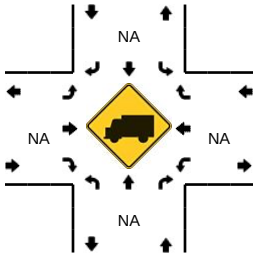


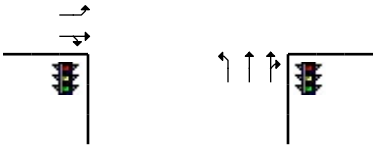


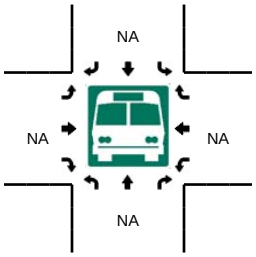












5-Min Count Period Beginning At	NE 94th Ave (Northbound)				NE 94th Ave (Southbound)				NE 76th St (Eastbound)				NE 76th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	24	6	0	10	20	2	0	1	20	6	0	6	18	11	0	133	
4:05 PM	14	29	9	0	11	26	3	0	1	15	10	0	12	26	14	0	170	
4:10 PM	8	22	6	0	15	18	1	0	2	36	9	0	13	23	8	0	161	
4:15 PM	16	26	5	0	17	19	8	0	1	22	8	0	7	31	5	0	165	
4:20 PM	11	28	5	0	3	24	4	0	3	28	12	0	10	16	7	0	151	
4:25 PM	8	29	5	0	13	15	2	0	3	39	12	0	4	19	16	0	165	
4:30 PM	8	34	11	0	16	25	2	0	4	21	12	0	15	15	9	0	172	
4:35 PM	10	23	6	0	8	20	1	0	2	27	8	0	8	14	13	0	140	
4:40 PM	12	34	6	0	14	24	3	0	4	20	11	0	7	18	8	0	161	
4:45 PM	4	23	5	0	10	22	1	0	6	25	11	0	15	19	16	0	157	
4:50 PM	9	30	6	0	14	15	2	0	5	27	10	0	11	10	9	0	148	
4:55 PM	12	30	9	0	11	21	3	0	6	15	9	0	11	18	6	0	151	1874
5:00 PM	8	25	6	0	13	17	2	0	2	28	16	0	8	23	7	0	155	1896
5:05 PM	8	27	7	0	10	25	1	0	2	18	11	0	5	19	13	0	146	1872
5:10 PM	19	37	4	0	9	21	4	0	4	16	9	0	7	17	5	0	152	1863
5:15 PM	18	37	5	0	15	26	3	0	4	33	18	0	4	16	14	0	193	1891
5:20 PM	12	27	7	0	15	24	2	0	0	26	10	0	7	17	7	0	154	1894
5:25 PM	4	23	6	0	8	21	1	0	3	22	7	0	6	24	7	0	132	1861
5:30 PM	14	45	10	0	20	26	1	0	2	17	7	0	6	5	11	0	164	1853
5:35 PM	16	19	5	0	12	17	2	0	3	31	13	0	11	29	14	0	172	1885
5:40 PM	12	33	3	0	11	24	3	0	4	12	10	0	4	15	8	0	139	1863
5:45 PM	12	28	10	0	10	17	1	0	1	30	13	0	11	16	10	0	159	1865
5:50 PM	10	22	7	0	6	23	4	0	3	21	16	0	6	23	7	0	148	1865
5:55 PM	10	24	6	0	7	16	3	0	2	20	5	0	9	16	11	0	129	1843

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	152	308	80	0	172	252	48	0	16	292	108	0	128	320	108	0	1984
Heavy Trucks	8	20	0		16	24	8		0	20	0		8	12	12		128
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/21/2016 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

LOCATION: NE 105th St btwn 91st Ave & 92nd Ave
SPECIFIC LOCATION: NE 105th St btwn 91st Ave & 92nd Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790425
DIRECTION: EB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4	14	11		10			10	
1:00 AM		2	8	4		5			5	
2:00 AM		6	4	4		5			5	
3:00 AM		3	5	4		4			4	
4:00 AM		8	6	13		9			9	
5:00 AM		47	42	43		44			44	
6:00 AM		50	65	49		55			55	
7:00 AM		81	83	**87**		**84**			**84**	
8:00 AM		84	**84**	75		81			81	
9:00 AM		73	67	76		72			72	
10:00 AM		63	0	61		41			41	
11:00 AM		**89**	0	69		53			53	
12:00 PM		74	0	63		46			46	
1:00 PM		72	0	72		48			48	
2:00 PM		84	99	**108**		97			97	
3:00 PM		96	109	94		100			100	
4:00 PM		104	103	99		102			102	
5:00 PM		**114**	**112**	97		**108**			**108**	
6:00 PM		71	85	72		76			76	
7:00 PM		61	71	49		60			60	
8:00 PM		77	69	68		71			71	
9:00 PM		51	53	50		51			51	
10:00 PM		42	35	37		38			38	
11:00 PM		18	17	16		17			17	
Day Total		1374	1131	1321		1277			1277	
% Weekday Average		107.6%	88.6%	103.4%						
% Week Average		107.6%	88.6%	103.4%		100.0%				
AM Peak Volume		11:00 AM 89	8:00 AM 84	7:00 AM 87		7:00 AM 84			7:00 AM 84	
PM Peak Volume		5:00 PM 114	5:00 PM 112	2:00 PM 108		5:00 PM 108			5:00 PM 108	

Comments:

LOCATION: NE 105th St btwn 91st Ave & 92nd Ave
SPECIFIC LOCATION: NE 105th St btwn 91st Ave & 92nd Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790425
DIRECTION: WB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		10	8	8		9			9	
1:00 AM		3	5	4		4			4	
2:00 AM		4	6	5		5			5	
3:00 AM		2	3	4		3			3	
4:00 AM		6	4	5		5			5	
5:00 AM		8	5	6		6			6	
6:00 AM		41	46	29		39			39	
7:00 AM		**88**	78	**97**		**88**			**88**	
8:00 AM		81	**95**	73		83			83	
9:00 AM		66	44	64		58			58	
10:00 AM		69	0	62		44			44	
11:00 AM		74	0	64		46			46	
12:00 PM		92	0	78		57			57	
1:00 PM		92	0	77		56			56	
2:00 PM		82	95	97		91			91	
3:00 PM		121	110	133		121			121	
4:00 PM		125	143	149		139			139	
5:00 PM		**183**	**177**	**189**		**183**			**183**	
6:00 PM		124	162	118		135			135	
7:00 PM		87	74	95		85			85	
8:00 PM		69	76	53		66			66	
9:00 PM		48	54	54		52			52	
10:00 PM		28	31	34		31			31	
11:00 PM		20	16	18		18			18	
Day Total		1523	1232	1516		1424			1424	
% Weekday Average		107.0%	86.5%	106.5%						
% Week Average		107.0%	86.5%	106.5%		100.0%				
AM Peak Volume		7:00 AM 88	8:00 AM 95	7:00 AM 97		7:00 AM 88			7:00 AM 88	
PM Peak Volume		5:00 PM 183	5:00 PM 177	5:00 PM 189		5:00 PM 183			5:00 PM 183	

Comments:

LOCATION: NE 88th St btwn 90th Ave & 91st Ave
SPECIFIC LOCATION: NE 88th St btwn 90th Ave & 91st Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790426
DIRECTION: EB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4	6	3		4			4	
1:00 AM		4	1	3		3			3	
2:00 AM		2	4	1		2			2	
3:00 AM		3	1	1		2			2	
4:00 AM		8	8	7		8			8	
5:00 AM		17	17	19		18			18	
6:00 AM		41	35	36		37			37	
7:00 AM		**65**	**69**	54		**63**			**63**	
8:00 AM		48	63	**64**		58			58	
9:00 AM		44	49	45		46			46	
10:00 AM		58	0	54		37			37	
11:00 AM		48	0	62		37			37	
12:00 PM		51	0	73		41			41	
1:00 PM		53	0	62		38			38	
2:00 PM		60	63	84		69			69	
3:00 PM		86	**93**	85		88			88	
4:00 PM		70	82	86		79			79	
5:00 PM		**101**	84	**96**		**94**			**94**	
6:00 PM		76	92	84		84			84	
7:00 PM		43	57	48		49			49	
8:00 PM		51	51	45		49			49	
9:00 PM		30	46	41		39			39	
10:00 PM		20	18	14		17			17	
11:00 PM		11	8	11		10			10	
Day Total		994	847	1078		972			972	
% Weekday Average		102.3%	87.1%	110.9%						
% Week Average		102.3%	87.1%	110.9%		100.0%				
AM Peak Volume		7:00 AM 65	7:00 AM 69	8:00 AM 64		7:00 AM 63			7:00 AM 63	
PM Peak Volume		5:00 PM 101	3:00 PM 93	5:00 PM 96		5:00 PM 94			5:00 PM 94	

Comments:

LOCATION: NE 88th St btwn 90th Ave & 91st Ave
SPECIFIC LOCATION: NE 88th St btwn 90th Ave & 91st Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790426
DIRECTION: WB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		4	7	3		5			5	
1:00 AM		0	1	2		1			1	
2:00 AM		1	2	5		3			3	
3:00 AM		3	3	0		2			2	
4:00 AM		5	7	6		6			6	
5:00 AM		17	10	13		13			13	
6:00 AM		61	77	64		67			67	
7:00 AM		**83**	**89**	**71**		**81**			**81**	
8:00 AM		53	60	62		58			58	
9:00 AM		61	42	63		55			55	
10:00 AM		39	0	56		32			32	
11:00 AM		47	0	63		37			37	
12:00 PM		61	0	61		41			41	
1:00 PM		55	0	80		45			45	
2:00 PM		63	65	63		64			64	
3:00 PM		89	82	102		91			91	
4:00 PM		**101**	82	**116**		100			100	
5:00 PM		100	**116**	95		**104**			**104**	
6:00 PM		72	70	72		71			71	
7:00 PM		66	47	62		58			58	
8:00 PM		52	64	56		57			57	
9:00 PM		36	39	36		37			37	
10:00 PM		26	26	30		27			27	
11:00 PM		11	7	9		9			9	
Day Total		1106	896	1190		1064			1064	
% Weekday Average		103.9%	84.2%	111.8%						
% Week Average		103.9%	84.2%	111.8%		100.0%				
AM Peak Volume		7:00 AM 83	7:00 AM 89	7:00 AM 71		7:00 AM 81			7:00 AM 81	
PM Peak Volume		4:00 PM 101	5:00 PM 116	4:00 PM 116		5:00 PM 104			5:00 PM 104	

Comments:

LOCATION: NE 119th St west of 87th Ave
SPECIFIC LOCATION: NE 119th St west of 87th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790427
DIRECTION: EB
DATE: Jun 14 2016 - Jun 15 2016

Start Time	Mon	Tue 14-Jun-16	Wed 15-Jun-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		26	21			24			24	
1:00 AM		9	19			14			14	
2:00 AM		10	7			9			9	
3:00 AM		10	13			12			12	
4:00 AM		17	22			20			20	
5:00 AM		60	77			69			69	
6:00 AM		128	122			125			125	
7:00 AM		**348**	235			292			292	
8:00 AM		337	237			287			287	
9:00 AM		253	245			249			249	
10:00 AM		278	284			281			281	
11:00 AM		342	**286**			**314**			**314**	
12:00 PM		350	337			344			344	
1:00 PM		345	341			343			343	
2:00 PM		398	430			414			414	
3:00 PM		468	453			461			461	
4:00 PM		**589**	590			590			590	
5:00 PM		549	**687**			**618**			**618**	
6:00 PM		419	361			390			390	
7:00 PM		245	234			240			240	
8:00 PM		204	229			217			217	
9:00 PM		161	169			165			165	
10:00 PM		85	90			88			88	
11:00 PM		52	51			52			52	
Day Total		5683	5540			5618			5618	
% Weekday Average		101.2%	98.6%							
% Week Average		101.2%	98.6%			100.0%				
AM Peak Volume		7:00 AM 348	11:00 AM 286			11:00 AM 314			11:00 AM 314	
PM Peak Volume		4:00 PM 589	5:00 PM 687			5:00 PM 618			5:00 PM 618	

Comments:

LOCATION: NE 119th St west of 87th Ave
SPECIFIC LOCATION: NE 119th St west of 87th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790427
DIRECTION: WB
DATE: Jun 14 2016 - Jun 15 2016

Start Time	Mon	Tue 14-Jun-16	Wed 15-Jun-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		19	18			19			19	
1:00 AM		13	7			10			10	
2:00 AM		10	14			12			12	
3:00 AM		17	18			18			18	
4:00 AM		28	30			29			29	
5:00 AM		141	131			136			136	
6:00 AM		305	314			310			310	
7:00 AM		**393**	**355**			**374**			**374**	
8:00 AM		312	300			306			306	
9:00 AM		230	243			237			237	
10:00 AM		256	265			261			261	
11:00 AM		385	268			327			327	
12:00 PM		**363**	270			317			317	
1:00 PM		313	289			301			301	
2:00 PM		321	306			314			314	
3:00 PM		325	309			317			317	
4:00 PM		339	316			328			328	
5:00 PM		342	**384**			**363**			**363**	
6:00 PM		247	266			257			257	
7:00 PM		205	230			218			218	
8:00 PM		168	225			197			197	
9:00 PM		110	134			122			122	
10:00 PM		59	60			60			60	
11:00 PM		39	42			41			41	
Day Total		4940	4794			4874			4874	
% Weekday Average		101.4%	98.4%							
% Week Average		101.4%	98.4%			100.0%				
AM Peak Volume		7:00 AM 393	7:00 AM 355			7:00 AM 374			7:00 AM 374	
PM Peak Volume		12:00 PM 363	5:00 PM 384			5:00 PM 363			5:00 PM 363	

Comments:

LOCATION: NE 119th St east of 87th Ave
SPECIFIC LOCATION: NE 119th St east of 87th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790428
DIRECTION: EB
DATE: Jun 14 2016 - Jun 15 2016

Start Time	Mon	Tue 14-Jun-16	Wed 15-Jun-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		34	24			29			29	
1:00 AM		10	20			15			15	
2:00 AM		11	7			9			9	
3:00 AM		9	11			10			10	
4:00 AM		20	22			21			21	
5:00 AM		59	74			67			67	
6:00 AM		144	136			140			140	
7:00 AM		**415**	255			**335**			**335**	
8:00 AM		327	247			287			287	
9:00 AM		236	273			255			255	
10:00 AM		250	**280**			265			265	
11:00 AM		354	278			316			316	
12:00 PM		365	347			356			356	
1:00 PM		349	329			339			339	
2:00 PM		383	441			412			412	
3:00 PM		488	472			480			480	
4:00 PM		**629**	631			630			630	
5:00 PM		590	**683**			**637**			**637**	
6:00 PM		438	401			420			420	
7:00 PM		262	258			260			260	
8:00 PM		214	233			224			224	
9:00 PM		171	172			172			172	
10:00 PM		91	99			95			95	
11:00 PM		56	55			56			56	
Day Total		5905	5748			5830			5830	
% Weekday Average		101.3%	98.6%							
% Week Average		101.3%	98.6%			100.0%				
AM Peak Volume		7:00 AM 415	10:00 AM 280			7:00 AM 335			7:00 AM 335	
PM Peak Volume		4:00 PM 629	5:00 PM 683			5:00 PM 637			5:00 PM 637	

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: NE 119th St east of 87th Ave
SPECIFIC LOCATION: NE 119th St east of 87th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790428
DIRECTION: WB
DATE: Jun 14 2016 - Jun 15 2016

Start Time	Mon	Tue 14-Jun-16	Wed 15-Jun-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		25	23			24			24	
1:00 AM		17	14			16			16	
2:00 AM		11	11			11			11	
3:00 AM		20	16			18			18	
4:00 AM		21	24			23			23	
5:00 AM		151	139			145			145	
6:00 AM		326	**342**			334			334	
7:00 AM		**400**	341			**371**			**371**	
8:00 AM		340	320			330			330	
9:00 AM		240	239			240			240	
10:00 AM		275	279			277			277	
11:00 AM		400	263			332			332	
12:00 PM		350	298			324			324	
1:00 PM		345	325			335			335	
2:00 PM		353	341			347			347	
3:00 PM		346	355			351			351	
4:00 PM		380	346			363			363	
5:00 PM		**397**	**417**			**407**			**407**	
6:00 PM		290	306			298			298	
7:00 PM		234	269			252			252	
8:00 PM		196	267			232			232	
9:00 PM		138	161			150			150	
10:00 PM		70	77			74			74	
11:00 PM		43	50			47			47	
Day Total		5368	5223			5301			5301	
% Weekday Average		101.3%	98.5%							
% Week Average		101.3%	98.5%			100.0%				
AM Peak Volume		7:00 AM 400	6:00 AM 342			7:00 AM 371			7:00 AM 371	
PM Peak Volume		5:00 PM 397	5:00 PM 417			5:00 PM 407			5:00 PM 407	

Comments:

LOCATION: NE 119th St btwn 108th Ave & 111th Ave
SPECIFIC LOCATION: NE 119th St btwn 108th Ave & 111th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790429
DIRECTION: EB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		30	30	21		27			27	
1:00 AM		9	16	14		13			13	
2:00 AM		6	12	2		7			7	
3:00 AM		11	11	9		10			10	
4:00 AM		25	25	28		26			26	
5:00 AM		55	59	47		54			54	
6:00 AM		181	204	156		180			180	
7:00 AM		**453**	**463**	**510**		**475**			**475**	
8:00 AM		346	346	307		333			333	
9:00 AM		289	0	264		184			184	
10:00 AM		282	0	304		195			195	
11:00 AM		311	0	311		207			207	
12:00 PM		326	0	342		223			223	
1:00 PM		326	0	361		229			229	
2:00 PM		412	438	472		441			441	
3:00 PM		528	500	508		512			512	
4:00 PM		576	582	651		603			603	
5:00 PM		**689**	**724**	**755**		**723**			**723**	
6:00 PM		437	419	491		449			449	
7:00 PM		291	339	250		293			293	
8:00 PM		296	283	272		284			284	
9:00 PM		161	141	152		151			151	
10:00 PM		93	80	113		95			95	
11:00 PM		50	50	43		48			48	
Day Total		6183	4722	6383		5762			5762	
% Weekday Average		107.3%	82.0%	110.8%						
% Week Average		107.3%	82.0%	110.8%		100.0%				
AM Peak Volume		7:00 AM 453	7:00 AM 463	7:00 AM 510		7:00 AM 475			7:00 AM 475	
PM Peak Volume		5:00 PM 689	5:00 PM 724	5:00 PM 755		5:00 PM 723			5:00 PM 723	

Comments:

LOCATION: NE 119th St btwn 108th Ave & 111th Ave
SPECIFIC LOCATION: NE 119th St btwn 108th Ave & 111th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790429
DIRECTION: WB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		18	18	27		21			21	
1:00 AM		21	12	16		16			16	
2:00 AM		2	9	4		5			5	
3:00 AM		14	14	16		15			15	
4:00 AM		17	22	27		22			22	
5:00 AM		153	144	140		146			146	
6:00 AM		311	319	294		308			308	
7:00 AM		**407**	**387**	352		**382**			**382**	
8:00 AM		338	321	**361**		340			340	
9:00 AM		301	0	315		205			205	
10:00 AM		272	0	329		200			200	
11:00 AM		287	0	287		191			191	
12:00 PM		298	0	301		200			200	
1:00 PM		312	0	282		198			198	
2:00 PM		468	452	**450**		457			457	
3:00 PM		399	391	419		403			403	
4:00 PM		420	416	398		411			411	
5:00 PM		**477**	**484**	434		**465**			**465**	
6:00 PM		312	329	305		315			315	
7:00 PM		223	268	208		233			233	
8:00 PM		246	222	144		204			204	
9:00 PM		135	183	273		197			197	
10:00 PM		72	97	110		93			93	
11:00 PM		59	57	63		60			60	
Day Total		5562	4145	5555		5087			5087	
% Weekday Average		109.3%	81.5%	109.2%						
% Week Average		109.3%	81.5%	109.2%		100.0%				
AM Peak Volume		7:00 AM 407	7:00 AM 387	8:00 AM 361		7:00 AM 382			7:00 AM 382	
PM Peak Volume		5:00 PM 477	5:00 PM 484	2:00 PM 450		5:00 PM 465			5:00 PM 465	

Comments:

LOCATION: NE Padden Pkwy west of 107th Ave
SPECIFIC LOCATION: NE Padden Pkwy west of 107th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790430
DIRECTION: EB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		60	70	70		67			67	
1:00 AM		36	45	40		40			40	
2:00 AM		44	45	38		42			42	
3:00 AM		24	34	28		29			29	
4:00 AM		55	47	47		50			50	
5:00 AM		154	134	150		146			146	
6:00 AM		431	407	415		418			418	
7:00 AM		**730**	**711**	**642**		**694**			**694**	
8:00 AM		636	599	564		600			600	
9:00 AM		499	0	498		332			332	
10:00 AM		540	0	536		359			359	
11:00 AM		577	0	587		388			388	
12:00 PM		623	0	648		424			424	
1:00 PM		655	0	681		445			445	
2:00 PM		772	0	702		491			491	
3:00 PM		935	994	861		930			930	
4:00 PM		**1112**	**1058**	956		1042			1042	
5:00 PM		1073	1029	**1092**		**1065**			**1065**	
6:00 PM		813	793	760		789			789	
7:00 PM		550	542	595		562			562	
8:00 PM		439	452	459		450			450	
9:00 PM		360	378	336		358			358	
10:00 PM		232	232	238		234			234	
11:00 PM		144	126	162		144			144	
Day Total		11494	7696	11105		10099			10099	
% Weekday Average		113.8%	76.2%	110.0%						
% Week Average		113.8%	76.2%	110.0%		100.0%				
AM Peak Volume		7:00 AM 730	7:00 AM 711	7:00 AM 642		7:00 AM 694			7:00 AM 694	
PM Peak Volume		4:00 PM 1112	4:00 PM 1058	5:00 PM 1092		5:00 PM 1065			5:00 PM 1065	

Comments:

