



Appendix G

Transportation and Traffic Memos

Appendix G.1	Transit Data
Appendix G.2	Synchro Signal Optimization Technical Memo (Oct. 2017)
Appendix G.3	Development and Calibration / Validation of the Existing Conditions (2019) Models Technical Memo (May 2020)
Appendix G.4	Development and Evaluation of the Future Conditions (2041) Models Technical Memo (Nov. 2021)



Appendix G.1

Transit Data

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 66 PRINCE EDWARD

Version: 001

ROUTING CODE(S): A0, D0,

COUNT: 1064 ON 2012-SEP-14: M-F (FROM 06:14 TO 25:13)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

NB CONTROL POINT: 30 OLD MILL AT SUBWAY STATION



NORTHBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
1	6532	LOOP (HUMBER) AT QUEENSWAY	25	0	25	78	0	78	80	0	80	44	0	44	15	0	15	242	0	242
2	13944	QUEENSWAY AT PLAZA (E OF STEPHEN)	2	1	26	10	5	83	12	1	91	11	0	55	5	0	20	40	7	275
3	7373	STEPHEN AT QUEENSWAY	6	1	31	34	2	115	35	5	121	18	5	68	6	0	26	99	13	361
4	7375	STEPHEN AT WHITWORTH	20	0	51	12	1	126	6	3	124	2	1	69	0	1	25	40	6	395
5	7371	STEPHEN AT CLOVERHILL	26	4	73	23	2	147	8	6	126	8	1	76	4	1	28	69	14	450
6	7370	STEPHEN AT BERRY RD	84	2	155	49	11	185	17	20	123	8	12	72	8	7	29	166	52	564
7	6256	BERRY RD AT BELL MANOR	78	1	232	86	11	260	40	16	147	27	6	93	12	0	41	243	34	773
8	6258	BERRY RD AT CLOVERHILL	28	1	259	24	9	275	11	5	153	4	2	95	1	2	40	68	19	822
9	6262	BERRY RD AT PARK LAWN	83	1	341	58	11	322	23	12	164	13	11	97	3	3	40	180	38	964
10	14545	MARINE PARADE DR E AT 58	26	0	66	18	0	64	19	0	62	8	0	19	3	0	11	74	0	222
11	10117	PARK LAWN AT LAKE SHORE BLVD W	29	0	95	27	0	91	32	1	93	4	0	23	9	0	20	101	1	322
12	10118	PARK LAWN OPP 77	18	0	113	7	0	98	19	1	111	3	0	26	0	0	20	47	1	368
13	14080	PARK LAWN AT QEW EB RAMP	17	0	130	8	0	106	13	0	124	2	0	28	3	0	23	43	0	411
14	10119	PARK LAWN AT QEW WB RAMP	4	0	134	1	0	107	6	1	129	0	0	28	0	0	23	11	1	421
15	10120	PARK LAWN AT QUEENSWAY	10	0	144	12	6	113	20	7	142	1	0	29	3	1	25	46	14	453
16	14331	PARK LAWN AT LORNE	10	0	154	2	0	115	2	0	144	6	0	35	0	0	25	20	0	473
17	10122	PARK LAWN AT CANNON	18	0	172	3	0	118	6	1	149	1	0	36	1	0	26	29	1	501

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 66 PRINCE EDWARD

Version: 001

ROUTING CODE(S): A0, D0,

COUNT: 1064 ON 2012-SEP-14: M-F (FROM 06:14 TO 25:13)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

NB CONTROL POINT: 30 OLD MILL AT SUBWAY STATION



TORONTO TRANSIT COMMISSION

	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
	00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59					
	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
18 10123 PARK LAWN AT KINSDALE	26	2	196	12	2	128	0	4	145	0	3	33	4	0	30	42	11	532
19 6255 BERRY RD AT BALLACAIN	74	6	605	65	4	511	52	2	359	21	0	151	12	0	82	224	12	1708
20 6263 BERRY RD AT PRINCE EDWARD	34	4	635	10	2	519	21	0	380	3	0	154	0	0	82	68	6	1770
21 6774 PRINCE EDWARD AT EDWALTER	23	2	656	16	0	535	4	0	384	8	0	162	4	2	84	55	4	1821
22 6786 PRINCE EDWARD AT KIRK BRADDEN	24	1	679	7	3	539	6	0	390	8	1	169	2	0	86	47	5	1863
23 6783 PRINCE EDWARD AT KINGSLEA	17	1	695	22	0	561	11	0	401	7	3	173	6	0	92	63	4	1922
24 6776 PRINCE EDWARD AT GLENADEN	10	0	705	4	2	563	8	5	404	16	2	187	3	0	95	41	9	1954
25 6773 PRINCE EDWARD AT EDGEMORE	5	0	710	6	3	566	0	0	404	2	0	189	0	0	95	13	3	1964
26 6787 PRINCE EDWARD AT MEADOWVALE	2	3	709	4	0	570	0	0	404	0	0	189	0	0	95	6	3	1967
27 6768 PRINCE EDWARD AT BLOOR ST W	4	28	685	6	20	556	4	29	379	2	8	183	1	6	90	17	91	1893
28 531 BLOOR ST W AT KINGSCOURT	0	0	685	3	2	557	0	0	379	1	0	184	0	0	90	4	2	1895
29 533 BLOOR ST W AT KINGSWAY	0	0	685	1	1	557	1	1	379	0	0	184	2	0	92	4	2	1897
30 6423 OLD MILL STATION	0	685	0	0	557	0	0	379	0	0	184	0	0	92	0	0	1897	0
TOTALS FOR NORTHBOUND	703	743		608	654		456	499		228	239		107	115		2102	2250	

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 66 PRINCE EDWARD

Version: 001

ROUTING CODE(S): A0, D0,

COUNT: 1064 ON 2012-SEP-14: M-F (FROM 05:57 TO 25:15)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

SB CONTROL POINT: 1 OLD MILL AT SUBWAY STATION


SOUTHBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	6423	OLD MILL STATION	224	0	224	475	0	475	902	0	902	271	0	271	215	0	215	2087	0	2087
2	14980	OLD MILL AT BLOOR ST W	0	0	224	2	1	476	0	2	900	5	0	276	0	0	215	7	3	2091
3	559	BLOOR ST W AT OLD MILL RD	1	1	224	6	1	481	0	10	890	1	1	276	0	0	215	8	13	2086
4	532	BLOOR ST W AT KINGSMILL	0	1	223	0	2	479	0	2	888	0	1	275	0	0	215	0	6	2080
5	6771	PRINCE EDWARD AT BLOOR ST W	2	2	223	21	3	497	42	5	925	11	2	284	6	3	218	82	15	2147
6	6767	PRINCE EDWARD AT ASHTON MANOR	0	1	222	2	3	496	1	4	922	1	0	285	0	0	218	4	8	2143
7	6778	PRINCE EDWARD AT GLENROY	0	3	219	1	8	489	0	7	915	0	5	280	0	5	213	1	28	2116
8	6794	PRINCE EDWARD AT SUNNYLEA	1	6	214	1	13	477	0	21	894	0	6	274	0	11	202	2	57	2061
9	6777	PRINCE EDWARD AT GLENELLEN	1	7	208	1	22	456	1	27	868	0	9	265	0	4	198	3	69	1995
10	6775	PRINCE EDWARD AT FAIRMAR	0	2	206	1	13	444	1	39	830	0	4	261	0	9	189	2	67	1930
11	13426	PRINCE EDWARD AT BERRY RD	0	7	199	8	6	446	3	18	815	0	5	256	0	3	186	11	39	1902
12	6260	BERRY RD AT MINSTREL	2	6	195	0	11	435	8	20	803	0	5	251	0	6	180	10	48	1864
13	6259	BERRY RD AT GLEN MURRAY	3	3	195	3	10	428	0	22	781	1	6	246	0	1	179	7	42	1829
14	11091	BERRY RD AT PARK LAWN	1	7	136	1	41	121	2	128	246	1	26	47	0	50	37	5	252	587
15	6261	BERRY RD AT PARK LAWN	9	6	56	9	72	204	15	132	292	6	73	107	0	45	47	39	328	706
16	13375	BERRY RD AT CLOVERHILL	16	4	68	5	35	174	3	44	251	2	19	90	0	10	37	26	112	620
17	6264	BERRY RD AT STEPHEN	44	5	107	37	61	150	19	103	167	9	35	64	0	18	19	109	222	507

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 66 PRINCE EDWARD

Version: 001

ROUTING CODE(S): A0, D0,

COUNT: 1064 ON 2012-SEP-14: M-F (FROM 05:57 TO 25:15)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

SB CONTROL POINT: 1 OLD MILL AT SUBWAY STATION



			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			<u>00:00 TO 08:59</u>			<u>09:00 TO 14:59</u>			<u>15:00 TO 18:59</u>			<u>19:00 TO 21:59</u>			<u>22:00 TO 30:59</u>					
			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>		
18	7372	STEPHEN AT CLOVERHILL	5	0	112	5	7	148	4	10	161	1	11	54	0	5	14	15	33	489
19	7376	STEPHEN AT WHITWORTH	4	0	116	1	10	139	0	34	127	1	11	44	0	0	14	6	55	440
20	7374	STEPHEN AT QUEENSWAY	7	24	99	8	21	126	0	29	98	1	14	31	0	3	11	16	91	365
21	13943	QUEENSWAY AT PLAZA (E OF STEPHEN)	0	14	85	7	33	100	0	40	58	1	6	26	0	1	10	8	94	279
22	6532	LOOP (HUMBER) AT QUEENSWAY	0	85	0	0	100	0	0	58	0	0	26	0	0	10	0	0	279	0
23	10124	PARK LAWN AT KEYWELL	2	2	136	0	6	115	1	10	237	1	5	43	1	5	33	5	28	564
24	10125	PARK LAWN AT PARK LANE	0	2	134	0	5	110	0	16	221	0	7	36	0	5	28	0	35	529
25	10126	PARK LAWN AT LORNE	0	2	132	0	7	103	1	16	206	1	4	33	0	3	25	2	32	499
26	10127	PARK LAWN AT QUEENSWAY	3	23	112	0	7	96	1	10	197	0	1	32	0	3	22	4	44	459
27	10128	PARK LAWN AT QE W WB RAMP	0	9	103	0	2	94	0	18	179	0	0	32	0	0	22	0	29	430
28	13697	PARK LAWN AT QE W EB RAMP	2	8	97	2	1	95	1	16	164	0	5	27	0	4	18	5	34	401
29	10129	PARK LAWN AT 77	0	19	78	2	7	90	1	15	150	0	6	21	0	0	18	3	47	357
30	10130	PARK LAWN AT LAKE SHORE BLVD W	4	28	54	1	21	70	0	31	119	0	12	9	1	8	11	6	100	263
31	10116	LOOP (LAKESHORE) AT PARK LAWN	6	6	54	1	16	55	5	13	111	5	1	13	0	2	9	17	38	242
32	14542	LAKE SHORE BLVD W OPP 2155 (CHRISTIES) (1)	0	5	49	0	2	53	1	6	106	0	0	13	0	0	9	1	13	230
33	14543	LAKE SHORE BLVD W AT BROOKERS LANE	3	18	34	3	8	48	2	23	85	0	2	11	0	0	9	8	51	187
34	14544	MARINE PARADE DR E AT LAKE SHORE BLVD W	34	14	54	31	30	49	26	65	46	5	3	13	7	8	8	103	120	170
35	14545	MARINE PARADE DR E AT 58	0	11	43	0	1	48	0	8	38	0	2	11	0	0	8	0	22	148

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011
Version: 001

ROUTE: 66 PRINCE EDWARD
ROUTING CODE(S): A0, D0,
COUNT: 1064 ON 2012-SEP-14: M-F (FROM 05:57 TO 25:15)
STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH
STOPS: 1 TO 299
COMMENTS:

SB CONTROL POINT: 1 OLD MILL AT SUBWAY STATION



	PERIOD 1		PERIOD 2		PERIOD 3		PERIOD 4		PERIOD 5		-----TOTALS-----
	<u>00:00 TO 08:59</u>		<u>09:00 TO 14:59</u>		<u>15:00 TO 18:59</u>		<u>19:00 TO 21:59</u>		<u>22:00 TO 30:59</u>		
	<u>ONS OFFS ACCM</u>		<u>ONS OFFS ACCM</u>		<u>ONS OFFS ACCM</u>		<u>ONS OFFS ACCM</u>		<u>ONS OFFS ACCM</u>		<u>ONS OFFS ACCUM</u>
TOTALS FOR SOUTHBOUND	:	374 331	634 586	1040 1002	324 313	230 222	2602 2454				
TOTALS FOR BOTH DIRECTIONS	:	1077 1074	1242 1240	1496 1501	552 552	337 337	4704 4704				

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 76 ROYAL YORK SOUTH

Version: 001

ROUTING CODE(S): _0, _8, B0,

COUNT: 1068 ON 2012-SEP-28: M-F (FROM 05:20 TO 25:54)

STOP CARD: 12 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

NB CONTROL POINT: 20 ROYAL YORK AT SUBWAY STATION



NORTHBOUND

NORTHBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
1	11584	MIMICO AT LAKE SHORE BLVD W	332	0	592	401	0	586	236	0	346	101	0	133	27	0	63	1097	0	1720
2	11585	MIMICO AT WHEATFIELD	32	6	618	19	7	598	33	1	378	3	1	135	6	4	65	93	19	1794
3	11586	MIMICO AT ROYAL YORK RD	113	5	726	102	22	678	129	24	483	22	8	149	9	1	73	375	60	2109
4	6978	ROYAL YORK RD AT CAVELL	111	8	829	111	17	772	51	26	508	19	13	155	3	0	76	295	64	2340
5	7015	ROYAL YORK RD AT NEWCASTLE	63	7	885	88	29	831	34	20	522	21	13	163	6	4	78	212	73	2479
6	12145	PORTLAND AT ROYAL YORK	14	0	72	3	0	28	2	0	16	0	0	7	0	0	0	19	0	123
7	7011	ROYAL YORK RD AT MELROSE	90	8	1039	73	15	917	44	32	550	18	15	173	5	3	80	230	73	2759
8	7009	ROYAL YORK RD AT MANITOBA	78	15	1102	57	24	950	33	41	542	12	2	183	6	10	76	186	92	2853
9	6987	ROYAL YORK RD AT DALESFORD	51	7	1146	34	10	974	23	5	560	14	3	194	1	0	77	123	25	2951
10	7022	ROYAL YORK RD AT QUEENSWAY	90	34	1203	164	139	999	140	48	652	30	32	192	21	9	89	445	262	3135
11	6990	ROYAL YORK RD AT TENBY	23	4	1222	54	2	1051	145	6	791	14	1	205	1	0	90	237	13	3359
12	7042	ROYAL YORK RD AT YORKVIEW	34	56	1200	86	14	1123	170	2	959	5	0	210	7	0	97	302	72	3589
13	7019	ROYAL YORK RD AT OAKFIELD	23	22	1201	31	6	1148	63	2	1020	1	0	211	0	0	97	118	30	3677
14	6983	ROYAL YORK RD AT CONEY	43	39	1205	98	7	1239	119	8	1131	1	0	212	1	0	98	262	54	3885
15	7016	ROYAL YORK RD AT NORSEMAN	32	7	1230	37	5	1271	17	5	1143	5	0	217	0	0	98	91	17	3959
16	14452	ROYAL YORK RD OPP 810	16	0	1246	5	1	1275	1	6	1138	0	0	217	4	0	102	26	7	3978
17	6997	ROYAL YORK RD AT GLENROY	15	2	1259	11	1	1285	7	4	1141	1	0	218	2	0	104	36	7	4007

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011
Version: 001

ROUTE: 76 ROYAL YORK SOUTH
ROUTING CODE(S): _0, _8, B0,
COUNT: 1068 ON 2012-SEP-28: M-F (FROM 05:20 TO 25:54)
STOP CARD: 12 COUNT COVERAGE/METHOD: FULL/HH
STOPS: 1 TO 299
COMMENTS:

NB CONTROL POINT: 20 ROYAL YORK AT SUBWAY STATION



			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			<u>00:00 TO 08:59</u>			<u>09:00 TO 14:59</u>			<u>15:00 TO 18:59</u>			<u>19:00 TO 21:59</u>			<u>22:00 TO 30:59</u>					
			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCUM</u>		
18	7035	ROYAL YORK RD AT VAN DUSEN	9	1	1267	3	3	1285	0	1	1140	1	0	219	0	0	104	13	5	4015
19	6976	ROYAL YORK RD AT BLOOR ST W	0	38	1229	0	77	1208	2	59	1083	0	9	210	0	4	100	2	187	3830
20	6967	ROYAL YORK STATION	0	1229		0	0	1208	0	0	1082	1	0	210	0	0	100	0	0	3829
TOTALS FOR NORTHBOUND			: 1169 1488			1377 1587			1249 1372			268 307			99 135			4162 4889		

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 76 ROYAL YORK SOUTH

Version: 001

ROUTING CODE(S): _0, _8, B0,

COUNT: 1068 ON 2012-SEP-28: M-F (FROM 05:25 TO 25:37)

STOP CARD: 12 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

SB CONTROL POINT: 1 ROYAL YORK AT SUBWAY STATION



SOUTHBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	6967	ROYAL YORK STATION	833	0	833	884	0	884	1616	0	1617	508	0	508	297	0	297	4138	0	4139
2	6975	ROYAL YORK RD AT BLOOR ST W	18	0	851	43	2	925	89	0	1706	24	4	528	7	0	304	181	6	4314
3	7036	ROYAL YORK RD AT VAN DUSEN	1	4	848	4	2	927	2	2	1706	0	2	526	1	0	305	8	10	4312
4	7032	ROYAL YORK RD AT THOMPSON	2	9	841	1	9	919	5	37	1674	0	9	517	1	2	304	9	66	4255
5	7007	ROYAL YORK RD AT 800	2	4	839	6	7	918	4	25	1653	1	4	514	0	1	303	13	41	4227
6	7017	ROYAL YORK RD AT NORSEMAN	6	27	818	7	24	901	5	42	1616	2	17	499	1	4	300	21	114	4134
7	6984	ROYAL YORK RD AT CONEY	3	142	679	26	32	895	23	33	1606	0	12	487	0	3	297	52	222	3964
8	7020	ROYAL YORK RD AT OAKFIELD	0	38	641	0	8	887	4	19	1591	1	5	483	1	4	294	6	74	3896
9	7043	ROYAL YORK RD AT YORKVIEW	17	285	373	13	43	857	82	64	1609	0	17	466	0	6	288	112	415	3593
10	6995	ROYAL YORK RD AT FRANKWOOD	6	4	375	1	15	843	5	26	1588	0	12	454	2	5	285	14	62	3545
11	12139	QUEENSWAY AT MORGAN	2	11	17	3	19	23	5	11	107	4	21	48	0	0	8	14	62	203
12	14604	QUEENSWAY AT WESLEY	0	2	15	0	2	21	0	2	105	0	4	44	0	0	8	0	10	193
13	6902	QUEENSWAY AT MILTON	2	1	16	0	1	20	0	3	102	1	2	43	0	1	7	3	8	188
14	6890	QUEENSWAY AT GRAND	5	3	18	3	2	21	1	8	95	1	0	44	0	0	7	10	13	185
15	12140	GRAND AT DALESFORD	8	1	25	5	3	23	1	19	77	1	3	42	0	1	6	15	27	173
16	12141	GRAND AT MANITOBA	31	2	54	9	7	25	1	27	51	1	17	26	0	1	5	42	54	161
17	12142	GRAND AT PORTLAND	3	0	57	5	2	28	2	13	40	1	3	24	0	2	3	11	20	152

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 76 ROYAL YORK SOUTH

Version: 001

ROUTING CODE(S): _0, _8, B0,

COUNT: 1068 ON 2012-SEP-28: M-F (FROM 05:25 TO 25:37)

STOP CARD: 12 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

SB CONTROL POINT: 1 ROYAL YORK AT SUBWAY STATION



	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
	00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59					
	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
18 12143 PORTLAND AT MILTON	7	1	63	1	1	28	0	10	30	0	3	21	0	0	3	8	15	145
19 12144 PORTLAND AT WESLEY	0	0	63	0	1	27	0	8	22	0	2	19	0	0	3	0	11	134
20 12145 PORTLAND AT ROYAL YORK	0	2	61	0	4	23	0	8	14	0	13	6	0	3	0	0	30	104
21 7023 ROYAL YORK RD AT QUEENSWAY	29	68	310	82	180	706	94	230	1339	28	48	369	13	15	275	246	541	2999
22 7028 ROYAL YORK RD AT SINCLAIR	8	13	304	5	20	691	7	47	1299	4	14	359	1	17	259	25	111	2912
23 7008 ROYAL YORK RD AT MANITOBA	38	20	322	14	39	666	25	103	1221	18	25	352	2	23	238	97	210	2799
24 7010 ROYAL YORK RD AT MELROSE	9	6	325	9	43	632	19	74	1166	2	24	330	0	15	223	39	162	2676
25 7027 ROYAL YORK RD AT SIMPSON	8	17	316	9	35	606	14	89	1091	2	17	315	2	19	206	35	177	2534
26 7014 ROYAL YORK RD AT NEWCASTLE	6	47	275	22	46	582	21	90	1022	0	19	296	0	12	194	49	214	2369
27 6977 ROYAL YORK RD AT CAVELL	9	13	271	19	51	550	11	113	920	3	22	277	1	28	167	43	227	2185
28 7013 ROYAL YORK RD AT MIMICO	11	122	160	34	85	499	36	162	794	14	45	246	4	12	159	99	426	1858
29 7001 ROYAL YORK RD AT HILLSIDE	18	8	170	12	22	489	2	65	731	4	17	233	0	29	130	36	141	1753
30 7031 ROYAL YORK RD AT SYMONS	30	6	194	7	15	481	10	56	685	8	13	228	3	11	122	58	101	1710
31 6989 ROYAL YORK RD AT DARTMOUTH	20	8	206	7	16	472	11	21	675	1	6	223	0	6	116	39	57	1692
32 13361 ROYAL YORK RD AT ALBANI	88	60	234	50	97	425	58	218	515	13	60	176	10	28	98	219	463	1448
33 5183 LAKE SHORE BLVD W AT LAKE CRES	23	8	249	14	7	432	6	22	499	2	1	177	0	3	95	45	41	1452
34 5191 LAKE SHORE BLVD W AT MILES	44	6	287	17	23	426	7	45	461	5	18	164	3	8	90	76	100	1428
35 5194 LAKE SHORE BLVD W AT NORRIS	65	13	339	22	50	398	23	108	376	4	47	121	6	25	71	120	243	1305

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

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ROUTING CODE(S): _0, _8, B0,
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STOP CARD: 12 COUNT COVERAGE/METHOD: FULL/HH
STOPS: 1 TO 299
COMMENTS:

SB CONTROL POINT: 1 ROYAL YORK AT SUBWAY STATION



			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			<u>00:00 TO 08:59</u>			<u>09:00 TO 14:59</u>			<u>15:00 TO 18:59</u>			<u>19:00 TO 21:59</u>			<u>22:00 TO 30:59</u>			<u>ONS OFFS ACCUM</u>		
			<u>ONS</u>	<u>OFFS</u>	<u>ACCM</u>	<u>ONS</u>	<u>OFFS</u>	<u>ACCM</u>	<u>ONS</u>	<u>OFFS</u>	<u>ACCM</u>	<u>ONS</u>	<u>OFFS</u>	<u>ACCM</u>	<u>ONS</u>	<u>OFFS</u>	<u>ACCM</u>	<u>ONS</u>	<u>OFFS</u>	<u>ACCM</u>
36	10751	LAKE SHORE BLVD W AT SUMMERHILL	12	6	345	4	14	388	2	10	368	0	5	116	0	0	71	18	35	1288
37	11584	MIMICO AT LAKE SHORE BLVD W	0	64	281	0	215	173	0	258	110	0	87	29	0	41	30	0	665	623
TOTALS FOR SOUTHBOUND			:	1364	1021		1338	1142		2191	2068		653	618		355	325		5901	5174
TOTALS FOR BOTH DIRECTIONS			:	2533	2509		2715	2729		3440	3440		921	925		454	460		10063	10063

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 80 QUEENSWAY

Version: 001

ROUTING CODE(S): _0, B0,

COUNT: 1065 ON 2013-NOV-19: M-F (FROM 05:26 TO 25:06)

STOP CARD: 32 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

EB CONTROL POINT: 11 QUEENSWAY AT KIPLING



EASTBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	9108	SHERWAY PLAZA AT SHERWAY GATE	7	0	7	51	0	51	56	0	56	43	0	43	10	0	10	167	0	167
2	1632	WEST MALL AT HOSPITAL S	0	0	7	2	0	53	0	0	56	0	0	43	1	0	11	3	0	170
3	1638	WEST MALL AT QUEENSWAY	1	0	8	6	0	59	6	0	62	2	0	45	0	0	11	15	0	185
4	12194	QUEENSWAY OPP JACK ASTORS	1	0	9	1	1	59	4	0	66	0	0	45	1	0	12	7	1	191
5	6903	QUEENSWAY AT NORTH QUEEN	1	0	10	23	2	80	25	0	91	15	0	60	4	0	16	68	2	257
6	6884	QUEENSWAY AT EAST MALL	3	0	13	2	0	82	11	3	99	0	0	60	0	0	16	16	3	270
7	6901	QUEENSWAY AT 1611	0	1	12	4	0	86	13	3	109	4	2	62	1	0	17	22	6	286
8	6871	QUEENSWAY AT ATOMIC	2	3	11	8	4	90	22	1	130	8	7	63	0	1	16	40	16	310
9	6868	QUEENSWAY AT ALGIE	4	0	15	1	0	91	15	4	141	0	0	63	0	0	16	20	4	326
10	6922	QUEENSWAY AT WICKMAN	1	0	16	11	6	96	11	2	150	11	0	74	2	0	18	36	8	354
11	6896	QUEENSWAY AT KIPLING	6	3	19	9	13	92	26	23	153	14	8	80	0	2	16	55	49	360
12	6882	QUEENSWAY AT CULNAN	2	0	21	18	2	108	11	3	161	5	0	85	0	0	16	36	5	391
13	6926	QUEENSWAY AT ZORRA	1	0	22	6	1	113	1	4	158	4	3	86	2	0	18	14	8	397
14	6917	QUEENSWAY AT ST LAWRENCE	2	0	24	2	0	115	0	0	158	0	2	84	0	0	18	4	2	399
15	6894	QUEENSWAY AT ISLINGTON	9	2	31	15	10	120	22	17	163	10	12	82	10	1	27	66	42	423
16	6876	QUEENSWAY AT CAN MOTOR	4	0	35	2	5	117	7	3	167	1	3	80	1	0	28	15	11	427
17	6898	QUEENSWAY AT LOMA	3	3	35	4	3	118	4	2	169	2	1	81	3	0	31	16	9	434

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

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ROUTE: 80 QUEENSWAY

Version: 001

ROUTING CODE(S): _0, B0,

COUNT: 1065 ON 2013-NOV-19: M-F (FROM 05:26 TO 25:06)

STOP CARD: 32 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

EB CONTROL POINT: 11 QUEENSWAY AT KIPLING



	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
	<u>00:00 TO 08:59</u>			<u>09:00 TO 14:59</u>			<u>15:00 TO 18:59</u>			<u>19:00 TO 21:59</u>			<u>22:00 TO 30:59</u>			<u>ONS OFFS ACCUM</u>		
	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
18 6881 QUEENSWAY AT SMITH	2	0	37	5	4	119	9	7	171	2	1	82	0	0	31	18	12	440
19 6913 QUEENSWAY AT ROYAL YORK	11	10	38	12	14	117	21	29	163	4	9	77	1	4	28	49	66	423
20 14604 QUEENSWAY AT WESLEY	2	0	40	3	3	117	4	2	165	2	6	73	1	2	27	12	13	422
21 6902 QUEENSWAY AT MILTON	6	0	46	4	1	120	3	2	166	1	0	74	0	1	26	14	4	432
22 6890 QUEENSWAY AT GRAND	34	0	80	17	5	132	11	3	174	3	6	71	0	1	25	65	15	482
23 6905 QUEENSWAY AT PARK LAWN	4	1	83	1	14	119	17	28	163	1	8	64	0	4	21	23	55	450
24 6867 QUEENSWAY AT ALDGATE	6	0	89	3	5	117	0	0	163	0	0	64	0	0	21	9	5	454
25 6919 QUEENSWAY AT STEPHEN	2	1	90	9	8	118	7	15	155	0	3	61	1	3	19	19	30	443
26 13943 QUEENSWAY AT PLAZA (E OF STEPHEN)	1	4	87	4	28	94	13	16	152	4	5	60	1	0	20	23	53	413
27 6532 LOOP (HUMBER) AT QUEENSWAY													0	6	0	0	6	0
28 15145 QUEENSWAY AT SOUTH KINGSWAY (1)	3	20	70	4	4	94	2	21	133	0	15	45	0	0	14	9	60	356
29 14279 QUEENSWAY AT WINDERMERE (1)	34	5	99	25	12	107	8	29	112	0	8	37	0	2	12	67	56	367
30 11770 QUEENSWAY AT ELLIS	10	1	108	0	1	106	1	6	107	1	1	37	0	0	12	12	9	370
31 12162 ELLIS AT LAKE SHORE BLVD W	17	1	124	6	2	110	2	3	106	0	3	34	0	0	12	25	9	386
32 12163 LAKE SHORE BLVD W AT COLBORNE LODGE DR	0	0	124	1	0	111	1	3	104	0	0	34	0	0	12	2	3	385
33 11773 PARKSIDE DR AT QUEENSWAY	14	3	135	8	6	113	9	8	105	3	2	35	1	0	13	35	19	401
34 11774 PARKSIDE DR AT ALGONQUIN	25	0	160	6	0	119	6	1	110	1	1	35	0	0	13	38	2	437
35 11775 PARKSIDE DR AT HIGH PARK BLVD	20	3	177	12	3	128	4	5	109	0	0	35	0	0	13	36	11	462

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

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STOP CARD: 32 COUNT COVERAGE/METHOD: FULL/HH
STOPS: 1 TO 299
COMMENTS:

EB CONTROL POINT: 11 QUEENSWAY AT KIPLING



	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
	00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59					
	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
36 11776 PARKSIDE DR AT GEOFFREY	11	0	188	4	3	129	6	1	114	3	0	38	0	0	13	24	4	482
37 11777 PARKSIDE DR AT HOWARD PARK	14	1	201	2	2	129	7	11	110	0	0	38	1	1	13	24	15	491
38 11778 PARKSIDE DR AT RIDOUT	0	2	199	0	0	129	0	2	108	0	0	38	0	0	13	0	4	487
39 11779 PARKSIDE DR AT BLOOR ST W	0	2	197	0	1	128	0	3	105	0	6	32	0	0	13	0	12	475
40 7880 KEELE STATION	0	197	0	0	128	0	0	105	0	0	32	0	0	13	0	0	475	0
TOTALS FOR EASTBOUND	263	263		291	291		365	365		144	144		41	41		1104	1104	

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 80 QUEENSWAY

Version: 001

ROUTING CODE(S): _0, B0,

COUNT: 1065 ON 2013-NOV-19: M-F (FROM 05:46 TO 25:21)

STOP CARD: 32 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

WB CONTROL POINT: 30 QUEENSWAY AT KIPLING


WESTBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	7880	KEELE STATION	84	0	84	136	0	136	125	0	125	62	0	62	13	0	13	420	0	420
2	11780	KEELE ST AT BLOOR ST W	5	0	89	3	1	138	1	0	126	0	0	62	1	0	14	10	1	429
3	11781	PARKSIDE DR AT INDIAN VALLEY	0	0	89	1	1	138	0	1	125	0	0	62	0	0	14	1	2	428
4	11782	PARKSIDE DR AT HOWARD PARK	2	2	89	4	5	137	2	15	112	1	9	54	0	1	13	9	32	405
5	11783	PARKSIDE DR AT GEOFFREY	0	2	87	0	2	135	2	1	113	0	3	51	0	2	11	2	10	397
6	11784	PARKSIDE DR AT HIGH PARK BLVD	10	5	92	10	12	133	9	16	106	2	3	50	0	2	9	31	38	390
7	11785	PARKSIDE DR AT GARDEN	6	4	94	0	11	122	2	16	92	0	3	47	0	2	7	8	36	362
8	11786	PARKSIDE DR AT QUEENSWAY	2	5	91	6	12	116	12	9	95	0	5	42	0	0	7	20	31	351
9	12164	LAKE SHORE BLVD W AT COLBORNE LODGE DR	0	0	91	0	0	116	0	0	95	0	0	42	0	0	7	0	0	351
10	12165	ELLIS AT LAKE SHORE BLVD W	1	2	90	2	4	114	7	10	92	0	5	37	0	2	5	10	23	338
11	11789	QUEENSWAY AT ELLIS	2	1	91	6	2	118	0	3	89	0	1	36	0	0	5	8	7	339
12	6923	QUEENSWAY AT WINDERMERE	57	5	143	44	3	159	24	16	97	13	7	42	1	1	5	139	32	446
13	15146	QUEENSWAY AT SOUTH KINGSWAY (1)	1	0	144	6	3	162	3	1	99	0	0	42	0	0	5	10	4	452
14	6532	LOOP (HUMBER) AT QUEENSWAY													4	0	4	4	0	4
15	13944	QUEENSWAY AT PLAZA (E OF STEPHEN)	3	9	138	7	9	160	9	6	102	6	4	44	2	0	11	27	28	455
16	6920	QUEENSWAY AT STEPHEN	10	8	140	27	7	180	1	1	102	1	1	44	1	0	12	40	17	478
17	6870	QUEENSWAY AT ALDGATE	4	1	143	4	3	181	3	2	103	1	2	43	0	0	12	12	8	482

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STOP CARD: 32 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

WB CONTROL POINT: 30 QUEENSWAY AT KIPLING



			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59			ONS OFFS ACCUM		
			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM					
18	6907	QUEENSWAY AT PARK LAWN	10	0	153	28	6	203	17	7	113	1	6	38	0	0	12	56	19	519
19	6875	QUEENSWAY AT BURMA	3	7	149	7	7	203	1	11	103	3	5	36	1	2	11	15	32	502
20	6873	QUEENSWAY AT BERL	0	3	146	5	2	206	1	7	97	0	1	35	0	3	8	6	16	492
21	6893	QUEENSWAY AT HOLBROOKE	3	0	149	3	4	205	1	2	96	0	2	33	0	0	8	7	8	491
22	6914	QUEENSWAY AT ROYAL YORK	33	29	153	39	12	232	26	19	103	10	5	38	0	0	8	108	65	534
23	6880	QUEENSWAY AT SMITH	2	0	155	7	10	229	1	8	96	1	0	39	0	0	8	11	18	527
24	6899	QUEENSWAY AT LOMA	2	6	151	3	11	221	6	10	92	0	4	35	0	1	7	11	32	506
25	10655	QUEENSWAY AT LADY BANK	1	4	148	3	15	209	2	2	92	0	0	35	0	1	6	6	22	490
26	6895	QUEENSWAY AT ISLINGTON	13	21	140	21	28	202	11	16	87	7	10	32	4	0	10	56	75	471
27	6918	QUEENSWAY AT ST LAWRENCE	0	4	136	2	5	199	2	3	86	1	4	29	0	0	10	5	16	460
28	6874	QUEENSWAY AT BRAWLEY	2	2	136	1	5	195	0	5	81	0	0	29	0	0	10	3	12	451
29	6883	QUEENSWAY AT CULNAN	0	0	136	0	13	182	2	4	79	0	2	27	0	0	10	2	19	434
30	6897	QUEENSWAY AT KIPLING	9	20	125	22	23	181	14	15	78	5	4	28	0	6	4	50	68	416
31	6911	QUEENSWAY AT PLYWOOD PLACE	0	2	123	0	1	180	0	0	78	0	0	28	0	0	4	0	3	413
32	6921	QUEENSWAY AT WICKMAN	0	16	107	1	19	162	2	12	68	0	0	28	0	0	4	3	47	369
33	6869	QUEENSWAY AT ALGIE	0	13	94	1	9	154	5	11	62	0	0	28	0	0	4	6	33	342
34	6872	QUEENSWAY AT ATOMIC	0	23	71	4	13	145	1	6	57	1	0	29	0	2	2	6	44	304
35	6900	QUEENSWAY AT 1610	0	21	50	3	8	140	1	6	52	2	4	27	0	0	2	6	39	271

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STOP CARD: 32 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

WB CONTROL POINT: 30 QUEENSWAY AT KIPLING



			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59					
			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCUM		
36	6885	QUEENSWAY AT EAST MALL	0	12	38	0	12	128	1	3	50	0	3	24	2	0	4	3	30	244
37	6904	QUEENSWAY AT NORTH QUEEN	3	16	25	0	59	69	2	10	42	0	0	24	0	0	4	5	85	164
38	9407	QUEENSWAY AT 1800(CLUB)	1	3	23	1	4	66	2	7	37	0	4	20	0	0	4	4	18	150
39	11119	WEST MALL AT QUEENSWAY	0	2	21	0	6	60	0	3	34	0	1	19	0	0	4	0	12	138
40	1631	WEST MALL AT HOSPITAL N	0	7	14	0	5	55	0	1	33	0	0	19	0	2	2	0	15	123
41	1633	WEST MALL AT SHERWAY DR	0	2	12	0	7	48	0	5	28	0	2	17	0	0	2	0	16	107
42	1548	SHERWAY GATE AT EVANS	0	0	12	0	1	47	0	0	28	0	0	17	0	0	2	0	1	106
43	9108	SHERWAY PLAZA AT SHERWAY GATE	0	12	0	0	47	0	0	28	0	0	17	0	0	2	0	0	106	0
TOTALS FOR WESTBOUND			:	269	269		407	407		298	298		117	117		29	29		1120	1120
TOTALS FOR BOTH DIRECTIONS			:	532	532		698	698		663	663		261	261		70	70		2224	2224

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 145 DOWNTOWN/HUMBER BAY EXPRESS

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1070 ON 2015-DEC-01: M-F (FROM 07:23 TO 19:08)

STOP CARD: 13 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

EB CONTROL POINT: 41 RICHMOND ST W AT SIMCOE



EASTBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCUM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	14826	LAKE SHORE BLVD W AT KIPLING	3	0	3										3	0	3
2	5154	LAKE SHORE BLVD W AT 15TH	4	0	7										4	0	7
3	5152	LAKE SHORE BLVD W AT 13TH	4	0	11										4	0	11
4	5150	LAKE SHORE BLVD W AT 10TH	5	0	16										5	0	16
5	5172	LAKE SHORE BLVD W AT 7TH	4	0	20										4	0	20
6	5170	LAKE SHORE BLVD W AT 5TH	4	0	24										4	0	24
7	5167	LAKE SHORE BLVD W AT 3RD	2	0	26										2	0	26
8	13946	LAKE SHORE BLVD W AT FIRST	0	0	26										0	0	26
9	5197	LAKE SHORE BLVD W AT ROYAL YORK	1	0	27										1	0	27
10	13361	ROYAL YORK RD AT ALBANI	0	0	2	1	0	1	0	0	1	0	0	0	1	0	4
11	5191	LAKE SHORE BLVD W AT MILES	0	0	29	1	0	2	0	0	1	0	0	0	1	0	32
12	5194	LAKE SHORE BLVD W AT NORRIS	5	0	34	0	0	2	0	0	1	0	0	0	5	0	37
13	5192	LAKE SHORE BLVD W AT MIMICO	3	0	37	0	0	2	0	0	1	0	0	0	3	0	40
14	5201	LAKE SHORE BLVD W AT SUPERIOR	4	0	41	1	0	3	0	0	1	0	0	0	5	0	45
15	5173	LAKE SHORE BLVD W AT BURLINGTON	10	1	50	0	0	3	0	0	1	0	0	0	10	1	54
16	14830	LAKE SHORE BLVD W AT LOUISA (1)	9	0	59	1	0	4	0	0	1	0	0	0	10	0	64
17	14828	LAKE SHORE BLVD W AT LEGION RD (1)	20	0	79	10	0	14	0	0	1	0	0	0	30	0	94

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 145 DOWNTOWN/HUMBER BAY EXPRESS

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1070 ON 2015-DEC-01: M-F (FROM 07:23 TO 19:08)

STOP CARD: 13 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

EB CONTROL POINT: 41 RICHMOND ST W AT SIMCOE



	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			-----TOTALS-----		
	<u>00:00 TO 08:59</u>			<u>09:00 TO 14:59</u>			<u>15:00 TO 18:59</u>			<u>19:00 TO 21:59</u>			<u>ONS OFFS ACCM</u>		
	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
18 14827 LAKE SHORE BLVD W AT PARK LAWN (1)	22	0	101	3	0	17	0	0	1	0	0	0	25	0	119
19 14542 LAKE SHORE BLVD W OPP 2155 (CHRISTIES) (1)	7	0	108	0	0	17	0	0	1	0	0	0	7	0	126
20 14543 LAKE SHORE BLVD W AT BROOKERS LANE	9	0	117	1	0	18	0	0	1	0	0	0	10	0	136
21 14852 LAKE SHORE BLVD W AT MARINE PARADE DR E	29	0	146	4	0	22	0	1	0	0	0	0	33	1	168
22 14851 LAKE SHORE BLVD W AT PALACE PIER	0	0	146	1	0	23	0	0	0	0	0	0	1	0	169
23 14824 LAKE SHORE BLVD W AT WINDERMERE	2	0	148	0	0	23	0	0	0	0	0	0	2	0	171
24 14822 LAKE SHORE BLVD W AT ELLIS	2	0	150	0	0	23	0	0	0	0	0	0	2	0	173
25 12163 LAKE SHORE BLVD W AT COLBORNE LODGE DR	0	0	150	0	0	23	0	0	0	0	0	0	0	0	173
26 14864 FLEET AT BATHURST ST (1)	0	6	144	0	1	22	0	0	0	0	0	0	0	7	166
27 15364 BATHURST ST AT KING ST W (1)	0	9	135	0	1	21	0	0	0	0	0	0	0	10	156
28 15161 ADELAIDE ST W AT SPADINA AVE	0	4	131	0	5	16	0	0	0	0	0	0	0	9	147
29 11887 ADELAIDE ST W AT PETER	0	5	126	0	2	14	0	0	0	0	0	0	0	7	140
30 11888 ADELAIDE ST W AT JOHN	0	8	118	0	3	11	2	0	2	0	0	0	2	11	131
31 11889 ADELAIDE ST W AT SIMCOE	0	18	100	0	3	8	0	0	2	0	0	0	0	21	110
32 10897 ADELAIDE ST W AT UNIVERSITY	0	27	73	0	4	4	6	0	8	0	0	0	6	31	85
33 14426 ADELAIDE ST W AT BAY ST	0	34	39	0	2	2	6	0	14	0	0	0	6	36	55
34 10899 ADELAIDE ST E AT YONGE ST	0	22	17	0	2	0	5	0	19	0	0	0	5	24	36
35 11186 ADELAIDE ST E AT CHURCH	0	7	10	0	0	0	0	0	19	0	0	0	0	7	29

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 145 DOWNTOWN/HUMBER BAY EXPRESS

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1070 ON 2015-DEC-01: M-F (FROM 07:23 TO 19:08)

STOP CARD: 13 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

EB CONTROL POINT: 41 RICHMOND ST W AT SIMCOE



	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			-----TOTALS-----		
	00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59					
	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
36 11346 RICHMOND ST E AT JARVIS	0	5	5	0	0	0	2	0	21	0	0	0	2	5	26
37 10891 RICHMOND ST E AT CHURCH	0	5	0	0	0	0	0	0	21	0	0	0	0	5	21
38 10892 RICHMOND ST W AT YONGE ST	0	0	0	0	0	0	9	0	30	0	0	0	9	0	30
39 10893 RICHMOND ST W AT BAY ST	0	0	0	0	0	0	11	0	41	2	0	2	13	0	43
40 10894 RICHMOND ST W AT YORK ST	0	0	0	0	0	0	3	0	44	0	0	2	3	0	46
41 11825 RICHMOND ST W AT SIMCOE	0	0	0	0	0	0	0	0	44	0	0	2	0	0	46
TOTALS FOR EASTBOUND	149	151		23	23		44	1		2	0		218	175	

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 145 DOWNTOWN/HUMBER BAY EXPRESS

Version: 001

ROUTING CODE(S): _0, A0, A1,

COUNT: 1070 ON 2015-DEC-01: M-F (FROM 07:32 TO 19:09)

STOP CARD: 13 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

WB CONTROL POINT: 1 RICHMOND ST W AT SIMCOE


WESTBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	11825	RICHMOND ST W AT SIMCOE	0	0	0	0	0	0	17	0	61	3	0	5	20	0	66
2	11886	RICHMOND ST W AT JOHN	0	0	0	0	0	0	17	0	78	0	0	5	17	0	83
3	15160	RICHMOND ST W AT SPADINA AVE	0	0	0	0	0	0	16	0	94	1	0	6	17	0	100
4	15365	BATHURST ST AT KING ST W (1)	0	0	0	0	0	0	5	0	99	0	0	6	5	0	105
5	14850	BATHURST ST AT FLEET (1)	0	0	0	0	0	0	3	0	102	0	0	6	3	0	108
6	12164	LAKE SHORE BLVD W AT COLBORNE LODGE DR	0	0	0	0	0	0	0	0	102	0	0	6	0	0	108
7	13056	LAKE SHORE BLVD W AT ELLIS	1	0	1	0	0	0	0	1	101	0	0	6	1	1	108
8	14825	LAKE SHORE BLVD W AT WINDERMERE	0	0	1	0	0	0	0	1	100	0	0	6	0	1	107
9	14544	MARINE PARADE DR E AT LAKE SHORE BLVD W	0	0	0				0	13	87	0	0	6	0	13	93
10	14545	MARINE PARADE DR E AT 58	0	0	0				0	15	72	0	0	6	0	15	78
11	14854	LAKE SHORE BLVD W AT PARK LAWN (1)	0	0	1	0	0	0	0	19	53	0	0	6	0	19	60
12	14829	LAKE SHORE BLVD W AT LEGION RD (1)	0	0	1	0	0	0	0	12	41	0	3	3	0	15	45
13	14831	LAKE SHORE BLVD W AT LOUISA (1)	0	0	1	0	0	0	0	16	25	0	1	2	0	17	28
14	5174	LAKE SHORE BLVD W AT BURLINGTON	0	0	1	0	0	0	0	2	23	0	0	2	0	2	26
15	5202	LAKE SHORE BLVD W AT SUPERIOR	0	0	1	0	0	0	0	7	16	0	0	2	0	7	19
16	5193	LAKE SHORE BLVD W AT MIMICO	0	0	1	0	0	0	0	4	12	0	2	0	0	6	13
17	11585	MIMICO AT WHEATFIELD	0	0	1	0	0	0	0	0	6				0	0	7

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 145 DOWNTOWN/HUMBER BAY EXPRESS

Version: 001

ROUTING CODE(S): _0, A0, A1,

COUNT: 1070 ON 2015-DEC-01: M-F (FROM 07:32 TO 19:09)

STOP CARD: 13 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS:

WB CONTROL POINT: 1 RICHMOND ST W AT SIMCOE



	PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			-----TOTALS-----		
	00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59					
	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
18 15127 MIMICO AT ROYAL YORK RD (1)	0	0	1	0	0	0	0	3	3				0	3	4
19 7001 ROYAL YORK RD AT HILLSIDE	1	0	2	0	0	0	0	0	3				1	0	5
20 7031 ROYAL YORK RD AT SYMONS	0	0	2	0	0	0	0	0	3				0	0	5
21 6989 ROYAL YORK RD AT DARTMOUTH	0	0	2	0	0	0	0	1	2				0	1	4
22 13361 ROYAL YORK RD AT ALBANI	0	0	2	0	0	0	0	1	1				0	1	3
23 5179 LAKE SHORE BLVD W AT HILLSIDE	0	0	0				0	2	4	0	0	0	0	2	4
24 5203 LAKE SHORE BLVD W AT SYMONS	0	0	0				0	0	4	0	0	0	0	0	4
25 5198 LAKE SHORE BLVD W AT ROYAL YORK	0	0	0				0	1	3	0	0	0	0	1	3
26 13947 LAKE SHORE BLVD W AT FIRST	0	0	0				0	0	3	0	0	0	0	0	3
27 5168 LAKE SHORE BLVD W AT 3RD	0	0	0				0	0	3	0	0	0	0	0	3
28 5171 LAKE SHORE BLVD W AT 5TH	0	0	0				0	0	3	0	0	0	0	0	3
29 5180 LAKE SHORE BLVD W AT ISLINGTON	0	0	0				0	3	0	0	0	0	0	3	0
30 5151 LAKE SHORE BLVD W AT 10TH	0	0	0				0	0	0	0	0	0	0	0	0
31 5153 LAKE SHORE BLVD W AT 13TH	0	0	0				0	0	0	0	0	0	0	0	0
32 5155 LAKE SHORE BLVD W AT 15TH	0	0	0				0	0	0	0	0	0	0	0	0
33 5181 LAKE SHORE BLVD W AT KIPLING	0	0	0				0	0	0	0	0	0	0	0	0
TOTALS FOR WESTBOUND	2	0		0	0		58	101		4	6		64	107	

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011
Version: 001

ROUTE: 145 DOWNTOWN/HUMBER BAY EXPRESS
ROUTING CODE(S): _0, A0, A1,
COUNT: 1070 ON 2015-DEC-01: M-F (FROM 07:32 TO 19:09)
STOP CARD: 13 COUNT COVERAGE/METHOD: FULL/HH
STOPS: 1 TO 299
COMMENTS:

WB CONTROL POINT: 1 RICHMOND ST W AT SIMCOE



TOTALS FOR BOTH DIRECTIONS	:	151 151	23 23	102 102	6 6	282 282
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RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:44 TO 26:02)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

EB CONTROL POINT: 67 QUEEN ST W AT YONGE ST



EASTBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	5511	LOOP (LONG BRANCH) AT LAKESHORE BLVD W	114	0	114	300	0	300	170	0	170	82	0	82	76	0	76	742	0	742
2	6503	LAKESHORE BLVD W AT 39TH	11	0	125	33	0	333	7	0	177	8	0	90	2	0	78	61	0	803
3	5164	LAKESHORE BLVD W AT 37TH	9	0	134	29	3	359	39	2	214	12	3	99	4	1	81	93	9	887
4	5187	LAKESHORE BLVD W AT LONG BRANCH	43	1	176	89	5	443	53	6	261	21	7	113	8	4	85	214	23	1078
5	5163	LAKESHORE BLVD W AT 31ST	34	9	201	67	11	499	60	5	316	12	2	123	2	3	84	175	30	1223
6	5160	LAKESHORE BLVD W AT 28TH	22	2	221	40	5	534	29	4	341	11	3	131	0	1	83	102	15	1310
7	5159	LAKESHORE BLVD W AT 27TH	41	5	257	59	12	581	24	12	353	12	5	138	3	3	83	139	37	1412
8	5157	LAKESHORE BLVD W AT 23RD	24	12	269	44	33	592	41	13	381	48	5	181	12	3	92	169	66	1515
9	5182	LAKESHORE BLVD W AT KIPLING	19	113	175	114	227	479	258	31	608	33	9	205	16	7	101	440	387	1568
10	5154	LAKESHORE BLVD W AT 15TH	16	1	190	26	2	503	22	5	625	13	1	217	6	5	102	83	14	1637
11	5152	LAKESHORE BLVD W AT 13TH	28	5	213	56	4	555	24	14	635	7	10	214	7	2	107	122	35	1724
12	5150	LAKESHORE BLVD W AT 10TH	37	8	242	40	17	578	18	23	630	8	11	211	10	5	112	113	64	1773
13	5172	LAKESHORE BLVD W AT 7TH	26	9	259	66	49	595	74	38	666	17	7	221	4	4	112	187	107	1853
14	5170	LAKESHORE BLVD W AT 5TH	21	3	277	55	14	636	41	24	683	9	11	219	11	5	118	137	57	1933
15	5167	LAKESHORE BLVD W AT 3RD	28	6	299	44	31	649	33	30	686	10	6	223	6	3	121	121	76	1978
16	13946	LAKESHORE BLVD W AT FIRST	25	8	316	53	16	686	36	22	700	14	4	233	1	1	121	129	51	2056
17	5197	LAKESHORE BLVD W AT ROYAL YORK	45	11	350	58	29	715	20	32	688	11	15	229	12	8	125	146	95	2107