LOCATION: NE Padden Pkwy west of 107th Ave
SPECIFIC LOCATION: NE Padden Pkwy west of 107th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790430
DIRECTION: WB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		42	52	61		52			52	
1:00 AM		24	27	35		29			29	
2:00 AM		40	36	26		34			34	
3:00 AM		53	50	54		52			52	
4:00 AM		142	143	139		141			141	
5:00 AM		470	481	447		466			466	
6:00 AM		1058	1033	**976**		1022			1022	
7:00 AM		**1125**	**1101**	950		**1059**			**1059**	
8:00 AM		916	826	818		853			853	
9:00 AM		711	0	690		467			467	
10:00 AM		649	0	641		430			430	
11:00 AM		663	0	604		422			422	
12:00 PM		740	0	689		476			476	
1:00 PM		666	0	686		451			451	
2:00 PM		769	0	713		494			494	
3:00 PM		852	765	825		814			814	
4:00 PM		901	**904**	868		891			891	
5:00 PM		**908**	883	**963**		**918**			**918**	
6:00 PM		700	708	728		712			712	
7:00 PM		470	449	496		472			472	
8:00 PM		412	432	382		409			409	
9:00 PM		301	312	317		310			310	
10:00 PM		181	174	171		175			175	
11:00 PM		94	85	96		92			92	
Day Total		12887	8461	12375		11241			11241	
% Weekday Average		114.6%	75.3%	110.1%						
% Week Average		114.6%	75.3%	110.1%		100.0%				
AM Peak Volume		7:00 AM 1125	7:00 AM 1101	6:00 AM 976		7:00 AM 1059			7:00 AM 1059	
PM Peak Volume		5:00 PM 908	4:00 PM 904	5:00 PM 963		5:00 PM 918			5:00 PM 918	

Comments:

LOCATION: NE Padden Pkwy west of 94th Ave
SPECIFIC LOCATION: NE Padden Pkwy west of 94th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790431
DIRECTION: EB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		87	106	105		99			99	
1:00 AM		48	57	59		55			55	
2:00 AM		65	61	53		60			60	
3:00 AM		32	53	44		43			43	
4:00 AM		64	50	54		56			56	
5:00 AM		188	185	201		191			191	
6:00 AM		506	472	488		489			489	
7:00 AM		**864**	**812**	**841**		**839**			**839**	
8:00 AM		798	780	782		787			787	
9:00 AM		624	0	640		421			421	
10:00 AM		712	0	705		472			472	
11:00 AM		778	0	767		515			515	
12:00 PM		840	0	881		574			574	
1:00 PM		887	0	922		603			603	
2:00 PM		1068	1051	986		1035			1035	
3:00 PM		1312	1346	1298		1319			1319	
4:00 PM		**1471**	**1478**	1371		**1440**			**1440**	
5:00 PM		1424	1423	**1409**		1419			1419	
6:00 PM		1113	1097	1081		1097			1097	
7:00 PM		750	775	821		782			782	
8:00 PM		615	645	601		620			620	
9:00 PM		492	512	465		490			490	
10:00 PM		310	298	314		307			307	
11:00 PM		187	186	209		194			194	
Day Total		15235	11387	15097		13907			13907	
% Weekday Average		109.5%	81.9%	108.6%						
% Week Average		109.5%	81.9%	108.6%		100.0%				
AM Peak Volume		7:00 AM 864	7:00 AM 812	7:00 AM 841		7:00 AM 839			7:00 AM 839	
PM Peak Volume		4:00 PM 1471	4:00 PM 1478	5:00 PM 1409		4:00 PM 1440			4:00 PM 1440	

Comments:

LOCATION: NE Padden Pkwy west of 94th Ave
SPECIFIC LOCATION: NE Padden Pkwy west of 94th Ave
CITY/STATE: Vancouver, WA

QC JOB #: 13790431
DIRECTION: WB
DATE: Jun 07 2016 - Jun 09 2016

Start Time	Mon	Tue 07-Jun-16	Wed 08-Jun-16	Thu 09-Jun-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		50	51	66		56			56	
1:00 AM		28	30	35		31			31	
2:00 AM		47	38	39		41			41	
3:00 AM		85	77	81		81			81	
4:00 AM		217	223	226		222			222	
5:00 AM		637	611	619		622			622	
6:00 AM		1310	1264	1325		1300			1300	
7:00 AM		**1350**	**1364**	**1326**		**1347**			**1347**	
8:00 AM		1129	1121	1141		1130			1130	
9:00 AM		863	0	894		586			586	
10:00 AM		810	0	798		536			536	
11:00 AM		753	0	773		509			509	
12:00 PM		842	0	800		547			547	
1:00 PM		762	0	823		528			528	
2:00 PM		853	813	814		827			827	
3:00 PM		929	898	929		919			919	
4:00 PM		**1045**	**1017**	1016		1026			1026	
5:00 PM		1013	1004	**1067**		**1028**			**1028**	
6:00 PM		761	853	882		832			832	
7:00 PM		553	510	556		540			540	
8:00 PM		445	490	465		467			467	
9:00 PM		351	327	388		355			355	
10:00 PM		222	201	200		208			208	
11:00 PM		108	101	109		106			106	
Day Total		15163	10993	15372		13844			13844	
% Weekday Average		109.5%	79.4%	111.0%						
% Week Average		109.5%	79.4%	111.0%		100.0%				
AM Peak Volume		7:00 AM 1350	7:00 AM 1364	7:00 AM 1326		7:00 AM 1347			7:00 AM 1347	
PM Peak Volume		4:00 PM 1045	4:00 PM 1017	5:00 PM 1067		5:00 PM 1028			5:00 PM 1028	

Comments:

Appendix B Existing Operations Analysis Worksheets

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HCM Signalized Intersection Capacity Analysis
1: NE 72nd Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	164	67	268	142	38	57	233	215	37	479	16
Future Volume (vph)	29	164	67	268	142	38	57	233	215	37	479	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	1703		3303	1600		1517	1743	1482	1517	3356	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	1703		3303	1600		1517	1743	1482	1517	3356	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	33	189	77	308	163	44	66	268	247	43	551	18
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	167	0	2	0
Lane Group Flow (vph)	33	258	0	308	202	0	66	268	80	43	567	0
Confl. Peds. (#/hr)	3					3	3					3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	7%	6%	6%	12%	24%	19%	9%	9%	19%	7%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		3	8	5	7	4	
Permitted Phases									8			
Actuated Green, G (s)	3.9	58.8		14.9	69.7		7.6	27.4	42.3	5.9	25.7	
Effective Green, g (s)	3.9	58.8		14.9	69.7		7.6	27.4	42.3	5.9	25.7	
Actuated g/C Ratio	0.03	0.45		0.11	0.54		0.06	0.21	0.33	0.05	0.20	
Clearance Time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	52	770		378	857		88	367	482	68	663	
v/s Ratio Prot	0.02	c0.15		c0.09	0.13		c0.04	0.15	0.02	0.03	c0.17	
v/s Ratio Perm									0.04			
v/c Ratio	0.63	0.33		0.81	0.24		0.75	0.73	0.17	0.63	0.86	
Uniform Delay, d1	62.3	23.0		56.2	16.0		60.3	47.9	31.3	61.0	50.4	
Progression Factor	1.00	1.00		1.05	0.93		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	17.1	0.1		12.0	0.6		26.8	6.3	0.1	13.2	10.2	
Delay (s)	79.4	23.1		70.9	15.5		87.0	54.2	31.3	74.2	60.5	
Level of Service	E	C		E	B		F	D	C	E	E	
Approach Delay (s)		29.3			48.6			48.2			61.5	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	49.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	201	50	65	216	67	18	39	47	81	65	20
Future Volume (vph)	34	201	50	65	216	67	18	39	47	81	65	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	4.0	6.3	6.3		6.3	6.3		6.3	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.92		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1759	1495	1687	3137		1543	1641		1597	1752	
Flt Permitted	0.54	1.00	1.00	0.55	1.00		0.69	1.00		0.46	1.00	
Satd. Flow (perm)	1030	1759	1495	977	3137		1119	1641		779	1752	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	42	248	62	80	267	83	22	48	58	100	80	25
RTOR Reduction (vph)	0	0	62	0	14	0	0	38	0	0	9	0
Lane Group Flow (vph)	42	248	0	80	336	0	22	68	0	100	96	0
Heavy Vehicles (%)	0%	8%	8%	7%	11%	11%	17%	3%	9%	13%	6%	0%
Turn Type	pm+pt	NA	NA	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	73.9	69.1	0.0	80.1	72.2		20.1	15.6		34.1	23.3	
Effective Green, g (s)	73.9	69.1	0.0	80.1	72.2		20.1	15.6		34.1	23.3	
Actuated g/C Ratio	0.57	0.53	0.00	0.62	0.56		0.15	0.12		0.26	0.18	
Clearance Time (s)	6.3	6.3		6.3	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	2.0	2.0		3.0	2.0		3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	614	934	0	645	1742		187	196		281	314	
v/s Ratio Prot	0.00	c0.14		c0.01	c0.11		0.00	0.04		c0.03	0.05	
v/s Ratio Perm	0.04			0.07			0.01			c0.06		
v/c Ratio	0.07	0.27	0.00	0.12	0.19		0.12	0.35		0.36	0.31	
Uniform Delay, d1	12.4	16.6	65.0	10.2	14.4		47.1	52.5		38.0	46.3	
Progression Factor	0.95	0.86	1.00	1.00	1.00		0.94	0.86		1.00	1.00	
Incremental Delay, d2	0.0	0.1	0.0	0.1	0.2		0.3	0.4		0.8	0.2	
Delay (s)	11.8	14.4	65.0	10.3	14.6		44.5	45.7		38.7	46.5	
Level of Service	B	B	E	B	B		D	D		D	D	
Approach Delay (s)		23.0			13.8			45.5			42.7	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	658	117	51	1131	35	162	75	52	105	195	280
Future Volume (vph)	75	658	117	51	1131	35	162	75	52	105	195	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.3	6.3	6.2	6.3	6.3	6.3	5.9	5.9	6.8	5.9	5.9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1530	3282	1509	1802	3438	1455	1735	1532	1429	1619	1696	1583
Flt Permitted	0.09	1.00	1.00	0.31	1.00	1.00	0.31	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	148	3282	1509	596	3438	1455	575	1532	1429	1197	1696	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	84	739	131	57	1271	39	182	84	58	118	219	315
RTOR Reduction (vph)	0	0	46	0	0	15	0	0	42	0	0	106
Lane Group Flow (vph)	84	739	85	57	1271	24	182	84	16	118	219	209
Confl. Peds. (#/hr)	1		10	10		1	1		4	4		1
Heavy Vehicles (%)	18%	10%	7%	0%	5%	11%	4%	24%	13%	11%	12%	2%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	1	6	6 3	5	2	2 7	3	8	8 5	7	4	4 1
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	71.9	63.8	84.7	66.7	61.2	78.8	38.8	24.2	35.6	32.7	21.4	35.4
Effective Green, g (s)	71.9	63.8	84.7	66.7	61.2	78.8	38.8	24.2	35.6	32.7	21.4	35.4
Actuated g/C Ratio	0.55	0.49	0.65	0.51	0.47	0.61	0.30	0.19	0.27	0.25	0.16	0.27
Clearance Time (s)	6.2	6.3		6.2	6.3		6.3	5.9		6.8	5.9	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	167	1610	983	356	1618	881	301	285	391	337	279	431
v/s Ratio Prot	0.03	0.23	0.06	0.01	c0.37	0.02	c0.07	0.05	0.01	0.03	c0.13	c0.13
v/s Ratio Perm	c0.25			0.08			c0.11			0.06		
v/c Ratio	0.50	0.46	0.09	0.16	0.79	0.03	0.60	0.29	0.04	0.35	0.78	0.48
Uniform Delay, d1	20.7	21.8	8.4	16.3	28.9	10.2	36.4	45.6	34.7	39.3	52.1	39.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.81	1.00	0.96	0.97	0.95
Incremental Delay, d2	0.9	0.9	0.0	0.1	2.4	0.0	2.3	0.2	0.0	0.2	12.5	0.3
Delay (s)	21.5	22.7	8.4	16.4	31.3	10.3	30.8	37.0	34.7	38.1	63.1	38.1
Level of Service	C	C	A	B	C	B	C	D	C	D	E	D
Approach Delay (s)		20.6			30.1			33.1			46.5	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	166	162	54	216	115	121	122	43	61	193	75
Future Volume (vph)	21	166	162	54	216	115	121	122	43	61	193	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.95		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1660		1702	1668		1736	3111		1687	3189	
Flt Permitted	0.28	1.00		0.20	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	524	1660		367	1668		1736	3111		1687	3189	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	184	180	60	240	128	134	136	48	68	214	83
RTOR Reduction (vph)	0	34	0	0	17	0	0	21	0	0	25	0
Lane Group Flow (vph)	23	330	0	60	351	0	134	163	0	68	272	0
Confl. Peds. (#/hr)	2		5	5		2	3		3	3		3
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	4%	6%	6%	6%	10%	4%	12%	7%	7%	9%	4%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2								
Actuated Green, G (s)	37.4	33.1		43.2	36.0		15.6	60.4		9.3	54.1	
Effective Green, g (s)	37.4	33.1		43.2	36.0		15.6	60.4		9.3	54.1	
Actuated g/C Ratio	0.29	0.25		0.33	0.28		0.12	0.46		0.07	0.42	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	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)	193	422		195	461		208	1445		120	1327	
v/s Ratio Prot	0.00	0.20		c0.02	c0.21		c0.08	0.05		0.04	c0.09	
v/s Ratio Perm	0.03			0.08								
v/c Ratio	0.12	0.78		0.31	0.76		0.64	0.11		0.57	0.20	
Uniform Delay, d1	34.4	45.1		32.1	43.1		54.6	19.7		58.4	24.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.21	0.52	
Incremental Delay, d2	0.3	9.2		0.9	7.3		6.7	0.2		5.4	0.3	
Delay (s)	34.7	54.3		33.0	50.3		61.2	19.8		76.3	12.9	
Level of Service	C	D		C	D		E	B		E	B	
Approach Delay (s)		53.1			47.9			37.3			24.7	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 Signalized Intersection Summary
3: NE 117th Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	93	134	134	133	64	260	642	39	51	1245	243
Future Volume (veh/h)	168	93	134	134	133	64	260	642	39	51	1245	243
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1792	1681	1776	1759	1900	1696	1714	1900	1759	1792	1776
Adj Flow Rate, veh/h	193	107	154	154	153	74	299	738	45	59	1431	279
Adj No. of Lanes	2	1	1	1	1	0	2	2	0	1	2	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	14	6	13	7	9	9	12	11	11	8	6	7
Cap, veh/h	245	312	309	171	218	105	317	1597	97	75	1551	824
Arrive On Green	0.08	0.17	0.17	0.10	0.20	0.20	0.10	0.51	0.51	0.04	0.46	0.46
Sat Flow, veh/h	3079	1792	1409	1691	1116	540	3134	3119	190	1675	3406	1475
Grp Volume(v), veh/h	193	107	154	154	0	227	299	385	398	59	1431	279
Grp Sat Flow(s),veh/h/ln	1540	1792	1409	1691	0	1656	1567	1629	1681	1675	1703	1475
Q Serve(g_s), s	7.3	6.2	11.4	10.7	0.0	15.2	11.3	17.9	18.0	4.1	46.8	12.3
Cycle Q Clear(g_c), s	7.3	6.2	11.4	10.7	0.0	15.2	11.3	17.9	18.0	4.1	46.8	12.3
Prop In Lane	1.00		1.00	1.00		0.33	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	245	312	309	171	0	324	317	834	860	75	1551	824
V/C Ratio(X)	0.79	0.34	0.50	0.90	0.00	0.70	0.94	0.46	0.46	0.79	0.92	0.34
Avail Cap(c_a), veh/h	311	529	479	171	0	488	317	834	860	141	1607	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	43.1	40.7	52.8	0.0	44.5	53.0	18.5	18.5	56.2	30.4	14.4
Incr Delay (d2), s/veh	10.0	0.7	1.2	41.7	0.0	2.8	35.9	0.4	0.4	16.7	9.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.1	4.5	7.0	0.0	7.2	6.4	8.1	8.4	2.3	23.8	5.1
LnGrp Delay(d),s/veh	63.6	43.7	41.9	94.4	0.0	47.3	88.9	18.9	18.9	72.9	39.5	14.6
LnGrp LOS	E	D	D	F		D	F	B	B	E	D	B
Approach Vol, veh/h		454			381			1082			1769	
Approach Delay, s/veh		51.6			66.3			38.2			36.7	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	28.2	17.0	59.0	17.0	25.6	10.3	65.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	35.0	12.0	56.0	12.0	35.0	10.0	58.0
Max Q Clear Time (g_c+I1), s	9.3	17.2	13.3	48.8	12.7	13.4	6.1	20.0
Green Ext Time (p_c), s	0.2	2.4	0.0	5.2	0.0	2.5	0.0	26.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.0
HCM 2010 LOS	D

HCM Unsignalized Intersection Capacity Analysis
6: NE 94th Ave & NE 99th St

7/26/2016

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	64	32	100	210	10
Future Volume (Veh/h)	10	64	32	100	210	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	68	34	106	223	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	402	228	234			
vC1, stage 1 conf vol	228					
vC2, stage 2 conf vol	174					
vCu, unblocked vol	402	228	234			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	92	97			
cM capacity (veh/h)	730	811	1345			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	11	68	34	106	234
Volume Left	11	0	34	0	0
Volume Right	0	68	0	0	11
cSH	730	811	1345	1700	1700
Volume to Capacity	0.02	0.08	0.03	0.06	0.14
Queue Length 95th (ft)	1	7	2	0	0
Control Delay (s)	10.0	9.8	7.7	0.0	0.0
Lane LOS	B	A	A		
Approach Delay (s)	9.9		1.9		0.0
Approach LOS	A				

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	35	352	35	25	728
Future Volume (Veh/h)	70	35	352	35	25	728
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	79	39	396	39	28	818
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	882	220			437	
vC1, stage 1 conf vol	418					
vC2, stage 2 conf vol	465					
vCu, unblocked vol	882	220			437	
tC, single (s)	6.9	7.3			4.5	
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.5			2.4	
p0 queue free %	83	95			97	
cM capacity (veh/h)	478	731			994	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	118	264	171	28	409	409
Volume Left	79	0	0	28	0	0
Volume Right	39	0	39	0	0	0
cSH	540	1700	1700	994	1700	1700
Volume to Capacity	0.22	0.16	0.10	0.03	0.24	0.24
Queue Length 95th (ft)	21	0	0	2	0	0
Control Delay (s)	13.5	0.0	0.0	8.7	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	13.5	0.0		0.3		
Approach LOS	B					

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	85	41	145	350	10
Future Volume (Veh/h)	9	85	41	145	350	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	10	98	47	167	402	11
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	670	410	415			
vC1, stage 1 conf vol	410					
vC2, stage 2 conf vol	261					
vCu, unblocked vol	670	410	415			
tC, single (s)	6.6	6.2	4.1			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.3	2.2			
p0 queue free %	98	85	96			
cM capacity (veh/h)	552	637	1137			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	108	47	167	413
Volume Left	10	47	0	0
Volume Right	98	0	0	11
cSH	628	1137	1700	1700
Volume to Capacity	0.17	0.04	0.10	0.24
Queue Length 95th (ft)	15	3	0	0
Control Delay (s)	11.9	8.3	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	11.9	1.8		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		

MOVEMENT SUMMARY

Site: 101 [NE 105 and NE 87]

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: NE 87 NB											
1	L2	1	0.0	0.033	7.6	LOS A	0.1	0.9	0.29	0.96	51.0
2	T1	25	4.0	0.033	9.3	LOS A	0.1	0.9	0.29	0.96	51.1
3	R2	3	67.0	0.033	11.8	LOS B	0.1	0.9	0.29	0.96	48.9
Approach		29	10.6	0.033	9.5	LOS A	0.1	0.9	0.29	0.96	50.8
East: NE 105 WB											
4	L2	1	0.0	0.071	5.9	LOS A	0.0	0.2	0.01	0.56	53.1
5	T1	1	0.0	0.071	1.2	LOS A	0.0	0.2	0.01	0.56	55.0
6	R2	120	10.0	0.071	5.7	LOS A	0.0	0.2	0.01	0.56	53.2
Approach		122	9.8	0.071	5.6	NA	0.0	0.2	0.01	0.56	53.2
North: NE 87 SB											
7	L2	132	15.0	0.087	8.1	LOS A	0.0	0.0	0.00	1.04	51.0
8	T1	15	7.0	0.087	8.0	LOS A	0.0	0.0	0.00	1.04	51.6
9	R2	1	0.0	0.087	8.0	LOS A	0.0	0.0	0.00	1.04	52.1
Approach		147	14.1	0.087	8.1	LOS A	0.0	0.0	0.00	1.04	51.0
West: NE 105 EB											
10	L2	3	0.0	0.009	6.4	LOS A	0.0	0.3	0.19	0.31	54.4
11	T1	5	20.0	0.009	1.5	LOS A	0.0	0.3	0.19	0.31	56.4
12	R2	1	0.0	0.009	5.6	LOS A	0.0	0.3	0.19	0.31	54.9
Approach		9	11.1	0.009	3.6	NA	0.0	0.3	0.19	0.31	55.5
All Vehicles		308	12.0	0.087	7.1	NA	0.1	0.9	0.04	0.82	52.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [NE 94th and NE 105]