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:44 TO 26:02)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

EB CONTROL POINT: 67 QUEEN ST W AT YONGE ST


TORONTO TRANSIT COMMISSION

			PERIOD 1 <u>00:00 TO 08:59</u> <u>ONS OFFS ACCM</u>			PERIOD 2 <u>09:00 TO 14:59</u> <u>ONS OFFS ACCM</u>			PERIOD 3 <u>15:00 TO 18:59</u> <u>ONS OFFS ACCM</u>			PERIOD 4 <u>19:00 TO 21:59</u> <u>ONS OFFS ACCM</u>			PERIOD 5 <u>22:00 TO 30:59</u> <u>ONS OFFS ACCM</u>			-----TOTALS----- <u>ONS OFFS ACCM</u>		
18	5183	LAKESHORE BLVD W AT LAKE CRES	6	6	350	8	15	708	3	8	683	0	1	228	0	1	124	17	31	2093
19	5191	LAKESHORE BLVD W AT MILES	14	4	360	13	12	709	5	19	669	1	5	224	0	3	121	33	43	2083
20	5194	LAKESHORE BLVD W AT NORRIS	22	1	381	29	14	724	10	50	629	7	4	227	0	0	121	68	69	2082
21	10751	LAKESHORE BLVD W AT SUMMERHILL	15	5	391	21	15	730	5	34	600	2	5	224	0	2	119	43	61	2064
22	5192	LAKESHORE BLVD W AT MIMICO	22	7	406	56	101	685	24	73	551	22	26	220	18	6	131	142	213	1993
23	5201	LAKESHORE BLVD W AT SUPERIOR	32	3	435	53	33	705	9	47	513	13	14	219	4	4	131	111	101	2003
24	5173	LAKESHORE BLVD W AT BURLINGTON	62	8	489	91	25	771	32	57	488	10	14	215	1	18	114	196	122	2077
25	5189	LAKESHORE BLVD W AT LOUISA	27	6	510	30	11	790	22	21	489	10	7	218	4	2	116	93	47	2123
26	5185	LAKESHORE BLVD W AT LEGION RD	42	3	549	40	14	816	13	16	486	3	3	218	1	2	115	99	38	2184
27	5195	LAKESHORE BLVD W AT PARKLAWN	10	19	540	24	11	829	18	26	478	26	5	239	12	1	126	90	62	2212
28	5175	LAKESHORE BLVD W OPP 2155 (CHRISTIES)	6	6	540	13	7	835	6	4	480	4	4	239	2	4	124	31	25	2218
29	5199	LAKESHORE BLVD W AT 2095	28	3	565	34	14	855	8	11	477	0	11	228	1	0	125	71	39	2250
30	13692	LOOP (HUMBER) AT QUEENSWAY (1)	37	0	37	15	0	15	14	0	14	3	0	3	27	0	27	96	0	96
31	5506	LOOP (HUMBER) AT QUEENSWAY	45	11	599	134	30	959	47	22	502	20	5	243	10	3	132	256	71	2435
32	6916	QUEENSWAY AT SOUTH KINGSWAY	22	6	652	9	1	982	6	2	520	1	0	247	12	0	171	50	9	2572
33	14282	QUEENSWAY AT WINDERMERE (1)	92	9	735	125	10	1097	47	11	556	26	8	265	30	2	199	320	40	2852
34	14281	QUEENSWAY AT ELLIS (1)	13	1	747	28	4	1121	17	5	568	1	0	266	0	0	199	59	10	2901
35	14280	QUEENSWAY AT COLBORNE LODGE DR(1)	6	0	753	4	5	1120	9	0	577	0	0	266	0	0	199	19	5	2915

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:44 TO 26:02)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

EB CONTROL POINT: 67 QUEEN ST W AT YONGE ST


TORONTO TRANSIT COMMISSION

			PERIOD 1 <u>00:00 TO 08:59</u> <u>ONS OFFS ACCM</u>			PERIOD 2 <u>09:00 TO 14:59</u> <u>ONS OFFS ACCM</u>			PERIOD 3 <u>15:00 TO 18:59</u> <u>ONS OFFS ACCM</u>			PERIOD 4 <u>19:00 TO 21:59</u> <u>ONS OFFS ACCM</u>			PERIOD 5 <u>22:00 TO 30:59</u> <u>ONS OFFS ACCM</u>			-----TOTALS----- <u>ONS OFFS ACCM</u>		
36	6908	QUEENSWAY AT PARKSIDE	13	3	763	8	2	1126	11	5	583	2	1	267	0	0	199	34	11	2938
37	6888	QUEENSWAY AT GLENDALE	14	41	736	75	47	1154	42	41	584	10	5	272	5	1	203	146	135	2949
38	6912	QUEENSWAY AT RONCESVALLES	104	156	684	202	181	1175	107	89	602	81	42	311	50	21	232	544	489	3004
39	6860	QUEEN ST W AT WILSON	69	8	745	114	10	1279	49	15	636	36	3	344	26	1	257	294	37	3261
41	6833	QUEEN ST W AT DOWLING	83	6	822	121	27	1373	56	24	668	55	13	386	18	4	271	333	74	3520
42	6840	QUEEN ST W AT JAMESON	143	19	946	280	93	1560	135	69	734	47	31	402	51	25	297	656	237	3939
43	6835	QUEEN ST W AT DUNN	98	5	1039	191	31	1720	81	27	788	37	13	426	30	8	319	437	84	4292
45	6836	QUEEN ST W AT BROCK	86	10	1115	160	52	1828	105	34	859	47	20	453	33	6	346	431	122	4601
46	6834	QUEEN ST W AT DUFFERIN	66	53	1128	134	126	1836	62	85	836	44	25	472	29	33	342	335	322	4614
47	6837	QUEEN ST W AT GLADSTONE	112	15	1225	188	63	1961	169	43	962	58	26	504	45	23	364	572	170	5016
48	6825	QUEEN ST W AT ABELL	30	3	1252	64	18	2007	31	9	984	12	11	505	15	10	369	152	51	5117
49	6831	QUEEN ST W AT DOVERCOURT	65	9	1308	151	19	2139	59	32	1011	50	15	540	32	5	396	357	80	5394
50	6846	QUEEN ST W AT OSSINGTON AVE	67	38	1337	186	149	2176	94	43	1062	41	31	550	24	16	404	412	277	5529
51	6850	QUEEN ST W AT SHAW	57	8	1386	95	34	2237	72	23	1111	27	9	568	10	5	409	261	79	5711
52	6854	QUEEN ST W AT STRACHAN	64	11	1439	96	42	2291	35	29	1117	35	14	589	10	7	412	240	103	5848
54	6844	QUEEN ST W AT NIAGARA	150	29	1560	205	33	2463	84	41	1160	51	25	615	29	14	427	519	142	6225
56	6856	QUEEN ST W AT TECUMSETH	54	12	1602	115	52	2526	84	30	1214	39	18	636	24	12	439	316	124	6417
57	6827	QUEEN ST W AT BATHURST ST	112	104	1610	198	207	2517	178	117	1275	111	68	679	70	74	435	669	570	6516

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:44 TO 26:02)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

EB CONTROL POINT: 67 QUEEN ST W AT YONGE ST



			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			<u>00:00 TO 08:59</u>			<u>09:00 TO 14:59</u>			<u>15:00 TO 18:59</u>			<u>19:00 TO 21:59</u>			<u>22:00 TO 30:59</u>			<u>ONS OFFS ACCUM</u>		
			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>					
59	6826	QUEEN ST W AT AUGUSTA	59	24	1645	135	66	2586	154	82	1347	67	13	733	28	11	452	443	196	6763
60	6853	QUEEN ST W AT SPADINA AVE	78	144	1579	321	416	2491	332	178	1501	165	66	832	79	49	482	975	853	6885
61	6829	QUEEN ST W AT PETER	15	26	1568	98	49	2540	123	61	1563	64	29	867	23	22	483	323	187	7021
62	6841	QUEEN ST W AT JOHN	23	69	1522	71	123	2488	148	73	1638	101	76	892	93	38	538	436	379	7078
63	6843	QUEEN ST W AT MCCAUL	15	63	1474	68	145	2411	55	77	1616	49	26	915	53	30	561	240	341	6977
64	6858	QUEEN ST W AT UNIVERSITY AVE	68	410	1132	173	389	2195	239	390	1465	96	137	874	79	82	558	655	1408	6224
65	3091	QUEEN ST W AT YORK ST	10	98	1044	22	67	2150	94	46	1513	17	23	868	26	9	575	169	243	6150
66	3082	QUEEN ST W AT BAY ST	24	218	850	123	237	2036	197	133	1577	42	32	878	34	15	594	420	635	5935
67	6861	QUEEN ST W AT YONGE ST	259	403	706	760	830	1966	865	557	1885	469	321	1026	236	173	657	2589	2284	6240
68	3076	QUEEN ST E AT VICTORIA	120	78	748	158	109	2015	135	49	1971	68	12	1082	54	15	696	535	263	6512
69	3040	QUEEN ST E AT CHURCH	26	59	715	96	150	1961	96	73	1994	42	42	1082	16	15	697	276	339	6449
70	3050	QUEEN ST E AT JARVIS	26	58	683	72	148	1885	50	73	1971	35	36	1081	9	15	691	192	330	6311
71	3070	QUEEN ST E AT SHERBOURNE	28	74	637	63	187	1761	38	139	1870	24	92	1013	24	64	651	177	556	5932
72	3060	QUEEN ST E AT ONTARIO	9	28	618	56	86	1731	22	93	1799	5	43	975	2	29	624	94	279	5747
73	3064	QUEEN ST E AT PARLIAMENT	25	43	600	94	158	1667	67	120	1746	47	62	960	8	42	590	241	425	5563
75	3068	QUEEN ST E AT SACKVILLE	8	26	582	11	54	1624	28	56	1718	8	35	933	2	21	571	57	192	5428
76	3073	QUEEN ST E AT SUMACH	11	49	544	15	102	1537	23	72	1669	16	26	923	10	8	573	75	257	5246
77	3066	QUEEN ST E AT RIVER	6	40	510	32	59	1510	20	50	1639	9	24	908	3	3	573	70	176	5140

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:44 TO 26:02)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

EB CONTROL POINT: 67 QUEEN ST W AT YONGE ST



TORONTO TRANSIT COMMISSION

			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59			ONS OFFS ACCUM		
			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM					
78	3038	QUEEN ST E AT CARROLL	1	24	487	12	36	1486	39	37	1641	5	7	906	0	11	562	57	115	5082
79	3032	QUEEN ST E AT BROADVIEW	51	62	476	128	197	1417	120	154	1607	76	105	877	58	51	569	433	569	4946
80	3072	QUEEN ST E AT SAULTER	7	7	476	26	45	1398	12	41	1578	8	17	868	5	18	556	58	128	4876
81	3046	QUEEN ST E AT EMPIRE	9	53	432	10	65	1343	11	56	1533	2	29	841	3	12	547	35	215	4696
83	3058	QUEEN ST E AT LOGAN	10	42	400	37	134	1246	9	92	1450	10	37	814	7	18	536	73	323	4446
84	3035	QUEEN ST E AT CARLAW	17	67	350	65	150	1161	33	121	1362	25	80	759	11	44	503	151	462	4135
85	3062	QUEEN ST E AT PAPE	5	28	327	18	56	1123	9	75	1296	7	49	717	5	39	469	44	247	3932
86	3037	QUEEN ST E AT CAROLINE	16	14	329	14	52	1085	73	84	1285	3	43	677	1	27	443	107	220	3819
87	3030	QUEEN ST E AT JONES	18	18	329	17	90	1012	31	105	1211	5	65	617	2	50	395	73	328	3564
88	3056	QUEEN ST E AT LESLIE	7	42	294	18	101	929	16	125	1102	18	64	571	4	51	348	63	383	3244
89	3055	QUEEN ST E AT LAING	11	8	297	11	29	911	6	44	1064	7	28	550	7	16	339	42	125	3161
90	3048	QUEEN ST E AT GREENWOOD	9	34	272	41	100	852	42	162	944	7	73	484	4	44	299	103	413	2851
91	3042	QUEEN ST E AT CONNAUGHT	9	70	211	21	179	694	30	85	889	3	42	445	5	56	248	68	432	2487
92	3078	QUEEN ST E AT WOODWARD	0	4	207	13	50	657	8	35	862	6	11	440	0	9	239	27	109	2405
93	4557	QUEEN ST E AT COXWELL	12	45	174	35	136	556	32	133	761	6	73	373	3	28	214	88	415	2078
94	11845	QUEEN ST E AT KINGSTON RD	10	64	120	75	193	438	125	251	635	13	74	312	7	61	160	230	643	1665
95	6810	QUEEN ST E AT SARAH ASHBRIDGE	8	11	117	15	40	413	5	38	602	0	14	298	0	3	157	28	106	1587
96	6824	QUEEN ST E AT WOODBINE AVE	7	11	113	11	49	375	8	71	539	18	40	276	3	34	126	47	205	1429

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:44 TO 26:02)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

EB CONTROL POINT: 67 QUEEN ST W AT YONGE ST



TORONTO TRANSIT COMMISSION

			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59					
			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCUM		
97	6807	QUEEN ST E AT KIPPEN DAVIE	1	4	110	5	22	358	3	45	497	5	20	261	0	9	117	14	100	1343
98	6819	QUEEN ST E AT WAVERLY	1	4	107	5	23	340	5	61	441	3	41	223	0	11	106	14	140	1217
99	6808	QUEEN ST E AT LEE	0	35	72	10	93	257	16	84	373	0	39	184	1	19	88	27	270	974
100	6821	QUEEN ST E AT WINEVA	12	24	60	20	49	228	27	70	330	14	25	173	1	10	79	74	178	870
101	6815	QUEEN ST E AT SCARBORO BEACH	3	2	61	1	58	171	0	38	292	0	14	159	0	6	73	4	118	756
103	6812	QUEEN ST E AT MACLEAN	4	7	58	1	34	138	0	29	263	1	26	134	0	4	69	6	100	662
104	6801	QUEEN ST E AT BEECH	0	16	42	1	34	105	3	79	187	1	37	98	0	22	47	5	188	479
105	10158	QUEEN ST E AT SILVER BIRCH	0	6	36	0	12	93	1	46	142	0	21	77	0	8	39	1	93	387
106	11683	QUEEN ST E AT NEVILLE PARK	0	26	10	0	77	16	0	101	41	0	58	19	0	24	15	0	286	101
107	6813	QUEEN ST E AT NEVILLE PARK	0	10	0	0	16	0	0	41	0	0	19	0	0	15	0	0	101	0
TOTALS FOR EASTBOUND			: 3469 3469			7461 7461			6048 6048			2827 2827			1709 1709			21514 21514		

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:53 TO 25:21)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

WB CONTROL POINT: 37 QUEEN ST E AT YONGE ST



WESTBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	6813	QUEEN ST E AT NEVILLE PARK	84	0	84	88	0	88	28	0	28	22	0	22	9	0	9	231	0	231
2	6817	QUEEN ST E AT SILVERBIRCH	57	0	141	36	0	124	56	0	84	16	0	38	16	0	25	181	0	412
3	6818	QUEEN ST E AT SPRUCE HILL	95	0	236	76	0	200	64	0	148	18	1	55	16	0	41	269	1	680
4	6804	QUEEN ST E AT GLEN MANOR	57	0	293	41	1	240	53	0	201	14	0	69	18	2	57	183	3	860
5	6822	QUEEN ST E AT WINEVA	57	31	319	48	21	267	66	23	244	27	10	86	11	1	67	209	86	983
6	6809	QUEEN ST E AT LEE	82	5	396	99	12	354	112	9	347	48	1	133	7	1	73	348	28	1303
7	6820	QUEEN ST E AT WAVERLY	56	3	449	38	3	389	43	2	388	12	0	145	7	4	76	156	12	1447
8	6803	QUEEN ST E AT ELMER	61	2	508	71	2	458	51	10	429	12	1	156	18	0	94	213	15	1645
9	6823	QUEEN ST E AT WOODBINE AVE	85	6	587	71	18	511	40	20	449	25	7	174	12	4	102	233	55	1823
10	6811	QUEEN ST E AT LOCKWOOD	25	0	612	32	9	534	37	10	476	16	2	188	6	0	108	116	21	1918
11	6806	QUEEN ST E AT KINGSTON RD	130	3	739	155	20	669	54	17	513	53	7	234	27	3	132	419	50	2287
12	3045	QUEEN ST E AT COXWELL	109	11	837	149	31	787	117	37	593	38	8	264	29	7	154	442	94	2635
13	3053	QUEEN ST E AT KENT	35	1	871	44	11	820	36	7	622	12	8	268	7	0	161	134	27	2742
14	3043	QUEEN ST E AT CONNAUGHT	61	14	918	115	21	914	115	19	718	24	6	286	14	4	171	329	64	3007
15	3049	QUEEN ST E AT GREENWOOD	83	6	995	175	15	1074	76	25	769	29	6	309	20	6	185	383	58	3332
16	3029	QUEEN ST E AT ALTON	44	2	1037	45	4	1115	26	6	789	10	5	314	3	0	188	128	17	3443
17	3057	QUEEN ST E AT LESLIE	87	11	1113	116	21	1210	66	31	824	40	8	346	14	5	197	323	76	3690

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:53 TO 25:21)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

WB CONTROL POINT: 37 QUEEN ST E AT YONGE ST



			PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			PERIOD 5 22:00 TO 30:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCM		
18	3052	QUEEN ST E AT JONES	102	10	1205	156	34	1332	99	22	901	50	18	378	25	11	211	432	95	4027
19	3034	QUEEN ST E AT BROOKLYN	69	6	1268	102	17	1417	47	13	935	21	3	396	23	2	232	262	41	4248
20	3063	QUEEN ST E AT PAPE	72	9	1331	116	25	1508	67	22	980	27	4	419	12	4	240	294	64	4478
21	3036	QUEEN ST E AT CARLAW	97	26	1402	204	67	1645	173	72	1081	69	12	476	35	21	254	578	198	4858
22	3059	QUEEN ST E AT LOGAN	66	8	1460	136	58	1723	108	26	1163	20	6	490	19	0	273	349	98	5109
23	3047	QUEEN ST E AT EMPIRE	31	15	1476	77	27	1773	61	26	1198	11	9	492	4	6	271	184	83	5210
24	3031	QUEEN ST E AT BOULTON	33	1	1508	53	30	1796	44	82	1160	6	8	490	11	1	281	147	122	5235
25	3033	QUEEN ST E AT BROADVIEW	61	69	1500	170	159	1807	112	132	1140	48	56	482	109	23	367	500	439	5296
26	3039	QUEEN ST E AT CARROLL	33	73	1460	35	61	1781	53	25	1168	11	7	486	19	6	380	151	172	5275
27	3067	QUEEN ST E AT RIVER	13	6	1467	46	16	1811	78	14	1232	27	20	493	29	9	400	193	65	5403
28	3074	QUEEN ST E AT SUMACH	42	14	1495	114	35	1890	117	27	1322	18	6	505	13	1	412	304	83	5624
29	3069	QUEEN ST E AT SACKVILLE	27	14	1508	50	23	1917	86	22	1386	8	4	509	8	5	415	179	68	5735
31	3065	QUEEN ST E AT PARLIAMENT	61	25	1544	156	54	2019	162	43	1505	40	15	534	16	13	418	435	150	6020
32	3061	QUEEN ST E AT ONTARIO	62	4	1602	106	20	2105	76	25	1556	37	14	557	8	8	418	289	71	6238
33	3071	QUEEN ST E AT SHERBOURNE	86	36	1652	170	78	2197	122	65	1613	50	24	583	27	20	425	455	223	6470
34	3051	QUEEN ST E AT JARVIS	28	27	1653	97	33	2261	106	49	1670	29	33	579	34	12	447	294	154	6610
35	3041	QUEEN ST E AT CHURCH	18	41	1630	100	122	2239	96	62	1704	19	59	539	22	7	462	255	291	6574
36	3077	QUEEN ST E AT VICTORIA	21	186	1465	126	191	2174	156	127	1733	30	16	553	22	10	474	355	530	6399

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TORONTO TRANSIT COMMISSION

			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59			ONS OFFS ACCUM		
			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM					
37	3079	QUEEN ST E AT YONGE ST	260	643	1082	662	898	1938	837	685	1885	298	231	620	207	184	497	2264	2641	6022
38	3083	QUEEN ST W AT BAY ST	47	172	957	316	217	2037	470	68	2287	176	21	775	68	9	556	1077	487	6612
39	11794	QUEEN ST W AT YORK ST	11	68	900	40	50	2027	103	36	2354	11	3	783	20	9	567	185	166	6631
40	6859	QUEEN ST W AT UNIVERSITY AVE	121	200	821	370	232	2165	345	132	2567	141	50	874	93	65	595	1070	679	7022
41	3086	QUEEN ST W AT SIMCOE	7	14	814	46	19	2192	65	29	2603	12	8	878	18	17	596	148	87	7083
42	3085	QUEEN ST W AT MCCAUL	24	75	763	149	125	2216	83	98	2588	51	48	881	55	23	628	362	369	7076
43	3084	QUEEN ST W AT JOHN	11	47	727	63	110	2169	129	138	2579	43	65	859	121	52	697	367	412	7031
44	3087	QUEEN ST W AT SOHO	2	27	702	37	80	2126	53	83	2549	28	19	868	29	32	694	149	241	6939
45	3088	QUEEN ST W AT SPADINA AVE	53	152	603	267	451	1942	315	338	2526	99	102	865	102	59	737	836	1102	6673
46	3080	QUEEN ST W AT AUGUSTA	12	31	584	46	118	1870	57	137	2446	22	40	847	23	22	738	160	348	6485
48	3081	QUEEN ST W AT BATHURST ST	38	98	524	179	344	1705	164	308	2302	70	126	791	98	108	728	549	984	6050
49	6848	QUEEN ST W AT PALMERSTON	14	15	523	44	104	1645	74	137	2239	24	40	775	30	21	737	186	317	5919
51	6830	QUEEN ST W AT CLAREMONT	26	42	507	63	114	1594	44	178	2105	15	45	745	18	40	715	166	419	5666
53	6855	QUEEN ST W AT STRACHAN	13	22	498	32	78	1548	48	115	2038	13	27	731	10	29	696	116	271	5511
54	6851	QUEEN ST W AT SHAW	5	30	473	63	95	1516	27	91	1974	9	20	720	11	14	693	115	250	5376
55	6847	QUEEN ST W AT OSSINGTON	32	75	430	153	159	1510	75	123	1926	27	55	692	19	47	665	306	459	5223
56	6832	QUEEN ST W AT DOVERCOURT	11	21	420	26	62	1474	33	107	1852	10	49	653	14	31	648	94	270	5047
57	6828	QUEEN ST W AT BEACONSFIELD	3	7	416	8	32	1450	14	92	1774	9	37	625	11	24	635	45	192	4900

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

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WB CONTROL POINT: 37 QUEEN ST E AT YONGE ST



			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			<u>00:00 TO 08:59</u>			<u>09:00 TO 14:59</u>			<u>15:00 TO 18:59</u>			<u>19:00 TO 21:59</u>			<u>22:00 TO 30:59</u>			<u>ONS OFFS ACCUM</u>		
			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>					
58	6838	QUEEN ST W AT GLADSTONE	68	66	418	173	199	1424	161	283	1652	35	85	575	31	94	572	468	727	4641
59	11938	QUEEN ST W AT GWYNNE	8	9	417	14	47	1391	11	60	1603	4	24	555	0	14	558	37	154	4524
60	6839	QUEEN ST W AT BROCK	13	4	426	37	124	1304	30	150	1483	7	45	517	19	55	522	106	378	4252
61	6845	QUEEN ST W AT OHARA	23	19	430	42	124	1222	28	149	1362	9	54	472	6	36	492	108	382	3978
62	6842	QUEEN ST W AT LANSDOWNE	56	45	441	92	276	1038	72	240	1194	15	81	406	11	74	429	246	716	3508
63	6852	QUEEN ST W AT SORAUREN	14	21	434	24	107	955	27	132	1089	11	37	380	8	49	388	84	346	3246
65	6857	QUEEN ST W AT TRILLER	6	5	435	14	47	922	3	100	992	1	38	343	3	30	361	27	220	3053
66	6849	QUEEN ST W AT RONCESVALLES AVE	144	105	474	173	347	748	264	271	985	41	127	257	38	84	315	660	934	2779
67	6889	QUEENSWAY AT GLENDALE	9	64	419	37	78	707	40	43	982	0	10	247	0	4	311	86	199	2666
68	6909	QUEENSWAY AT PARKSIDE	4	3	420	17	17	707	3	18	967	4	5	246	0	4	307	28	47	2647
69	6879	QUEENSWAY AT COLBORNE LODGE DR	0	0	420	4	8	703	4	0	971	0	0	246	0	11	296	8	19	2636
70	6887	QUEENSWAY AT ELLIS	2	4	418	10	24	689	1	37	935	0	0	246	0	5	291	13	70	2579
71	6925	QUEENSWAY AT WINDERMERE (1)	11	40	389	10	85	614	16	145	806	0	16	230	0	23	268	37	309	2307
72	6915	QUEENSWAY AT SOUTH KINGSWAY	0	0	389	2	1	615	2	2	806	0	1	229	0	0	268	4	4	2307
73	11791	LOOP (HUMBER) AT QUEENSWAY (2)	7	52	344	3	57	561	7	84	729	0	95	134	0	30	238	17	318	2006
74	6523	LOOP (HUMBER) AT QUEENSWAY	28	34	338	68	42	587	21	61	689	26	23	137	10	14	234	153	174	1985
75	5200	LAKESHORE BLVD W OPP 2095	11	10	339	16	14	589	1	54	636	4	9	132	0	16	218	32	103	1914
76	5176	LAKESHORE BLVD W AT 2155 (CHRISTIES)	4	6	337	8	23	574	2	5	633	0	3	129	0	0	218	14	37	1891