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NE 94th NB											
3	L2	77	7.0	0.048	0.0	LOS A	0.0	0.0	0.00	0.00	34.5
8	T1	3	33.0	0.048	0.0	LOS A	0.0	0.0	0.00	0.00	36.3
Approach		80	8.1	0.048	0.0	NA	0.0	0.0	0.00	0.00	34.6
North: NE 94th SB											
4	T1	4	50.0	0.011	14.9	LOS B	0.0	1.1	0.33	0.19	27.3
14	R2	1	0.0	0.011	2.4	LOS A	0.0	1.1	0.33	0.19	28.7
Approach		5	40.0	0.011	12.4	LOS B	0.0	1.1	0.33	0.19	27.6
West: NE 105 WB											
5	L2	1	0.0	0.150	304.1	LOS F	0.0	0.2	0.00	0.00	32.8
12	R2	217	11.0	0.150	2.2	LOS A	0.0	0.2	0.00	0.00	32.6
Approach		218	10.9	0.150	3.7	NA	0.0	0.2	0.00	0.00	32.6
All Vehicles		304	10.7	0.150	2.9	NA	0.0	1.1	0.01	0.00	33.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM Signalized Intersection Capacity Analysis
1: NE 72nd Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	153	40	196	154	68	64	511	532	70	354	29
Future Volume (vph)	36	153	40	196	154	68	64	511	532	70	354	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1703	1717		3367	1762		1752	1845	1565	1787	3459	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1703	1717		3367	1762		1752	1845	1565	1787	3459	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	40	168	44	215	169	75	70	562	585	77	389	32
RTOR Reduction (vph)	0	7	0	0	12	0	0	0	215	0	3	0
Lane Group Flow (vph)	40	205	0	215	232	0	70	562	370	77	418	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	6%	7%	8%	4%	1%	7%	3%	3%	2%	1%	3%	3%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		3	8	5	7	4	
Permitted Phases									8			
Actuated Green, G (s)	5.7	38.9		12.3	45.4		7.9	66.6	78.9	9.2	67.9	
Effective Green, g (s)	5.7	38.9		12.3	45.4		7.9	66.6	78.9	9.2	67.9	
Actuated g/C Ratio	0.04	0.26		0.08	0.30		0.05	0.44	0.53	0.06	0.45	
Clearance Time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	64	445		276	533		92	819	823	109	1565	
v/s Ratio Prot	0.02	0.12		c0.06	c0.13		0.04	c0.30	0.04	c0.04	0.12	
v/s Ratio Perm									0.20			
v/c Ratio	0.62	0.46		0.78	0.44		0.76	0.69	0.45	0.71	0.27	
Uniform Delay, d1	71.1	46.7		67.5	42.0		70.1	33.3	22.1	69.1	25.6	
Progression Factor	1.00	1.00		1.25	0.81		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.9	0.3		11.9	2.6		27.7	1.9	0.1	15.6	0.0	
Delay (s)	84.0	47.0		96.3	36.6		97.8	35.3	22.2	84.7	25.6	
Level of Service	F	D		F	D		F	D	C	F	C	
Approach Delay (s)		52.9			64.5			32.6			34.7	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 Signalized Intersection Summary
3: NE 117th Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	448	238	174	65	184	61	326	1138	65	82	819	166
Future Volume (veh/h)	448	238	174	65	184	61	326	1138	65	82	819	166
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1845	1827	1810	1810	1900	1845	1829	1900	1863	1810	1881
Adj Flow Rate, veh/h	503	267	196	73	207	69	366	1279	73	92	920	187
Adj No. of Lanes	2	1	1	1	1	0	2	2	0	1	2	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	3	4	5	6	6	3	4	4	2	5	1
Cap, veh/h	560	561	572	92	253	84	417	1418	81	114	1260	671
Arrive On Green	0.16	0.30	0.30	0.05	0.19	0.19	0.12	0.42	0.42	0.06	0.37	0.37
Sat Flow, veh/h	3442	1845	1553	1723	1300	433	3408	3339	190	1774	3438	1599
Grp Volume(v), veh/h	503	267	196	73	0	276	366	664	688	92	920	187
Grp Sat Flow(s),veh/h/ln	1721	1845	1553	1723	0	1733	1704	1737	1792	1774	1719	1599
Q Serve(g_s), s	18.6	15.3	11.9	5.4	0.0	19.8	13.7	46.3	46.6	6.7	30.1	10.0
Cycle Q Clear(g_c), s	18.6	15.3	11.9	5.4	0.0	19.8	13.7	46.3	46.6	6.7	30.1	10.0
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	560	561	572	92	0	337	417	738	761	114	1260	671
V/C Ratio(X)	0.90	0.48	0.34	0.79	0.00	0.82	0.88	0.90	0.90	0.81	0.73	0.28
Avail Cap(c_a), veh/h	609	695	685	133	0	480	446	748	772	136	1296	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	36.8	29.7	60.8	0.0	50.1	56.1	34.9	34.9	60.0	35.6	24.8
Incr Delay (d2), s/veh	15.5	0.6	0.4	18.6	0.0	7.3	16.9	13.9	13.9	24.9	2.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	7.9	5.1	3.1	0.0	10.2	7.4	25.0	25.9	4.1	14.7	4.4
LnGrp Delay(d),s/veh	68.9	37.4	30.0	79.4	0.0	57.5	73.0	48.8	48.8	85.0	37.7	25.0
LnGrp LOS	E	D	C	E		E	E	D	D	F	D	C
Approach Vol, veh/h		966			349			1718			1199	
Approach Delay, s/veh		52.3			62.1			54.0			39.4	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.1	30.3	20.9	52.6	11.9	44.5	13.4	60.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	23.0	36.0	17.0	49.0	10.0	49.0	10.0	56.0
Max Q Clear Time (g_c+I1), s	20.6	21.8	15.7	32.1	7.4	17.3	8.7	48.6
Green Ext Time (p_c), s	0.5	3.5	0.2	13.8	0.0	4.4	0.0	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	50.1
HCM 2010 LOS	D

HCM Unsignalized Intersection Capacity Analysis
6: NE 94th Ave & NE 99th St

7/26/2016

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	41	62	350	145	5
Future Volume (Veh/h)	3	41	62	350	145	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	3	45	68	385	159	5
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	684	164	166			
vC1, stage 1 conf vol	164					
vC2, stage 2 conf vol	521					
vCu, unblocked vol	684	164	166			
tC, single (s)	6.7	6.2	4.1			
tC, 2 stage (s)	5.7					
tF (s)	3.8	3.3	2.2			
p0 queue free %	99	95	95			
cM capacity (veh/h)	486	877	1410			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	3	45	68	385	164
Volume Left	3	0	68	0	0
Volume Right	0	45	0	0	5
cSH	486	877	1410	1700	1700
Volume to Capacity	0.01	0.05	0.05	0.23	0.10
Queue Length 95th (ft)	0	4	4	0	0
Control Delay (s)	12.5	9.3	7.7	0.0	0.0
Lane LOS	B	A	A		
Approach Delay (s)	9.5		1.2		0.0
Approach LOS	A				

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	28.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	60	35	880	145	31	520
Future Volume (Veh/h)	60	35	880	145	31	520
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	65	38	946	156	33	559
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1370	552			1103	
vC1, stage 1 conf vol	1025					
vC2, stage 2 conf vol	346					
vCu, unblocked vol	1370	552			1103	
tC, single (s)	6.9	7.0			4.4	
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.4			2.3	
p0 queue free %	77	92			94	
cM capacity (veh/h)	284	467			568	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	103	631	471	33	280	280
Volume Left	65	0	0	33	0	0
Volume Right	38	0	156	0	0	0
cSH	332	1700	1700	568	1700	1700
Volume to Capacity	0.31	0.37	0.28	0.06	0.16	0.16
Queue Length 95th (ft)	32	0	0	5	0	0
Control Delay (s)	20.7	0.0	0.0	11.7	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	20.7	0.0		0.7		
Approach LOS	C					

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	81	102	418	265	22
Future Volume (Veh/h)	33	81	102	418	265	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	34	84	106	435	276	23
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	938	290	302			
vC1, stage 1 conf vol	290					
vC2, stage 2 conf vol	647					
vCu, unblocked vol	938	290	302			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	89	92			
cM capacity (veh/h)	441	749	1256			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	118	106	435	299
Volume Left	34	106	0	0
Volume Right	84	0	0	23
cSH	624	1256	1700	1700
Volume to Capacity	0.19	0.08	0.26	0.18
Queue Length 95th (ft)	17	7	0	0
Control Delay (s)	12.1	8.1	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	12.1	1.6		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	466	30	71	275	50	20	51	85	35	25	20
Future Volume (vph)	32	466	30	71	275	50	20	51	85	35	25	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.91		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	1845	1553	1805	3486		1805	1709		1805	1706	
Flt Permitted	0.52	1.00	1.00	0.35	1.00		0.72	1.00		0.36	1.00	
Satd. Flow (perm)	925	1845	1553	658	3486		1371	1709		683	1706	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	39	561	36	86	331	60	24	61	102	42	30	24
RTOR Reduction (vph)	0	0	14	0	5	0	0	52	0	0	21	0
Lane Group Flow (vph)	39	561	22	86	386	0	24	111	0	42	33	0
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	7%	3%	4%	0%	1%	0%	0%	2%	0%	0%	6%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	97.4	92.6	92.6	103.4	95.6		22.4	17.7		26.4	19.7	
Effective Green, g (s)	97.4	92.6	92.6	103.4	95.6		22.4	17.7		26.4	19.7	
Actuated g/C Ratio	0.65	0.62	0.62	0.69	0.64		0.15	0.12		0.18	0.13	
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	2.0		3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	625	1138	958	513	2221		218	201		170	224	
v/s Ratio Prot	0.00	c0.30		c0.01	c0.11		0.00	c0.06		c0.01	0.02	
v/s Ratio Perm	0.04		0.01	0.11			0.01			0.03		
v/c Ratio	0.06	0.49	0.02	0.17	0.17		0.11	0.55		0.25	0.15	
Uniform Delay, d1	9.4	15.8	11.1	9.5	11.1		55.0	62.4		52.4	57.7	
Progression Factor	1.08	0.91	1.00	1.00	1.00		1.06	1.11		1.00	1.00	
Incremental Delay, d2	0.0	0.1	0.0	0.2	0.2		0.2	1.7		0.8	0.1	
Delay (s)	10.2	14.4	11.1	9.7	11.3		58.2	70.9		53.2	57.8	
Level of Service	B	B	B	A	B		E	E		D	E	
Approach Delay (s)		14.0			11.0			69.3			55.8	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	1081	216	58	863	125	167	262	108	105	176	134
Future Volume (vph)	265	1081	216	58	863	125	167	262	108	105	176	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.3	6.3	6.2	6.3	6.3	6.3	5.9	5.9	6.8	5.9	5.9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1656	3471	1583	1718	3438	1482	1736	1827	1568	1736	1845	1568
Flt Permitted	0.14	1.00	1.00	0.19	1.00	1.00	0.37	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	248	3471	1583	344	3438	1482	684	1827	1568	534	1845	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	285	1162	232	62	928	134	180	282	116	113	189	144
RTOR Reduction (vph)	0	0	79	0	0	66	0	0	83	0	0	86
Lane Group Flow (vph)	285	1162	153	62	928	68	180	282	33	113	189	58
Confl. Peds. (#/hr)	6		13	13		6						
Heavy Vehicles (%)	9%	4%	2%	5%	5%	9%	4%	4%	3%	4%	3%	3%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	1	6	6 3	5	2	2 7	3	8	8 5	7	4	4 1
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	89.7	76.5	98.7	64.6	57.6	75.8	45.3	29.4	42.3	37.8	25.9	57.7
Effective Green, g (s)	89.7	76.5	98.7	64.6	57.6	75.8	45.3	29.4	42.3	37.8	25.9	57.7
Actuated g/C Ratio	0.60	0.51	0.66	0.43	0.38	0.51	0.30	0.20	0.28	0.25	0.17	0.38
Clearance Time (s)	6.2	6.3		6.2	6.3		6.3	5.9		6.8	5.9	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	391	1770	1041	212	1320	748	318	358	442	229	318	603
v/s Ratio Prot	c0.13	0.33	0.10	0.01	0.27	0.05	c0.06	c0.15	0.02	0.04	0.10	0.04
v/s Ratio Perm	c0.31			0.11			0.11			0.08		
v/c Ratio	0.73	0.66	0.15	0.29	0.70	0.09	0.57	0.79	0.07	0.49	0.59	0.10
Uniform Delay, d1	26.8	27.1	9.7	25.8	39.0	19.2	41.4	57.3	39.5	45.5	57.2	29.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.82	1.16	1.07	1.05	0.90
Incremental Delay, d2	5.7	1.9	0.0	0.3	1.4	0.0	1.3	9.7	0.0	0.6	2.0	0.0
Delay (s)	32.5	29.0	9.7	26.1	40.4	19.3	30.2	56.7	45.8	49.3	61.9	26.4
Level of Service	C	C	A	C	D	B	C	E	D	D	E	C
Approach Delay (s)		26.9			37.1			46.3			47.3	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	303	128	121	232	118	120	333	79	145	246	32
Future Volume (vph)	39	303	128	121	232	118	120	333	79	145	246	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.95		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	1746		1703	1721		1719	3383		1703	3352	
Flt Permitted	0.34	1.00		0.17	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	596	1746		305	1721		1719	3383		1703	3352	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	316	133	126	242	123	125	347	82	151	256	33
RTOR Reduction (vph)	0	13	0	0	15	0	0	13	0	0	6	0
Lane Group Flow (vph)	41	436	0	126	350	0	125	416	0	151	283	0
Confl. Peds. (#/hr)			4	4			4		1	1		4
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	8%	4%	2%	6%	3%	7%	5%	3%	4%	6%	5%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2								
Actuated Green, G (s)	53.0	46.2		59.4	49.4		20.3	48.4		25.4	53.5	
Effective Green, g (s)	53.0	46.2		59.4	49.4		20.3	48.4		25.4	53.5	
Actuated g/C Ratio	0.35	0.31		0.40	0.33		0.14	0.32		0.17	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	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)	259	537		213	566		232	1091		288	1195	
v/s Ratio Prot	0.01	c0.25		c0.04	0.20		0.07	c0.12		c0.09	0.08	
v/s Ratio Perm	0.05			0.19								
v/c Ratio	0.16	0.81		0.59	0.62		0.54	0.38		0.52	0.24	
Uniform Delay, d1	33.2	47.9		33.7	42.3		60.5	39.2		56.8	33.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.75	1.03	
Incremental Delay, d2	0.3	9.1		4.4	2.0		2.4	1.0		1.6	0.4	
Delay (s)	33.5	57.0		38.0	44.4		62.9	40.3		44.4	35.3	
Level of Service	C	E		D	D		E	D		D	D	
Approach Delay (s)		55.0			42.7			45.4			38.4	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: 101 [NE 105 and NE 87]

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: NE 87 NB											
1	L2	1	0.0	0.025	7.7	LOS A	0.1	0.6	0.29	0.94	51.0
2	T1	19	0.0	0.025	9.2	LOS A	0.1	0.6	0.29	0.94	51.2
3	R2	3	0.0	0.025	8.5	LOS A	0.1	0.6	0.29	0.94	51.5
Approach		23	0.0	0.025	9.0	LOS A	0.1	0.6	0.29	0.94	51.2
East: NE 105 WB											
4	L2	5	0.0	0.097	5.9	LOS A	0.1	0.7	0.04	0.54	53.1
5	T1	4	0.0	0.097	1.2	LOS A	0.1	0.7	0.04	0.54	55.0
6	R2	162	3.0	0.097	5.6	LOS A	0.1	0.7	0.04	0.54	53.5
Approach		172	2.8	0.097	5.5	NA	0.1	0.7	0.04	0.54	53.5
North: NE 87 SB											
7	L2	124	7.0	0.084	7.7	LOS A	0.0	0.0	0.00	1.03	51.3
8	T1	23	0.0	0.084	7.7	LOS A	0.0	0.0	0.00	1.03	51.8
9	R2	3	0.0	0.084	8.0	LOS A	0.0	0.0	0.00	1.03	52.1
Approach		151	5.8	0.084	7.7	LOS A	0.0	0.0	0.00	1.03	51.4
West: NE 105 EB											
10	L2	2	0.0	0.007	6.5	LOS A	0.0	0.2	0.21	0.30	54.8
11	T1	4	0.0	0.007	1.2	LOS A	0.0	0.2	0.21	0.30	56.9
12	R2	1	0.0	0.007	5.6	LOS A	0.0	0.2	0.21	0.30	55.4
Approach		7	0.0	0.007	3.3	NA	0.0	0.2	0.21	0.30	56.1
All Vehicles		353	3.8	0.097	6.7	NA	0.1	0.7	0.04	0.77	52.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [NE 94th and NE 105]

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: NE 94th NB											
3	L2	185	2.0	0.109	0.0	LOS A	0.0	0.0	0.00	0.00	34.7
8	T1	8	29.0	0.109	0.0	LOS A	0.0	0.0	0.00	0.00	36.3
Approach		192	3.1	0.109	0.0	NA	0.0	0.0	0.00	0.00	34.8
North: NE 94th SB											
4	T1	10	0.0	0.021	12.5	LOS B	0.1	1.9	0.38	0.24	29.3
14	R2	4	0.0	0.021	6.2	LOS A	0.1	1.9	0.38	0.24	29.4
Approach		14	0.0	0.021	10.6	LOS B	0.1	1.9	0.38	0.24	29.4
West: NE 105 EB											
5	L2	3	0.0	0.086	50.6	LOS F	0.0	0.6	0.02	0.00	33.1
12	R2	128	5.0	0.086	1.8	LOS A	0.0	0.6	0.02	0.00	33.2
Approach		132	4.9	0.086	3.0	NA	0.0	0.6	0.02	0.00	33.2
All Vehicles		338	3.6	0.109	1.6	NA	0.1	1.9	0.02	0.01	33.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix C Crash Data

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Washington State
Department of Transportation

Transportation Data and GIS Office
7345 Linderson Way Sw, Fl 1
Tumwater, WA 98501

360-570-2464 / Fax 360-570-2449
TTY: 1-800-833-6388
www.wsdot.wa.gov

July 5, 2016

Ali Razmpa
Kittelson & Associates, Inc.
610 SW Alder St Suite 700
Portland OR 97205

Dear Ali Razmpa:

In accordance with the Public Records Act, RCW 42.56, this letter acknowledges receipt of your request for records dated June 27, 2016 (Request Number PDR-16-1955).

We have prepared a history of officer reported crashes that occurred on State Route 503 (aka 117th Ave, milepost 2.76 – 2.88) for the period of 1/1/2011 – *available 2016*.

Federal law 23 United States Code Section 409 governs use of the data you requested. Under this law, data maintained for purposes of evaluating potential highway safety enhancements:

" . . . *shall not be subject to discovery or admitted into evidence in a federal or state court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data*." [Emphasis added.]

The Washington State Department of Transportation (WSDOT) is releasing this data to you with the understanding that you will not use this data contrary to the restrictions in Section 409, which means you will not use this data in discovery or as evidence at trial in any action for damages against the WSDOT, the State of Washington, or any other jurisdiction involved in the locations mentioned in the data. If you should attempt to use this data in an action for damages against WSDOT, the State of Washington, or any other jurisdiction involved in the locations mentioned in the data, these entities expressly reserve the right, under Section 409, to object to the use of the data, including any opinions drawn from the data.

With this package, your request for records is complete and closed.

If you have any further questions you may contact me at 360-570-2464.

Sincerely,

Julie Brown

Julie Brown
Transportation Planning Technician 3
Transportation Data and GIS Office

cc: w/enclosures
Stan Markuson & Robert Nova, WSDOT Southwest Region

OFFICER REPORTED CRASHES THAT OCCURRED ON STATE ROUTE 165 (aka 117th AVE, MP 2.76 - 2.88) AT 119th ST INTERSECTION
1/1/2011 - 6/1/2016

UNDER 23 UNITED STATES CODE – SECTION 409, THIS DATA CANNOT BE USED IN DISCOVERY OR AS EVIDENCE
AT TRIAL IN ANY ACTION FOR DAMAGES AGAINST THE WSDOT, OR ANY JURISDICTIONS INVOLVED IN THE DATA