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:53 TO 25:21)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

WB CONTROL POINT: 37 QUEEN ST E AT YONGE ST


TORONTO TRANSIT COMMISSION

			PERIOD 1 <u>00:00 TO 08:59</u> <u>ONS OFFS ACCM</u>			PERIOD 2 <u>09:00 TO 14:59</u> <u>ONS OFFS ACCM</u>			PERIOD 3 <u>15:00 TO 18:59</u> <u>ONS OFFS ACCM</u>			PERIOD 4 <u>19:00 TO 21:59</u> <u>ONS OFFS ACCM</u>			PERIOD 5 <u>22:00 TO 30:59</u> <u>ONS OFFS ACCM</u>			-----TOTALS----- <u>ONS OFFS ACCM</u>		
77	5196	LAKESHORE BLVD W AT PARKLAWN	6	25	318	13	24	563	12	21	624	2	3	128	3	2	219	36	75	1852
78	5186	LAKESHORE BLVD W AT LEGION RD	6	4	320	8	34	537	6	26	604	0	4	124	0	7	212	20	75	1797
79	5190	LAKESHORE BLVD W AT LOUISA	5	12	313	11	37	511	13	30	587	0	8	116	0	8	204	29	95	1731
80	5174	LAKESHORE BLVD W AT BURLINGTON	75	8	380	32	58	485	14	52	549	2	9	109	5	16	193	128	143	1716
81	5202	LAKESHORE BLVD W AT SUPERIOR	50	11	419	61	50	496	24	55	518	1	9	101	2	12	183	138	137	1717
82	5193	LAKESHORE BLVD W AT MIMICO	40	28	431	52	52	496	32	46	504	6	9	98	9	17	175	139	152	1704
83	5179	LAKESHORE BLVD W AT HILLSIDE	51	7	475	21	25	492	9	36	477	2	5	95	3	8	170	86	81	1709
84	5203	LAKESHORE BLVD W AT SYMONS	18	4	489	22	14	500	9	11	475	1	3	93	0	7	163	50	39	1720
85	5184	LAKESHORE BLVD W AT LAKE CRES	0	2	487	5	1	504	6	11	470	1	1	93	0	0	163	12	15	1717
86	5198	LAKESHORE BLVD W AT ROYAL YORK	62	19	530	69	23	550	22	34	458	10	13	90	2	27	138	165	116	1766
87	13947	LAKESHORE BLVD W AT FIRST	18	16	532	22	37	535	9	25	442	0	4	86	0	3	135	49	85	1730
88	5168	LAKESHORE BLVD W AT 3RD	11	5	538	40	31	544	14	47	409	1	7	80	0	3	132	66	93	1703
89	5171	LAKESHORE BLVD W AT 5TH	18	21	535	47	41	550	15	49	375	3	10	73	1	6	127	84	127	1660
90	5180	LAKESHORE BLVD W AT ISLINGTON	43	44	534	79	77	552	29	45	359	5	1	77	1	10	118	157	177	1640
91	5151	LAKESHORE BLVD W AT 10TH	32	13	553	21	33	540	8	36	331	4	6	75	1	26	93	66	114	1592
92	5153	LAKESHORE BLVD W AT 13TH	24	10	567	26	29	537	9	43	297	1	2	74	2	10	85	62	94	1560
93	5155	LAKESHORE BLVD W AT 15TH	4	25	546	4	23	518	4	21	280	0	4	70	0	3	82	12	76	1496
94	5181	LAKESHORE BLVD W AT KIPLING	35	248	333	134	150	502	43	58	265	2	8	64	4	16	70	218	480	1234

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 501 QUEEN

Version: 001

ROUTING CODE(S): _0, A0,

COUNT: 1103 ON 2006-OCT-27: M-F (FROM 04:53 TO 25:21)

STOP CARD: 16 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: The majority of trips were short-turned due to heavy traffic (normal for this route).

WB CONTROL POINT: 37 QUEEN ST E AT YONGE ST



TORONTO TRANSIT COMMISSION

			PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			PERIOD 5			-----TOTALS-----		
			00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59			22:00 TO 30:59					
			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM		
95	5156	LAKESHORE BLVD W AT 22ND	12	17	328	30	44	488	23	36	252	1	15	50	0	7	63	66	119	1181
96	5158	LAKESHORE BLVD W AT 26TH	6	17	317	19	35	472	13	37	228	2	7	45	0	8	55	40	104	1117
97	5161	LAKESHORE BLVD W AT 29TH	4	14	307	7	21	458	7	26	209	1	6	40	0	7	48	19	74	1062
98	5162	LAKESHORE BLVD W AT 30TH	5	57	255	6	89	375	3	48	164	0	3	37	0	6	42	14	203	873
99	5188	LAKESHORE BLVD W AT LONG BRANCH	3	32	226	7	73	309	3	27	140	0	5	32	0	10	32	13	147	739
100	5165	LAKESHORE BLVD W AT 37TH	5	36	195	0	87	222	0	42	98	0	8	24	0	1	31	5	174	570
101	5169	LAKESHORE BLVD W AT 39TH	0	11	184	0	33	189	0	17	81	0	6	18	0	6	25	0	73	497
102	5511	LOOP (LONG BRANCH) AT LAKESHORE BLVD W	0	184	0	0	189	0	0	81	0	0	18	0	0	25	0	0	497	0
TOTALS FOR WESTBOUND			: 3761 3761			7457 7457			6759 6759			2197 2197			1776 1776			21950 21950		
TOTALS FOR BOTH DIRECTIONS			: 7230 7230			14918 14918			12807 12807			5024 5024			3485 3485			43464 43464		

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 508 LAKE SHORE

Version: 001

ROUTING CODE(S): _0, _1, _2,

COUNT: 1009 ON 2014-APR-22: M-F (FROM 08:15 TO 19:58)

STOP CARD: 7 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: Runs 61, 62 late running in during AM service resulting in approx.
180 extra passengers being carried. Streetcar turnback is Humber
Loop

EB CONTROL POINT: 16 QUEENSWAY AT RONCESVALLES



EASTBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCUM		
			ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM	ONS	OFFS	ACCM
1	5506	LOOP (HUMBER) AT QUEENSWAY	86	0	86	15	0	15	4	0	4	105	0	105
2	6916	QUEENSWAY AT SOUTH KINGSWAY	3	0	89	1	1	15	0	0	4	4	1	108
3	14282	QUEENSWAY AT WINDERMERE (1)	28	0	117	7	0	22	0	2	2	35	2	141
4	14281	QUEENSWAY AT ELLIS (1)	3	0	120	3	0	25	7	0	9	13	0	154
5	14280	QUEENSWAY AT COLBORNE LODGE DR(1)	3	0	123	0	0	25	5	7	7	8	7	155
6	6908	QUEENSWAY AT PARKSIDE	2	0	125	1	0	26	3	0	10	6	0	161
7	6888	QUEENSWAY AT GLENDALE	2	3	124	0	3	23	0	6	4	2	12	151
8	3529	DUNDAS WEST STATION							39	0	39	39	0	39
9	4569	RONCESVALLES AT BOUSTEAD							0	2	37	0	2	37
10	15039	RONCESVALLES AT HOWARD PARK							0	3	34	0	3	34
11	14994	RONCESVALLES AT GRENADIER							0	1	33	0	1	33
12	14993	RONCESVALLES AT HIGH PARK BLVD							0	11	22	0	11	22
13	4573	RONCESVALLES AT GALLEY							5	2	25	5	2	25
14	14992	RONCESVALLES AT MARION							0	3	22	0	3	22
15	4582	RONCESVALLES AT QUEEN ST W							0	22	0	0	22	0
16	6912	QUEENSWAY AT RONCESVALLES	2	23	103	7	10	20	0	4	0	9	37	123
17	4194	KING ST W AT WILSON PARK RD	0	0	103	1	0	21				1	0	124

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

Version: 001

ROUTE: 508 LAKE SHORE

ROUTING CODE(S): _0, _1, _2,

COUNT: 1009 ON 2014-APR-22: M-F (FROM 08:15 TO 19:58)

STOP CARD: 7 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

 COMMENTS: Runs 61, 62 late running in during AM service resulting in approx.
180 extra passengers being carried. Streetcar turnback is Humber
Loop

EB CONTROL POINT: 16 QUEENSWAY AT RONCESVALLES


TORONTO TRANSIT COMMISSION

			PERIOD 1			PERIOD 3			PERIOD 4			-----TOTALS-----		
			<u>00:00 TO 08:59</u>			<u>15:00 TO 18:59</u>			<u>19:00 TO 21:59</u>			<u>ONS OFFS ACCUM</u>		
			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCM</u>			<u>ONS OFFS ACCUM</u>		
18	4164	KING ST W AT DOWLING	1	0	104	9	0	30				10	0	134
19	4173	KING ST W AT JAMESON	5	4	105	15	2	43				20	6	148
20	4168	KING ST W AT DUNN	1	1	105	13	3	53				14	4	158
21	4186	KING ST W AT SPENCER	5	0	110	14	3	64				19	3	174
22	4167	KING ST W AT DUFFERIN	25	5	130	31	9	86				56	14	216
23	4171	KING ST W AT FRASER	8	1	137	38	0	124				46	1	261
24	4155	KING ST W AT ATLANTIC	14	11	140	40	4	160				54	15	300
25	13344	KING ST W AT SUDBURY	2	0	142	6	3	163				8	3	305
26	4162	KING ST W AT SHAW	1	1	142	11	2	172				12	3	314
27	4187	KING ST W AT STRACHAN	11	1	152	35	5	202				46	6	354
28	4178	KING ST W AT NIAGARA	2	0	154	9	0	211				11	0	365
29	4189	KING ST W AT TECUMSETH	5	0	159	6	4	213				11	4	372
30	4157	KING ST W AT BATHURST ST	7	7	159	63	18	258				70	25	417
31	10172	KING ST W AT PORTLAND	7	3	163	21	5	274				28	8	437
32	4161	KING ST W AT BRANT	5	3	165	11	5	280				16	8	445
33	4184	KING ST W AT SPADINA AVE	20	10	175	71	16	335				91	26	510
34	4180	KING ST W AT BLUE JAYS WAY	3	4	174	27	16	346				30	20	520
35	4176	KING ST W AT JOHN	0	18	156	13	14	345				13	32	501

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 508 LAKE SHORE

Version: 001

ROUTING CODE(S): _0, _1, _2,

COUNT: 1009 ON 2014-APR-22: M-F (FROM 08:15 TO 19:58)

STOP CARD: 7 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: Runs 61, 62 late running in during AM service resulting in approx.
180 extra passengers being carried. Streetcar turnback is Humber
Loop

EB CONTROL POINT: 16 QUEENSWAY AT RONCESVALLES



			PERIOD 1			PERIOD 3			PERIOD 4			-----TOTALS-----		
			00:00 TO 08:59			15:00 TO 18:59			19:00 TO 21:59					
			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM		
36	4182	KING ST W AT SIMCOE	0	27	129	4	25	324				4	52	453
37	4192	KING ST W AT UNIVERSITY	4	36	97	12	161	175				16	197	272
38	4197	KING ST W AT YORK ST	2	20	79	2	6	171				4	26	250
39	4158	KING ST W AT BAY ST	4	40	43	4	21	154				8	61	197
40	4196	KING ST W AT YONGE ST	72	19	96	10	61	103				82	80	199
41	4133	KING ST E AT CHURCH	0	4	92	0	59	44				0	63	136
42	14314	CHURCH AT LOMBARD				0	1	43				0	1	43
43	10532	VICTORIA AT QUEEN ST E				0	43	0				0	43	0
44	4135	KING ST E AT JARVIS	0	20	72							0	20	72
45	4145	KING ST E AT SHERBOURNE	0	18	54							0	18	54
46	4138	KING ST E AT ONTARIO	0	43	11							0	43	11
47	4140	KING ST E AT PARLIAMENT	0	10	1							0	10	1
48	6645	PARLIAMENT ST AT RICHMOND ST E	0	0	1							0	0	1
49	6643	PARLIAMENT ST AT QUEEN ST E	0	1	0							0	1	0
50	6646	PARLIAMENT ST AT SHUTER	0	0	0							0	0	0
51	6636	PARLIAMENT ST AT DUNDAS ST E (1)	0	0	0							0	0	0
52	6642	PARLIAMENT ST AT OAK	0	0	0							0	0	0
53	6637	PARLIAMENT ST AT GERRARD	0	0	0							0	0	0

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011
Version: 001

ROUTE: 508 LAKE SHORE
ROUTING CODE(S): _0, _1, _2,
COUNT: 1009 ON 2014-APR-22: M-F (FROM 08:15 TO 19:58)
STOP CARD: 7 COUNT COVERAGE/METHOD: FULL/HH
STOPS: 1 TO 299
COMMENTS: Runs 61, 62 late running in during AM service resulting in approx.
180 extra passengers being carried. Streetcar turnback is Humber
Loop
EB CONTROL POINT: 16 QUEENSWAY AT RONCESVALLES



	PERIOD 1		PERIOD 3		PERIOD 4		-----TOTALS-----	
	<u>00:00 TO 08:59</u>		<u>15:00 TO 18:59</u>		<u>19:00 TO 21:59</u>		<u>ONS OFFS ACCUM</u>	
	<u>ONS OFFS ACCM</u>		<u>ONS OFFS ACCM</u>		<u>ONS OFFS ACCM</u>		<u>ONS OFFS ACCUM</u>	
TOTALS FOR EASTBOUND	:	333 333	500 500		63 63		896 896	

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 508 LAKE SHORE

Version: 001

ROUTING CODE(S): _0, _1,

COUNT: 1009 ON 2014-APR-22: M-F (FROM 07:58 TO 19:33)

STOP CARD: 7 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: Runs 61, 62 late running in during AM service resulting in approx.
180 extra passengers being carried. Streetcar turnback is Humber
Loop

WB CONTROL POINT: 31 KING ST W AT QUEEN ST W



WESTBOUND

ROUTE STOP	GF ID	LOCATION	PERIOD 1 00:00 TO 08:59 ONS OFFS ACCM			PERIOD 2 09:00 TO 14:59 ONS OFFS ACCM			PERIOD 3 15:00 TO 18:59 ONS OFFS ACCM			PERIOD 4 19:00 TO 21:59 ONS OFFS ACCM			-----TOTALS----- ONS OFFS ACCUM		
1	10532	VICTORIA AT QUEEN ST E				18	0	18	1	0	1	0	0	0	19	0	19
2	3040	QUEEN ST E AT CHURCH				8	1	25	0	0	1	0	0	0	8	1	26
3	803	CHURCH AT RICHMOND				1	0	26	1	0	2	0	0	0	2	0	28
4	780	CHURCH AT ADELAIDE ST E				0	0	26	0	0	2	0	0	0	0	0	28
5	799	CHURCH AT KING ST E				5	0	31	9	0	11	0	0	0	14	0	42
6	4153	KING ST E AT VICTORIA				0	0	31	31	0	42	27	0	27	58	0	100
7	4154	KING ST E AT YONGE ST				60	17	74	103	0	145	55	0	82	218	17	301
8	4159	KING ST W AT BAY ST				13	3	84	83	2	226	16	0	98	112	5	408
9	4198	KING ST W AT YORK ST				6	3	87	44	0	270	13	1	110	63	4	467
10	4191	KING ST W AT UNIVERSITY				44	22	109	95	0	365	39	0	149	178	22	623
11	4183	KING ST W AT SIMCOE				7	4	112	28	2	391	2	2	149	37	8	652
12	4177	KING ST W AT JOHN				4	22	94	20	9	402	7	10	146	31	41	642
13	4181	KING ST W AT PETER				0	0	94	29	11	420	6	15	137	35	26	651
14	4185	KING ST W AT SPADINA AVE				5	16	83	57	33	444	20	15	142	82	64	669
15	4160	KING ST W AT BRANT				1	11	73	14	6	452	3	10	135	18	27	660
16	10176	KING ST W AT PORTLAND				9	4	78	19	19	452	7	11	131	35	34	661
17	4156	KING ST W AT BATHURST ST				6	20	64	27	29	450	4	19	116	37	68	630

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

Version: 001

ROUTE: 508 LAKE SHORE

ROUTING CODE(S): _0, _1,

COUNT: 1009 ON 2014-APR-22: M-F (FROM 07:58 TO 19:33)

STOP CARD: 7 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

 COMMENTS: Runs 61, 62 late running in during AM service resulting in approx.
180 extra passengers being carried. Streetcar turnback is Humber
Loop

WB CONTROL POINT: 31 KING ST W AT QUEEN ST W


TORONTO TRANSIT COMMISSION

				PERIOD 1			PERIOD 2			PERIOD 3			PERIOD 4			-----TOTALS-----		
				00:00 TO 08:59			09:00 TO 14:59			15:00 TO 18:59			19:00 TO 21:59					
				ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCM			ONS OFFS ACCUM		
18	4190	KING ST W AT TECUMSETH					4	6	62	13	17	446	6	4	118	23	27	626
19	4179	KING ST W AT NIAGARA					2	3	61	3	22	427	2	4	116	7	29	604
20	4188	KING ST W AT STRACHAN					5	3	63	6	68	365	0	17	99	11	88	527
21	4163	KING ST W AT SHAW					3	13	53	6	45	326	6	10	95	15	68	474
22	11021	KING ST W AT SUDBURY					7	7	53	0	0	326	0	0	95	7	7	474
23	4175	KING ST W AT JEFFERSON					2	3	52	11	49	288	7	19	83	20	71	423
24	14400	KING ST W AT JOE SHUSTER WAY					0	2	50	3	34	257	0	9	74	3	45	381
25	4166	KING ST W AT DUFFERIN					1	28	23	25	61	221	13	13	74	39	102	318
26	13890	KING ST W AT SPENCER					0	13	10	2	25	198	1	7	68	3	45	276
27	4169	KING ST W AT DUNN					0	8	2	0	25	173	2	8	62	2	41	237
28	4174	KING ST W AT JAMESON					0	0	2	8	44	137	6	18	50	14	62	189
29	4165	KING ST W AT DOWLING					0	0	2	1	16	122	4	4	50	5	20	174
30	4193	KING ST W AT WILSON PARK RD					0	0	2	0	9	113	0	3	47	0	12	162
31	11596	KING ST W AT QUEEN ST W		0	0	0	0	2	0	5	43	75	10	2	55	15	47	130
32	15059	RONCESVALLES AT QUEEN ST W (1)											12	1	41	12	1	41
33	15038	RONCESVALLES AT MARION											14	3	52	14	3	52
34	4574	RONCESVALLES AT GARDEN											8	5	55	8	5	55
35	4571	RONCESVALLES AT FERMANAGH											15	5	65	15	5	65

RIDING COUNT - 11. ON/OFF SUMMARY REPORT

Report: TRIPS_DM - 011

ROUTE: 508 LAKE SHORE

Version: 001

ROUTING CODE(S): _0, _1,

COUNT: 1009 ON 2014-APR-22: M-F (FROM 07:58 TO 19:33)

STOP CARD: 7 COUNT COVERAGE/METHOD: FULL/HH

STOPS: 1 TO 299

COMMENTS: Runs 61, 62 late running in during AM service resulting in approx.
180 extra passengers being carried. Streetcar turnback is Humber
Loop

WB CONTROL POINT: 31 KING ST W AT QUEEN ST W



TORONTO TRANSIT COMMISSION

			PERIOD 1	PERIOD 2	PERIOD 3	PERIOD 4	-----TOTALS-----		
			<u>00:00 TO 08:59</u>	<u>09:00 TO 14:59</u>	<u>15:00 TO 18:59</u>	<u>19:00 TO 21:59</u>			
			<u>ONS OFFS ACCM</u>	<u>ONS OFFS ACCM</u>	<u>ONS OFFS ACCM</u>	<u>ONS OFFS ACCM</u>	<u>ONS OFFS ACCM</u>		
36	4576	RONCESVALLES AT GRENADIER				3 3 65	3 3 65		
37	4578	RONCESVALLES AT HOWARD PARK				10 4 71	10 4 71		
38	4568	RONCESVALLES AT BOUSTEAD				2 3 70	2 3 70		
39	2150	DUNDAS ST W AT BLOOR				0 2 68	0 2 68		
40	3529	DUNDAS WEST STATION				0 68 0	0 68 0		
41	6889	QUEENSWAY AT GLENDALE	0 0 0		7 7 75	5 4 26	12 11 101		
42	6909	QUEENSWAY AT PARKSIDE	0 0 0		0 7 68	0 3 23	0 10 91		
43	14393	QUEENSWAY AT COLBORNE LODGE DR	0 0 0		2 0 70	4 1 26	6 1 96		
44	14394	QUEENSWAY AT ELLIS (1)	0 0 0		0 2 68	0 6 20	0 8 88		
45	14395	QUEENSWAY AT WINDERMERE (1)	1 0 1		3 14 57	0 4 16	4 18 74		
46	6915	QUEENSWAY AT SOUTH KINGSWAY	0 0 1		2 0 59	0 3 13	2 3 73		
47	6523	LOOP (HUMBER) AT QUEENSWAY	0 1 0		0 59 0	0 0 13	0 0 73 0		
TOTALS FOR WESTBOUND			: 1 1	211 211	658 658	329 329	1199 1199		
TOTALS FOR BOTH DIRECTIONS			: 334 334	211 211	1158 1158	392 392	2095 2095		



TORONTO TRANSIT COMMISSION

SURFACE STATIONARY COUNT - 7. LOCATION TRIP LIST REPORT

STOP: 5506 ON LOOP (HUMBER) AT QUEENSWAY/MIDBLOCK/NORTHBOUND

COUNT DATE: THU 2013-05-16

ROUTES SELECTED / COUNT COVERAGE

501 QUEEN / FULL

508 LAKE SHORE / FULL

NOTE: For trips with non-blank arrives and departs, the departure time is shown.



TORONTO TRANSIT COMMISSION

SURFACE STATIONARY COUNT - 7. LOCATION TRIP LIST REPORT

STOP: 5506 ON LOOP (HUMBER) AT QUEENSWAY/MIDBLOCK/NORTHBOUND

COUNT DATE: THU 2013-05-16

PERIOD 1: 00:00 - 08:59

<u>TIME</u>	<u>ROUTE</u>		<u>ROUTE</u>		<u>RUN</u>	<u>VEHICLE TYPE</u>	<u>ARRIVE</u>	<u>DEPART</u>	<u>COUNT NUM.</u>
			<u>BRANCH</u>	<u>DIR.</u>					
06:32	501	QUEEN	—	E	4	ALRV	20		296
06:48	501	QUEEN	—	E	5	ALRV	51		296
06:54	501	QUEEN	—	E	10	ALRV	38		296
07:05	501	QUEEN	—	E	1	ALRV	52		296
07:15	501	QUEEN	—	E	2	ALRV	48		296
07:26	501	QUEEN	—	E	31	ALRV	58		296
07:40	501	QUEEN	—	E	17	ALRV	68		296
07:48	501	QUEEN	—	E	64	ALRV	48		296
07:55	508	LAKE SHORE	—	E	60	CLRV	21		297
07:59	501	QUEEN	—	E	5	ALRV	56		296
08:09	501	QUEEN	—	E	6	ALRV	50		296
08:09	508	LAKE SHORE	—	E	61	CLRV	32		297
08:15	508	LAKE SHORE	—	E	62	CLRV	31		297
08:20	501	QUEEN	—	E	7	ALRV	58		296
08:29	501	QUEEN	—	E	7	ALRV	53		296
08:38	501	QUEEN	—	E	3	ALRV	58		296
08:39	501	QUEEN	—	E	8	ALRV	21		296
08:51	501	QUEEN	—	E	9	ALRV	43		296

PERIOD 1: 00:00 - 08:59 TOTAL TRIPS: 18

TOTALS: 806

AVERAGES: 44.8

NOTE: For trips with non-blank arrives and departs, the departure time is shown.



TORONTO TRANSIT COMMISSION

SURFACE STATIONARY COUNT - 7. LOCATION TRIP LIST REPORT

STOP: 5506 ON LOOP (HUMBER) AT QUEENSWAY/MIDBLOCK/NORTHBOUND

COUNT DATE: THU 2013-05-16

PERIOD 2: 09:00 - 14:59

TIME	ROUTE		ROUTE		RUN	VEHICLE TYPE	ARRIVE	DEPART	COUNT NUM.
			BRANCH	DIR.					
09:02	501	QUEEN	—	E	10	ALRV	66		296
09:12	501	QUEEN	—	E	11	ALRV	44		296
09:23	501	QUEEN	—	E	13	ALRV	32		296
09:37	501	QUEEN	—	E	30	ALRV	60		296
09:48	501	QUEEN	—	E	4	ALRV	38		296
09:59	501	QUEEN	—	E	5	ALRV	42		296
10:06	501	QUEEN	—	E	16	ALRV	33		296
10:28	501	QUEEN	—	E	1	ALRV	43		296
10:39	501	QUEEN	—	E	43	ALRV	40		296
10:47	501	QUEEN	—	E	31	ALRV	28		296
11:12	501	QUEEN	—	E	5	ALRV	51		296
11:14	501	QUEEN	—	E	3	ALRV	30		296
11:26	501	QUEEN	—	E	6	ALRV	42		296
12:05	501	QUEEN	—	E	9	ALRV	34		296
12:13	501	QUEEN	—	E	10	ALRV	45		296
12:29	501	QUEEN	—	E	11	ALRV	36		296
12:41	501	QUEEN	—	E	13	ALRV	41		296
12:58	501	QUEEN	—	E	30	ALRV	62		296
13:04	501	QUEEN	—	E	5	ALRV	11		296
13:26	501	QUEEN	—	E	4	ALRV	55		296
13:28	501	QUEEN	—	E	40	ALRV	42		296
13:39	501	QUEEN	—	E	1	ALRV	22		296
13:54	501	QUEEN	—	E	2	ALRV	60		296
14:02	501	QUEEN	—	E	31	ALRV	29		296
14:08	501	QUEEN	—	E	3	ALRV	10		296
14:13	501	QUEEN	—	E	64	ALRV	14		296
14:39	501	QUEEN	—	E	5	ALRV	62		296
14:44	501	QUEEN	—	E	39	ALRV	16		296
14:50	501	QUEEN	—	E	7	ALRV	18		296

NOTE: For trips with non-blank arrives and departs, the departure time is shown.