JURISDICTION	PRIMARY TRAFFICWAY	MILE POST	A/B	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	Injury Level	# INJ	#FAT	#VEH	#PEDS	#PEDAL	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	ROADWAY SURFACE CONDITIONS	LIGHTING CONDITIONS	FIRST COLLISION TYPE / OBJECT STRUCK	Crash Type	VEH 1 ACTION	VEH 2 ACTION	MV DRIVER CONT CIRC 1 (UNIT 1)	MV DRIVER CONT CIRC 1 (UNIT 2)	VEH 1 COMP DIR FROM	VEH 1 COMP DIR TO	VEH 2 COMP DIR FROM	VEH 2 COMP DIR TO	IMPACT LOCATION (Effective for City, County & Misc 1/1/2010; SR's indefinite)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
State Route	503	2.81		2739040	4/18/2011	7:16	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Stopped for Traffic	Going Straight Ahead	None	Follow Too Closely	North	Vehicle Stopped	North	South	Lane 1 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E285583	11/15/2013	17:52	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Wet	Dark-Street Lights On	From same direction - both going straight - both moving - rear-end	rear-end	Going Straight Ahead	Going Straight Ahead	Inattention	None	North	South	North	South	Lane 2 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E294102	12/19/2013	1:46	No Injury	PDO	0	0	1	0	0	At Intersection and Related		At Intersection and Not Related	Ice	Dark-Street Lights On	Tree or Stump (stationary)	fixed	Going Straight Ahead		Under Influence of Alcohol		North	South			Past Right Shoulder Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E301843	1/8/2014	13:38	No Injury	PDO	0	0	3		0	Passenger Car	Passenger Car	At Intersection and Related	Wet	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	Follow Too Closely	None	East	West	West	Vehicle Stopped	Lane 3 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E332273	6/1/2014	13:55	No Injury	PDO	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	Entering at angle	angle	Making Right Turn	Going Straight Ahead	Inattention	None	West	South	North	South	Lane 2 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E352835	8/29/2014	10:42	Possible Injury	Injury	2	0	6	0	0	Passenger Car	Passenger Car	At Intersection and Related	Dry	Daylight	From same direction - both going straight - one stopped - sideswipe	sideswipe	Going Straight Ahead	Stopped for Traffic	Inattention	None	South	North	South	Vehicle Stopped	Lane 2 Increasing Milepost	1,116,039.85	143,445.63
State Route	503	2.81		E355772	9/10/2014	13:45	No Injury	PDO	0	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Not Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Slowing	Stopped for Traffic	Inattention	Driver Not Distracted	South	North	Vehicle Stopped	Vehicle Stopped	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E361952	9/29/2014	16:29	No Injury	PDO	0	0	3	0	0	Passenger Car	Passenger Car	At Intersection and Related	Wet	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Exceeding Reas. Safe Speed	None	North	South	Vehicle Stopped	Vehicle Stopped	Lane 2 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E393996	1/16/2015	8:07	Possible Injury	Injury	1	0	3	0	0	Passenger Car	Passenger Car	At Intersection and Related	Wet	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Inattention	None	South	North	South	Vehicle Stopped	Lane 2 Decreasing Milepost	1,116,043.06	143,439.66
State Route	503	2.81		E285392	11/8/2013	17:24	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Wet	Dark-Street Lights On	From opposite direction - one left turn - one straight	turn	Making Left Turn	Going Straight Ahead	Disregard Stop and Go Light	None	North	East	North	South	Lane 2 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E394715	1/23/2015	9:16	No Injury	PDO	0	0	2	0	0	Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	Inattention	None	South	North	South	Vehicle Stopped	Lane 2 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E410979	3/19/2015	13:28	Possible Injury	Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Inattention	None	North	South	North	Vehicle Stopped	Lane 3 Decreasing Milepost	1,116,041.24	143,458.47
State Route	503	2.81		E418554	4/21/2015	22:10	No Injury	PDO	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Dry	Dark-Street Lights On	From opposite direction - one left turn - one straight	turn	Making Left Turn	Going Straight Ahead	Disregard Stop and Go Light	Driver Not Distracted	South	West	North	South	Lane 1 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E435163	6/9/2015	7:22	No Injury	PDO	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Dry	Daylight	From same direction - one right turn - one straight	turn	Starting in Traffic Lane	Making Left Turn	Did Not Grant RW to Vehicle	None	Vehicle Stopped	West	South	West	Left Turn Lane Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E460499	9/3/2015	15:13	No Injury	PDO	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - both moving - sideswipe	sidewipe	Changing Lanes	Going Straight Ahead	Did Not Grant RW to Vehicle	None	South	North	South	North	Lane 2 Increasing Milepost	1,116,048.68	143,455.27
State Route	503	2.81		E469678	10/5/2015	12:08	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Dry	Daylight	Same direction -- both turning left -- both moving -- sideswipe	sidewipe	Making Left Turn	Making Left Turn	Did Not Grant RW to Vehicle	None	South	West	South	West	Left Turn Lane Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E480272	11/8/2015	18:32	No Injury	PDO	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Wet	Dark-Street Lights On	Same direction -- both turning left -- both moving -- sideswipe	sidewipe	Making Left Turn	Making Left Turn	Did Not Grant RW to Vehicle	None	West	North	West	North	Lane 2 Increasing Milepost	1,116,046.41	143,427.47
State Route	503	2.81		E482409	11/14/2015	15:47	No Injury	PDO	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	Entering at angle	angle	Going Straight Ahead	Making Left Turn	Disregard Stop and Go Light	None	North	South	West	North	Lane 1 Decreasing Milepost	1,116,039.80	143,438.18
State Route	503	2.81		E488242	11/24/2015	7:53	No Injury	PDO	0	0	2	0	0	Not Stated	Passenger Car	At Intersection and Related	Wet	Daylight	Entering at angle	angle	Making Right Turn	Going Straight Ahead	Did Not Grant RW to Vehicle	None	West	South	North	South	Lane 1 Decreasing Milepost	1,116,030.36	143,420.52
State Route	503	2.81		E406051	2/27/2015	16:59	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Wet	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Follow Too Closely	None	South	North	South	Vehicle Stopped	Left Turn Lane Increasing Milepost	1,116,046.19	143,438.30
State Route	503	2.81		E489514	11/30/2015	11:22	No Injury	PDO	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Inattention	None	North	South	North	Vehicle Stopped	Lane 3 Decreasing Milepost	1,116,042.91	143,450.95
State Route	503	2.81		E276634	10/7/2013	15:44	No Injury	PDO	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Wet	Daylight	Entering at angle	angle	Making Right Turn	Going Straight Ahead	Inattention	None	West	South	North	South	Lane 1 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E262923	8/11/2013	22:21	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Driveway within Major Intersection	Dry	Dark-Street Lights On	Entering at angle	angle	Making Left Turn	Going Straight Ahead	Inattention	None	South	West	East	West	Intersecting Road Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		3254303	3/23/2012	12:55	Possible Injury	Injury	1	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Did Not Grant RW to Vehicle	None	South	North	South	North	Vehicle Stopped	Lane 2 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		3254331	3/1/2012	11:25	Possible Injury	Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Dry	Daylight	From opposite direction - all others	others	Making U-Turn	Going Straight Ahead	Disregard Stop and Go Light	None	North	North	South	North	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		3499729	2/10/2012	19:00	No Injury	PDO	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Wet	Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Inattention	None	South	North	South	Vehicle Stopped	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E103034	4/22/2011	14:45	Evident Injury	Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Dry	Daylight	Entering at angle	angle	Going Straight Ahead	Making Left Turn	Disregard Stop and Go Light	None	Northwest	Southeast	Southwest	Northwest	Left Turn Lane Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E115798	6/28/2011	12:35	Possible Injury	Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Dry	Daylight	Entering at angle	angle	Going Straight Ahead	Going Straight Ahead	Disregard Stop and Go Light	None	Southwest	Northeast	Northwest	Southeast	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E131823	10/14/2011	20:18	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Wet	Dark-Street Lights On	From opposite direction - one left turn - one straight	turn	Making Left Turn	Going Straight Ahead	Disregard Stop and Go Light	None	North	East	South	North	Lane 2 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E153288	2/1/2012	11:10	No Injury	PDO	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	Entering at angle	angle	Going Straight Ahead	Going Straight Ahead	Disregard Stop and Go Light	None	South	North	East	West	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E153294	2/3/2012	13:19	No Injury	PDO	0	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - both moving - sideswipe	sidewipe	Going Straight Ahead	Going Straight Ahead	Did Not Grant RW to Vehicle	None	South	North	South	North	Lane 2 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E264228	8/2/2013	8:31	No Injury	PDO	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Not Related	Wet	Daylight	From same direction - both going straight - both moving - sideswipe	sidewipe	Changing Lanes	Going Straight Ahead	Other	None	South	North	South	North	Lane 3 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E157116	3/3/2012	10:12	No Injury	PDO	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Wet	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Follow Too Closely	None	North	South	North	Vehicle Stopped	Lane 2 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E174690	5/31/2012	17:05	No Injury	PDO	0	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Follow Too Closely	None	South	North	South	Vehicle Stopped	Lane 2 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E245994	5/20/2013	18:46	No Injury	PDO	0	0	3	0	0	Passenger Car	Passenger Car	At Intersection and Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Follow Too Closely	None	South	North	South	Vehicle Stopped	Lane 2 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E231219	3/9/2013	5:35	Evident Injury	Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Dark-Street Lights On	Entering at angle	angle	Going Straight Ahead	Going Straight Ahead	Under Influence of Alcohol	None	West	East	North	South	Lane 1 Decreasing Milepost	1,116,036.88	143,437.45
State Route	503	2.81		E222149	1/17/2013	20:24	Evident Injury	Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Driveway within Major Intersection	Dry	Dark-Street Lights On	From opposite direction - one left turn - one straight	turn	Making Left Turn	Going Straight Ahead	Driver Distractions Outside Vehicle	None	East	South	West	East	Intersecting Road Increasing Milepost	1,116,039.24	143,425.19
State Route	503	2.81		E165360	4/13/2012	14:59	Possible Injury	Injury	3	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	Entering at angle	angle	Making Left Turn	Going Straight Ahead	Disregard Stop and Go Light	None	East	South	South	North	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E492780	12/7/2015	10:07	Possible Injury	Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Wet	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	Exceeding Reas. Safe Speed	None	South	North	South	Vehicle Stopped	Left Turn Lane Increasing Milepost	1,116,039	143,433.48
State Route	503	2.81		E206386	11/10/2012	14:18	Evident Injury	Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Dry	Daylight	From same direction - both going straight - both moving - rear-end	rear-end	Starting in Traffic Lane	Starting in Traffic Lane	Follow Too Closely	None	South	North	South	North	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E203684	10/31/2012	11:54	No Injury	PDO	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Wet	Daylight	Entering at angle	angle	Making Right Turn	Going Straight Ahead	Inattention	None	West	South	North	South	Lane 2 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E180811	7/2/2012	11:46	No Injury	PDO	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Not Related	Dry	Daylight	From same direction - both going straight - both moving - rear-end	rear-end	Going Straight Ahead	Slowing	Follow Too Closely	None	South	North	South	North	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E218410	12/7/2012	17:16	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Wet	Dark-Street Lights On	From same direction - both going straight - both moving - rear-end	rear-end	Going Straight Ahead	Slowing	Follow Too Closely	None	South	North	South	North	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E511631	2/1/2016	17:05	Possible Injury	Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Wet	Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end	rear-end	Starting in Traffic Lane	Stopped at Signal or Stop Sign	Inattention	None	East	West	Vehicle Stopped	Vehicle Stopped	Intersecting Road Increasing Milepost	1,116,060.58	143,436.74
State Route	503	2.81		E515388	2/5/2016	8:15	No Injury	PDO	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	Entering at angle	angle	Making Right Turn	Going Straight Ahead	Did Not Grant RW to Vehicle	None	West	South	North	South	Lane 1 Decreasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E518010	2/21/2016	19:54	No Injury	PDO	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Not Related	Dry	Dark-Street Lights On	From same direction - both going straight - both moving - rear-end	rear-end	Going Straight Ahead	Going Straight Ahead	Other	None	South	North	South	North	Lane 1 Increasing Milepost	1,116,039.59	143,437.37
State Route	503	2.81		E536889	4/23/2016	20:42	Possible Injury	Injury	1	0	2	0	0	Motorcycle		At Intersection and Related	Wet	Dark-Street Lights On	Vehicle overturned	others	Making Left Turn		None		South	West			Left Turn Lane Increasing Milepost	1,116,060.58	143,436.74
State Route	503	2.81		E538083	4/17/2016	7:49	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	Entering at angle	angle	Making Left Turn	Making Left Turn	Disregard Stop and Go Light	None	East	South	South	West	Left Turn Lane Increasing Milepost	1,116,048.22	143,437.11
State Route	503	2.81		E549049	5/24/2016	14:42	No Injury	PDO	0	0	3	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Dry	Daylight	From same direction - both going straight - both moving - sideswipe	sidewipe	Changing Lanes	Starting in Traffic Lane	Inattention	None	South	North	South	North	Left Turn Lane Increasing Milepost	1,116,059.22	143,438.03
State Route	503	2.81		E553982	6/8/2016	19:02	No Injury	PDO	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Dry	Daylight	From same direction - one left turn - one straight	turn	Going Straight Ahead	Stopped for Traffic	Follow Too Closely	None	South	North	South	North	Left Turn Lane Increasing Milepost	1,116,059.22	143,438.03
State Route	503	2.85		E479037	11/4/2015	14:48	Possible Injury	Injury	1	0	5	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Not at Intersection and Not Related	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	rear-end	Going Straight Ahead	Stopped for Traffic	Exceeding Reas. Safe Speed	None	South	North	South	Vehicle Stopped	Lane 1 Increasing Milepost	1,116,045.85	143,641.47

Clark County Collision Data

Period: 5 year (1-1-11 to Present. 2016 Data if shown, is incomplete)

Data is queried +/-0.02 mi (Aprox. 100 feet) from intersection unless specifiec

Use of this data in discovery or as evidence in a legal action is prohibited by 23 USC§ 49.

NE 72nd Ave @ NE 119th St.

94100 @ 2.08 **NE 119th St**

91250 @ 3.26 **NE 72nd Ave**

Report No.1	Date	Time	Fatalities	Injuries	Most Severe Injury	Road Numbe	Milepost	Int. Road	Int. MP	Federal Functional Class	Most Severe Sobriety	Collision Type	Crash Type	Collision Type	Weather	Roadway Surface	Lighting Condition	
E104932	5/7/2011	2:11 PM	0	1	7 - Possible Injury	91250	3.26	94100	2.08	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	2 - Overcast	1 - Dry	1 - Daylight	S11-6056
3352086	7/11/2011	10:39 AM	0	3	7 - Possible Injury	91250	3.26	94100	2.08	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-9264
E123161	8/27/2011	11:23 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S11-11724
E123050	9/1/2011	9:01 PM	0	1	6 - Evident Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S11-11984
2738668	10/13/2011	2:24 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S11-14001
E136733	11/10/2011	5:43 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S11-15342
E150822	1/22/2012	10:08 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S12-1102
E155840	2/18/2012	9:33 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S12-2432
E175248	6/14/2012	8:02 AM	0	0	1 - No Injury	91250	3.27	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - both moving - rear-enc	Rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-8159
E177282	6/19/2012	10:52 AM	0	1	7 - Possible Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-8418
E182330	7/23/2012	1:36 PM	0	1	6 - Evident Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-10197
E203695	11/3/2012	11:29 PM	0	1	7 - Possible Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	2 - Wet	4 - Dark-Street Lights On	S12-15296
E220838	1/14/2013	5:20 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	13-672
E225596	2/6/2013	6:35 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	14 - From same direction - both going straight - both moving - sideswipe	Side-swip	Null - Null	1 - Clear or Partly Cloudy	2 - Wet	4 - Dark-Street Lights On	S13-1725
E239113	4/15/2013	12:47 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	2 - Overcast	1 - Dry	1 - Daylight	S13-4644
E238722	4/17/2013	7:13 PM	0	1	7 - Possible Injury	91250	3.25	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	4 - Fixed object	Fixed	4 - Fixed object	3 - Raining	2 - Wet	3 - Dusk	S13-4747
E244757	5/1/2013	7:10 PM	0	2	6 - Evident Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	99 - From opposite direction - all others	Others	5 - From opposite di	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-5375
E346101	8/1/2014	1:39 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Major Collector	4 - Had NOT Been Drinking	11 - From same direction - both going straight - both moving - rear-enc	Rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S14-8576
E352657	8/29/2014	9:22 AM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-enc	Rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S14-9734
E394476	1/20/2015	1:07 PM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Major Collector	4 - Had NOT Been Drinking	12 - From same direction - all others	Others	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S15-00794
E400274	2/8/2015	6:35 AM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	4 - Fixed object	Fixed	Null - Null	1 - Clear or Partly Cloudy	2 - Wet	4 - Dark-Street Lights On	S15-01567
E426267	3/3/2015	7:33 AM	0	0	1 - No Injury	91250	3.26	94100	2.08	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-enc	Rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S15-2512

NE 72nd Ave(Andresen Rd) @ NE 88th St EB-leg

92190 @ 5.92 **NE Andresen Rd @ NE 88th St (EB Leg N of I-205)**

21630 @ 1.22 **NE 88th St (EB Leg) @ NE Andresen Rd**

Report No.2	Date	Time	Fatalities	Injuries	Most Severe Injury	Road Numbe	Milepost	Int. Road	Int. MP	Federal Functional Class	Most Severe Sobriety	Collision Type	Crash Type	Collision Type	Weather	Roadway Surface	Lighting Condition	
E328631	5/18/2014	3:00 PM	0	0	1 - No Injury	21630	1.2	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	14 - From same direction - both going straight - both moving - sideswipe	Side-swip	Null - Null	2 - Overcast	2 - Wet	1 - Daylight	S14-5553
E372585	11/7/2014	6:30 PM	0	1	7 - Possible Injury	92190	5.92	21630	1.22	Urban Minor Arterial	4 - Had NOT Been Drinking	10 - Vehicle going straight hits pedestrian	Ped/bike	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	6 - Dark-No Street Lights	S14-12610

NE 87th Ave @ NE 119th St

50010 @ 0.00 **NE 87th Ave (N Leg)**

94100 @ 2.84 **NE 119th St**

23080 @ 1.07 **NE 87th Ave (S Leg)**

Report No.3	Full Date	Full Time	Number of	Number o	Most Severe Injury T	County Road	County Rnty Number	Milepost	Federal Functional Class	Most Severe Sobriety Type	First Collision Type	Crash type	Second Collision T	Weather Conditions Type	Roadway Surface C	Lighting Condition Type	Case Number
3133203	2/5/2011	8:48 AM	0	1	7 - Possible Injury	94100	2.84	50010	0 Urban Major Collector	4 - Had NOT Been Drinking	1 - Entering at angle	angle	4 - Fixed object	3 - Raining	2 - Wet	1 - Daylight	S11-1712
3514419	9/7/2011	12:57 PM	0	1	7 - Possible Injury	94100	2.82	50010	0 Urban Major Collector	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-12226
E130711	9/30/2011	2:48 PM	0	1	5 - Serious Injury	94100	2.83	Null	Null Urban Major Collector	4 - Had NOT Been Drinking	11 - From same direction - both going straight - both moving - rear-enc	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-13399
E143383	12/15/2011	8:00 AM	0	2	7 - Possible Injury	94100	2.84	50010	0 Urban Major Collector	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-enc	rear-end	11 - From same dire	3 - Raining	2 - Wet	1 - Daylight	S11-16982
E172612	5/9/2012	6:05 PM	0	0	1 - No Injury	94100	2.82	Null	Null Urban Major Collector	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-enc	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-6313
E203850	10/22/2012	4:12 PM	0	0	1 - No Injury	50010	0.02	Null	Null Rural Minor Collector	4 - Had NOT Been Drinking	4 - Fixed object	fixed object	4 - Fixed object	2 - Overcast	2 - Wet	1 - Daylight	S12-14737
E214756	12/19/2012	4:20 PM	0	0	1 - No Injury	94100	2.84	23080	1.07 Urban Major Collector	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	3 - Dusk	S12-17432
E240083	4/22/2013	6:11 PM	0	0	1 - No Injury	23080	1.05	Null	Null Urban Major Collector	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-enc	rear-end	11 - From same dire	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-4948
E331739	4/25/2014	12:05 PM	0	0	1 - No Injury	23080	1.07	Null	Null Urban Major Collector	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-enc	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	14-4632
E348355	8/4/2014	3:09 PM	0	0	1 - No Injury	94100	2.84	23080	1.07 Urban Major Collector	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-enc	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S14-08740
E387656	12/21/2014	3:17 AM	0	0	1 - No Injury	23080	1.07	94100	2.84 Urban Major Collector	1 - HBD - Ability Impaired	1 - Entering at angle	angle	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S14-14323

NE 117thAve@ NE 119th Street --State

State-controlled intersection. Request collision data from WSDOT: **http://www.wsdot.wa.gov/mapsdata/tdgo_home.htm**

NE 87th Ave @ NE 105th St.

23080 @ 0.39 **NE 87th Ave @NE 105th St (<0.39 is eastbound NE 105th St. >0.39 is northbound NE 87th Ave)**

23081 @ 0.00 **NE 105th St (W Leg)**

23030 @ 0.54 **NE 87th Ave (S Leg)**

Report No.4	Full Date	Full Time	Number of	Number o	Most Severe Injury T	County Road	County Rnty Number	Milepost	Federal Functional Class	Most Severe Sobriety Type	First Collision Type	Crash type	Second Collision T	Weather Conditions Type	Roadway Surface C	Lighting Condition Type	Case Number
E260809	7/25/2013	5:17 PM	0	0	0 - Unknown	23030	0.54	23080	0.39 Urban Major Collector	9 - Unknown	4 - Fixed object	fixed object	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-9060
E344141	7/13/2014	12:36 AM	0	0	1 - No Injury	23081	0	23080	0.39 Urban Major Collector	9 - Unknown	4 - Fixed object	fixed object	Null - Fixed object	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S14-7796

NE 94th Ave @ 105th St

23080 @ 0.00 **NE 105th St**

22753 @ 1.39 **NE 94th Ave**

Report No.5	Full Date	Full Time	Number of	Number o	Most Severe Injury T	County Road	County Rnty Number	Milepost	Federal Functional Class	Most Severe Sobriety Type	First Collision Type	Second Collision T	Weather Conditions Type	Roadway Surface C	Lighting Condition Type	Case Number
E122007	8/25/2011	5:15 PM	0	2	7 - Possible Injury	22753	1.39	23080	0 Urban Major Collector	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-enc	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-11598
E252499	6/23/2013	2:13 AM	0	0	0 - Unknown	22753	1.39	Null	Null Urban Major Collector	9 - Unknown	4 - Fixed object	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	13-008826
E372893	11/8/2014	3:43 AM	0	0	1 - No Injury	23080	0	22753	1.4 Urban Major Collector	1 - HBD - Ability Impaired	4 - Fixed object	Null - Fixed object	5 - Fog or Smog or Smoke	2 - Wet	6 - Dark-No Street Lights	S14-12636

NE 94th Ave @ 99th St

23320 @ 0.00 **NE 99th St**

22753 @ 1.09 **NE 94th Ave**

Report No.6	Full Date	Full Time	Number of	Number o	Most Severe Injury T	County Road	County Rnty Number	Milepost	Federal Functional Class	Most Severe Sobriety Type	First Collision Type	Second Collision T	Weather Conditions Type	Roadway Surface C	Lighting Condition Type	Case Number
E272243	9/17/2013	10:37 PM	0	0	1 - No Injury	23320	0	22753	1.09 Urban Minor Arterial	4 - Had NOT Been Drinking	4 - Fixed object	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	6 - Dark-No Street Lights	S13011419

NE 94th Ave @ 88th St

21630 @ 0.00 **NE 88th St**

22753 @ 0.57 **NE 94th Ave**

Report No.7	Full Date	Full Time	Number of	Number o	Most Severe Injury T	County Road	County Rnty Number	Milepost	Federal Functional Class	Most Severe Sobriety Type	First Collision Type	Second Collision T	Weather Conditions Type	Roadway Surface C	Lighting Condition Type	Case Number
3514611	1/16/2011	6:37 PM	0	0	1 - No Injury	22753	0.57	21630	0 Urban Major Collector	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	4 - Fixed object	3 - Raining	2 - Wet	6 - Dark-No Street Lights	S11-733

NE 94th Ave @ Padden Pkwy

22470 @ 1.27 **NE Padden Pkwy** (0.05 mi due to longer turn-lanes E & W]

22753 @ 0.31 **NE 94th Ave**

Report No.8	Full Date	Full Time	Number of	Number o	Most Severe Injury T	County Road	County Rnty Number	Milepost	Federal Functional Class	Most Severe Sobriety Type	First Collision Type	Second Collision T	Weather Conditions Type	Roadway Surface C	Lighting Condition Type	Case Number
2576974	1/16/2011	8:29 AM	0	1	7 - Possible Injury	22470	1.27	22753	0.31 Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - Entering at angle	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S11-717
3169861	1/24/2011	5:30 AM	0	1	7 - Possible Injury	22470	1.27	22753	0.31 Urban Other Principal Arte	4 - Had NOT Been Drinking	14 - Same direction -- both turning right -- both moving -- sideswipe	side-swip	Null - Null	5 - Fog or Smog or Smoke	2 - Wet	4 - Dark-Street Lights On	S11-110

3516925	4/4/2011	12:12 PM	0	1	6 - Evident Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	10 - Vehicle turning left hits pedestrian	ped/bike	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S11-4459
E103036	5/2/2011	5:17 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	2 - Overcast	2 - Wet	1 - Daylight	S11-5808
3253063	6/4/2011	1:18 PM	0	3	6 - Evident Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-7478
2576097	6/6/2011	11:40 PM	0	1	6 - Evident Injury	22470	1.25	Null	Null	Urban Other Principal Arte	1 - HBD - Ability Impaired	4 - Fixed object	fixed object	7 - Vehicle overturn	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S11-7589
3352083	7/2/2011	12:12 PM	0	0	1 - No Injury	22753	0.32	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-8892
E120975	8/18/2011	1:12 PM	0	0	1 - No Injury	22470	1.27	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-11224
E125729	9/17/2011	1:20 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From same direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S11-12794
3169605	10/21/2011	10:00 PM	0	3	6 - Evident Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	2 - Overcast	2 - Wet	4 - Dark-Street Lights On	S11-14389
E132449	10/21/2011	8:09 AM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	2 - Overcast	1 - Dry	1 - Daylight	S11-14343
3170218	11/1/2011	7:09 AM	0	1	6 - Evident Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-14861
E139071	11/21/2011	10:26 PM	0	0	1 - No Injury	22753	0.31	22470	1.27	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S11-15822
E141609	12/7/2011	5:08 PM	0	1	7 - Possible Injury	22470	1.3	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	11 - From same dire	1 - Clear or Partly Cloudy	1 - Dry	6 - Dark-No Street Lights	S11-16597
E147739	1/10/2012	8:08 AM	0	1	7 - Possible Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	2 - Wet	1 - Daylight	S12-484
E149746	1/20/2012	7:47 PM	0	1	7 - Possible Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S12-1024
E149654	1/20/2012	12:47 PM	0	2	6 - Evident Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S12-997
E151231	1/27/2012	5:40 PM	0	0	0 - Unknown	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S12-1380
E159499	3/2/2012	6:33 PM	0	1	7 - Possible Injury	22753	0.31	22470	1.27	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S12-3041
E167673	4/24/2012	9:14 PM	0	2	6 - Evident Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S12-5587
E171781	5/24/2012	8:41 AM	0	0	1 - No Injury	22470	1.25	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - both moving - rear-end	rear-end	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S12-7061
E176000	6/10/2012	12:51 PM	0	1	6 - Evident Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	99 - From opposite	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-7954
E196212	9/13/2012	4:53 PM	0	0	1 - No Injury	22470	1.28	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-12824
E196212	9/13/2012	4:53 PM	0	0	1 - No Injury	22470	1.28	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-12824
E199223	10/17/2012	5:33 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-14482
E199223	10/17/2012	5:33 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-14482
E206454	10/30/2012	7:35 PM	0	0	1 - No Injury	22753	0.31	22470	1.27	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S12-15100
E203018	11/1/2012	1:13 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S12-15176
E203198	11/2/2012	7:04 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S12-15237
E206228	11/5/2012	2:24 PM	0	1	7 - Possible Injury	22470	1.29	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-15375
E206241	11/13/2012	8:42 AM	0	0	1 - No Injury	22470	1.31	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	11 - From same dire	2 - Overcast	2 - Wet	1 - Daylight	S12-15712
E206240	11/16/2012	7:19 AM	0	0	1 - No Injury	22753	0.31	22470	1.27	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-15847
E217874	12/7/2012	2:48 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	3 - HBD - Sobriety Unknown	11 - From same direction - both going straight - both moving - rear-end	rear-end	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S12-16850
E224295	2/1/2013	7:51 AM	0	0	1 - No Injury	22753	0.31	22470	1.27	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	2 - Overcast	2 - Wet	1 - Daylight	S13-1456
E232236	2/15/2013	4:08 PM	0	1	7 - Possible Injury	22470	1.29	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-2108
E233349	3/2/2013	7:55 AM	0	0	1 - No Injury	22753	0.31	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	14 - Same direction -- both turning right -- both moving -- sideswipe	side-swip	Null - Null	2 - Overcast	1 - Dry	1 - Daylight	S13-2771
E232385	3/7/2013	9:05 AM	0	2	7 - Possible Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-2933
E231005	3/8/2013	9:30 AM	0	1	6 - Evident Injury	22753	0.31	22470	1.27	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - Same direction -- both turning right -- both moving -- rear end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-3044
E241362	5/1/2013	12:06 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-5349
E251078	6/17/2013	5:36 PM	0	1	7 - Possible Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	2 - Overcast	1 - Dry	1 - Daylight	S13-7451
E273932	9/14/2013	1:03 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-11267
E304857	2/3/2014	3:37 PM	0	1	7 - Possible Injury	22753	0.32	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S14-1361
E316833	3/26/2014	9:00 AM	0	3	7 - Possible Injury	22470	1.22	Null	Null	Urban Other Freeway/Exp	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - From same di	3 - Raining	2 - Wet	1 - Daylight	S14-3345
E322424	4/14/2014	3:55 PM	1	1	2 - Dead at Scene	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - From same di	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S144131
3318074	7/1/2014	7:25 AM	0	1	7 - Possible Injury	22470	1.29	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - both moving - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	14-251
E348358	8/10/2014	4:16 PM	0	2	6 - Evident Injury	22470	1.24	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - From same di	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S14-08966
E356556	9/14/2014	1:54 PM	0	2	7 - Possible Injury	22470	1.24	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S14-10406
E372590	10/27/2014	9:10 AM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S14-12136
E383421	12/5/2014	8:35 PM	0	1	7 - Possible Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S14-13683
E393817	1/15/2015	6:00 AM	0	0	1 - No Injury	22470	1.28	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	12 - From same direction - all others	others	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	2 - Dawn	S15-604
E427979	5/23/2015	10:29 PM	0	1	6 - Evident Injury	22470	1.27	22753	0.31	Urban Minor Arterial	3 - HBD - Sobriety Unknown	9 - Vehicle - Pedalcyclist	ped/bike	Null - Null	2 - Overcast	1 - Dry	4 - Dark-Street Lights On	2.02E+08
E428830	5/28/2015	4:41 PM	0	1	7 - Possible Injury	22470	1.23	Null	Null	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - both moving - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	20155808
E428409	5/28/2015	7:17 PM	0	0	1 - No Injury	22470	1.27	22753	0.31	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	2015-5814

NE 94th Ave @ NE 76th St/Covington Rd

22753 @ 0.00	**NE 94th Ave**	
91300 @ 8.35	**NE 76th St**	
23650 @ 1.13	**NE Covington Rd**	

Report No.9	Full Date	Full Time	Number of	Number o	Most Severe Injury T	County Road	County R	nty Number	Milepost	Federal Functional Class	Most Severe Sobriety Type	First Collision Type		Second Collision T	Weather Conditions Type	Roadway Surface C	Lighting Condition Type	Case Number
E240938	4/24/2013	8:22 AM	0	0	1 - No Injury	22753	0	91300	8.35	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-5020
E260826	6/11/2013	10:00 PM	0	0	0 - Unknown	22753	0	91300	8.35	Urban Minor Arterial	1 - HBD - Ability Impaired	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S13-7217
E439966	7/4/2015	8:30 PM	0	0	1 - No Injury	22753	0	91300	8.35	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	7120
3516804	7/5/2011	2:00 AM	0	0	1 - No Injury	22753	0.03	Null	Null	Urban Minor Arterial	9 - Unknown	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S11-9009
E222152	1/9/2013	1:25 AM	0	0	0 - Unknown	23650	1.13	Null	Null	Urban Minor Arterial	1 - HBD - Ability Impaired	4 - Fixed object	fixed object	Null - Null	1 - Clear or Partly Cloudy	2 - Wet	4 - Dark-Street Lights On	S13-376
E237819	4/13/2013	9:23 PM	0	0	1 - No Injury	23650	1.13	91300	8.35	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one right turr	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	6 - Dark-No Street Lights	S13-4587
E248570	6/5/2013	6:36 AM	0	0	1 - No Injury	23650	1.13	91300	8.35	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-6919
E261862	8/5/2013	10:15 PM	0	0	1 - No Injury	23650	1.13	91300	8.35	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S13-9541
E367488	8/25/2014	7:05 AM	0	0	0 - Unknown	23650	1.13	91300	8.35	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	4 - Ice	1 - Daylight	S14-9545
3169576	2/17/2011	8:06 PM	0	0	1 - No Injury	91300	8.35	23650	1.13	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S11-2285
3516920	3/16/2011	11:13 AM	0	1	5 - Serious Injury	91300	8.35	22753	0	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	2 - Overcast	2 - Wet	1 - Daylight	S11-3483
3514403	4/27/2011	10:09 AM	0	1	7 - Possible Injury	91300	8.35	22753	0	Urban Other Principal Arte	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	2 - Overcast	1 - Dry	1 - Daylight	S11-5547
3169535	9/2/2011	9:13 AM	0	2	7 - Possible Injury	91300	8.35	22753	0	Urban Other Principal Arte	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-11996
E126887	9/23/2011	4:38 PM	0	1	5 - Serious Injury	91300	8.35	22753	0	Urban Other Principal Arte	4 - Had NOT Been Drinking	10 - Vehicle turning left hits pedestrian	ped/bike	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11-13084
3514359	10/5/2011	12:53 PM	0	0	1 - No Injury	91300	8.35	23650	1.13	Urban Other Principal Arte	4 - Had NOT Been Drinking	14 - From same direction - both going straight - both moving - sideswipe	side-swip	12 - From same dire	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S11 13623
E148070	1/10/2012	6:44 PM	0	2	7 - Possible Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S12-529
E164686	4/9/2012	5:54 PM	0	1	7 - Possible Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-4855
E169511	5/10/2012	4:12 PM	0	1	7 - Possible Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - both moving - rear-end	rear-end	11 - From same dire	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-6349
E173668	6/3/2012	4:42 PM	0	2	7 - Possible Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	11 - From same dire	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-7582
E184561	7/26/2012	4:51 PM	0	1	7 - Possible Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	99 - From opposite	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-10367
E184423	7/30/2012	7:04 PM	0	1	7 - Possible Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S12-10574
E194222	9/24/2012	10:15 PM	0	0	1 - No Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S12-13387
E194222	9/24/2012	10:15 PM	0	0	1 - No Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S12-13387
E199843	10/19/2012	7:18 PM	0	0	1 - No Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S12-14601
E212218	12/5/2012	11:58 AM	0	0	1 - No Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	2 - Wet	1 - Daylight	S12-16749
E273929	7/30/2013	3:25 PM	0	3	6 - Evident Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straigh	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-9277
E297824	1/3/2014	5:07 PM	0	1	7 - Possible Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	2 - Overcast	2 - Wet	3 - Dusk	S14-131
E303885	1/30/2014	7:21 AM	0	0	1 - No Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S14-1200
E316840	3/10/2014	12:10 PM	0	1	7 - Possible Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - one stopped - rear-end	rear-end	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S14-2688
E345410	7/29/2014	2:19 PM	0	3	6 - Evident Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S14-8438
E376712	10/31/2014	10:08 PM	0	0	1 - No Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straight	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S14-12327
E376827	11/20/2014	5:42 PM	0	0	1 - No Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straight	turn	Null - Null	2 - Overcast	1 - Dry	4 - Dark-Street Lights On	S14-13086
E394481	1/21/2015	6:52 AM	0	0	1 - No Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straight	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	4 - Dark-Street Lights On	S15000823
E397732	1/31/2015	4:11 PM	0	2	7 - Possible Injury	91300	8.35	23650	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S15-1278
E408051	3/15/2015	12:54 PM	0	2	7 - Possible Injury	91300	8.35	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	11 - From same direction - both going straight - both moving - rear-end	rear-end	Null - Null	2 - Overcast	1 - Dry	1 - Daylight	S15-3043
E440928	7/7/2015	3:05 PM	0	2	7 - Possible Injury	91300	8.35	22753	0	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straight	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	7226
E433556	6/14/2015	11:09 AM	0	1	6 - Evident Injury	91300	8.35	22753	1.13	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straight	turn	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	6393
E221744	1/14/2013	5:24 PM	0	0	1 - No Injury	91300	8.36	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - From opposite direction - one left turn - one straight	turn	Null - Null	3 - Raining	2 - Wet	4 - Dark-Street Lights On	S13-673
E126095	9/17/2011	5:19 PM	0	1	7 - Possible Injury	91300	8.37	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	3 - Raining	2 - Wet	1 - Daylight	S11-12801
E290967	11/30/2013	4:26 PM	0	0	1 - No Injury	91300	8.37	Null	Null	Urban Minor Arterial	4 - Had NOT Been Drinking	1 - Entering at angle	angle	Null - Null	1 - Clear or Partly Cloudy	1 - Dry	1 - Daylight	S13-14537

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Appendix D 2021 Background Traffic Operations Analysis Worksheets

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HCM Signalized Intersection Capacity Analysis
1: NE 72nd Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	189	74	299	181	56	70	259	248	46	527	18
Future Volume (vph)	32	189	74	299	181	56	70	259	248	46	527	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	1705		3303	1590		1517	1743	1482	1517	3355	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	1705		3303	1590		1517	1743	1482	1517	3355	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	37	217	85	344	208	64	80	298	285	53	606	21
RTOR Reduction (vph)	0	9	0	0	6	0	0	0	174	0	2	0
Lane Group Flow (vph)	37	293	0	344	266	0	80	298	111	53	625	0
Confl. Peds. (#/hr)	3					3	3					3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	7%	6%	6%	12%	24%	19%	9%	9%	19%	7%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		3	8	5	7	4	
Permitted Phases									8			
Actuated Green, G (s)	5.1	49.8		16.3	60.9		9.7	34.3	50.6	6.6	31.2	
Effective Green, g (s)	5.1	49.8		16.3	60.9		9.7	34.3	50.6	6.6	31.2	
Actuated g/C Ratio	0.04	0.38		0.13	0.47		0.07	0.26	0.39	0.05	0.24	
Clearance Time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	68	653		414	744		113	459	576	77	805	
v/s Ratio Prot	0.02	c0.17		c0.10	0.17		c0.05	c0.17	0.02	0.03	c0.19	
v/s Ratio Perm									0.05			
v/c Ratio	0.54	0.45		0.83	0.36		0.71	0.65	0.19	0.69	0.78	
Uniform Delay, d1	61.3	29.9		55.5	22.1		58.8	42.5	26.2	60.7	46.1	
Progression Factor	1.00	1.00		1.04	0.90		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.7	0.2		12.6	1.3		15.2	2.4	0.1	18.4	4.3	
Delay (s)	66.0	30.1		70.5	21.3		74.0	44.9	26.3	79.1	50.5	
Level of Service	E	C		E	C		E	D	C	E	D	
Approach Delay (s)		34.0			48.8			40.4			52.7	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	221	68	84	238	74	63	43	86	89	72	22
Future Volume (vph)	37	221	68	84	238	74	63	43	86	89	72	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.90		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1759	1495	1687	3137		1543	1598		1597	1753	
Flt Permitted	0.52	1.00	1.00	0.52	1.00		0.68	1.00		0.37	1.00	
Satd. Flow (perm)	995	1759	1495	924	3137		1108	1598		625	1753	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	46	273	84	104	294	91	78	53	106	110	89	27
RTOR Reduction (vph)	0	0	40	0	13	0	0	62	0	0	9	0
Lane Group Flow (vph)	46	273	44	104	372	0	78	97	0	110	107	0
Heavy Vehicles (%)	0%	8%	8%	7%	11%	11%	17%	3%	9%	13%	6%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	72.8	67.8	67.8	80.4	71.6		24.6	15.7		31.8	19.3	
Effective Green, g (s)	72.8	67.8	67.8	80.4	71.6		24.6	15.7		31.8	19.3	
Actuated g/C Ratio	0.56	0.52	0.52	0.62	0.55		0.19	0.12		0.24	0.15	
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	2.0		3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	588	917	779	623	1727		239	192		246	260	
v/s Ratio Prot	0.00	c0.16		c0.01	c0.12		0.02	0.06		c0.04	0.06	
v/s Ratio Perm	0.04		0.03	0.09			0.04			c0.07		
v/c Ratio	0.08	0.30	0.06	0.17	0.22		0.33	0.50		0.45	0.41	
Uniform Delay, d1	12.9	17.6	15.3	10.4	14.9		45.0	53.5		40.1	50.2	
Progression Factor	0.96	0.88	1.26	1.00	1.00		0.94	0.87		1.00	1.00	
Incremental Delay, d2	0.0	0.1	0.0	0.1	0.3		0.8	0.8		1.3	0.4	
Delay (s)	12.4	15.5	19.4	10.5	15.2		43.0	47.5		41.4	50.6	
Level of Service	B	B	B	B	B		D	D		D	D	
Approach Delay (s)		16.0			14.2			46.0			46.1	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	724	132	56	1244	55	185	116	58	163	311	383
Future Volume (vph)	108	724	132	56	1244	55	185	116	58	163	311	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.3	6.3	6.2	6.3	6.3	6.3	5.9	5.9	6.8	5.9	5.9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1719	3282	1509	1803	3438	1538	1735	1810	1429	1713	1810	1583
Flt Permitted	0.07	1.00	1.00	0.30	1.00	1.00	0.21	1.00	1.00	0.67	1.00	1.00
Satd. Flow (perm)	127	3282	1509	560	3438	1538	389	1810	1429	1208	1810	1583
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)	114	762	139	59	1309	58	195	122	61	172	327	403
RTOR Reduction (vph)	0	0	55	0	0	26	0	0	42	0	0	82
Lane Group Flow (vph)	114	762	84	59	1309	32	195	122	19	172	327	321
Confl. Peds. (#/hr)	1		10	10		1	1		4	4		1
Heavy Vehicles (%)	5%	10%	7%	0%	5%	5%	4%	5%	13%	5%	5%	2%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	1	6	6 3	5	2	2 7	3	8	8 5	7	4	4 1
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	67.5	56.9	78.3	57.5	51.9	71.7	43.9	28.8	40.3	41.2	27.7	44.2
Effective Green, g (s)	67.5	56.9	78.3	57.5	51.9	71.7	43.9	28.8	40.3	41.2	27.7	44.2
Actuated g/C Ratio	0.52	0.44	0.60	0.44	0.40	0.55	0.34	0.22	0.31	0.32	0.21	0.34
Clearance Time (s)	6.2	6.3		6.2	6.3		6.3	5.9		6.8	5.9	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	195	1436	908	301	1372	848	287	400	442	435	385	538
v/s Ratio Prot	0.05	c0.23	0.06	0.01	c0.38	0.02	c0.08	0.07	0.01	0.04	c0.18	c0.20
v/s Ratio Perm	0.25			0.08			0.15			0.08		
v/c Ratio	0.58	0.53	0.09	0.20	0.95	0.04	0.68	0.30	0.04	0.40	0.85	0.60
Uniform Delay, d1	26.2	26.8	10.9	21.3	37.9	13.4	33.6	42.2	31.4	33.7	49.1	35.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.89	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	1.4	0.0	0.1	14.6	0.0	4.8	0.2	0.0	0.2	15.3	1.2
Delay (s)	29.1	28.2	10.9	21.4	52.4	13.4	37.9	37.9	31.4	33.9	64.5	36.7
Level of Service	C	C	B	C	D	B	D	D	C	C	E	D
Approach Delay (s)		25.9			49.6			36.8			46.2	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	184	180	59	238	133	134	160	47	85	289	90
Future Volume (vph)	26	184	180	59	238	133	134	160	47	85	289	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.95		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1659		1702	1664		1733	3126		1681	3208	
Flt Permitted	0.25	1.00		0.19	1.00		0.44	1.00		0.61	1.00	
Satd. Flow (perm)	466	1659		341	1664		800	3126		1077	3208	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	204	200	66	264	148	149	178	52	94	321	100
RTOR Reduction (vph)	0	32	0	0	18	0	0	17	0	0	18	0
Lane Group Flow (vph)	29	372	0	66	394	0	149	213	0	94	403	0
Confl. Peds. (#/hr)	2		5	5		2	3		3	3		3
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	4%	6%	6%	6%	10%	4%	12%	7%	7%	9%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	40.8	36.3		46.4	39.1		68.5	57.2		64.3	55.1	
Effective Green, g (s)	40.8	36.3		46.4	39.1		68.5	57.2		64.3	55.1	
Actuated g/C Ratio	0.31	0.28		0.36	0.30		0.53	0.44		0.49	0.42	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	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)	192	463		198	500		502	1375		575	1359	
v/s Ratio Prot	0.01	0.22		c0.02	c0.24		c0.03	0.07		0.01	0.13	
v/s Ratio Perm	0.04			0.10			c0.13			0.07		
v/c Ratio	0.15	0.80		0.33	0.79		0.30	0.16		0.16	0.30	
Uniform Delay, d1	32.6	43.5		30.5	41.6		16.2	21.9		17.6	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.56	0.46	
Incremental Delay, d2	0.4	9.7		1.0	8.0		0.3	0.2		0.1	0.5	
Delay (s)	32.9	53.2		31.5	49.7		16.5	22.1		9.9	11.9	
Level of Service	C	D		C	D		B	C		A	B	
Approach Delay (s)		51.8			47.2			19.9			11.5	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	102	151	147	146	70	287	707	43	56	1370	277
Future Volume (veh/h)	215	102	151	147	146	70	287	707	43	56	1370	277
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1792	1681	1776	1759	1900	1696	1712	1759	1759	1792	1776
Adj Flow Rate, veh/h	239	113	168	163	162	78	319	786	48	62	1522	308
Adj No. of Lanes	2	1	1	2	1	0	2	2	1	2	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	14	6	13	7	9	9	12	11	8	8	6	7
Cap, veh/h	286	404	370	217	222	107	303	1665	765	115	1535	771
Arrive On Green	0.09	0.23	0.23	0.07	0.20	0.20	0.10	0.51	0.51	0.04	0.45	0.45
Sat Flow, veh/h	3079	1792	1414	3281	1118	538	3134	3252	1494	3250	3406	1489
Grp Volume(v), veh/h	239	113	168	163	0	240	319	786	48	62	1522	308
Grp Sat Flow(s),veh/h/ln	1540	1792	1414	1640	0	1656	1567	1626	1494	1625	1703	1489
Q Serve(g_s), s	9.5	6.5	12.4	6.1	0.0	16.9	12.0	19.3	2.0	2.3	55.1	15.7
Cycle Q Clear(g_c), s	9.5	6.5	12.4	6.1	0.0	16.9	12.0	19.3	2.0	2.3	55.1	15.7
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	286	404	370	217	0	329	303	1665	765	115	1535	771
V/C Ratio(X)	0.84	0.28	0.45	0.75	0.00	0.73	1.05	0.47	0.06	0.54	0.99	0.40
Avail Cap(c_a), veh/h	297	505	449	317	0	467	303	1665	765	262	1535	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	39.8	38.5	57.0	0.0	46.6	56.1	19.5	15.3	58.9	33.9	18.3
Incr Delay (d2), s/veh	17.9	0.4	0.9	5.7	0.0	3.4	66.5	0.2	0.0	3.8	20.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.2	4.9	2.9	0.0	8.0	8.0	8.7	0.8	1.1	30.2	6.5
LnGrp Delay(d),s/veh	73.3	40.1	39.4	62.7	0.0	50.0	122.6	19.7	15.3	62.7	54.7	18.6
LnGrp LOS	E	D	D	E		D	F	B	B	E	D	B
Approach Vol, veh/h		520			403			1153			1892	
Approach Delay, s/veh		55.1			55.2			48.0			49.1	
Approach LOS		E			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	29.7	17.0	61.0	13.2	33.0	9.4	68.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	35.0	12.0	56.0	12.0	35.0	10.0	58.0
Max Q Clear Time (g_c+I1), s	11.5	18.9	14.0	57.1	8.1	14.4	4.3	21.3
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.2	2.7	0.1	27.5