TORONTO TRANSIT COMMISSION

SURFACE STATIONARY COUNT - 7. LOCATION TRIP LIST REPORT

STOP: 5506 ON LOOP (HUMBER) AT QUEENSWAY/MIDBLOCK/NORTHBOUND

COUNT DATE: THU 2013-05-16

PERIOD 2: 09:00 - 14:59 TOTAL TRIPS: 29

TOTALS: 1106
AVERAGES: 38.1

NOTE: For trips with non-blank arrives and departs, the departure time is shown.



TORONTO TRANSIT COMMISSION

SURFACE STATIONARY COUNT - 7. LOCATION TRIP LIST REPORT

STOP: 5506 ON LOOP (HUMBER) AT QUEENSWAY/MIDBLOCK/NORTHBOUND

COUNT DATE: THU 2013-05-16

PERIOD 3: 15:00 - 18:59

TIME	ROUTE	BRANCH	ROUTE		RUN	VEHICLE TYPE	ARRIVE	DEPART	COUNT NUM.
				DIR.					
15:10	501 QUEEN	-		E	8	ALRV	35		296
15:19	501 QUEEN	-		E	9	ALRV	40		296
15:54	501 QUEEN	-		E	10	ALRV	45		296
15:55	501 QUEEN	-		E	11	ALRV	8		296
15:57	501 QUEEN	-		E	19	ALRV	16		296
16:06	501 QUEEN	-		E	11	ALRV	20		296
16:18	501 QUEEN	-		E	13	ALRV	30		296
16:57	501 QUEEN	-		E	20	ALRV	30		296
17:07	501 QUEEN	S		E	18	ALRV	20		296
17:09	501 QUEEN	-		E	40	ALRV	3		296
17:24	501 QUEEN	-		E	1	ALRV	35		296
17:33	501 QUEEN	-		E	31	ALRV	35		296
17:47	501 QUEEN	-		E	3	ALRV	25		296
17:58	501 QUEEN	-		E	35	ALRV	25		296
18:09	508 LAKE SHORE	-		E	61	ALRV	10		297
18:14	501 QUEEN	-		E	36	ALRV	20		296
18:16	501 QUEEN	-		E	5	ALRV	2		296
18:28	501 QUEEN	-		E	7	ALRV	3		296
18:28	508 LAKE SHORE	S		E	67	CLRV	10		297
18:38	501 QUEEN	-		E	8	ALRV	10		296

PERIOD 3: 15:00 - 18:59 TOTAL TRIPS: 20

TOTALS: 422

AVERAGES: 21.1

NOTE: For trips with non-blank arrives and departs, the departure time is shown.



TORONTO TRANSIT COMMISSION

SURFACE STATIONARY COUNT - 7. LOCATION TRIP LIST REPORT

STOP: 5506 ON LOOP (HUMBER) AT QUEENSWAY/MIDBLOCK/NORTHBOUND

COUNT DATE: THU 2013-05-16

PERIOD 4: 19:00 - 21:59

<u>TIME</u>	<u>ROUTE</u>		<u>ROUTE</u>		<u>RUN</u>	<u>VEHICLE TYPE</u>	<u>ARRIVE</u>	<u>DEPART</u>	<u>COUNT NUM.</u>
			<u>BRANCH</u>	<u>DIR.</u>					
19:05	501	QUEEN	S	E	51	ALRV	30		296
19:06	508	LAKE SHORE	S	E	65	ALRV	10		297
19:07	501	QUEEN	—	E	10	ALRV	0		296
19:08	501	QUEEN	—	E	16	ALRV	4		296
19:16	501	QUEEN	S	E	63	ALRV	15		296
19:19	501	QUEEN	—	E	30	ALRV	15		296
20:14	501	QUEEN	—	E	8	ALRV	20		296
20:36	501	QUEEN	—	E	11	ALRV	35		296
20:38	501	QUEEN	—	E	2	ALRV	3		296
20:48	501	QUEEN	—	E	37	ALRV	7		296
21:00	501	QUEEN	—	E	39	ALRV	25		296
21:09	501	QUEEN	—	E	38	ALRV	5		296
21:17	501	QUEEN	—	E	4	CLRV	15		296
21:42	501	QUEEN	—	E	5	ALRV	15		296
21:48	501	QUEEN	—	E	7	ALRV	7		296

PERIOD 4: 19:00 - 21:59 TOTAL TRIPS: 15

TOTALS: 206

AVERAGES: 13.7

NOTE: For trips with non-blank arrives and departs, the departure time is shown.



TORONTO TRANSIT COMMISSION

SURFACE STATIONARY COUNT - 7. LOCATION TRIP LIST REPORT

STOP: 5506 ON LOOP (HUMBER) AT QUEENSWAY/MIDBLOCK/NORTHBOUND

COUNT DATE: THU 2013-05-16

PERIOD 5: 22:00 - 30:59

TIME	ROUTE	BRANCH	ROUTE		RUN	VEHICLE TYPE	ARRIVE	DEPART	COUNT NUM.
				DIR.					
22:02	501 QUEEN	—		E	8	ALRV	10		296
22:17	501 QUEEN	—		E	10	ALRV	25		296
22:25	501 QUEEN	—		E	16	ALRV	10		296
22:31	501 QUEEN	S		E	30	ALRV	15		296
22:39	501 QUEEN	—		E	12	CLRV	15		296
22:58	501 QUEEN	—		E	13	ALRV	25		296
23:01	501 QUEEN	S		E	4	ALRV	3		296
23:19	501 QUEEN	—		E	13	ALRV	2		296
23:23	501 QUEEN	—		E	8	ALRV	2		296

PERIOD 5: 22:00 - 30:59 TOTAL TRIPS: 9

TOTALS: 107

AVERAGES: 11.9

ALL PERIODS TOTAL TRIPS: 91

TOTALS: 2647

AVERAGES: 29.1

NOTE: For trips with non-blank arrives and departs, the departure time is shown.



Appendix G.2

Synchro Signal Optimization Technical Memo (Oct. 2017)



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To: Edward Presta

CC: Sheri Harmsworth;
Hossein Zarei

Project name:
Park Lawn & Lake Shore Area TMP

Project ref:
60494141

From:
Davoud Shirazi (P.Eng), Ilia Merkoullovitch (E.I.T.)

Date:
October 6, 2017

DRAFT

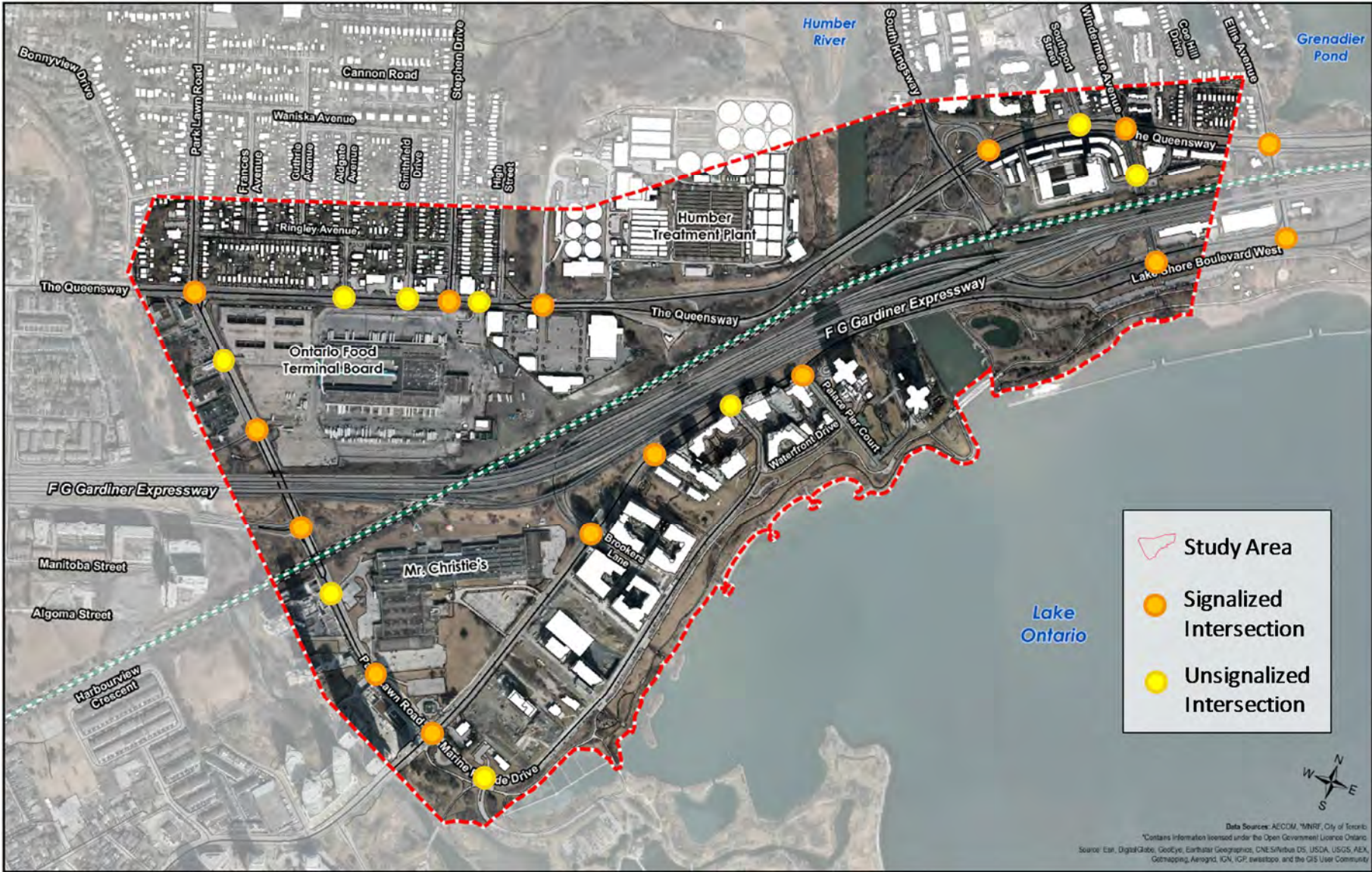
Memo

Subject: Synchro Signal Optimization

Introduction

AECOM Canada Ltd. was retained by City of Toronto (i.e., the “City”) to undertake a Transportation Master Plan Study in the Park Lawn – Lake Shore area. The purpose of the study is to identify transportation improvements needed to support all road users and the further development of the Park Lawn / Lake Shore community. As part of the study’s traffic modeling stage, this memorandum describes the operations for the existing and optimized conditions Synchro models for the primary study area as well as two additional intersections included for queueing analysis purposes, shown in **Exhibit 1**.

Exhibit 1 – Study Area



Data Collection

Turning movement count (TMC) data for the study intersections was provided by the City of Toronto. Counts at each intersection took place on the dates shown in **Table 1**. The counts included peak hour summaries as well as 15-minute breakdowns.

Table 1 – Locations and Dates of TMC Data

#	Intersection Name	Date of Data Collection
1	Park Lawn Road / The Queensway (Signalized)	Wednesday, October 5, 2016
2	Park Lawn Road / Starbucks Entrance (Unsignalized)	Thursday, October 6, 2016
3	Park Lawn Road / Gardiner Ramp North (Signalized)	Thursday, October 6, 2016
4	Park Lawn Road / Gardiner Ramp South (Signalized)	Thursday, October 6, 2016
5	Park Lawn Road / South Beach Condos Entrance (Unsignalized)	Thursday, October 6, 2016
6	Park Lawn Road / Metro Entrance (Signalized)	Wednesday, October 5, 2016
7	Park Lawn Road / Lake Shore Boulevard West (Signalized)	Thursday, October 6, 2016
8	Marine Parade Drive / Humber Bay Park Road East (Unsignalized)	Thursday, October 6, 2016
9	Lake Shore Boulevard West / Gardiner Ramps - Brookers Lane (Signalized)	Thursday, October 6, 2016
10	Lake Shore Boulevard West / TTC Streetcar Underpass (Signalized)	Thursday, October 6, 2016
11	Lake Shore Boulevard West / Marine Parade Drive (Unsignalized)	Thursday, October 6, 2016
12	Lake Shore Boulevard West / Palace Pier (Signalized)	Thursday, October 6, 2016
13	Lake Shore Boulevard West / Windermere Avenue (Signalized)	Tuesday, October 4, 2016
14	Lake Shore Boulevard West / Ellis Avenue (Signalized)	Tuesday, October 4, 2016
15	The Queensway / Ellis Avenue (Signalized)	Tuesday, October 4, 2016
16	The Queensway / Windermere Avenue (Signalized)	Tuesday, October 4, 2016
17	Windermere Avenue / Windermere by the Lake Condo Entrance (Unsignalized)	Estimated
18	The Queensway / Southport Street (Unsignalized)	Tuesday, October 4, 2016
19	The Queensway / The Kingsway Link Road (Signalized)	Estimated
20	The Queensway / Sobeys Plaza Entrance (Signalized)	Wednesday, October 5, 2016
21	The Queensway / High Street (Unsignalized)	Estimated
22	The Queensway / Ontario Food Terminal (Unsignalized)	Wednesday, October 5, 2016
23	The Queensway / Stephen Drive (Signalized)	Wednesday, October 5, 2016
24	The Queensway / Smithfield Drive (Unsignalized)	Wednesday, October 5, 2016
25	The Queensway / Aldgate Avenue (Unsignalized)	Wednesday, October 5, 2016

An existing conditions assessment was completed using the traffic data listed in **Table 1**. The TMC volumes were balanced through the study area before being used to assess the intersections. Current signal timing data was also obtained from the City of Toronto, in addition to pedestrian and cyclist counts. Heavy vehicle percentages were derived from the TMC data for each movement.

Assessment Criteria and Synchro Model Inputs

An intersection's traffic operations are typically measured in terms of delay and capacity. The delay incurred is related to a level of service (LOS), and congestion is measured in terms of a volume-to-capacity ratio (v/c ratio). The LOS is determined on the basis of average delay per vehicle and includes deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS ranges from LOS 'A', for 10 seconds or less average delay, to LOS 'F' for delays greater than 80 seconds. For unsignalized intersections, the LOS ranges from 10 seconds or less for LOS 'A', to LOS 'F' for delays greater than 50 seconds. When the v/c ratio reaches a value of 1.0, the theoretical capacity of the road has been reached.

Within the City of Toronto, a movement is generally considered to be critical when operating at LOS 'E' or worse or a v/c ratio more than 1.0.

Synchro default values were used in the absence of available information. The key parameters used in the existing conditions analysis include:

- Peak Hour Factor (PHF) = 0.92¹;
- Analysis period = 15 minutes;
- Lost Time Adjust = -1.0 second²;
- Ideal Saturated Flow Rate = 1900 pcphpl³;
- Lane Widths: 3.0 m for left and right turning lanes, 3.5 m for through lanes⁴;
- Link Speeds: derived from posted speed limits;
- Heavy vehicle percentages derived from the raw traffic data (raw traffic data included in Appendix A);
- Existing signal timing plans received from the City of Toronto;
- Synchro / SimTraffic defaults for all other model inputs⁵

The study area featured several TTC bus and streetcar routes which were considered to impact the operations of several key intersections. Current scheduling information was obtained from the TTC website in April 2017 for routes 66, 77, 80, 145, and 501. Bus blockages were implemented into the Synchro models to reflect real world operation. Buses stopping at the near side of an intersection were implemented within Synchro as bus

¹ With the exception of:

- Park Lawn Road / Lake Shore Boulevard – WBT: PHF = 0.94 (Existing PM Peak Hour)
- Park Lawn Road / Gardiner Ramp South – EBR: PHF = 0.99 (Existing PM Peak Hour); PHF = 1.00 (Optimized PM Peak Hour)
- Queensway / Windermere Avenue – EBL: PHF = 0.98 (Existing PM Peak Hour)
- Queensway / Windermere Avenue – EBT: PHF = 1.00 (Existing AM Peak Hour)
- Queensway / Windermere Avenue – WBL: PHF = 1.00 (Existing PM Peak Hour)
- Lake Shore Boulevard / Windermere Avenue – WBT: PHF = 1.00 (Existing PM Peak Hour); PHF = 1.00 (Optimized PM Peak Hour)
- Lake Shore Boulevard / Ellis Avenue – WBT: PHF = 1.00 (Existing PM Peak Hour)

² With the exception of:

- Queensway / Windermere Avenue – WBL: Lost Time Adjust = -2.0 s (Existing PM Peak Hour)

³ With the exception of:

- Queensway / Windermere Avenue – WBL: Ideal Saturated Flow = 2050 pcphpl (Existing PM Peak Hour)
- Lake Shore Boulevard / Windermere Avenue – WBT: Ideal Saturated Flow = 1975 pcphpl (Existing PM Peak Hour)

⁴ With the exception of:

- Lake Shore Boulevard / Gardiner On-Off Ramps / Brookers Lane – SBR: Lane Width = 3.5 m (Existing PM Peak Hour)
- Lake Shore Boulevard / Windermere Avenue – WBT: Lane Width = 3.7 m (Existing PM Peak Hour); Lane Width = 3.7 m (Optimized PM Peak Hour)
- Lake Shore Boulevard / Ellis Avenue – WBT: Lane Width = 3.7 m (Existing PM Peak Hour)

⁵ With the exception of:

- Lake Shore Boulevard / Windermere Avenue – WBT: Lane Utilization Factor = 1.0 (Existing PM Peak Hour)

blockages for the through and right turning vehicles. Busses stopping at the far side of an intersection were implemented within Synchro as bus blockages for the through vehicles only. Busses stopping in a designated bus bay were considered to create no bus blockage for any movements. Streetcars stopping at the near side of an intersection were implemented within Synchro as bus blockages for the left, through, and right turning vehicles.

Construction work was identified in the vicinity of The Queensway & Humber Loop. Any geometric changes that result from the construction were not considered in this assessment.

Existing Traffic Operations in Study Area

The overall intersection levels of service for the existing AM and PM peak hour analyses utilizing existing signal timing plans are summarized in **Exhibit 2**. Existing conditions operations for signalized intersections during the AM peak hour are shown in **Table 2**. Movements with reported v/c ratios of 0 are noted to have been rounded down by the HCM 2000 analysis from values less than 0.005.

The results show that during the AM peak hour of the existing conditions the majority of intersections and the related traffic movements are operating below the critical thresholds with the exception of the highlighted movements and intersections. The AM peak hour analysis revealed 19 movements and 0 intersections operating at a critical level among the signalized intersections.

A queueing analysis was completed for the study area using SimTraffic in order to assess queueing conditions at each intersection. **Table 3** shows the results of the simulation. Only movements where a queue was observed are reported. The simulation results revealed 11 approaches at which queueing was found to extend to the upstream intersection, potentially negatively impacting the operations at these upstream intersections.

Exhibit 2 – AM and PM Peak Hour Intersection LOS with Existing Signal Timings

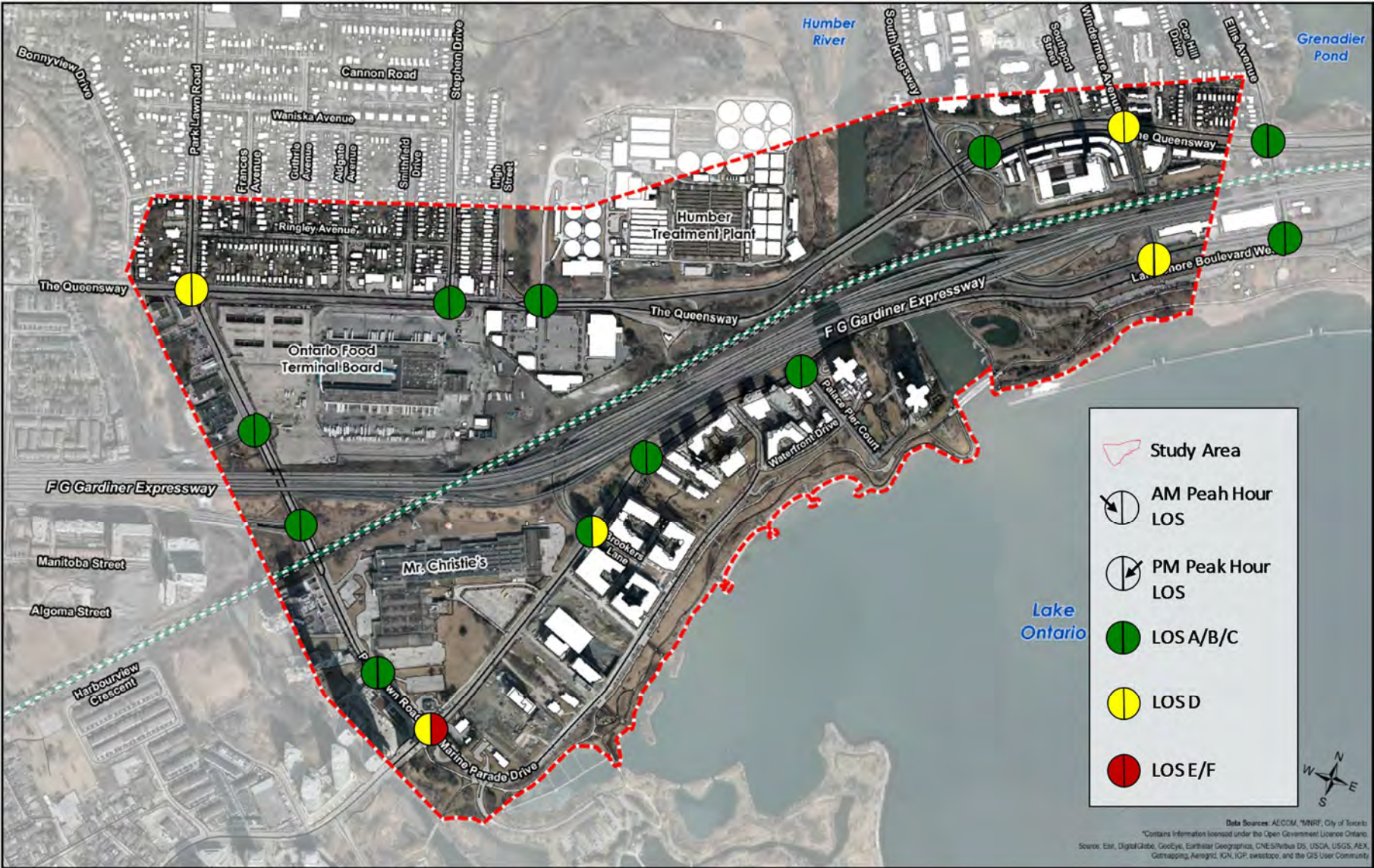


Table 2 – Existing Conditions Operations at Signalized Intersections – AM Peak Hour

Intersection	Approach/Movement		Delay (sec)	LOS	v/c
Marine Parade Drive / Park Lawn Road & Lake Shore Blvd W (Signalized)	EB	EBLT	29.4	C	0.61
	WB	WBLT	52.6	D	0.61
		WBR	47.6	D	0.31
	NB	NBLT	56.8	E	0.51
		NBR	52	D	0.02
	SB	SBL	69.9	E	0.86
		SBT	54.7	D	0.36
		SBR	121.8	F	0.17
	Overall Intersection		52.5	D	0.69
Park Lawn Road & Gardiner Ramp N (Signalized)	WB	WBL	28.7	C	0.03
		WBT	35.5	D	0.57
		WBR	28.7	C	0.02
	NB	NBL	20.2	C	0.89
		NBT	5.8	A	0.48
	SB	SBT	17.6	B	0.19
		SBR	23.6	C	0.52
	Overall Intersection		16	B	0.85
Brookers Lane / Gardiner On/Off Ramps & Lake Shore Blvd W (Signalized)	EB	EBLTR	17.3	B	0.87
	WB	WBLTR	2.6	A	0.06
	NB	NBL	52	D	0.81
		NBTR	30.8	C	0.15
	SB	SBLT	31.3	C	0.21
		SBR	32.5	C	0.33
	Overall Intersection		23.2	C	0.89
Park Lawn Road & Metro Entrance (Signalized)	EB	EBL	27.9	C	0.62
		EBR	21	C	0.03
	NB	NBL	2.6	A	0.02
		NBT	4.2	A	0.36
	SB	SBTR	6.3	A	0.48
	Overall Intersection		7.7	A	0.52
Park Lawn Road & Gardiner Ramp S (Signalized)	EB	EBL	23.9	C	0.64
		EBR	45.7	D	0.91
	NB	NBL	11	B	0.07
		NBT	16.6	B	0.60
	SB	SBTR	3.9	A	0.15
	Overall Intersection		25.3	C	0.73
Park Lawn Road & The Queensway (Signalized)	EB	EBL	18.5	B	0.32
		EBTR	51.3	D	0.95
	WB	WBL	77.1	E	0.87
		WBT	10.4	B	0.37
		WBR	1.7	A	0.05
	NB	NBL	108.3	F	0.96
		NBT	52.6	D	0.64
		NBR	81.5	F	0.93
	SB	SBL	62.6	E	0.51
		SBTR	64.6	E	0.79
	Overall Intersection		53.1	D	0.96
The Queensway & Stephen Dr (Signalized)	EB	EBL	7.6	A	0.02
		EBT	18.8	B	0.76
	WB	WBT	12.7	B	0.39
		WBR	13.7	B	0.04
	SB	SBLR	57.3	E	0.59
	Overall Intersection		20.4	C	0.73

Intersection	Approach/Movement		Delay (sec)	LOS	v/c
Sobey's Entrance & The Queensway (Signalized)	EB	EBL	5.4	A	0.04
		EBTR	12.2	B	0.86
	WB	WBL	20.8	C	0.32
		WBTR	9.1	A	0.38
	NB	NBL	66.7	E	0.34
		NBTR	64.8	E	0.06
	SB	SBLTR	69.8	E	0.14
	Overall Intersection		12.9	B	0.78
The Queensway & Kingsway Link Road (Signalized)	EB	EBT	12.3	B	0.59
	WB	WBTR	3.4	A	0.41
	SB	SBR	0.1	A	0.14
	Overall Intersection		8.1	A	0.52
Palace Pier & Lake Shore Blvd W (Signalized)	EB	EBT	12.4	B	0.92
		EBR	0.9	A	0.07
	NB	NBLR	38.8	D	0.41
	Overall Intersection		14.4	B	0.85
Lake Shore Blvd W & TTC Streetcar Underpass (Signalized)	EB	EBL*	53.7	D	0.35
		EBTR	9	A	0.85
	WB	WBT	2.2	A	0.07
	NB	NBL	43.9	D	0.25
		NBR	41.9	D	0
	Overall Intersection		9.5	A	0.88
Lake Shore Blvd W & Ellis Ave (Signalized)	EB	EBL	96.8	F	0.97
		EBT	25.4	C	0.91
	WB	WBTR	22.2	C	0.68
	SB	SBLR	52.4	D	0.52
	Overall Intersection		28.4	C	0.87
Lake Shore Blvd W & Windermere Ave (Signalized)	EB	EBL	54.4	D	0.70
		EBT	23.6	C	0.94
	WB	WBT	61.6	E	0.84
		WBR	49.5	D	0.07
	SB	SBL	47.2	D	0.41
		SBLT	47.1	D	0.40
		SBR	51.8	D	0.53
	Overall Intersection		38.2	D	0.89
Ellis Ave & The Queensway (Signalized)	EB	EBTR	13.2	B	0.86
	WB	WBL	68.1	E	0.57
		WBTR	10	A	0.38
	NB	NBL	47.8	D	0.32
		NBTR	49.6	D	0.51
	SB	SBL	109.6	F	0.95
		SBTR	56.7	E	0.71
	Overall Intersection		25.2	C	0.85
Windermere Ave & The Queensway (Signalized)	EB	EBL	160.8	F	0.98
		EBTR	47.5	D	0.96
	WB	WBL	122	F	0.79
		WBTR	22.7	C	0.55
	NB	NBL	43.3	D	0.71
		NBTR	34.1	C	0.39
	SB	SBL	46.6	D	0.45
		SBTR	54.7	D	0.73
	Overall Intersection		45.4	D	0.87

*Movement reserved for TTC Streetcar Vehicles only.