Intersection Summary	
HCM 2010 Ctrl Delay	50.2
HCM 2010 LOS	D

HCM Unsignalized Intersection Capacity Analysis
5: NE 94th Ave & NE 105th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	12	220	106	35	0	79	32	36	0	89	10
Future Volume (Veh/h)	4	12	220	106	35	0	79	32	36	0	89	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	5	14	262	126	42	0	94	38	43	0	106	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	380	381	112	628	366	60	118			81		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	380	381	112	628	366	60	118			81		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	99	97	71	52	92	100	93			100		
cM capacity (veh/h)	519	519	917	265	529	1012	1440			1529		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	281	168	175	118
Volume Left	5	126	94	0
Volume Right	262	0	43	12
cSH	872	302	1440	1529
Volume to Capacity	0.32	0.56	0.07	0.00
Queue Length 95th (ft)	35	79	5	0
Control Delay (s)	11.1	30.8	4.4	0.0
Lane LOS	B	D	A	
Approach Delay (s)	11.1	30.8	4.4	0.0
Approach LOS	B	D		

Intersection Summary			
Average Delay	12.2		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	111	49	175	422	11
Future Volume (Veh/h)	11	111	49	175	422	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	12	118	52	186	449	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	745	455	461			
vC1, stage 1 conf vol	455					
vC2, stage 2 conf vol	290					
vCu, unblocked vol	745	455	461			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	81	95			
cM capacity (veh/h)	561	605	1111			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	12	118	52	186	461
Volume Left	12	0	52	0	0
Volume Right	0	118	0	0	12
cSH	561	605	1111	1700	1700
Volume to Capacity	0.02	0.19	0.05	0.11	0.27
Queue Length 95th (ft)	2	18	4	0	0
Control Delay (s)	11.6	12.4	8.4	0.0	0.0
Lane LOS	B	B	A		
Approach Delay (s)	12.3		1.8		0.0
Approach LOS	B				

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	83	46	422	41	30	801
Future Volume (Veh/h)	83	46	422	41	30	801
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	93	52	474	46	34	900
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1017	262			522	
vC1, stage 1 conf vol	499					
vC2, stage 2 conf vol	518					
vCu, unblocked vol	1017	262			522	
tC, single (s)	6.9	7.3			4.5	
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.5			2.4	
p0 queue free %	78	92			96	
cM capacity (veh/h)	431	684			917	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	145	316	204	34	450	450
Volume Left	93	0	0	34	0	0
Volume Right	52	0	46	0	0	0
cSH	497	1700	1700	917	1700	1700
Volume to Capacity	0.29	0.19	0.12	0.04	0.26	0.26
Queue Length 95th (ft)	30	0	0	3	0	0
Control Delay (s)	15.2	0.0	0.0	9.1	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	15.2	0.0		0.3		
Approach LOS	C					

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	94	45	234	603	24
Future Volume (Veh/h)	14	94	45	234	603	24
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	16	108	52	269	693	28
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1082	709	723			
vC1, stage 1 conf vol	709					
vC2, stage 2 conf vol	373					
vCu, unblocked vol	1082	709	723			
tC, single (s)	6.6	6.2	4.1			
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.3	2.2			
p0 queue free %	96	75	94			
cM capacity (veh/h)	398	430	873			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	124	52	269	721
Volume Left	16	52	0	0
Volume Right	108	0	0	28
cSH	426	873	1700	1700
Volume to Capacity	0.29	0.06	0.16	0.42
Queue Length 95th (ft)	30	5	0	0
Control Delay (s)	16.9	9.4	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	16.9	1.5		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

MOVEMENT SUMMARY

Site: 101 [NE 105 and NE 87]

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: NE 87 NB											
1	L2	1	0.0	0.040	7.6	LOS A	0.1	1.1	0.33	0.97	50.7
2	T1	27	4.0	0.040	9.9	LOS A	0.1	1.1	0.33	0.97	50.7
3	R2	3	67.0	0.040	12.1	LOS B	0.1	1.1	0.33	0.97	48.6
Approach		32	10.2	0.040	10.1	LOS B	0.1	1.1	0.33	0.97	50.5
East: NE 105 WB											
4	L2	1	0.0	0.104	6.1	LOS A	0.0	0.2	0.01	0.57	53.1
5	T1	1	0.0	0.104	1.5	LOS A	0.0	0.2	0.01	0.57	55.0
6	R2	178	10.0	0.104	5.7	LOS A	0.0	0.2	0.01	0.57	53.2
Approach		180	9.9	0.104	5.7	NA	0.0	0.2	0.01	0.57	53.2
North: NE 87 SB											
7	L2	161	15.0	0.105	8.1	LOS A	0.0	0.0	0.00	1.04	51.0
8	T1	16	7.0	0.105	8.0	LOS A	0.0	0.0	0.00	1.04	51.6
9	R2	1	0.0	0.105	8.0	LOS A	0.0	0.0	0.00	1.04	52.1
Approach		178	14.2	0.105	8.1	LOS A	0.0	0.0	0.00	1.04	51.0
West: NE 105 EB											
10	L2	3	0.0	0.011	6.7	LOS A	0.0	0.4	0.22	0.30	54.3
11	T1	6	20.0	0.011	1.9	LOS A	0.0	0.4	0.22	0.30	56.3
12	R2	1	0.0	0.011	5.6	LOS A	0.0	0.4	0.22	0.30	54.8
Approach		11	12.0	0.011	3.7	NA	0.0	0.4	0.22	0.30	55.5
All Vehicles		400	11.9	0.105	7.0	NA	0.1	1.1	0.04	0.80	52.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM Signalized Intersection Capacity Analysis
1: NE 72nd Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	240	90	319	216	100	78	665	710	115	443	32
Future Volume (vph)	40	240	90	319	216	100	78	665	710	115	443	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	1752		3367	1775		1752	1845	1568	1787	3464	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	1752		3367	1775		1752	1845	1568	1787	3464	
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)	42	253	95	336	227	105	82	700	747	121	466	34
RTOR Reduction (vph)	0	9	0	0	10	0	0	0	205	0	3	0
Lane Group Flow (vph)	42	339	0	336	322	0	82	700	542	121	497	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	1%	4%	3%	3%	2%	1%	3%	3%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		3	8	5	7	4	
Permitted Phases									8			
Actuated Green, G (s)	5.8	45.1		19.5	58.7		9.7	49.5	69.0	12.9	52.7	
Effective Green, g (s)	5.8	45.1		19.5	58.7		9.7	49.5	69.0	12.9	52.7	
Actuated g/C Ratio	0.04	0.30		0.13	0.39		0.06	0.33	0.46	0.09	0.35	
Clearance Time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	67	526		437	694		113	608	721	153	1217	
v/s Ratio Prot	0.02	c0.19		c0.10	0.18		0.05	c0.38	0.10	c0.07	c0.14	
v/s Ratio Perm									0.25			
v/c Ratio	0.63	0.64		0.77	0.46		0.73	1.15	0.75	0.79	0.41	
Uniform Delay, d1	71.0	45.5		63.1	33.9		68.8	50.2	33.4	67.2	36.8	
Progression Factor	1.00	1.00		1.39	0.72		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.4	2.0		7.0	2.2		17.7	85.9	4.0	22.3	0.1	
Delay (s)	83.5	47.5		94.7	26.7		86.5	136.2	37.4	89.5	36.9	
Level of Service	F	D		F	C		F	F	D	F	D	
Approach Delay (s)		51.4			60.9			85.3			47.2	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM 2000 Control Delay	68.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	703	77	121	500	55	50	61	122	38	30	22
Future Volume (vph)	35	703	77	121	500	55	50	61	122	38	30	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.90		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	1845	1553	1805	3518		1805	1698		1805	1709	
Flt Permitted	0.39	1.00	1.00	0.15	1.00		0.71	1.00		0.25	1.00	
Satd. Flow (perm)	686	1845	1553	285	3518		1346	1698		475	1709	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	42	847	93	146	602	66	60	73	147	46	36	27
RTOR Reduction (vph)	0	0	38	0	3	0	0	63	0	0	23	0
Lane Group Flow (vph)	42	847	55	146	665	0	60	157	0	46	40	0
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	7%	3%	4%	0%	1%	0%	0%	2%	0%	0%	6%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	93.5	88.6	88.6	103.3	93.5		26.6	19.7		26.2	19.5	
Effective Green, g (s)	93.5	88.6	88.6	103.3	93.5		26.6	19.7		26.2	19.5	
Actuated g/C Ratio	0.62	0.59	0.59	0.69	0.62		0.18	0.13		0.17	0.13	
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	2.0		3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	460	1089	917	295	2192		259	223		142	222	
v/s Ratio Prot	0.00	c0.46		c0.03	0.19		0.01	c0.09		c0.01	0.02	
v/s Ratio Perm	0.05		0.04	0.31			0.03			0.04		
v/c Ratio	0.09	0.78	0.06	0.49	0.30		0.23	0.71		0.32	0.18	
Uniform Delay, d1	10.9	23.2	13.0	20.0	13.1		52.5	62.4		52.9	58.1	
Progression Factor	1.10	1.09	1.54	1.00	1.00		0.96	0.97		1.00	1.00	
Incremental Delay, d2	0.0	2.4	0.0	1.3	0.4		0.4	6.7		1.3	0.1	
Delay (s)	12.1	27.7	20.1	21.3	13.5		51.0	67.0		54.2	58.3	
Level of Service	B	C	C	C	B		D	E		D	E	
Approach Delay (s)		26.3			14.9			63.6			56.6	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	407	1444	268	66	1154	226	223	400	150	158	256	215
Future Volume (vph)	407	1444	268	66	1154	226	223	400	150	158	256	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.3	6.3	6.2	6.3	6.3	6.3	5.9	5.9	6.8	5.9	5.9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1719	3471	1583	1719	3438	1538	1736	1827	1568	1736	1845	1568
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.25	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	145	3471	1583	166	3438	1538	450	1827	1568	255	1845	1568
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)	428	1520	282	69	1215	238	235	421	158	166	269	226
RTOR Reduction (vph)	0	0	94	0	0	63	0	0	83	0	0	45
Lane Group Flow (vph)	428	1520	188	69	1215	175	235	421	75	166	269	181
Confl. Peds. (#/hr)	6		13	13		6						
Heavy Vehicles (%)	5%	4%	2%	5%	5%	5%	4%	4%	3%	4%	3%	3%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	1	6	6 3	5	2	2 7	3	8	8 5	7	4	4 1
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	83.7	70.0	95.4	51.2	43.7	65.3	51.1	32.0	45.4	44.0	28.7	68.4
Effective Green, g (s)	83.7	70.0	95.4	51.2	43.7	65.3	51.1	32.0	45.4	44.0	28.7	68.4
Actuated g/C Ratio	0.56	0.47	0.64	0.34	0.29	0.44	0.34	0.21	0.30	0.29	0.19	0.46
Clearance Time (s)	6.2	6.3		6.2	6.3		6.3	5.9		6.8	5.9	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	435	1619	1006	134	1001	669	317	389	474	225	353	715
v/s Ratio Prot	c0.22	0.44	0.12	0.03	c0.35	0.11	c0.09	c0.23	0.05	0.07	0.15	0.12
v/s Ratio Perm	0.33			0.15			0.16			0.14		
v/c Ratio	0.98	0.94	0.19	0.51	1.21	0.26	0.74	1.08	0.16	0.74	0.76	0.25
Uniform Delay, d1	48.2	38.0	11.3	37.6	53.1	27.0	39.2	59.0	38.3	43.7	57.4	25.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.82	0.75	1.00	1.00	1.00
Incremental Delay, d2	38.6	11.9	0.0	1.4	105.5	0.1	7.0	66.6	0.0	10.3	8.5	0.1
Delay (s)	86.8	49.9	11.3	39.0	158.7	27.1	35.4	114.7	28.6	54.0	65.9	25.2
Level of Service	F	D	B	D	F	C	D	F	C	D	E	C
Approach Delay (s)		52.1			132.7			75.1			49.0	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	78.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	105.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	377	191	158	314	200	157	476	93	175	329	38
Future Volume (vph)	55	377	191	158	314	200	157	476	93	175	329	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	1736		1703	1703		1715	3401		1702	3359	
Flt Permitted	0.23	1.00		0.14	1.00		0.45	1.00		0.27	1.00	
Satd. Flow (perm)	410	1736		244	1703		817	3401		489	3359	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	57	393	199	165	327	208	164	496	97	182	343	40
RTOR Reduction (vph)	0	14	0	0	17	0	0	10	0	0	5	0
Lane Group Flow (vph)	57	578	0	165	518	0	164	583	0	182	378	0
Confl. Peds. (#/hr)			4	4			4		1	1		4
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	8%	4%	2%	6%	3%	7%	5%	3%	4%	6%	5%	9%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	65.8	58.8		71.8	61.8		60.0	47.6		62.4	48.8	
Effective Green, g (s)	65.8	58.8		71.8	61.8		60.0	47.6		62.4	48.8	
Actuated g/C Ratio	0.44	0.39		0.48	0.41		0.40	0.32		0.42	0.33	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	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)	238	680		214	701		401	1079		313	1092	
v/s Ratio Prot	0.01	c0.33		c0.05	0.30		0.03	0.17		c0.05	0.11	
v/s Ratio Perm	0.09			0.32			0.13			c0.19		
v/c Ratio	0.24	0.85		0.77	0.74		0.41	0.54		0.58	0.35	
Uniform Delay, d1	27.5	41.6		30.2	37.3		30.0	42.2		30.0	38.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.91	0.97	
Incremental Delay, d2	0.5	9.9		15.7	4.1		0.7	1.9		2.5	0.8	
Delay (s)	28.1	51.5		45.9	41.4		30.7	44.1		29.8	38.3	
Level of Service	C	D		D	D		C	D		C	D	
Approach Delay (s)		49.5			42.4			41.2			35.5	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 Signalized Intersection Summary
3: NE 117th Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	493	314	239	107	247	92	359	1301	126	130	1033	230
Future Volume (veh/h)	493	314	239	107	247	92	359	1301	126	130	1033	230
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1845	1827	1810	1811	1900	1845	1827	1863	1863	1810	1881
Adj Flow Rate, veh/h	519	331	252	113	260	97	378	1369	133	137	1087	242
Adj No. of Lanes	2	1	1	2	1	0	2	2	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	3	4	5	6	6	3	4	2	2	5	1
Cap, veh/h	562	643	625	159	293	109	414	1413	637	185	1168	619
Arrive On Green	0.16	0.35	0.35	0.05	0.23	0.23	0.12	0.41	0.41	0.05	0.34	0.34
Sat Flow, veh/h	3442	1845	1553	3343	1259	470	3408	3471	1563	3442	3438	1599
Grp Volume(v), veh/h	519	331	252	113	0	357	378	1369	133	137	1087	242
Grp Sat Flow(s),veh/h/ln	1721	1845	1553	1672	0	1728	1704	1736	1563	1721	1719	1599
Q Serve(g_s), s	20.8	20.0	16.2	4.7	0.0	28.0	15.4	54.1	7.7	5.5	42.8	15.3
Cycle Q Clear(g_c), s	20.8	20.0	16.2	4.7	0.0	28.0	15.4	54.1	7.7	5.5	42.8	15.3
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	562	643	625	159	0	403	414	1413	637	185	1168	619
V/C Ratio(X)	0.92	0.51	0.40	0.71	0.00	0.89	0.91	0.97	0.21	0.74	0.93	0.39
Avail Cap(c_a), veh/h	565	645	627	239	0	444	414	1413	637	246	1202	635
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	36.2	29.9	65.8	0.0	51.9	60.8	40.7	26.9	65.3	44.7	31.0
Incr Delay (d2), s/veh	21.0	0.7	0.4	5.7	0.0	17.9	24.5	17.0	0.2	7.9	12.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	10.3	7.1	2.3	0.0	15.4	8.7	29.2	3.4	2.8	22.3	6.8
LnGrp Delay(d),s/veh	78.8	36.9	30.3	71.5	0.0	69.8	85.3	57.7	27.1	73.2	57.2	31.4
LnGrp LOS	E	D	C	E		E	F	E	C	E	E	C
Approach Vol, veh/h		1102			470			1880			1466	
Approach Delay, s/veh		55.1			70.2			61.1			54.5	
Approach LOS		E			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.9	37.7	22.0	52.6	11.7	53.8	12.5	62.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	23.0	36.0	17.0	49.0	10.0	49.0	10.0	56.0
Max Q Clear Time (g_c+I1), s	22.8	30.0	17.4	44.8	6.7	22.0	7.5	56.1
Green Ext Time (p_c), s	0.0	2.7	0.0	2.8	0.1	5.7	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	58.6
HCM 2010 LOS	E

HCM Unsignalized Intersection Capacity Analysis
5: NE 94th Ave & NE 105th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	39	132	69	23	0	192	125	119	0	75	13
Future Volume (Veh/h)	14	39	132	69	23	0	192	125	119	0	75	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	43	147	77	26	0	213	139	132	0	83	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	734	787	90	890	728	205	97			271		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	734	787	90	890	728	205	97			271		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	85	85	57	91	100	86			100		
cM capacity (veh/h)	282	280	960	177	302	841	1496			1304		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	206	103	484	97
Volume Left	16	77	213	0
Volume Right	147	0	132	14
cSH	566	198	1496	1304
Volume to Capacity	0.36	0.52	0.14	0.00
Queue Length 95th (ft)	41	66	12	0
Control Delay (s)	14.9	41.3	4.2	0.0
Lane LOS	B	E	A	
Approach Delay (s)	14.9	41.3	4.2	0.0
Approach LOS	B	E		

Intersection Summary			
Average Delay	10.5		
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	71	114	504	288	14
Future Volume (Veh/h)	15	71	114	504	288	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	16	78	125	554	316	15
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1130	326	333			
vC1, stage 1 conf vol	326					
vC2, stage 2 conf vol	804					
vCu, unblocked vol	1130	326	333			
tC, single (s)	6.7	6.2	4.1			
tC, 2 stage (s)	5.7					
tF (s)	3.8	3.3	2.2			
p0 queue free %	95	89	90			
cM capacity (veh/h)	328	712	1224			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	16	78	125	554	331
Volume Left	16	0	125	0	0
Volume Right	0	78	0	0	15
cSH	328	712	1224	1700	1700
Volume to Capacity	0.05	0.11	0.10	0.33	0.19
Queue Length 95th (ft)	4	9	9	0	0
Control Delay (s)	16.5	10.7	8.3	0.0	0.0
Lane LOS	C	B	A		
Approach Delay (s)	11.7		1.5		0.0
Approach LOS	B				

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	43	1135	188	41	720
Future Volume (Veh/h)	81	43	1135	188	41	720
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	87	46	1220	202	44	774
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1797	712			1423	
vC1, stage 1 conf vol	1322					
vC2, stage 2 conf vol	475					
vCu, unblocked vol	1797	712			1423	
tC, single (s)	6.9	7.0			4.4	
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.4			2.3	
p0 queue free %	56	87			90	
cM capacity (veh/h)	196	366			422	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	133	813	609	44	387	387
Volume Left	87	0	0	44	0	0
Volume Right	46	0	202	0	0	0
cSH	233	1700	1700	422	1700	1700
Volume to Capacity	0.57	0.48	0.36	0.10	0.23	0.23
Queue Length 95th (ft)	79	0	0	9	0	0
Control Delay (s)	39.0	0.0	0.0	14.5	0.0	0.0
Lane LOS	E			B		
Approach Delay (s)	39.0	0.0		0.8		
Approach LOS	E					

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	92	115	742	442	33
Future Volume (Veh/h)	52	92	115	742	442	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	54	96	120	773	460	34
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1493	480	497			
vC1, stage 1 conf vol	480					
vC2, stage 2 conf vol	1013					
vCu, unblocked vol	1493	480	497			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	84	89			
cM capacity (veh/h)	285	586	1064			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	150	120	773	494
Volume Left	54	120	0	0
Volume Right	96	0	0	34
cSH	425	1064	1700	1700
Volume to Capacity	0.35	0.11	0.45	0.29
Queue Length 95th (ft)	39	10	0	0
Control Delay (s)	18.0	8.8	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	18.0	1.2		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

MOVEMENT SUMMARY

Site: 101 [NE 105 and NE 87]

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: NE 87 NB											
1	L2	1	0.0	0.032	7.7	LOS A	0.1	0.8	0.36	0.94	50.5
2	T1	21	0.0	0.032	10.0	LOS B	0.1	0.8	0.36	0.94	50.8
3	R2	3	0.0	0.032	8.8	LOS A	0.1	0.8	0.36	0.94	51.0
Approach		25	0.0	0.032	9.8	LOS A	0.1	0.8	0.36	0.94	50.8
East: NE 105 WB											
4	L2	6	0.0	0.128	6.3	LOS A	0.1	0.8	0.05	0.54	53.0
5	T1	4	0.0	0.128	1.9	LOS A	0.1	0.8	0.05	0.54	54.9
6	R2	217	3.0	0.128	5.7	LOS A	0.1	0.8	0.05	0.54	53.4
Approach		227	2.9	0.128	5.6	NA	0.1	0.8	0.05	0.54	53.4
North: NE 87 SB											
7	L2	192	7.0	0.123	7.7	LOS A	0.0	0.0	0.00	1.02	51.3
8	T1	25	0.0	0.123	7.7	LOS A	0.0	0.0	0.00	1.02	51.8
9	R2	3	0.0	0.123	8.0	LOS A	0.0	0.0	0.00	1.02	52.1
Approach		220	6.1	0.123	7.7	LOS A	0.0	0.0	0.00	1.02	51.4
West: NE 105 EB											
10	L2	2	0.0	0.008	7.0	LOS A	0.0	0.2	0.24	0.32	54.4
11	T1	4	0.0	0.008	1.8	LOS A	0.0	0.2	0.24	0.32	56.4
12	R2	1	0.0	0.008	5.6	LOS A	0.0	0.2	0.24	0.32	55.0
Approach		7	0.0	0.008	3.8	NA	0.0	0.2	0.24	0.32	55.6
All Vehicles		480	4.1	0.128	6.8	NA	0.1	0.8	0.04	0.78	52.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix E 2021 Total Traffic Operations Analysis Worksheets

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HCM Signalized Intersection Capacity Analysis
1: NE 72nd Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	189	76	299	181	57	70	260	248	48	529	18
Future Volume (vph)	32	189	76	299	181	57	70	260	248	48	529	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	1704		3303	1588		1517	1743	1482	1517	3355	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	1704		3303	1588		1517	1743	1482	1517	3355	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	37	217	87	344	208	66	80	299	285	55	608	21
RTOR Reduction (vph)	0	9	0	0	7	0	0	0	174	0	2	0
Lane Group Flow (vph)	37	295	0	344	267	0	80	299	111	55	627	0
Confl. Peds. (#/hr)	3					3	3					3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	7%	6%	6%	12%	24%	19%	9%	9%	19%	7%	6%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		3	8	5	7	4	
Permitted Phases									8			
Actuated Green, G (s)	5.1	49.6		16.3	60.7		9.7	34.3	50.6	6.8	31.4	
Effective Green, g (s)	5.1	49.6		16.3	60.7		9.7	34.3	50.6	6.8	31.4	
Actuated g/C Ratio	0.04	0.38		0.13	0.47		0.07	0.26	0.39	0.05	0.24	
Clearance Time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	68	650		414	741		113	459	576	79	810	
v/s Ratio Prot	0.02	c0.17		c0.10	0.17		c0.05	c0.17	0.02	0.04	c0.19	
v/s Ratio Perm									0.05			
v/c Ratio	0.54	0.45		0.83	0.36		0.71	0.65	0.19	0.70	0.77	
Uniform Delay, d1	61.3	30.1		55.5	22.2		58.8	42.5	26.2	60.6	46.0	
Progression Factor	1.00	1.00		1.03	0.89		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.7	0.2		12.6	1.4		15.2	2.5	0.1	19.3	4.3	
Delay (s)	66.0	30.3		70.0	21.2		74.0	45.1	26.3	79.9	50.3	
Level of Service	E	C		E	C		E	D	C	E	D	
Approach Delay (s)		34.1			48.3			40.5			52.6	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	221	70	97	238	74	64	43	88	89	74	22
Future Volume (vph)	37	221	70	97	238	74	64	43	88	89	74	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.90		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1663	1421	1687	3137		1543	1596		1597	1754	
Flt Permitted	0.52	1.00	1.00	0.50	1.00		0.68	1.00		0.37	1.00	
Satd. Flow (perm)	995	1663	1421	879	3137		1106	1596		620	1754	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	46	273	86	120	294	91	79	53	109	110	91	27
RTOR Reduction (vph)	0	0	37	0	13	0	0	64	0	0	9	0
Lane Group Flow (vph)	46	282	40	120	372	0	79	98	0	110	109	0
Heavy Vehicles (%)	0%	8%	8%	7%	11%	11%	17%	3%	9%	13%	6%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	72.6	67.7	67.7	81.4	72.1		24.6	15.6		31.0	18.8	
Effective Green, g (s)	72.6	67.7	67.7	81.4	72.1		24.6	15.6		31.0	18.8	
Actuated g/C Ratio	0.56	0.52	0.52	0.63	0.55		0.19	0.12		0.24	0.14	
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	2.0		3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	586	866	740	608	1739		239	191		239	253	
v/s Ratio Prot	0.00	c0.17		c0.01	c0.12		0.02	0.06		c0.04	0.06	
v/s Ratio Perm	0.04		0.03	0.11			0.04			c0.07		
v/c Ratio	0.08	0.33	0.05	0.20	0.21		0.33	0.51		0.46	0.43	
Uniform Delay, d1	13.0	18.0	15.4	10.3	14.6		45.0	53.6		40.8	50.7	
Progression Factor	0.95	0.87	4.13	1.00	1.00		1.01	0.98		1.00	1.00	
Incremental Delay, d2	0.0	0.1	0.0	0.2	0.3		0.8	1.0		1.4	0.4	
Delay (s)	12.3	15.6	63.4	10.4	14.9		46.5	53.8		42.2	51.1	
Level of Service	B	B	E	B	B		D	D		D	D	
Approach Delay (s)		24.3			13.8			51.4			46.8	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	724	132	56	1244	96	185	159	58	169	318	397
Future Volume (vph)	201	724	132	56	1244	96	185	159	58	169	318	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.3	6.3	6.2	6.3	6.3	6.3	5.9	5.9	6.8	5.9	5.9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1719	3282	1509	1802	3438	1538	1735	1810	1429	1714	1810	1583
Flt Permitted	0.08	1.00	1.00	0.33	1.00	1.00	0.20	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	137	3282	1509	624	3438	1538	366	1810	1429	1019	1810	1583
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)	212	762	139	59	1309	101	195	167	61	178	335	418
RTOR Reduction (vph)	0	0	55	0	0	49	0	0	42	0	0	76
Lane Group Flow (vph)	212	762	84	59	1309	52	195	167	19	178	335	342
Confl. Peds. (#/hr)	1		10	10		1	1		4	4		1
Heavy Vehicles (%)	5%	10%	7%	0%	5%	5%	4%	5%	13%	5%	5%	2%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	1	6	6 3	5	2	2 7	3	8	8 5	7	4	4 1
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	68.7	56.9	78.3	52.2	46.6	66.7	43.6	28.5	40.0	41.5	27.7	49.5
Effective Green, g (s)	68.7	56.9	78.3	52.2	46.6	66.7	43.6	28.5	40.0	41.5	27.7	49.5
Actuated g/C Ratio	0.53	0.44	0.60	0.40	0.36	0.51	0.34	0.22	0.31	0.32	0.21	0.38
Clearance Time (s)	6.2	6.3		6.2	6.3		6.3	5.9		6.8	5.9	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	265	1436	908	301	1232	789	281	396	439	399	385	602
v/s Ratio Prot	c0.10	0.23	0.06	0.01	c0.38	0.03	c0.08	0.09	0.01	0.05	c0.19	0.22
v/s Ratio Perm	0.32			0.07			0.15			0.09		
v/c Ratio	0.80	0.53	0.09	0.20	1.06	0.07	0.69	0.42	0.04	0.45	0.87	0.57
Uniform Delay, d1	36.9	26.8	10.9	24.1	41.7	15.9	33.9	43.7	31.6	33.7	49.4	31.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.03	0.92	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.9	1.4	0.0	0.1	44.0	0.0	5.6	0.3	0.0	0.3	18.3	0.7
Delay (s)	51.8	28.2	10.9	24.3	85.7	16.0	40.6	40.6	31.6	34.0	67.7	32.6
Level of Service	D	C	B	C	F	B	D	D	C	C	E	C
Approach Delay (s)		30.5			78.4			39.3			45.5	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	52.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	184	180	59	238	143	134	191	47	87	294	90
Future Volume (vph)	28	184	180	59	238	143	134	191	47	87	294	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.94		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1659		1702	1659		1733	3139		1682	3209	
Flt Permitted	0.24	1.00		0.20	1.00		0.43	1.00		0.59	1.00	
Satd. Flow (perm)	451	1659		359	1659		789	3139		1042	3209	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	31	204	200	66	264	159	149	212	52	97	327	100
RTOR Reduction (vph)	0	32	0	0	19	0	0	14	0	0	17	0
Lane Group Flow (vph)	31	372	0	66	404	0	149	250	0	97	410	0
Confl. Peds. (#/hr)	2		5	5		2	3		3	3		3
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	4%	6%	6%	6%	10%	4%	12%	7%	7%	9%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	41.7	37.1		47.1	39.8		67.7	56.3		63.5	54.2	
Effective Green, g (s)	41.7	37.1		47.1	39.8		67.7	56.3		63.5	54.2	
Actuated g/C Ratio	0.32	0.29		0.36	0.31		0.52	0.43		0.49	0.42	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	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)	192	473		205	507		493	1359		554	1337	
v/s Ratio Prot	0.01	0.22		c0.02	c0.24		c0.03	0.08		0.01	0.13	
v/s Ratio Perm	0.05			0.10			c0.13			0.07		
v/c Ratio	0.16	0.79		0.32	0.80		0.30	0.18		0.18	0.31	
Uniform Delay, d1	32.1	42.8		30.0	41.4		16.6	22.7		18.0	25.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.54	0.45	
Incremental Delay, d2	0.4	8.4		0.9	8.5		0.3	0.3		0.1	0.5	
Delay (s)	32.5	51.2		30.9	49.9		17.0	23.0		10.0	12.0	
Level of Service	C	D		C	D		B	C		A	B	
Approach Delay (s)		49.9			47.3			20.8			11.6	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	217	102	151	147	148	70	287	707	43	56	1370	288
Future Volume (veh/h)	217	102	151	147	148	70	287	707	43	56	1370	288
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1792	1681	1776	1759	1900	1696	1714	1900	1759	1792	1776
Adj Flow Rate, veh/h	241	113	168	163	164	78	319	786	48	62	1522	320
Adj No. of Lanes	2	1	1	1	1	0	2	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	14	6	13	7	9	9	12	11	11	8	6	7
Cap, veh/h	287	352	344	163	224	107	302	1559	95	78	1533	809
Arrive On Green	0.09	0.20	0.20	0.10	0.20	0.20	0.10	0.50	0.50	0.05	0.45	0.45
Sat Flow, veh/h	3079	1792	1412	1691	1123	534	3134	3119	190	1675	3406	1475
Grp Volume(v), veh/h	241	113	168	163	0	242	319	410	424	62	1522	320
Grp Sat Flow(s),veh/h/ln	1540	1792	1412	1691	0	1657	1567	1629	1681	1675	1703	1475
Q Serve(g_s), s	9.6	6.7	12.7	12.0	0.0	17.0	12.0	21.0	21.0	4.6	55.3	15.6
Cycle Q Clear(g_c), s	9.6	6.7	12.7	12.0	0.0	17.0	12.0	21.0	21.0	4.6	55.3	15.6
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	287	352	344	163	0	331	302	814	840	78	1533	809
V/C Ratio(X)	0.84	0.32	0.49	1.00	0.00	0.73	1.06	0.50	0.50	0.79	0.99	0.40
Avail Cap(c_a), veh/h	297	504	464	163	0	466	302	814	840	135	1533	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	42.9	40.5	56.2	0.0	46.7	56.2	20.8	20.8	58.7	34.0	16.3
Incr Delay (d2), s/veh	18.3	0.5	1.1	70.3	0.0	3.6	67.1	0.5	0.5	16.1	21.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.4	5.1	8.8	0.0	8.1	8.0	9.5	9.8	2.5	30.5	6.4
LnGrp Delay(d),s/veh	73.8	43.4	41.5	126.5	0.0	50.3	123.3	21.3	21.3	74.8	55.3	16.7
LnGrp LOS	E	D	D	F		D	F	C	C	E	E	B
Approach Vol, veh/h		522			405			1153			1904	
Approach Delay, s/veh		56.8			81.0			49.5			49.4	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	29.8	17.0	61.0	17.0	29.4	10.8	67.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	35.0	12.0	56.0	12.0	35.0	10.0	58.0
Max Q Clear Time (g_c+I1), s	11.6	19.0	14.0	57.3	14.0	14.7	6.6	23.0
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	2.7	0.0	26.3

Intersection Summary	
HCM 2010 Ctrl Delay	53.6
HCM 2010 LOS	D

HCM Unsignalized Intersection Capacity Analysis
5: NE 94th Ave & NE 105th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	12	237	106	35	0	82	32	36	0	89	10
Future Volume (Veh/h)	4	12	237	106	35	0	82	32	36	0	89	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	5	14	282	126	42	0	98	38	43	0	106	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	388	389	112	656	374	60	118			81		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	388	389	112	656	374	60	118			81		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	99	97	69	49	92	100	93			100		
cM capacity (veh/h)	511	512	917	245	522	1012	1440			1529		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	301	168	179	118
Volume Left	5	126	98	0
Volume Right	282	0	43	12
cSH	873	283	1440	1529
Volume to Capacity	0.34	0.59	0.07	0.00
Queue Length 95th (ft)	39	88	5	0
Control Delay (s)	11.3	34.8	4.5	0.0
Lane LOS	B	D	A	
Approach Delay (s)	11.3	34.8	4.5	0.0
Approach LOS	B	D		

Intersection Summary				
Average Delay	13.1			
Intersection Capacity Utilization	48.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	111	49	178	439	11
Future Volume (Veh/h)	11	111	49	178	439	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	12	118	52	189	467	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	766	473	479			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	766	473	479			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	80	95			
cM capacity (veh/h)	356	591	1094			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	12	118	52	189	479
Volume Left	12	0	52	0	0
Volume Right	0	118	0	0	12
cSH	356	591	1094	1700	1700
Volume to Capacity	0.03	0.20	0.05	0.11	0.28
Queue Length 95th (ft)	3	18	4	0	0
Control Delay (s)	15.5	12.6	8.5	0.0	0.0
Lane LOS	C	B	A		
Approach Delay (s)	12.9		1.8		0.0
Approach LOS	B				

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	83	49	422	41	30	801
Future Volume (Veh/h)	83	49	422	41	30	801
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	93	55	474	46	34	900
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1017	262			522	
vC1, stage 1 conf vol	499					
vC2, stage 2 conf vol	518					
vCu, unblocked vol	1017	262			522	
tC, single (s)	6.9	7.3			4.5	
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.5			2.4	
p0 queue free %	78	92			96	
cM capacity (veh/h)	431	684			917	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	148	316	204	34	450	450
Volume Left	93	0	0	34	0	0
Volume Right	55	0	46	0	0	0
cSH	500	1700	1700	917	1700	1700
Volume to Capacity	0.30	0.19	0.12	0.04	0.26	0.26
Queue Length 95th (ft)	31	0	0	3	0	0
Control Delay (s)	15.2	0.0	0.0	9.1	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	15.2	0.0		0.3		
Approach LOS	C					

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	36.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	10	94	27	2	3	45	234	177	19	603	24
Future Volume (Veh/h)	14	10	94	27	2	3	45	234	177	19	603	24
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	16	11	108	31	2	3	52	269	203	22	693	28
Pedestrians		2										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1130	1329	709	1325	1242	370	723			472		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1130	1329	709	1325	1242	370	723			472		
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	92	75	65	99	100	94			98		
cM capacity (veh/h)	153	143	430	88	161	675	873			1090		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	135	36	52	472	22	721
Volume Left	16	31	52	0	22	0
Volume Right	108	3	0	203	0	28
cSH	312	97	873	1700	1090	1700
Volume to Capacity	0.43	0.37	0.06	0.28	0.02	0.42
Queue Length 95th (ft)	52	37	5	0	2	0
Control Delay (s)	25.1	62.1	9.4	0.0	8.4	0.0
Lane LOS	D	F	A		A	
Approach Delay (s)	25.1	62.1	0.9		0.2	
Approach LOS	D	F				

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	52.4%	ICU Level of Service		A
Analysis Period (min)	15			

MOVEMENT SUMMARY

Site: 101 [NE 105 and NE 87]