Table 3 – Existing Conditions Queuing Results – AM Peak Hour

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Marine Parade Drive / Park Lawn Road & Lake Shore Blvd W	EB	EBLT	106.9	170.7	234.6	
		EBT	88.8	142.3	234.6	
		EBTR	44.6	92.4	234.6	
	WB	WBLT	37.7	65.5	461.2	
		WBT	40.5	71	461.2	
		WBR	33.1	63.8		
	NB	NBLT	27.8	52.1	115.2	
		NBT	18.6	44.4	115.2	
		NBR	5.4	19.2		
	SB	SBL	73	118.9		
		SBL	78.1	125.9	153.2	
		SBT	33.4	76.9	153.2	
Humber Bay Park & Marine Parade Drive	EB	EBLT	1.2	16.7	115.2	
	NB	NBL	2.2	7.9	104.1	
Park Lawn Road & Gardiner Ramp N	WB	WBL	2.2	26.7		
		WBT	36.5	75.3	103	
		WBR	6.2	21.2	103	
	NB	NBL	151.7	159.9		
		NBT	157.1	201.2	190.4	13
		NBT	87.9	206	190.4	1
	SB	SBT	13.3	42.7	136.1	
		SBT	13.4	51.9	136.1	
Brookers Lane / Gardiner On/Off Ramps & Lake Shore Blvd W	EB	EBLT	64	120	461.2	
		EBTR	59.1	110.9	461.2	
	WB	WBLT	1.8	15	55.7	
		WBTR	3	17.3	55.7	
	NB	NBL	35.3	57.8		
		NBTR	19.1	59	99.2	
	SB	SBLT	9.5	34.1	61.8	
		SBR	0.1	3.3	61.8	
Park Lawn Road & Metro Entrance	EB	EBL	28.7	44.4	50	
		EBR	6.2	12.8	50	
	NB	NBL	1.3	11.8		
		NBT	19.1	37.8	153.2	
		NBT	14.4	29.3	153.2	
	SB	SBT	28.2	68.3	155.8	
		SBTR	20	57.2	155.8	
Park Lawn Road & Gardiner Ramp S	EB	EBL	120.2	257.8	250.4	9
		EBL	113.5	262.1	250.4	15
		EBR	17.4	80		
	NB	NBL	12.7	39.8		
		NBT	80.5	128.2	134.5	
		NBT	55.6	123.3	134.5	
	SB	SBT	4.4	17.3	190.4	
		SBTR	4.2	17.6	190.4	

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Park Lawn Road & The Queensway	EB	EBL	47.1	94.9		
		EBT	137	264.5	348.6	
		EBTR	134.1	242.8	348.6	
	WB	WBL	56.4	90.8		
		WBT	23.8	75	284.4	
		WBT	22.2	48.1	284.4	
		WBR	3.3	24.5		
	NB	NBL	36	74.9		
		NBT	63.5	124.2	267.7	
		NBR	69	138.6	267.7	
	SB	SBL	25.5	89.4		
		SBT	346	357.2	341.6	80
		SBTR	89	90		
The Queensway & Stephen Dr	EB	EBL	1.9	24.5		
		EBT	71	82.1	72.4	11
		EBT	72.3	82.5	72.4	13
	WB	WBT	38.9	50	41.8	10
		WBT	39.4	50.1	41.8	10
		WBR	6.7	41.7		
	SB	SBL	31	44.9		
		SBLR	54.4	98.9	205.3	
Sobey's Entrance & The Queensway	EB	EBL	2.7	20.8		
		EBT	37.3	76	70.2	2
		EBTR	41.2	75.7	70.2	3
	WB	WBL	8.8	25.9		
		WBT	15.5	50.9	137.4	
		WBTR	17.1	53.1	137.4	
	NB	NBL	12.7	30	65	
		NBL	2.1	11.3	65	
		NBTR	5	14.5	65	
	SB	SBLTR	3.5	14.2	73.8	
The Queensway & Kingsway Link Road	EB	EBT	39.9	64.2	66.2	
		EBT	41.6	62.3	66.2	
	WB	WBT	16.2	48.8	167.6	
		WBTR	23.8	59.6	167.6	
	SB	SBR	5.2	18.1	127.9	
Marine Parade Drive & Lake Shore Blvd W	EB	EBTR	7.2	56.4	120.2	
	NB	NBLR	65.8	108.1	147.2	
Windermere Ave & Windermere by the Lake	EB	EBLTR	12.3	26.9	40.6	
	WB	WBLTR	12.3	25.6	33	
	NB	NBLT	0.4	9.7	99.1	
	SB	SBLT	0.5	12.8	80.8	
		SBTR	0.1	1.8	80.8	
Palace Pier & Lake Shore Blvd W	EB	EBT	85.1	148.3	146.8	1
		EBR	5.2	29.6		
	NB	NBLR	23.2	48.7		
Lake Shore Blvd W & TTC Streetcar Underpass	EB	EBL*	4.1	18.7		
		EBTR	190.2	231.4	213.1	3
	WB	WBT	0.5	8.9	120.2	
		NBL	4.8	16.5	95.4	
		NBR	1.2	13.2	95.4	

*Movement reserved for TTC Streetcar Vehicles only.

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Lake Shore Blvd W & Ellis Ave	EB	EBL	54.1	64.8		
		EBT	80.4	142	255.2	
		EBT	82.8	157.2	255.2	
		EBT	83.9	181.6	255.2	
		EBT	86.5	127.8	255.2	
	WB	WBT	93.2	143	165.8	
		WBT	78.3	117.5	165.8	
		WBTR	49.8	90.1	165.8	
	SB	SBL	16.3	37.2	182.8	
		SBLR	25.9	78.9	182.8	
Lake Shore Blvd W & Windermere Ave	EB	EBL	43.9	85.7		
		EBT	73.5	105.8		
		EBT	87.7	129	500	
		EBT	99.5	131.5	500	
		EBT	100.2	127.5	500	
	WB	WBT	142.7	183.1	255.2	
		WBT	140.8	182.9	255.2	
		WBT	135.9	196.8	255.2	
		WBR	45.2	85		
	SB	SBL	23.1	44.7		
		SBLT	27.9	59.6	159.7	
		SBR	67.2	113.9	159.7	
Ellis Ave & The Queensway	EB	EBT	52.6	84.4	262.4	
		EBTR	55.3	87.7	262.4	
		WBL	23.8	57.6		
	WB	WBT	36.5	77.2	276.8	
		WBTR	36.9	79.8	276.8	
		NBL	9.6	27.9	182.8	
	NB	NBTR	42.6	73.8	182.8	
		SBL	35.8	50.8		
Windermere Ave & The Queensway	EB	EBT	31	64.8		
		EBT	73.6	82.7	245.1	
		EBTR	73.2	82.4	245.1	
	WB	WBL	16.7	38.2		
		WBT	27	61.7	262.4	
		WBTR	32.4	70.1	262.4	
	NB	NBL	30.8	61.7	80.8	
		NBTR	41.3	79.9	80.8	
	SB	SBL	26.6	37.8		
		SBTR	116.3	212.4	214.5	
Park Lawn Road & South Beach Condos	EB	EBL	26.1	55.2	56.2	
		EBR	11.3	36.8	56.2	
	NB	NBL	2.2	13.5		
		NBT	5.8	45.2	155.8	
		NBT	3	30	155.8	
The Queensway & Aldgate Ave	EB	EBLT	7.3	178.5	284.4	
		EBT	7.1	206.9	284.4	
	SB	SBLR	8.1	26.2	103.3	

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
The Queensway & Smithfield Dr	EB	EBLT	54.7	103.7	118.2	
		EBT	63.4	114.7	118.2	
	SB	SBLR	4.8	13	102.1	
The Queensway & High St	EB	EBLT	6.5	36.9	34.4	1
		EBT	7.3	36.8	34.4	1
	WB	WBT	4.3	33.7	70.2	
		WBTR	5.6	34.3	70.2	
	SB	SBLR	3.5	10.4	103.4	
The Queensway & Southport St	EB	EBT	108.4	172.7	167.6	3
		EBTR	111.9	173.6	167.6	4
	WB	WBT	0.9	15.2	70.4	
		WBTR	1.2	21.2	70.4	
	NB	NBR	42	90.8	100	
	SB	SBR	13.5	32.3	123.5	
Park Lawn Road & Starbucks/Parking Garage	EB	EBLTR	12.7	33.5	51.1	
	WB	WBLTR	2.6	8.5	22	
	NB	NBLT	9.3	59.8	136.1	
		NBTR	2.7	55.6	136.1	
	SB	SBLT	2.1	12.9	135.5	
		SBTR	0.4	6.9		
Ontario Food Terminal & The Queensway	EB	EBT	4.2	40.2	41.8	
		EBTR	5.6	46.1	41.8	
	WB	WBL	9.1	28.9		
		WBT	16.5	39.1	34.4	3
		WBT	18	39.9	34.4	3
	NB	NBLR	11.6	45	100.5	

The PM peak hour operations for the study area under existing conditions are shown in **Table 4**. Movements with reported v/c ratios of 0 are noted to have been rounded down by the HCM 2000 analysis from values less than 0.005.

The results show that during the PM peak hour of the existing conditions the majority of intersections and the related traffic movements are operating below the critical thresholds with the exception of the highlighted movements and intersections. The PM peak hour analysis revealed 21 movements and 1 intersection operating at a critical level among the signalized intersections.

A queueing analysis was completed for the study area using SimTraffic in order to assess queueing conditions at each intersection. **Table 5** shows the results of the simulation. Only movements where a queue was observed are reported. The simulation results revealed 8 approaches at which queueing was found to extend to the upstream intersection, potentially negatively impacting the operations at these upstream intersections.

Table 4 – Existing Conditions Operations at Signalized Intersections – PM Peak Hour

Intersection	Approach/Movement		Delay (sec)	LOS	v/c
Marine Parade Drive / Park Lawn Road & Lake Shore Blvd W (Signalized)	EB	EBT	29	C	0.49
	WB	WBT	85	F	1.00
		WBR	52.4	D	0.57
	NB	NBT	53.9	D	0.39
		NBR	50.4	D	0.02
	SB	SBL	51.3	D	0.62
		SBT	45.2	D	0.25
	Overall Intersection		59.3	E	0.66
Park Lawn Road & Gardiner Ramp N (Signalized)	WB	WBL	35.3	D	0.01
		WBT	35.9	D	0.09
		WBR	35.3	D	0
	NB	NBL	4.3	A	0.56
		NBT	2.3	A	0.37
	SB	SBT	7.4	A	0.23
		SBR	8.3	A	0.28
	Overall Intersection		5.2	A	0.52
Brookers Lane / Gardiner On/Off Ramps & Lake Shore Blvd W (Signalized)	EB	EBT	11.5	B	0.59
	WB	WBT	5.3	A	0.05
	NB	NBL	29.3	C	0.39
		NBT	26.1	C	0.05
	SB	SBT	30.4	C	0.51
		SBR	67.1	E	0.95
	Overall Intersection		36.3	D	0.69
Park Lawn Road & Metro Entrance (Signalized)	EB	EBL	29.9	C	0.53
		EBR	25.2	C	0.02
	WB	WBT	25.1	C	0
	NB	NBL	1.8	A	0.06
		NBT	2	A	0.30
	SB	SBT	4.1	A	0.47
	Overall Intersection		5	A	0.49
Park Lawn Road & Gardiner Ramp S (Signalized)	EB	EBL	19	B	0.44
		EBR	62.6	E	1.00
	NB	NBL	16.4	B	0.31
		NBT	16.5	B	0.47
	SB	SBT	7.6	A	0.30
	Overall Intersection		28.5	C	0.72
Park Lawn Road & The Queensway (Signalized)	EB	EBL	23.7	C	0.57
		EBT	49.8	D	0.90
	WB	WBL	86.4	F	0.90
		WBT	13.7	B	0.54
		WBR	7.4	A	0.05
	NB	NBL	50.3	D	0.63
		NBT	61.9	E	0.78
		NBR	48.5	D	0.42
	SB	SBL	69.3	E	0.50
		SBT	60.2	E	0.63
	Overall Intersection		44.9	D	0.91
The Queensway & Stephen Dr (Signalized)	EB	EBL	8.9	A	0.18
		EBT	11.1	B	0.56
	WB	WBT	15.1	B	0.56
		WBR	9.9	A	0.11
	SB	SBL	54.6	D	0.31
	Overall Intersection		14.9	B	0.52

Intersection	Approach/Movement		Delay (sec)	LOS	v/c
Sobey's Entrance & The Queensway (Signalized)	EB	EBL	10.8	B	0.02
		EBT	24.4	C	0.85
	WB	WBL	22.5	C	0.56
		WBT	22.1	C	0.56
	NB	NBL	65.8	E	0.70
		NBT	55.7	E	0.06
	SB	SBT	68.9	E	0.26
Overall Intersection			27.8	C	0.76
The Queensway & Kingsway Link Road (Signalized)	EB	EBT	14.5	B	0.48
	WB	WBT	1.9	A	0.51
	SB	SBR	0.1	A	0.16
	Overall Intersection		7.4	A	0.45
Palace Pier & Lake Shore Blvd W (Signalized)	EB	EBT	4.5	A	0.52
		EBR	2.3	A	0.14
	NB	NBL	34.1	C	0.11
	Overall Intersection		5.8	A	0.46
Lake Shore Blvd W & TTC Streetcar Underpass (Signalized)	EB	EBL*	51.7	D	0.17
		EBT	4.1	A	0.62
	WB	WBT	2.9	A	0.06
	NB	NBL	43.3	D	0.27
		NBR	40.9	D	0
	Overall Intersection		5.3	A	0.66
Lake Shore Blvd W & Ellis Ave (Signalized)	EB	EBL	56.4	E	0.60
		EBT	13.9	B	0.84
	WB	WBT	55.7	E	1.00
	SB	SBL	59.3	E	0.36
	Overall Intersection		32	C	0.86
Lake Shore Blvd W & Windermere Ave (Signalized)	EB	EBL	46.6	D	0.66
		EBT	33	C	0.98
	WB	WBL	62.7	E	0.07
		WBT	54.2	D	1.00
		WBR	11	B	0.11
	SB	SBL	47.2	D	0.29
		SBT	46.7	D	0.28
		SBR	47.3	D	0.28
	Overall Intersection		40.9	D	0.87
Ellis Ave & The Queensway (Signalized)	EB	EBT	8.8	A	0.60
	WB	WBL	57.4	E	0.44
		WBT	8.9	A	0.51
	NB	NBL	82.2	F	0.29
		NBT	95.2	F	0.74
	SB	SBL	54.6	D	0.41
		SBT	52.6	D	0.39
	Overall Intersection		21.3	C	0.62
Windermere Ave & The Queensway (Signalized)	EB	EBL	164.8	F	1.00
		EBT	28	C	0.79
	WB	WBL	165.2	F	1.00
		WBT	30.9	C	0.78
	NB	NBL	33.5	C	0.51
		NBT	32.7	C	0.33
	SB	SBL	41.2	D	0.26
		SBT	52	D	0.68
	Overall Intersection		40.5	D	0.75

*Movement reserved for TTC Streetcar Vehicles only.

Table 5 – Existing Conditions Queuing Results – PM Peak Hour

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Marine Parade Drive / Park Lawn Road & Lake Shore Blvd W	EB	EBLT	94.9	151.6	234.6	
		EBT	76.8	134.9	234.6	
		EBTR	31.7	71.4	234.6	
	WB	WBLT	228.6	288.8	461.2	
		WBT	233.5	303.3	461.2	
		WBR	64	65		
	NB	NBLT	20.5	39.9	115.2	
		NBT	13.2	37.8	115.2	
		NBR	4.7	18.6		
	SB	SBL	50.9	80.7		
		SBL	55.7	85.5	153.2	
		SBT	18.8	43.7	153.2	
Humber Bay Park & Marine Parade Drive	EB	EBLT	0.7	12.8	115.2	
		EBR	0	1.4	115.2	
	NB	NBL	5.2	13	104.1	
	SB	SBR	1.2	8.6	22.6	
Park Lawn Road & Gardiner Ramp N	WB	WBL	0.4	7		
		WBT	4.7	16.4	103	
		WBR	1.9	8.8	103	
	NB	NBL	31.4	64.4		
		NBT	12.4	56.3	190.4	
		NBT	11.9	50.7	190.4	
	SB	SBT	12.3	47.8	136.1	
		SBT	17.2	54.5	136.1	
Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W	EB	EBLT	37.2	83.2	269.4	
		EBTR	37.4	81.5	269.4	
	WB	WBLT	3.6	17.7	55.7	
		WBTR	2.1	14	55.7	
	NB	NBL	18.5	40.2		
		NBTR	6.9	18.2	99.2	
	SB	SBLT	26.6	61.4	61.8	
		SBR	11.4	51	61.8	
Park Lawn Road & Metro Entrance	EB	EBL	17.6	33.5	50	
		EBR	6	14.6	50	
	WB	WBLTR	0.5	7.7	48.8	
	NB	NBL	2.9	12.3		
		NBT	13.3	35.2	153.2	
		NBT	9.4	26.1	153.2	
	SB	SBT	15.7	43.4	155.8	
		SBTR	19.7	50.4	155.8	
Park Lawn Road & Gardiner Ramp S	EB	EBL	37.9	72.9	250.4	
		EBL	24	56	250.4	
		EBR	18.5	63.9		
	NB	NBL	18	39.8		
		NBT	45.1	90.6	134.5	
		NBT	33.8	65.5	134.5	
	SB	SBT	14	39.2	190.4	
		SBTR	20	55.3	190.4	

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Park Lawn Road & The Queensway	EB	EBL	51.5	94.9		
		EBT	122.4	215.1	348.6	
		EBTR	125.2	211.6	348.6	
	WB	WBL	76.3	94.9		
		WBT	65.9	158.2	284.4	
		WBT	55.6	142.2	284.4	
		WBR	7	34.9		
	NB	NBL	37.2	74.9		
		NBT	81.1	137.3	267.7	
		NBR	35	104.2	267.7	
	SB	SBL	20.3	87		
		SBT	127.2	232.9	341.6	
		SBTR	72.7	90		
The Queensway & Stephen Dr	EB	EBL	8.8	44.8		
		EBT	62.7	81.8	72.4	5
		EBT	66.7	82.6	72.4	8
	WB	WBT	40.9	48.9	41.8	13
		WBT	41.1	51	41.8	11
		WBR	12.7	41.8		
	SB	SBL	7.7	44.5		
		SBLR	30	72.1	205.3	
Sobey's Entrance & The Queensway	EB	EBL	1	25.4		
		EBT	49.8	79.2	70.2	4
		EBTR	54.7	77.4	70.2	6
	WB	WBL	21.6	50.6		
		WBT	48.1	107.5	137.4	
		WBTR	52.6	110	137.4	
	NB	NBL	47.5	64.3	65	
		NBL	30.2	60.1	65	
		NBTR	10.7	24.5	59.7	
	SB	SBLTR	6.8	19.2	73.8	
The Queensway & Kingsway Link Road	EB	EBT	35	58.6	66.2	
		EBT	37.6	63	66.2	
	WB	WBT	11.5	33.6	167.6	
		WBTR	15.8	41.2	167.6	
	SB	SBR	10.4	29.8	127.9	
Marine Parade Drive & Lake Shore Blvd W	NB	NBLR	13.2	35.7		
Windermere Ave & Windermere by the Lake	EB	EBLTR	2.6	9.2	40.6	
	WB	WBLTR	1.5	9.7	32.4	
	NB	NBLT	2.2	15.5	99.2	
	SB	SBLT	0.9	15.5	80.8	
		SBTR	0	1.4	80.8	
Palace Pier & Lake Shore Blvd W	EB	EBT	24.6	95.7	146.8	
		EBR	7.3	30		
	NB	NBLR	8.5	24.3		
Lake Shore Blvd W & TTC Streetcar Underpass	EB	EBL*	1.9	16.8		
		EBTR	15.1	214.3	213.1	1
	WB	WBT	0.9	8.6	120.2	
	NB	NBL	3.8	15	95.4	
		NBR	2	13	95.4	

*Movement reserved for TTC Streetcar Vehicles only.

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Lake Shore Blvd W & Ellis Ave	EB	EBL	43.5	64.8		
		EBT	50.5	108.9	255.1	
		EBT	61.2	123.3	255.1	
		EBT	71.9	137.1	255.1	
		EBT	76.7	137.3	255.1	
	WB	WBT	171.2	179.8	525	
		WBT	171.3	183	525	
		WBTR	170.8	181.6	525	
	SB	SBL	8.9	21.2	182.2	
		SBLR	14.5	59.2	182.2	
Lake Shore Blvd W & Windermere Ave	EB	EBL	49.5	86.2		
		EBT	52	89.4		
		EBT	67.3	108.6	500	
		EBT	83.6	111.7	500	
		EBT	88.7	115.7	500	
	WB	WBL	0.6	4.3		
		WBT	191.3	257.1	255.1	1
		WBT	203.3	257.9	255.1	1
		WBT	214.7	272.6	255.1	5
		WBR	56.3	85		
	SB	SBL	14.4	33.6		
		SBLT	18.2	43.2	159.2	
		SBR	66.7	108.7	159.2	
Ellis Ave & The Queensway	EB	EBT	23.9	48	262.4	
		EBTR	27.5	53.7	262.4	
	WB	WBL	27.7	67.2		
		WBT	54.1	103.5	276.8	
		WBTR	51.4	94.8	276.8	
	NB	NBL	13.4	39.6	182.2	
		NBTR	52.8	83.8	182.2	
	SB	SBL	10.2	39.8		
		SBTR	29.3	65.6	206.7	
Windermere Ave & The Queensway	EB	EBL	38.3	64.4		
		EBT	64.4	82.6	245.1	
		EBTR	64.8	80.7	245.1	
	WB	WBL	75.8	89.9		
		WBT	112.8	209.3	262.4	
		WBTR	115.1	211.9	262.4	
	NB	NBL	22.8	49	80.8	
		NBTR	34.8	72	80.8	
	SB	SBL	20.6	37.8		
		SBTR	86.3	154.1	214.5	
Park Lawn Road & South Beach Condos	EB	EBL	7.2	23.6	56.2	
		EBR	4	10.6	56.2	
	NB	NBL	6	15.3		
		NBT	0.4	12.1	155.8	
	SB	SBTR	3.5	65.9	134.5	
The Queensway & Aldgate Ave	EB	EBLT	5.2	39.4	284.4	
		EBT	3.2	91.6	284.4	
	WB	WBR	0.3	4.6		
	SB	SBLR	3.4	12.3	103.3	

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
The Queensway & Smithfield Dr	EB	EBLT	17.9	58.5	118.2	
		EBT	22	59.1	118.2	
	SB	SBLR	4.5	16.9	102.1	
The Queensway & High St	EB	EBLT	13	37.2	34.4	2
		EBT	15.7	44.3	34.4	3
	WB	WBT	32.8	73.8	70.2	1
		WBTR	35	74.5	70.2	1
	SB	SBLR	3.4	10.5	103.4	
The Queensway & Southport St	EB	EBT	19.3	98.4	167.6	
		EBTR	21.6	108.9	167.6	
	WB	WBT	1.7	18.2	70.4	
		WBTR	1.8	24.7	70.4	
	SB	SBR	7.8	22.8	123.5	
Park Lawn Road & Starbucks/Parking Garage	EB	EBLTR	7.1	20.4	51.1	
	WB	WBLTR	3.6	12.2	22	
	NB	NBLT	7.7	43.9	136.1	
		NBTR	0.5	7	136.1	
	SB	SBTR	0.1	3.8		
Ontario Food Terminal & The Queensway	EB	EBT	3.7	34.4	41.8	
		EBTR	6.5	41.4	41.8	
	WB	WBL	4.5	24.2		
		WBT	30.8	42.5	34.4	9
		WBT	30.6	41	34.4	9
	NB	NBLR	2.1	13	100.5	

Optimized Traffic Operations in the Study Area

For the optimized conditions, a signal optimization exercise was undertaken in order to improve operations within the study area by reducing the number of critical movements at intersections.