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: NE 87 NB											
1	L2	1	0.0	0.041	7.6	LOS A	0.1	1.1	0.34	0.97	50.6
2	T1	27	4.0	0.041	10.1	LOS B	0.1	1.1	0.34	0.97	50.6
3	R2	3	67.0	0.041	12.3	LOS B	0.1	1.1	0.34	0.97	48.6
Approach		32	10.2	0.041	10.2	LOS B	0.1	1.1	0.34	0.97	50.4
East: NE 105 WB											
4	L2	1	0.0	0.106	6.2	LOS A	0.0	0.2	0.01	0.57	53.1
5	T1	1	0.0	0.106	1.7	LOS A	0.0	0.2	0.01	0.57	55.0
6	R2	181	10.0	0.106	5.7	LOS A	0.0	0.2	0.01	0.57	53.2
Approach		183	9.9	0.106	5.7	NA	0.0	0.2	0.01	0.57	53.2
North: NE 87 SB											
7	L2	179	15.0	0.116	8.1	LOS A	0.0	0.0	0.00	1.04	51.0
8	T1	16	7.0	0.116	8.0	LOS A	0.0	0.0	0.00	1.04	51.6
9	R2	1	0.0	0.116	8.0	LOS A	0.0	0.0	0.00	1.04	52.1
Approach		196	14.3	0.116	8.1	LOS A	0.0	0.0	0.00	1.04	51.0
West: NE 105 EB											
10	L2	3	0.0	0.012	6.8	LOS A	0.0	0.4	0.22	0.31	54.2
11	T1	6	20.0	0.012	2.1	LOS A	0.0	0.4	0.22	0.31	56.2
12	R2	1	0.0	0.012	5.6	LOS A	0.0	0.4	0.22	0.31	54.7
Approach		11	12.0	0.012	3.9	NA	0.0	0.4	0.22	0.31	55.4
All Vehicles		421	12.0	0.116	7.1	NA	0.1	1.1	0.04	0.81	52.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM Signalized Intersection Capacity Analysis
1: NE 72nd Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	240	90	319	216	102	80	668	710	116	444	32
Future Volume (vph)	40	240	90	319	216	102	80	668	710	116	444	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	1752		3367	1774		1752	1845	1568	1787	3464	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	1752		3367	1774		1752	1845	1568	1787	3464	
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)	42	253	95	336	227	107	84	703	747	122	467	34
RTOR Reduction (vph)	0	9	0	0	11	0	0	0	204	0	3	0
Lane Group Flow (vph)	42	339	0	336	323	0	84	703	543	122	498	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	4%	4%	4%	4%	1%	4%	3%	3%	2%	1%	3%	3%
Turn Type	Prot	NA		Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2		3	8	5	7	4	
Permitted Phases									8			
Actuated Green, G (s)	5.8	45.1		19.5	58.7		9.9	49.5	69.0	12.9	52.5	
Effective Green, g (s)	5.8	45.1		19.5	58.7		9.9	49.5	69.0	12.9	52.5	
Actuated g/C Ratio	0.04	0.30		0.13	0.39		0.07	0.33	0.46	0.09	0.35	
Clearance Time (s)	5.4	6.1		5.4	6.2		5.4	6.1	5.4	5.4	6.1	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	67	526		437	694		115	608	721	153	1212	
v/s Ratio Prot	0.02	c0.19		c0.10	0.18		0.05	c0.38	0.10	c0.07	c0.14	
v/s Ratio Perm									0.25			
v/c Ratio	0.63	0.64		0.77	0.47		0.73	1.16	0.75	0.80	0.41	
Uniform Delay, d1	71.0	45.5		63.1	34.0		68.7	50.2	33.5	67.3	37.0	
Progression Factor	1.00	1.00		1.38	0.72		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.4	2.0		7.0	2.2		18.4	87.8	4.0	22.9	0.1	
Delay (s)	83.5	47.5		93.9	26.7		87.2	138.1	37.4	90.2	37.1	
Level of Service	F	D		F	C		F	F	D	F	D	
Approach Delay (s)		51.4			60.4			86.3			47.5	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM 2000 Control Delay	69.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	703	78	123	500	55	53	63	135	38	30	22
Future Volume (vph)	35	703	78	123	500	55	53	63	135	38	30	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.90		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	1845	1553	1805	3518		1805	1695		1805	1709	
Flt Permitted	0.39	1.00	1.00	0.14	1.00		0.71	1.00		0.21	1.00	
Satd. Flow (perm)	686	1845	1553	272	3518		1347	1695		407	1709	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	42	847	94	148	602	66	64	76	163	46	36	27
RTOR Reduction (vph)	0	0	39	0	3	0	0	66	0	0	23	0
Lane Group Flow (vph)	42	847	55	148	665	0	64	173	0	46	40	0
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	7%	3%	4%	0%	1%	0%	0%	2%	0%	0%	6%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	92.3	87.4	87.4	102.5	92.5		27.6	20.7		27.2	20.5	
Effective Green, g (s)	92.3	87.4	87.4	102.5	92.5		27.6	20.7		27.2	20.5	
Actuated g/C Ratio	0.62	0.58	0.58	0.68	0.62		0.18	0.14		0.18	0.14	
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	2.0		3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	454	1075	904	288	2169		268	233		136	233	
v/s Ratio Prot	0.00	c0.46		c0.03	0.19		0.01	c0.10		c0.02	0.02	
v/s Ratio Perm	0.05		0.04	0.32			0.03			0.05		
v/c Ratio	0.09	0.79	0.06	0.51	0.31		0.24	0.74		0.34	0.17	
Uniform Delay, d1	11.4	24.1	13.5	20.9	13.6		51.8	62.1		52.2	57.2	
Progression Factor	1.10	1.09	1.54	1.00	1.00		0.96	0.97		1.00	1.00	
Incremental Delay, d2	0.0	2.7	0.0	1.5	0.4		0.4	9.3		1.5	0.1	
Delay (s)	12.6	28.9	20.8	22.5	14.0		50.4	69.6		53.7	57.4	
Level of Service	B	C	C	C	B		D	E		D	E	
Approach Delay (s)		27.4			15.5			65.5			55.8	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	1444	268	66	1154	233	223	407	150	201	302	312
Future Volume (vph)	423	1444	268	66	1154	233	223	407	150	201	302	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.3	6.3	6.2	6.3	6.3	6.3	5.9	5.9	6.8	5.9	5.9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1719	3471	1583	1719	3438	1538	1736	1827	1568	1736	1845	1568
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.16	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	145	3471	1583	166	3438	1538	289	1827	1568	257	1845	1568
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)	445	1520	282	69	1215	245	235	428	158	212	318	328
RTOR Reduction (vph)	0	0	94	0	0	61	0	0	85	0	0	40
Lane Group Flow (vph)	445	1520	188	69	1215	184	235	428	73	212	318	288
Confl. Peds. (#/hr)	6		13	13		6						
Heavy Vehicles (%)	5%	4%	2%	5%	5%	5%	4%	4%	3%	4%	3%	3%
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov	pm+pt	NA	pt+ov
Protected Phases	1	6	6 3	5	2	2 7	3	8	8 5	7	4	4 1
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	83.7	70.0	95.7	51.2	43.7	67.9	48.8	29.4	42.8	46.3	28.4	68.1
Effective Green, g (s)	83.7	70.0	95.7	51.2	43.7	67.9	48.8	29.4	42.8	46.3	28.4	68.1
Actuated g/C Ratio	0.56	0.47	0.64	0.34	0.29	0.45	0.33	0.20	0.29	0.31	0.19	0.45
Clearance Time (s)	6.2	6.3		6.2	6.3		6.3	5.9		6.8	5.9	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	435	1619	1009	134	1001	696	281	358	447	255	349	711
v/s Ratio Prot	c0.23	0.44	0.12	0.03	c0.35	0.12	c0.11	c0.23	0.05	0.10	0.17	0.18
v/s Ratio Perm	0.34			0.15			0.16			0.16		
v/c Ratio	1.02	0.94	0.19	0.51	1.21	0.26	0.84	1.20	0.16	0.83	0.91	0.41
Uniform Delay, d1	48.6	38.0	11.2	37.6	53.1	25.5	41.4	60.3	40.2	43.1	59.6	27.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.82	0.78	1.00	1.00	1.00
Incremental Delay, d2	49.1	11.9	0.0	1.4	105.5	0.1	16.1	109.4	0.1	19.3	26.6	0.1
Delay (s)	97.7	49.9	11.2	39.0	158.7	25.6	49.4	158.6	31.3	62.3	86.2	27.5
Level of Service	F	D	B	D	F	C	D	F	C	E	F	C
Approach Delay (s)		54.5			131.9			102.9			57.9	
Approach LOS		D			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	84.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.2
Intersection Capacity Utilization	108.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	377	191	158	314	202	157	481	93	186	362	40
Future Volume (vph)	55	377	191	158	314	202	157	481	93	186	362	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	1736		1703	1702		1715	3401		1703	3362	
Flt Permitted	0.23	1.00		0.14	1.00		0.43	1.00		0.26	1.00	
Satd. Flow (perm)	407	1736		244	1702		779	3401		464	3362	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	57	393	199	165	327	210	164	501	97	194	377	42
RTOR Reduction (vph)	0	14	0	0	17	0	0	10	0	0	5	0
Lane Group Flow (vph)	57	578	0	165	520	0	164	588	0	194	414	0
Confl. Peds. (#/hr)			4	4			4		1	1		4
Confl. Bikes (#/hr)						1						1
Heavy Vehicles (%)	8%	4%	2%	6%	3%	7%	5%	3%	4%	6%	5%	9%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	65.8	58.8		71.8	61.8		59.0	46.6		63.4	48.8	
Effective Green, g (s)	65.8	58.8		71.8	61.8		59.0	46.6		63.4	48.8	
Actuated g/C Ratio	0.44	0.39		0.48	0.41		0.39	0.31		0.42	0.33	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	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)	237	680		214	701		383	1056		316	1093	
v/s Ratio Prot	0.01	c0.33		c0.05	0.31		0.04	0.17		c0.06	0.12	
v/s Ratio Perm	0.09			0.32			0.13			c0.20		
v/c Ratio	0.24	0.85		0.77	0.74		0.43	0.56		0.61	0.38	
Uniform Delay, d1	27.6	41.6		30.2	37.3		30.7	43.1		29.8	38.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.97	
Incremental Delay, d2	0.5	9.9		15.7	4.2		0.8	2.1		3.0	0.8	
Delay (s)	28.1	51.5		45.9	41.6		31.5	45.2		29.8	38.7	
Level of Service	C	D		D	D		C	D		C	D	
Approach Delay (s)		49.5			42.6			42.3			35.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 Signalized Intersection Summary
3: NE 117th Ave & NE 119th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	504	316	239	107	247	92	359	1301	126	130	1033	232
Future Volume (veh/h)	504	316	239	107	247	92	359	1301	126	130	1033	232
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1845	1827	1810	1811	1900	1845	1827	1863	1863	1810	1881
Adj Flow Rate, veh/h	531	333	252	113	260	97	378	1369	133	137	1087	244
Adj No. of Lanes	2	1	1	2	1	0	2	2	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	3	4	5	6	6	3	4	2	2	5	1
Cap, veh/h	564	644	626	159	293	109	413	1411	636	185	1166	619
Arrive On Green	0.16	0.35	0.35	0.05	0.23	0.23	0.12	0.41	0.41	0.05	0.34	0.34
Sat Flow, veh/h	3442	1845	1553	3343	1259	470	3408	3471	1563	3442	3438	1599
Grp Volume(v), veh/h	531	333	252	113	0	357	378	1369	133	137	1087	244
Grp Sat Flow(s),veh/h/ln	1721	1845	1553	1672	0	1728	1704	1736	1563	1721	1719	1599
Q Serve(g_s), s	21.4	20.1	16.2	4.7	0.0	28.0	15.4	54.2	7.7	5.5	42.8	15.5
Cycle Q Clear(g_c), s	21.4	20.1	16.2	4.7	0.0	28.0	15.4	54.2	7.7	5.5	42.8	15.5
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	564	644	626	159	0	403	413	1411	636	185	1166	619
V/C Ratio(X)	0.94	0.52	0.40	0.71	0.00	0.89	0.92	0.97	0.21	0.74	0.93	0.39
Avail Cap(c_a), veh/h	564	644	626	238	0	444	413	1411	636	245	1201	635
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	36.2	29.8	65.8	0.0	52.0	60.9	40.8	27.0	65.4	44.8	31.1
Incr Delay (d2), s/veh	24.2	0.7	0.4	5.7	0.0	18.0	24.7	17.2	0.2	7.9	12.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	10.4	7.1	2.3	0.0	15.4	8.7	29.2	3.4	2.8	22.4	6.9
LnGrp Delay(d),s/veh	82.1	37.0	30.2	71.6	0.0	70.0	85.6	58.0	27.2	73.3	57.5	31.5
LnGrp LOS	F	D	C	E		E	F	E	C	E	E	C
Approach Vol, veh/h		1116			470			1880			1468	
Approach Delay, s/veh		56.9			70.4			61.4			54.6	
Approach LOS		E			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	37.7	22.0	52.6	11.7	54.0	12.6	62.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	23.0	36.0	17.0	49.0	10.0	49.0	10.0	56.0
Max Q Clear Time (g_c+I1), s	23.4	30.0	17.4	44.8	6.7	22.1	7.5	56.2
Green Ext Time (p_c), s	0.0	2.7	0.0	2.7	0.1	5.7	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	59.2
HCM 2010 LOS	E

HCM Unsignalized Intersection Capacity Analysis
5: NE 94th Ave & NE 105th St

7/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	39	134	69	23	0	210	125	119	0	75	13
Future Volume (Veh/h)	14	39	134	69	23	0	210	125	119	0	75	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	18	50	172	88	29	0	269	160	153	0	96	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	894	956	104	1076	888	236	113			313		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	894	956	104	1076	888	236	113			313		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	77	82	24	88	100	82			100		
cM capacity (veh/h)	206	213	942	115	233	807	1476			1259		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	240	117	582	113
Volume Left	18	88	269	0
Volume Right	172	0	153	17
cSH	475	132	1476	1259
Volume to Capacity	0.50	0.89	0.18	0.00
Queue Length 95th (ft)	70	144	17	0
Control Delay (s)	20.0	114.9	4.6	0.0
Lane LOS	C	F	A	
Approach Delay (s)	20.0	114.9	4.6	0.0
Approach LOS	C	F		

Intersection Summary			
Average Delay	19.9		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	71	114	522	290	14
Future Volume (Veh/h)	15	71	114	522	290	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	16	78	125	574	319	15
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	None	
Median storage veh)				2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1152	328	336			
vC1, stage 1 conf vol	328					
vC2, stage 2 conf vol	824					
vCu, unblocked vol	1152	328	336			
tC, single (s)	6.7	6.2	4.1			
tC, 2 stage (s)	5.7					
tF (s)	3.8	3.3	2.2			
p0 queue free %	95	89	90			
cM capacity (veh/h)	321	709	1221			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	16	78	699	334
Volume Left	16	0	125	0
Volume Right	0	78	0	15
cSH	321	709	1221	1700
Volume to Capacity	0.05	0.11	0.10	0.20
Queue Length 95th (ft)	4	9	9	0
Control Delay (s)	16.8	10.7	2.5	0.0
Lane LOS	C	B	A	
Approach Delay (s)	11.7		2.5	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	55	1135	188	45	720
Future Volume (Veh/h)	81	55	1135	188	45	720
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	87	59	1220	202	48	774
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1805	712			1423	
vC1, stage 1 conf vol	1322					
vC2, stage 2 conf vol	483					
vCu, unblocked vol	1805	712			1423	
tC, single (s)	6.9	7.0			4.4	
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.4			2.3	
p0 queue free %	55	84			89	
cM capacity (veh/h)	195	366			422	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	146	813	609	48	387	387
Volume Left	87	0	0	48	0	0
Volume Right	59	0	202	0	0	0
cSH	241	1700	1700	422	1700	1700
Volume to Capacity	0.61	0.48	0.36	0.11	0.23	0.23
Queue Length 95th (ft)	89	0	0	10	0	0
Control Delay (s)	40.6	0.0	0.0	14.6	0.0	0.0
Lane LOS	E			B		
Approach Delay (s)	40.6	0.0		0.9		
Approach LOS	E					

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	2	92	186	11	20	115	742	30	3	442	33
Future Volume (Veh/h)	52	2	92	186	11	20	115	742	30	3	442	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	54	2	96	194	11	21	120	773	31	3	460	34
Pedestrians		3										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1526	1530	480	1592	1532	788	497			804		
vC1, stage 1 conf vol	486	486		1028	1028							
vC2, stage 2 conf vol	1040	1044		563	503							
vCu, unblocked vol	1526	1530	480	1592	1532	788	497			804		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	74	99	84	2	95	95	89			100		
cM capacity (veh/h)	207	248	586	199	242	391	1064			820		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	152	226	120	804	3	494
Volume Left	54	194	120	0	3	0
Volume Right	96	21	0	31	0	34
cSH	351	210	1064	1700	820	1700
Volume to Capacity	0.43	1.07	0.11	0.47	0.00	0.29
Queue Length 95th (ft)	53	256	10	0	0	0
Control Delay (s)	22.9	131.4	8.8	0.0	9.4	0.0
Lane LOS	C	F	A		A	
Approach Delay (s)	22.9	131.4	1.1		0.1	
Approach LOS	C	F				

Intersection Summary			
Average Delay	19.0		
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

MOVEMENT SUMMARY

Site: 101 [NE 105 and NE 87]

New Site
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: NE 87 NB											
1	L2	1	0.0	0.033	7.7	LOS A	0.1	0.8	0.36	0.95	50.5
2	T1	21	0.0	0.033	10.2	LOS B	0.1	0.8	0.36	0.95	50.7
3	R2	3	0.0	0.033	8.8	LOS A	0.1	0.8	0.36	0.95	50.9
Approach		25	0.0	0.033	9.9	LOS A	0.1	0.8	0.36	0.95	50.7
East: NE 105 WB											
4	L2	6	0.0	0.138	6.3	LOS A	0.1	0.8	0.04	0.54	53.0
5	T1	4	0.0	0.138	2.0	LOS A	0.1	0.8	0.04	0.54	54.9
6	R2	235	3.0	0.138	5.7	LOS A	0.1	0.8	0.04	0.54	53.4
Approach		245	2.9	0.138	5.6	NA	0.1	0.8	0.04	0.54	53.4
North: NE 87 SB											
7	L2	195	7.0	0.125	7.7	LOS A	0.0	0.0	0.00	1.02	51.3
8	T1	25	0.0	0.125	7.7	LOS A	0.0	0.0	0.00	1.02	51.8
9	R2	3	0.0	0.125	8.0	LOS A	0.0	0.0	0.00	1.02	52.1
Approach		223	6.1	0.125	7.7	LOS A	0.0	0.0	0.00	1.02	51.4
West: NE 105 EB											
10	L2	2	0.0	0.008	7.1	LOS A	0.0	0.2	0.24	0.32	54.4
11	T1	4	0.0	0.008	1.8	LOS A	0.0	0.2	0.24	0.32	56.4
12	R2	1	0.0	0.008	5.6	LOS A	0.0	0.2	0.24	0.32	54.9
Approach		7	0.0	0.008	3.9	NA	0.0	0.2	0.24	0.32	55.6
All Vehicles		501	4.1	0.138	6.8	NA	0.1	0.8	0.04	0.77	52.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Mitigated NE 88th Street/NE 94th Avenue Intersection Worksheets

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HCM Unsignalized Intersection Capacity Analysis
8: NE 94th Ave & NE 88th St

7/25/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	0	92	57	4	7	115	742	9	1	442	33
Future Volume (Veh/h)	52	0	92	57	4	7	115	742	9	1	442	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	54	0	96	59	4	7	120	773	9	1	460	34
Pedestrians		3										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1504	1504	480	1576	1516	778	497			782		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1504	1504	480	1576	1516	778	497			782		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	37	100	84	13	96	98	89			100		
cM capacity (veh/h)	86	108	586	68	105	397	1064			836		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	150	70	120	782	1	494
Volume Left	54	59	120	0	1	0
Volume Right	96	7	0	9	0	34
cSH	190	76	1064	1700	836	1700
Volume to Capacity	0.79	0.93	0.11	0.46	0.00	0.29
Queue Length 95th (ft)	136	120	10	0	0	0
Control Delay (s)	71.7	178.0	8.8	0.0	9.3	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	71.7	178.0	1.2		0.0	
Approach LOS	F	F				

Intersection Summary				
Average Delay	15.0			
Intersection Capacity Utilization	61.0%	ICU Level of Service	B	
Analysis Period (min)	15			

MITIGATION:
->LIMIT SITE TO 10 TRIPS IN/67 TRIPS OUT (77 WEEKDAY PM PEAK HOUR TRIPS)

HCM Unsignalized Intersection Capacity Analysis
8: NE 94th Ave & NE 88th St

7/25/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	0	92	61	4	7	115	742	10	1	442	33
Future Volume (Veh/h)	52	0	92	61	4	7	115	742	10	1	442	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	54	0	96	64	4	7	120	773	10	1	460	34
Pedestrians		3										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		4.0										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1504	1505	480	1576	1517	778	497			783		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1504	1505	480	1576	1517	778	497			783		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	37	100	84	5	96	98	89			100		
cM capacity (veh/h)	86	108	586	68	105	396	1064			835		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	150	68	7	120	783	1	494
Volume Left	54	64	0	120	0	1	0
Volume Right	96	0	7	0	10	0	34
cSH	190	69	396	1064	1700	835	1700
Volume to Capacity	0.79	0.98	0.02	0.11	0.46	0.00	0.29
Queue Length 95th (ft)	136	124	1	10	0	0	0
Control Delay (s)	71.7	205.1	14.2	8.8	0.0	9.3	0.0
Lane LOS	F	F	B	A		A	
Approach Delay (s)	71.7	187.3		1.2		0.0	
Approach LOS	F	F					

Intersection Summary			
Average Delay	15.9		
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

MITIGATION:
->ADD WESTBOUND RIGHT-TURN LANE &
->LIMIT SITE TO 11 TRIPS IN/71 TRIPS OUT (86 WEEKDAY PM PEAK HOUR TRIPS)

HCM Signalized Intersection Capacity Analysis
8: NE 94th Ave & NE 88th St

7/25/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	2	92	186	11	20	115	742	30	3	442	33
Future Volume (vph)	52	2	92	186	11	20	115	742	30	3	442	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.91			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1679			1779	1583	1770	1751		1770	1858	
Flt Permitted		0.63			0.56	1.00	0.38	1.00		0.26	1.00	
Satd. Flow (perm)		1081			1041	1583	703	1751		484	1858	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	2	96	194	11	21	120	773	31	3	460	34
RTOR Reduction (vph)	0	46	0	0	0	17	0	1	0	0	2	0
Lane Group Flow (vph)	0	106	0	0	205	4	120	803	0	3	492	0
Confl. Peds. (#/hr)							3					3
Confl. Bikes (#/hr)									2			6
Heavy Vehicles (%)	3%	1%	1%	2%	2%	2%	2%	8%	2%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		3	8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)		28.0			28.0	28.0	97.0	90.8		84.9	83.7	
Effective Green, g (s)		28.0			28.0	28.0	97.0	90.8		84.9	83.7	
Actuated g/C Ratio		0.21			0.21	0.21	0.72	0.67		0.63	0.62	
Clearance Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		224			215	328	570	1177		315	1151	
v/s Ratio Prot							c0.01	c0.46		0.00	0.26	
v/s Ratio Perm		0.10			c0.20	0.00	0.14			0.01		
v/c Ratio		0.47			0.95	0.01	0.21	0.68		0.01	0.43	
Uniform Delay, d1		47.0			52.9	42.5	7.3	13.4		11.4	13.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6			48.0	0.0	0.2	3.2		0.0	1.2	
Delay (s)		48.6			100.8	42.5	7.5	16.6		11.4	14.4	
Level of Service		D			F	D	A	B		B	B	
Approach Delay (s)		48.6			95.4			15.4			14.4	
Approach LOS		D			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

MITIGATION:
->ADD SEPARATE WESTBOUND RIGHT-TURN LANE & SIGNALIZE

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	205	21	120	804	3	494
v/c Ratio	0.56	0.95	0.06	0.21	0.65	0.01	0.43
Control Delay	37.8	102.5	0.3	6.9	15.2	6.0	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	102.5	0.3	6.9	15.2	6.0	14.9
Queue Length 50th (ft)	73	177	0	30	340	1	214
Queue Length 95th (ft)	150	#332	0	49	618	4	304
Internal Link Dist (ft)	5526	1263			1251		2658
Turn Bay Length (ft)				100		100	
Base Capacity (vph)	277	223	384	581	1231	431	1154
Starvation Cap Reductn	0	0	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	0.55	0.92	0.05	0.21	0.65	0.01	0.43

Intersection Summary

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

MITIGATION:
->ADD SEPARATE WESTBOUND RIGHT-TURN LANE & SIGNALIZE

HCM Signalized Intersection Capacity Analysis
8: NE 94th Ave & NE 88th St

7/25/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	2	92	186	11	20	115	742	30	3	442	33
Future Volume (vph)	52	2	92	186	11	20	115	742	30	3	442	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.90		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1605		1770	1679		1770	1751		1770	1858	
Flt Permitted	0.74	1.00		0.30	1.00		0.38	1.00		0.25	1.00	
Satd. Flow (perm)	1358	1605		556	1679		701	1751		474	1858	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	2	96	194	11	21	120	773	31	3	460	34
RTOR Reduction (vph)	0	91	0	0	18	0	0	1	0	0	2	0
Lane Group Flow (vph)	54	7	0	194	14	0	120	803	0	3	492	0
Confl. Peds. (#/hr)							3					3
Confl. Bikes (#/hr)									2			6
Heavy Vehicles (%)	3%	1%	1%	2%	2%	2%	2%	8%	2%	2%	1%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	15.9	8.4		33.4	20.9		106.6	100.4		94.1	92.9	
Effective Green, g (s)	15.9	8.4		33.4	20.9		106.6	100.4		94.1	92.9	
Actuated g/C Ratio	0.11	0.06		0.22	0.14		0.71	0.67		0.63	0.62	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	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)	163	89		285	233		560	1172		307	1150	
v/s Ratio Prot	0.02	0.00		c0.09	0.01		c0.01	c0.46		0.00	0.27	
v/s Ratio Perm	0.02			c0.06			0.14			0.01		
v/c Ratio	0.33	0.08		0.68	0.06		0.21	0.69		0.01	0.43	
Uniform Delay, d1	61.8	67.1		51.2	56.0		8.5	15.2		13.0	14.8	
Progression Factor	1.10	1.33		1.00	1.00		1.52	1.31		1.00	1.00	
Incremental Delay, d2	1.2	0.4		6.5	0.1		0.1	1.2		0.0	1.2	
Delay (s)	69.0	89.5		57.7	56.1		13.1	21.1		13.0	16.0	
Level of Service	E	F		E	E		B	C		B	B	
Approach Delay (s)		82.2			57.5			20.0			15.9	
Approach LOS		F			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

MITIGATION:
->SIGNALIZE INTERSECTION AND ADD SEPARATE EASTBOUND & WESTBOUND LEFT-TURN LANES & SHARED THROUGH/RIGHT-TURN LANES

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	98	194	32	120	804	3	494
v/c Ratio	0.32	0.58	0.69	0.13	0.21	0.65	0.01	0.42
Control Delay	56.4	30.7	64.0	29.3	11.3	20.1	8.0	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	30.7	64.0	29.3	11.3	20.1	8.0	16.7
Queue Length 50th (ft)	44	4	170	10	47	383	1	230
Queue Length 95th (ft)	m83	m62	236	42	m55	m402	5	373
Internal Link Dist (ft)		5526		1263		1251		2658
Turn Bay Length (ft)	100		100		100		100	
Base Capacity (vph)	182	256	305	341	576	1232	415	1165
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.38	0.64	0.09	0.21	0.65	0.01	0.42

Intersection Summary

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

MITIGATION:
->SIGNALIZE INTERSECTION AND ADD SEPARATE EASTBOUND & WESTBOUND LEFT-TURN LANES & SHARED THROUGH/RIGHT-TURN LANES