The overall intersection levels of service for the AM and PM peak hour analyses utilizing optimized signal timing plans are summarized in **Exhibit 3**. Existing conditions operations for signalized intersections during the AM peak hour are shown in **Table 6**. Movements with reported v/c ratios of 0 are noted to have been rounded down by the HCM 2000 analysis from values less than 0.005.

The results show that during the AM peak hour of the optimized conditions the majority of intersections and the related traffic movements are operating below the critical thresholds with the exception of the highlighted movements and intersections. The AM peak hour analysis revealed 8 movements and 0 intersections operating at a critical level among the signalized intersections. This means that there may be potential to adjust signal timing plans in the field to improve intersection operations for 11 movements identified to have critical operating conditions using the existing signal timing plans.

A queueing analysis was completed for the study area using SimTraffic in order to assess queueing conditions at each intersection. **Table 7** shows the results of the simulation. Only movements where a queue was observed are reported. The simulation results revealed 10 approaches at which queueing was found to extend to the upstream intersection, potentially negatively impacting the operations at these upstream intersections. This means that there may be potential to mitigate the possibility of a queue extending to its upstream intersection for 1 approach by optimizing signal timings

Exhibit 3 – AM and PM Peak Hour Intersection LOS with Optimized Signal Timings



Table 6 – Optimized Conditions Operations at Signalized Intersections – AM Peak Hour

Intersection	Approach/Movement		Delay (sec)	LOS	v/c
Marine Parade Drive / Park Lawn Road & Lake Shore Blvd W (Signalized)	EB	EBLT	30.3	C	0.66
	WB	WBLT	33	C	0.37
		WBR	32.9	C	0.31
	NB	NBLT	23.6	C	0.16
		NBR	22	C	0.02
	SB	SBL	33.5	C	0.78
		SBT	21	C	0.22
		SBR	44.7	D	0.20
	Overall Intersection		31.7	C	0.73
Park Lawn Road & Gardiner Ramp N (Signalized)	WB	WBL	28.7	C	0.03
		WBT	35.5	D	0.57
		WBR	28.7	C	0.02
	NB	NBL	20.2	C	0.89
		NBT	5.8	A	0.48
	SB	SBT	17.6	B	0.19
		SBR	23.6	C	0.52
	Overall Intersection		16	B	0.85
Brookers Lane / Gardiner On/Off Ramps & Lake Shore Blvd W (Signalized)	EB	EBLTR	16.9	B	0.86
	WB	WBLTR	5.7	A	0.06
	NB	NBL	55	D	0.82
		NBTR	32.5	C	0.15
	SB	SBLT	33.1	C	0.21
		SBR	34.2	C	0.33
	Overall Intersection		23.8	C	0.88
Park Lawn Road & Metro Entrance (Signalized)	EB	EBL	27.9	C	0.62
		EBR	21	C	0.03
	NB	NBL	2.8	A	0.02
		NBT	3.8	A	0.36
	SB	SBTR	6.3	A	0.48
	Overall Intersection		7.6	A	0.52
Park Lawn Road & Gardiner Ramp S (Signalized)	EB	EBL	23.9	C	0.64
		EBR	45.7	D	0.91
	NB	NBL	11	B	0.07
		NBT	16.6	B	0.60
	SB	SBTR	3.9	A	0.15
	Overall Intersection		25.3	C	0.73
Park Lawn Road & The Queensway (Signalized)	EB	EBL	22.1	C	0.36
		EBTR	61	E	0.98
	WB	WBL	108.8	F	0.94
		WBT	14.1	B	0.39
		WBR	4.7	A	0.05
	NB	NBL	46.5	D	0.69
		NBT	42.9	D	0.53
		NBR	71.3	E	0.92
	SB	SBL	50.3	D	0.36
		SBTR	53.7	D	0.65
	Overall Intersection		52.9	D	0.97
The Queensway & Stephen Dr (Signalized)	EB	EBL	11.8	B	0.03
		EBT	27.1	C	0.82
	WB	WBT	9.7	A	0.42
		WBR	6.7	A	0.04
	SB	SBLR	49.4	D	0.43
	Overall Intersection		23.5	C	0.73

Intersection	Approach/Movement		Delay (sec)	LOS	v/c
Sobey's Entrance & The Queensway (Signalized)	EB	EBL	3.2	A	0.04
		EBTR	11	B	0.82
	WB	WBL	12.8	B	0.29
		WBTR	2.4	A	0.36
	NB	NBL	53.8	D	0.33
		NBTR	51.7	D	0.05
	SB	SBLTR	52.8	D	0.07
	Overall Intersection		9.6	A	0.77
The Queensway & Kingsway Link Road (Signalized)	EB	EBT	8.4	A	0.59
	WB	WBTR	3.9	A	0.41
	SB	SBR	0.1	A	0.14
	Overall Intersection		6.1	A	0.52
Palace Pier & Lake Shore Blvd W (Signalized)	EB	EBT	19.2	B	0.92
		EBR	3.8	A	0.07
	NB	NBLR	38.8	D	0.41
	Overall Intersection		20.3	C	0.85
Lake Shore Blvd W & TTC Streetcar Underpass (Signalized)	EB	EBL*	54.2	D	0.35
		EBTR	11.3	B	0.85
	WB	WBT	5	A	0.07
	NB	NBL	43.9	D	0.25
		NBR	41.9	D	0
	Overall Intersection		11.8	B	0.88
Lake Shore Blvd W & Ellis Ave (Signalized)	EB	EBL	53.4	D	0.61
		EBT	18.1	B	0.91
	WB	WBTR	31.5	C	0.79
	SB	SBLR	50.7	D	0.46
	Overall Intersection		25	C	0.85
Lake Shore Blvd W & Windermere Ave (Signalized)	EB	EBL	53.6	D	0.68
		EBT	22.9	C	0.94
	WB	WBT	35.3	D	0.84
		WBR	7.9	A	0.07
	SB	SBL	48.4	D	0.41
		SBLT	47.5	D	0.38
		SBR	52.5	D	0.52
	Overall Intersection		29.9	C	0.89
Ellis Ave & The Queensway (Signalized)	EB	EBTR	9.6	A	0.84
	WB	WBL	81	F	0.70
		WBTR	10	A	0.38
	NB	NBL	47.9	D	0.33
		NBTR	49.9	D	0.52
	SB	SBL	109.6	F	0.95
		SBTR	56.7	E	0.71
	Overall Intersection		23.8	C	0.86
Windermere Ave & The Queensway (Signalized)	EB	EBL	94.5	F	0.69
		EBTR	42.9	D	0.96
	WB	WBL	118.6	F	0.79
		WBTR	25.5	C	0.58
	NB	NBL	43.3	D	0.71
		NBTR	34.1	C	0.39
	SB	SBL	46.8	D	0.45
		SBTR	54.8	D	0.73
	Overall Intersection		42.4	D	0.86

*Movement reserved for TTC Streetcar Vehicles only.

Table 7 – Optimized Conditions Queuing Results – AM Peak Hour

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Marine Parade Drive / Park Lawn Road & Lake Shore Blvd W	EB	EBLT	111.7	160	234.6	
		EBT	92.9	153.5	234.6	
		EBTR	50.4	99.9	234.6	
	WB	WBLT	33.1	63.4	461.2	
		WBT	35.1	76.6	461.2	
		WBR	30	64		
	NB	NBLT	20.6	43.6	115.2	
		NBT	11.2	38.5	115.2	
		NBR	4.4	17.3		
	SB	SBL	51.1	91.8		
		SBL	53.6	98.3	153.2	
		SBT	19.2	49.2	153.2	
		SBR	15.2	42.9		
Humber Bay Park & Marine Parade Drive	EB	EBLT	0.7	10.8	115.2	
	NB	NBL	2.5	7.9	104.1	
Park Lawn Road & Gardiner Ramp N	WB	WBL	2.4	26		
		WBT	36.8	81	103	
		WBR	6.7	21.8	103	
	NB	NBL	143	160		
		NBT	135.2	200.3	190.4	11
		NBT	78	201.3	190.4	1
	SB	SBT	13.1	50.5	136.1	
		SBT	14.3	63.5	136.1	
		SBR	60.9	126.2	136.1	
Brookers Lane / Gardiner On/Off Ramps & Lake Shore Blvd W	EB	EBLT	77.1	104.8	461.2	
		EBTR	76	99	461.2	
	WB	WBLT	2.8	16.6	55.7	
		WBTR	5.7	28.6	55.7	
	NB	NBL	38.2	57.7		
		NBTR	17.8	64.2	99.2	
	SB	SBLT	9.6	28.7	61.8	
Park Lawn Road & Metro Entrance	EB	EBL	28.6	46.1	50	
		EBR	7.1	18.3	50	
	NB	NBL	1	11.8		
		NBT	21	49.7	153.2	
		NBT	16.6	43.7	153.2	
	SB	SBT	27.4	59.7	155.8	
		SBTR	20.1	54.8	155.8	
Park Lawn Road & Gardiner Ramp S	EB	EBL	93.5	189.7	250.4	
		EBL	83.8	210.3	250.4	
		EBR	16.7	79.3		
	NB	NBL	11.8	39.8		
		NBT	77.6	130.9	134.5	
		NBT	54.5	119.9	134.5	
	SB	SBT	3.5	17.8	190.4	
		SBTR	4.9	20.9	190.4	

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Park Lawn Road & The Queensway	EB	EBL	45.4	94.9		
		EBT	195.7	288.7	348.6	
		EBTR	189.1	285.4	348.6	
	WB	WBL	68.7	94.8		
		WBT	39.7	134.6	284.4	
		WBT	30.3	99.6	284.4	
		WBR	4.6	34.2		
	NB	NBL	31.6	74.8		
		NBT	54.6	109.3	267.7	
		NBR	60.1	136.1	267.7	
	SB	SBL	26.7	89.8		
		SBT	297.7	355.5	341.6	50
		SBTR	88.6	90		
The Queensway & Stephen Dr	EB	EBL	1.3	22.6		
		EBT	73.9	82.2	72.4	14
		EBT	74.1	83.8	72.4	16
	WB	WBT	39.5	49.9	41.8	9
		WBT	39	47.3	41.8	9
		WBR	5.3	31.5		
	SB	SBL	30	44.9		
		SBLR	48.8	92	205.3	
Sobey's Entrance & The Queensway	EB	EBL	2.5	11.9		
		EBT	43.9	74.3	70.2	1
		EBTR	48.6	76.2	70.2	2
	WB	WBL	8.1	22.7		
		WBT	14.1	41.7	137.4	
		WBTR	17.6	45.5	137.4	
	NB	NBL	11.5	31.8	65	
		NBL	1.6	12.8	65	
		NBTR	5.6	19.4	65	
	SB	SBLTR	3.3	14.4	73.8	
The Queensway & Kingsway Link Road	EB	EBT	35.7	58.3	66.2	
		EBT	38.9	60.8	66.2	
	WB	WBT	14.9	46.4	167.6	
		WBTR	22.7	56.1	167.6	
	SB	SBR	5	19.3	127.9	
Marine Parade Drive & Lake Shore Blvd W	EB	EBTR	25.1	106	120.2	
	NB	NBLR	97.2	146.9	147.2	
Windermere Ave & Windermere by the Lake	EB	EBLTR	12.9	30	40.6	
	WB	WBLTR	12.6	26.3	33	
	NB	NBLT	0.7	13.5	99.1	
		NBTR	0.1	4.4	99.1	
	SB	SBLT	0.7	14.7	80.8	
Palace Pier & Lake Shore Blvd W	EB	EBT	114.5	150.4	146.8	2
		EBR	6.8	30		
	NB	NBLR	25.9	60.4		
Lake Shore Blvd W & TTC Streetcar Underpass	EB	EBL*	3.6	17.9		
		EBTR	194.9	237	213.1	5
	WB	WBT	4.1	25.6	120.2	
		NBL	5.9	21.7	95.4	
	NB	NBR	0.9	9.2	95.4	

*Movement reserved for TTC Streetcar Vehicles only.

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Lake Shore Blvd W & Ellis Ave	EB	EBL	42.8	64.8		
		EBT	70.6	124.3	255.2	
		EBT	76.5	129.9	255.2	
		EBT	87.6	182.9	255.2	
		EBT	89.3	143	255.2	
	WB	WBT	81.5	114.1	562.1	
		WBT	80.2	119.3	562.1	
		WBTR	72.3	116.7	562.1	
	SB	SBL	17.5	37	182.8	
		SBLR	29.8	73.9	182.8	
Lake Shore Blvd W & Windermere Ave	EB	EBL	39.7	73.6		
		EBT	70.1	103.2		
		EBT	81.9	121.5	500	
		EBT	92.6	129.8	500	
		EBT	94.1	122.5	500	
	WB	WBT	34.9	95	255.2	
		WBT	43.3	104.5	255.2	
		WBT	48	204.4	255.2	
		WBR	9.3	71		
	SB	SBL	24.6	44.7		
		SBLT	29.3	61.7	159.7	
		SBR	75.7	123	159.7	
Ellis Ave & The Queensway	EB	EBT	36.3	61.7	262.4	
		EBTR	39.3	66.5	262.4	
		WBL	21	49.7		
	WB	WBT	30.3	58.3	562.4	
		WBTR	35	62.8	562.4	
		NBL	9.9	28.1	182.8	
	NB	NBTR	41.7	86	182.8	
		SBL	35.7	50.8		
		SBTR	65.7	116.6	206.7	
Windermere Ave & The Queensway	EB	EBL	26.1	64.9		
		EBT	72.7	84.9	245.1	
		EBTR	72.6	81.4	245.1	
	WB	WBL	17.7	48.7		
		WBT	32.4	72.5	262.4	
		WBTR	37.5	74.6	262.4	
	NB	NBL	27.4	62.3	80.8	
		NBTR	39.1	80.2	80.8	
	SB	SBL	26.9	37.8		
		SBTR	113.5	202.6	214.5	
Park Lawn Road & South Beach Condos	EB	EBL	26	54.6	56.2	
		EBR	8.8	27.9	56.2	
	NB	NBL	3.1	18.7		
		NBT	1.5	24.7	155.8	
		NBT	0.3	10.2	155.8	
	SB	SBT	0	1.2	134.5	
		SBTR	0.1	2.7	134.5	
The Queensway & Aldgate Ave	EB	EBLT	9.2	183.7	284.4	
		EBT	19.9	236	284.4	
	SB	SBLR	6.8	22.5	103.3	

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
The Queensway & Smithfield Dr	EB	EBLT	72.3	112	118.2	
		EBT	79.3	111.2	118.2	
	SB	SBLR	5.9	15.7	102.1	
The Queensway & High St	EB	EBLT	7.3	37.6	34.4	1
		EBT	8.2	39.8	34.4	1
	WB	WBT	2.3	26.7	70.2	
		WBTR	2.8	27.5	70.2	
	SB	SBLR	3.9	13	103.4	
The Queensway & Southport St	EB	EBT	82.9	163.8	167.6	
		EBTR	88.1	168.6	167.6	1
	WB	WBT	1.1	19	70.4	
		WBTR	1.7	21.2	70.4	
	NB	NBR	41.3	85	100	
	SB	SBR	12.5	25.3	123.5	
Park Lawn Road & Starbucks/Parking Garage	EB	EBLTR	13.1	33.3	51.1	
	WB	WBLTR	1.9	11.1	22	
	NB	NBLT	9.4	61.1	136.1	
		NBTR	1.2	25	136.1	
	SB	SBLT	3.6	16.8	135.5	
		SBTR	0.7	12.9		
Ontario Food Terminal & The Queensway	EB	EBT	5.5	46.6	41.8	
		EBTR	6.6	43.6	41.8	
	WB	WBL	8.2	26.9		
		WBT	14.3	40	34.4	2
		WBT	16.6	38.5	34.4	2
	NB	NBLR	11.9	43.1	100.5	

The PM peak hour operations for the study area under optimized conditions are shown in **Table 8**. Movements with reported v/c ratios of 0 are noted to have been rounded down by the HCM 2000 analysis from values less than 0.005.

The results show that during the PM peak hour of the optimized conditions the majority of intersections and the related traffic movements are operating below the critical thresholds with the exception of the highlighted movements and intersections. The PM peak hour analysis revealed 6 movements and 0 intersections operating at a critical level among the signalized intersections. This means that there may be potential to adjust signal timing plans in the field to improve intersection operations for 15 movements and 1 intersection identified to have critical operating conditions using the existing signal timing plans.

A queueing analysis was completed for the study area using SimTraffic in order to assess queueing conditions at each intersection. **Table 9** shows the results of the simulation. Only movements where a queue was observed are reported. The simulation results revealed 7 approaches at which queueing was found to extend to the upstream intersection, potentially negatively impacting the operations at these upstream intersections. This means that there may be potential to mitigate the possibility of a queue extending to its upstream intersection for 1 approach by optimizing signal timings.

Table 8 – Optimized Conditions Operations at Signalized Intersections – PM Peak Hour

Intersection	Approach/Movement		Delay (sec)	LOS	v/c
Marine Parade Drive / Park Lawn Road & Lake Shore Blvd W (Signalized)	EB	EBLTR	14.9	B	0.42
	WB	WBLT	30	C	0.67
		WBR	24.3	C	0.31
	NB	NBLT	24.1	C	0.17
		NBR	22.9	C	0.02
	SB	SBL	37.7	D	0.76
		SBT	25.1	C	0.20
		SBR	27.9	C	0.35
	Overall Intersection		26.1	C	0.67
Park Lawn Road & Gardiner Ramp N (Signalized)	WB	WBL	35.3	D	0.01
		WBT	35.9	D	0.09
		WBR	35.3	D	0
	NB	NBL	4.7	A	0.56
		NBT	2.4	A	0.37
	SB	SBT	7.4	A	0.23
		SBR	8.3	A	0.28
	Overall Intersection		5.2	A	0.52
Brookers Lane / Gardiner On/Off Ramps & Lake Shore Blvd W (Signalized)	EB	EBLTR	8.6	A	0.54
	WB	WBLTR	4.1	A	0.05
	NB	NBL	35.2	D	0.52
		NBTR	29.8	C	0.06
	SB	SBLT	38.5	D	0.64
		SBR	2.4	A	0.67
	Overall Intersection		9.4	A	0.78
Park Lawn Road & Metro Entrance (Signalized)	EB	EBL	29.9	C	0.53
		EBR	25.2	C	0.02
	WB	WBT	25.1	C	0
	NB	NBL	2.8	A	0.06
		NBT	3.2	A	0.30
	SB	SBTR	4.1	A	0.47
	Overall Intersection		5.4	A	0.49
Park Lawn Road & Gardiner Ramp S (Signalized)	EB	EBL	16.9	B	0.41
		EBR	47.2	D	0.96
	NB	NBL	18.9	B	0.34
		NBT	18.9	B	0.51
	SB	SBTR	9.7	A	0.33
	Overall Intersection		24.7	C	0.73
Park Lawn Road & The Queensway (Signalized)	EB	EBL	23.7	C	0.62
		EBTR	54.1	D	0.96
	WB	WBL	72.6	E	0.96
		WBT	22.8	C	0.59
		WBR	16.1	B	0.05
	NB	NBL	37.9	D	0.54
		NBT	47.8	D	0.70
		NBR	45.4	D	0.60
	SB	SBL	49.9	D	0.36
		SBTR	48	D	0.54
	Overall Intersection		43.8	D	0.92
The Queensway & Stephen Dr (Signalized)	EB	EBL	6.4	A	0.18
		EBT	7.2	A	0.56
	WB	WBT	7.1	A	0.56
		WBR	4.1	A	0.11
	SB	SBLR	54.6	D	0.31
	Overall Intersection		9.3	A	0.52

Intersection	Approach/Movement		Delay (sec)	LOS	v/c
Sobey's Entrance & The Queensway (Signalized)	EB	EBL	8.6	A	0.01
		EBTR	18.9	B	0.77
	WB	WBL	27.4	C	0.63
		WBTR	7.1	A	0.54
	NB	NBL	50.9	D	0.68
		NBTR	41.8	D	0.06
	SB	SBLTR	42.8	D	0.07
	Overall Intersection		18	B	0.74
The Queensway & Kingsway Link Road (Signalized)	EB	EBT	7	A	0.48
	WB	WBTR	1.9	A	0.51
	SB	SBR	0.1	A	0.16
	Overall Intersection		4.1	A	0.45
Palace Pier & Lake Shore Blvd W (Signalized)	EB	EBT	4.9	A	0.52
		EBR	2.2	A	0.14
	NB	NBLR	34.1	C	0.11
	Overall Intersection		6	A	0.46
Lake Shore Blvd W & TTC Streetcar Underpass (Signalized)	EB	EBL*	54.1	D	0.17
		EBTR	3.9	A	0.62
	WB	WBT	2.9	A	0.06
	NB	NBL	43.3	D	0.27
		NBR	40.9	D	0
	Overall Intersection		5.1	A	0.66
Lake Shore Blvd W & Ellis Ave (Signalized)	EB	EBL	87.6	F	0.86
		EBT	13.9	B	0.84
	WB	WBTR	46	D	0.99
	SB	SBLR	73.9	E	0.36
	Overall Intersection		30.6	C	0.87
Lake Shore Blvd W & Windermere Ave (Signalized)	EB	EBL	54.8	D	0.76
		EBT	32	C	0.98
	WB	WBL	63.4	E	0.08
		WBT	54	D	1.00
		WBR	9.5	A	0.13
	SB	SBL	47.2	D	0.29
		SBT	46.7	D	0.28
		SBR	52.2	D	0.46
	Overall Intersection		40.9	D	0.91
Ellis Ave & The Queensway (Signalized)	EB	EBTR	50.6	D	0.82
	WB	WBL	29.5	C	0.45
		WBTR	10.7	B	0.65
	NB	NBL	9.6	A	0.21
		NBTR	15.8	B	0.53
	SB	SBL	23.1	C	0.20
		SBTR	23.6	C	0.30
	Overall Intersection		27.3	C	0.72
Windermere Ave & The Queensway (Signalized)	EB	EBL	82.5	F	0.66
		EBTR	35.2	D	0.84
	WB	WBL	84.9	F	0.70
		WBTR	43.4	D	0.81
	NB	NBL	37	D	0.56
		NBTR	34.3	C	0.34
	SB	SBL	41.3	D	0.26
		SBTR	52.1	D	0.68
	Overall Intersection		42.9	D	0.75

*Movement reserved for TTC Streetcar Vehicles only.

Table 9 – Optimized Conditions Queuing Results – PM Peak Hour

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Marine Parade Drive / Park Lawn Road & Lake Shore Blvd W	EB	EBLT	71.1	126.3	234.6	
		EBT	54.5	107.5	234.6	
		EBTR	12.1	43.6	234.6	
	WB	WBLT	52.1	78.3	461.2	
		WBT	55.2	91.8	461.2	
		WBR	40.7	65		
	NB	NBLT	16.3	36.2	115.2	
		NBT	8.9	31	115.2	
		NBR	3.7	18		
	SB	SBL	44.1	85.3		
		SBL	48	85.9	153.2	
		SBT	15.2	35.1	153.2	
		SBR	31.9	70.5		
Humber Bay Park & Marine Parade Drive	EB	EBLT	1.1	14.4	115.2	
		EBR	0	1.4	115.2	
	WB	WBTR	0	1.4	843.6	
	NB	NBL	4.8	10.5	104.1	
	SB	SBR	0.5	8.5	22.6	
Park Lawn Road & Gardiner Ramp N	WB	WBL	0.3	3.5		
		WBT	4.2	16.2	103	
		WBR	1.2	9	103	
	NB	NBL	29.1	76.6		
		NBT	10.8	54.4	190.4	
		NBT	12.1	62.8	190.4	
	SB	SBT	9	36.8	136.1	
		SBT	13.2	41.4	136.1	
Brookers Lane / Gardiner On/Off Ramps & Lake Shore Blvd W	EB	EBLT	34.7	76.3	461.2	
		EBTR	33.4	78.7	461.2	
	WB	WBLT	3.4	18.3	55.7	
		WBTR	2.5	13.6	55.7	
	NB	NBL	18.3	42.4		
		NBTR	7.3	20.5	99.2	
	SB	SBLT	26.2	58.1	61.8	
		SBR	4	59.4	61.8	
Park Lawn Road & Metro Entrance	EB	EBL	18	34.2	50	
		EBR	5.4	15.6	50	
	WB	WBLTR	0.2	3.1	48.8	
		NBL	3.6	14.5		
	NB	NBT	14.7	35.4	153.2	
		NBT	12.1	33.3	153.2	
	SB	SBT	16.2	41.9	155.8	
		SBTR	21.5	48.9	155.8	
Park Lawn Road & Gardiner Ramp S	EB	EBL	36.4	64.5	250.4	
		EBL	23.8	58	250.4	
		EBR	16.5	53.7		
	NB	NBL	22.3	39.8		
		NBT	42.8	79.6	134.5	
		NBT	31.8	65.3	134.5	
	SB	SBT	16.8	42.4	190.4	
		SBTR	21.4	48.9	190.4	

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Park Lawn Road & The Queensway	EB	EBL	55.6	94.9		
		EBT	136.2	222.2	348.6	
		EBTR	133.6	212.8	348.6	
	WB	WBL	67.6	94.8		
		WBT	68.5	139.1	284.4	
		WBT	63.5	136.7	284.4	
		WBR	10.6	35		
	NB	NBL	30.2	74.8		
		NBT	63.2	112.8	267.7	
		NBR	28.8	95.4	267.7	
	SB	SBL	14.3	64.2		
		SBT	96.2	120.4	341.6	
		SBTR	56.4	87.7		
The Queensway & Stephen Dr	EB	EBL	8.5	38.3		
		EBT	46.1	77	72.4	2
		EBT	52.2	78.2	72.4	4
	WB	WBT	38.4	49.6	41.8	9
		WBT	39	48.8	41.8	9
		WBR	12.3	41.8		
	SB	SBL	7.5	44.3		
		SBLR	29.1	59.8	205.3	
Sobey's Entrance & The Queensway	EB	EBL	0.8	8.9		
		EBT	56.4	76.3	70.2	4
		EBTR	62.8	77.9	70.2	7
	WB	WBL	24.3	59.2		
		WBT	42.6	88.9	137.4	
		WBTR	47.5	90.4	137.4	
	NB	NBL	41.9	61.4	65	
		NBL	25	54.6	65	
		NBTR	9.5	20.5	65	
	SB	SBLTR	5.1	16.7	73.8	
The Queensway & Kingsway Link Road	EB	EBT	27.7	59.1	66.2	
		EBT	32.6	61.2	66.2	
	WB	WBT	9.1	28.7	167.6	
		WBTR	13.9	38.5	167.6	
	SB	SBR	9.4	24.2	127.9	
Marine Parade Drive & Lake Shore Blvd W	NB	NBLR	12.3	28.3		
Windermere Ave & Windermere by the Lake	EB	EBLTR	2.9	9.4	40.6	
	WB	WBLTR	1.2	8.1	32.4	
	NB	NBLT	2.8	16.7	99.2	
		NBTR	0.2	4.6	99.2	
	SB	SBLT	0.5	10	80.8	
Palace Pier & Lake Shore Blvd W	EB	EBT	20.8	78	146.3	
		EBR	7.2	30		
	NB	NBLR	7.9	23		
Lake Shore Blvd W & TTC Streetcar Underpass	EB	EBL*	2.9	19.6		
		EBTR	16.7	93.4	157.4	
	WB	WBT	1	9.8	120.2	
	NB	NBL	3.7	15.2	95.4	
		NBR	1.9	9.4	95.4	

*Movement reserved for TTC Streetcar Vehicles only.

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
Lake Shore Blvd W & Ellis Ave	EB	EBL	48.3	64.8		
		EBT	59.6	121	255.1	
		EBT	68.9	163	255.1	
		EBT	76.6	161.2	255.1	
		EBT	80.4	144.2	255.1	
	WB	WBT	156.5	234.4	525	
		WBT	154.8	232	525	
		WBTR	149.1	235.8	525	
	SB	SBL	9.4	19.9	182.2	
		SBLR	27.6	76.4	182.2	
Lake Shore Blvd W & Windermere Ave	EB	EBL	57.3	94.2		
		EBT	52.8	99.5		
		EBT	68.5	107	500	
		EBT	85.2	120.6	500	
		EBT	90	118.6	500	
	WB	WBL	1	8.4		
		WBT	190.8	254.8	255.1	
		WBT	198.9	260.6	255.1	1
		WBT	209.2	274.2	255.1	5
		WBR	53	85		
	SB	SBL	14.4	34.5		
		SBLT	18.3	38.1	159.2	
		SBR	68.2	113.1	159.2	
Ellis Ave & The Queensway	EB	EBT	113.8	167.2	262.4	
		EBTR	117.7	174.2	262.4	
	WB	WBL	23.7	56.5		
		WBT	48.2	89.1	562.4	
		WBTR	52.9	90.8	562.4	
	NB	NBL	7.5	22.7	182.2	
		NBTR	22.2	64.8	182.2	
	SB	SBL	7	19.9		
		SBTR	15.7	38.1	206.7	
Windermere Ave & The Queensway	EB	EBL	26.3	64.8		
		EBT	65.2	80.3	245.1	
		EBTR	66.6	78.2	245.1	
	WB	WBL	29.8	89.7		
		WBT	77.4	151.3	262.4	
		WBTR	82.7	156.4	262.4	
	NB	NBL	22	49	80.8	
		NBTR	36.9	77.1	80.8	
	SB	SBL	20.9	37.8		
		SBTR	81.6	152.4	214.5	
Park Lawn Road & South Beach Condos	EB	EBL	8	22.3	56.2	
		EBR	4.1	8.8	56.2	
	NB	NBL	6.8	19		
		NBT	0.6	18.4	155.8	
		NBT	0.3	7.8	155.8	
	SB	SBT	0.1	2.6	134.5	
		SBTR	3.4	37.6	134.5	
The Queensway & Aldgate Ave	EB	EBLT	7.3	54.6	284.4	
		EBT	3.8	49.7	284.4	
	WB	WBR	0.2	4.6		
	SB	SBLR	2.6	11.4	103.3	

Intersection	Approach/Movement		Ave Q (m)	Max Q (m)	Link Distance (m)	Upstream Blockage (%)
The Queensway & Smithfield Dr	EB	EBLT	14.5	62.2	118.2	
		EBT	16.1	63.1	118.2	
	WB	WBT	0	1.3	72.4	
		WBTR	0.1	1.7	72.4	
	SB	SBLR	4.4	15.2	102.1	
The Queensway & High St	EB	EBLT	16.1	39.9	34.4	2
		EBT	16.3	39.8	34.4	3
	WB	WBT	11	67.2	70.2	
		WBTR	12.6	71.1	70.2	
	SB	SBLR	2.4	10.5	103.4	
The Queensway & Southport St	EB	EBT	13.9	76.6	167.6	
		EBTR	16	77.4	167.6	
	WB	WBT	1.8	28.6	70.4	
		WBTR	2.1	27.8	70.4	
	NB	NBR	5.5	20	100	
Park Lawn Road & Starbucks/Parking Garage	SB	SBR	7.7	19.2	123.5	
	EB	EBLTR	6.4	16.3	51.1	
	WB	WBLTR	3.6	8.2	22	
	NB	NBLT	3.3	33.1	136.1	
		NBTR	0.1	3.1	136.1	
	SB	SBTR	0	1.2		
Ontario Food Terminal & The Queensway	EB	EBT	6.1	43	41.8	
		EBTR	8.2	46.3	41.8	1
	WB	WBL	4.5	19.9		
		WBT	20.7	40.5	34.4	4
		WBT	20.1	42.2	34.4	4
	NB	NBLR	4.9	22.8	100.5	

Conclusions

The assessment of existing conditions in the Park Lawn – Lake Shore Study Area showed several operational issues throughout the network for both the AM and PM peak analyses. The existing AM peak analysis revealed 19 critical movements and 0 critical intersections. The queueing analysis performed for the network using SimTraffic showed 11 approaches throughout the network where queuing was shown to reach the upstream intersection. The existing PM peak analysis revealed 21 critical movements and 1 critical intersection. The queueing analysis showed 8 approaches at which queues would extend to the upstream intersection during the PM peak hour.

In optimizing the signals throughout the network, adjustments were made focusing on the reduction of critical movements at each intersection. The resultant optimized networks showed improvements at almost all intersections in terms of the delays and levels of service. For the AM peak hour analysis of the optimized conditions, 11 fewer movements were reported as critical, resulting in 8 critical movements and 0 critical intersections under optimized conditions. The AM queueing analysis for the optimized conditions showed 1 less approach at which the queues were reaching upstream intersection, resulting in 10 approaches throughout the network. For the PM peak hour analysis of the optimized conditions, the number of critical movements and intersections were reduced by 15 and 0 respectively. The results for the optimized PM peak hour conditions showed 6 critical movements and 0 critical intersections within the network. The PM queueing analysis for the optimized conditions showed 1 less approach at which the queues were reaching upstream intersection, resulting in 7 approaches throughout the network.

Recommendations

The signal optimization exercise performed for the primary study area showed that significant improvements can be made to operations at several intersections through the adjustment of signal timings at the locations. The peak hour analyses revealed that the optimization of signal timings has the potential to improve the operations of 11 critical movements during the AM peak hour and 15 critical movements during the PM peak hour. In addition, the PM peak hour could see 1 intersection significantly improve from a critical level-of-service condition to an overall acceptable level of operation. The signal optimization study recommends that the following intersections be retimed in order to improve operation to (or closer to) acceptable levels:

- Marine Parade Drive / Park Lawn Road & Lake Shore Boulevard West (Revised in 2017 as per Lake Shore Boulevard Signal Coordination Study)
- Brooker's Lane / Gardiner On-Off Ramps & Lake Shore Boulevard West
- Park Lawn Road & Gardiner Ramp South
- Park Lawn Road & The Queensway
- The Queensway & Stephen Drive
- Sobey's Entrance & The Queensway
- Lake Shore Boulevard West & Ellis Avenue
- Lake Shore Boulevard West & Windermere Avenue
- Ellis Avenue & The Queensway
- Windermere Avenue & The Queensway

Appendix A: Existing Turning Movement Volumes

AM PEAK HOUR

PARK LAWN

ALDGATE AVENUE

SMITHFIELD DRIVE

STEPHEN DRIVE

DRIVEWAY TO FOOD TERMINAL

HIGH STREET

PLAZA DRIVEWAY

THE QUEENSWAY

PARKING GARAGE-STARBUCK

GARDINER RAMP N

GARDINER RAMP S

LESS TO SOUTH BEACH COND

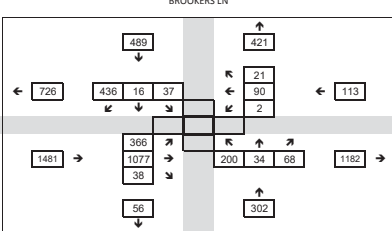
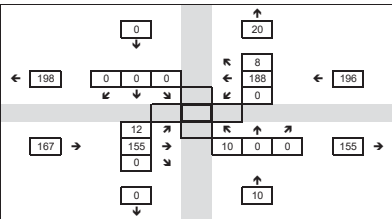
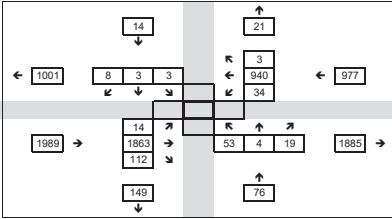
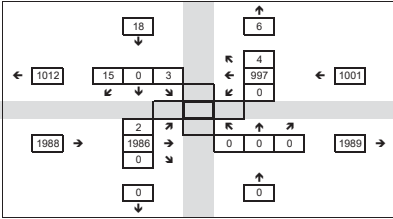
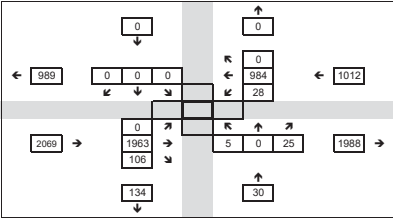
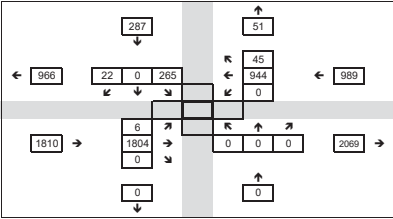
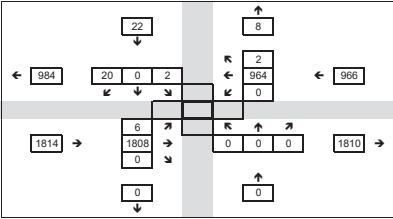
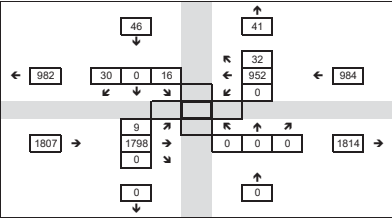
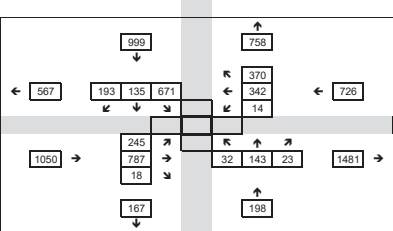
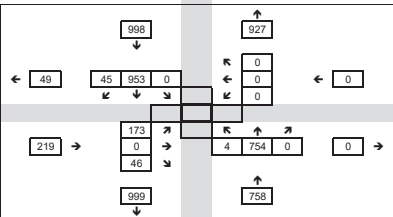
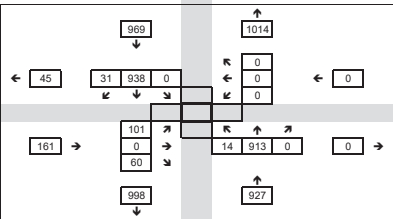
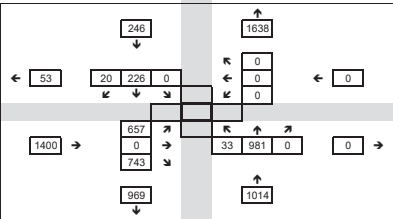
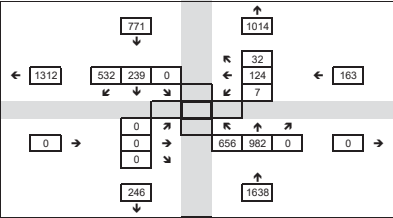
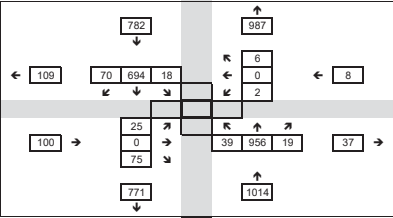
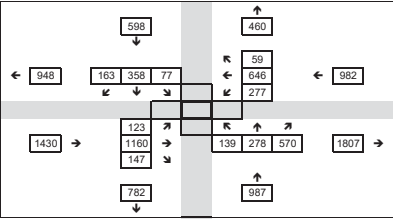
175M N OF LAKE SHORE BLVD

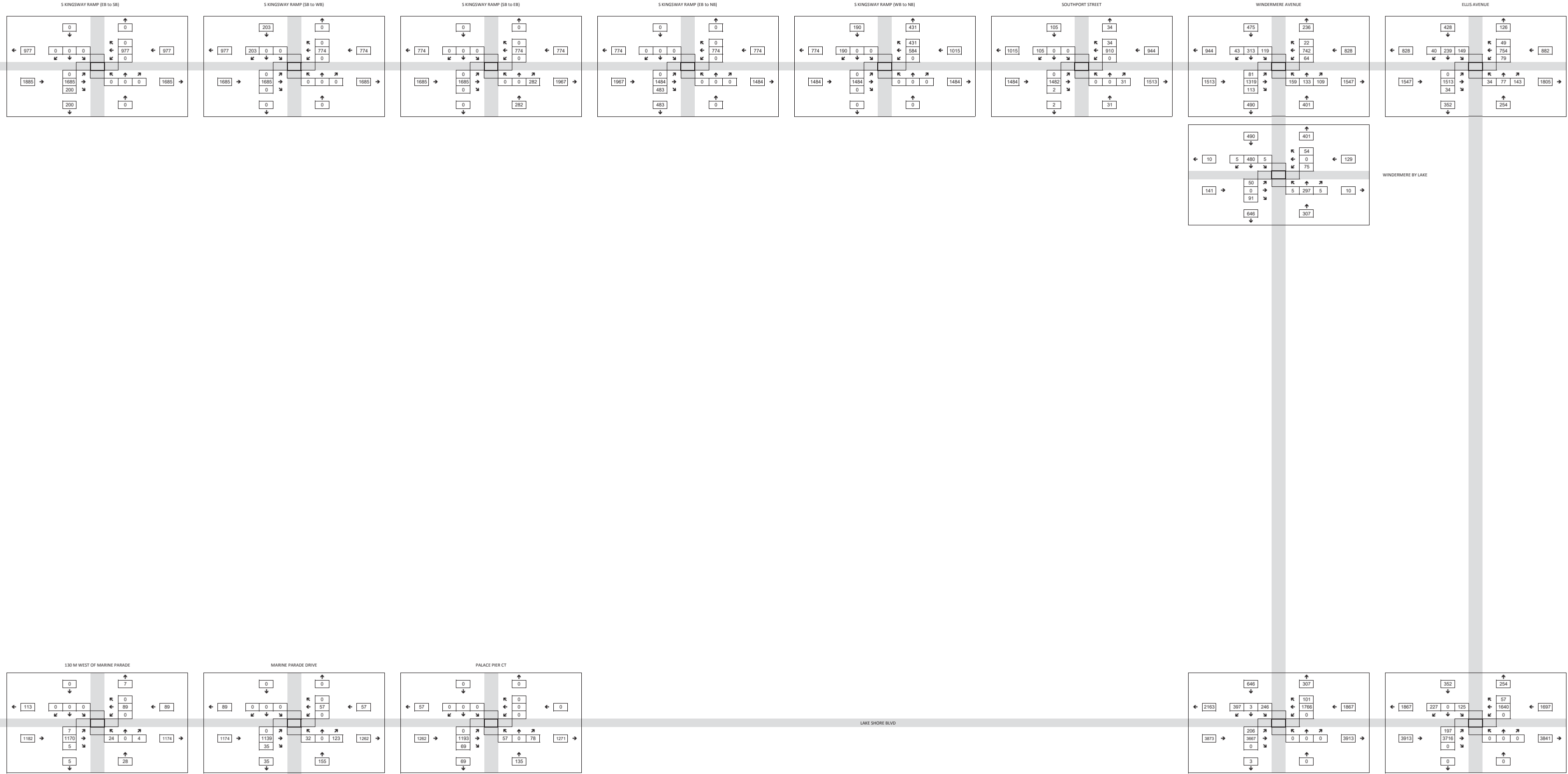
LAKE SHORE BLVD

HUMBER BAY PARK

MARINE PARADE DRIVE

BROOKERS LN





PM PEAK HOUR

PARK LAWN

ALDGATE AVENUE

SMITHFIELD DRIVE

STEPHEN DRIVE

DRIVEWAY TO FOOD TERMINAL

HIGH STREET

PLAZA DRIVEWAY

THE QUEENSWAY

PARKING GARAGE-STARBUCK

GARDINER RAMP N

GARDINER RAMP S

LESS TO SOUTH BEACH COND

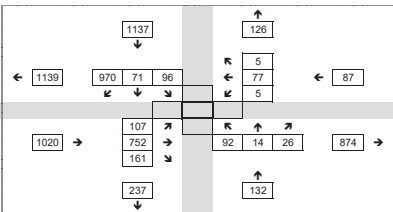
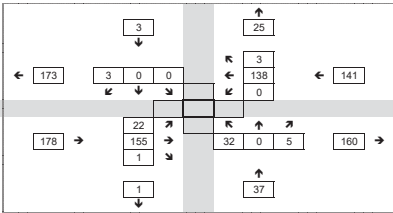
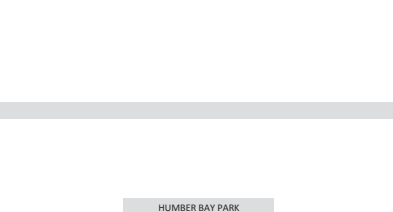
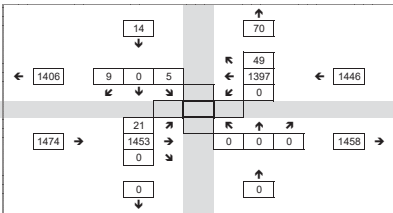
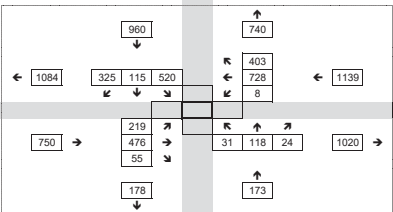
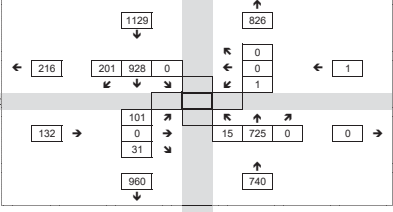
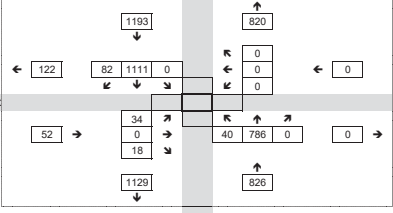
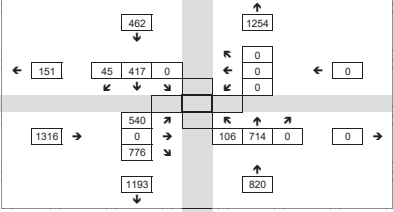
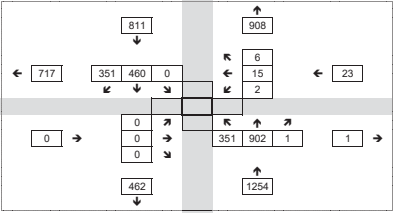
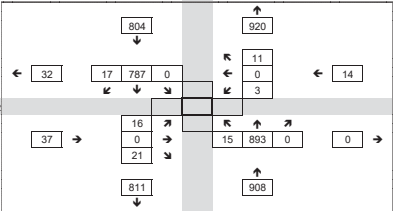
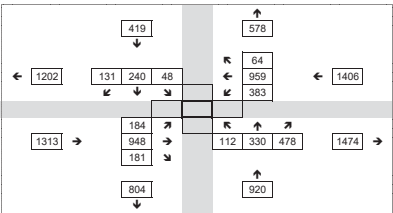
175M N OF LAKE SHORE BLVD

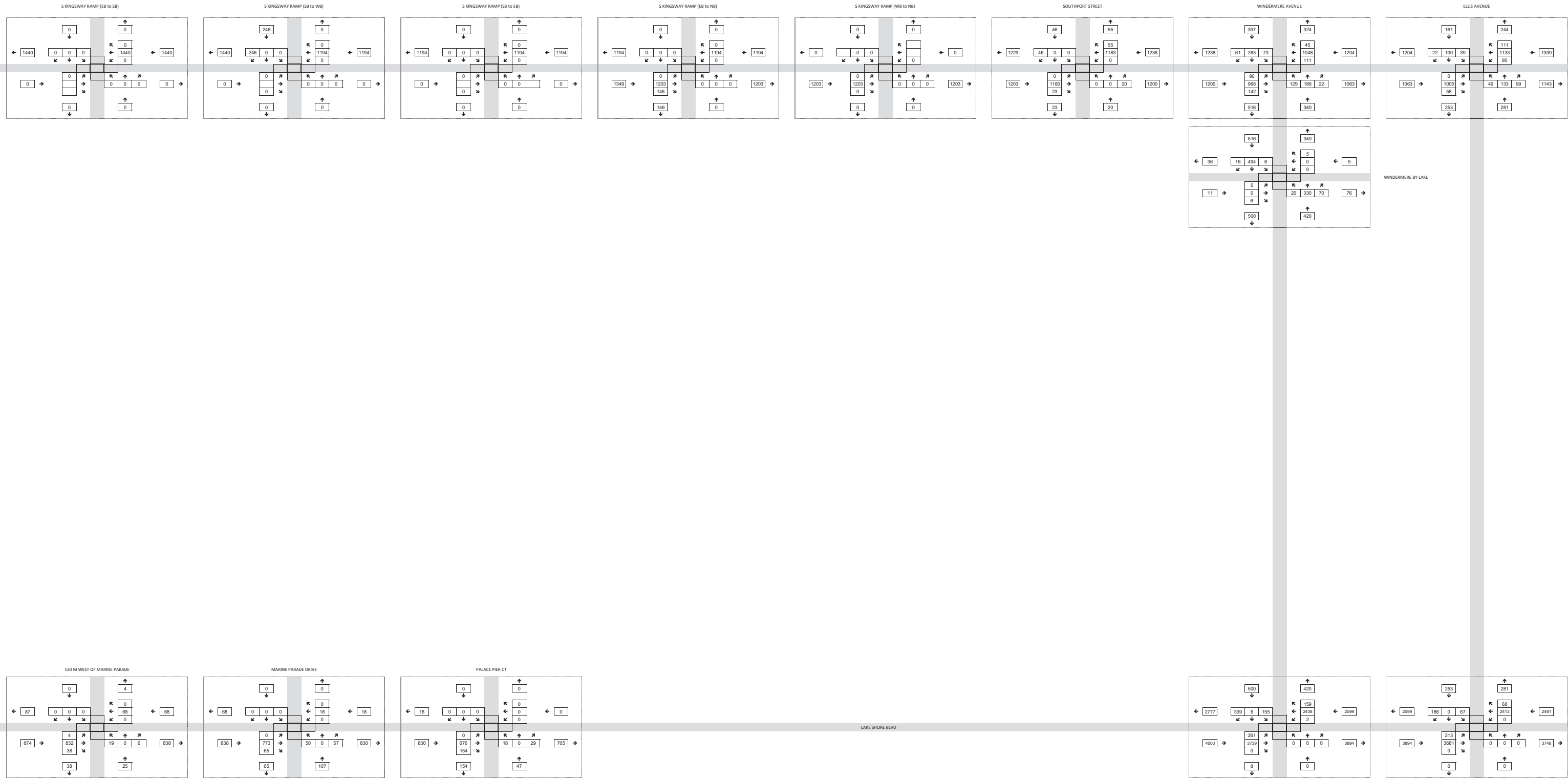
LAKE SHORE BLVD

HUMBER BAY PARK

MARINE PARADE DRIVE

BROOKERS LN





Appendix B: Synchro Signal Timing Plans

Existing AM Signal Timing Plans

2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑		↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	245	787	14	342	370	32	143	23	671	135	193
Future Volume (vph)	245	787	14	342	370	32	143	23	671	135	193
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm
Protected Phases	5	2		6			4		3	3	
Permitted Phases	2		6		6	4		4			3
Detector Phase	5	2	6	6	6	4	4	4	3	3	3
Switch Phase											
Minimum Initial (s)	6.0	30.0	30.0	30.0	30.0	7.0	7.0	7.0	35.0	35.0	35.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0	34.0	34.0	34.0	42.0	42.0	42.0
Total Split (s)	24.0	62.0	38.0	38.0	38.0	35.0	35.0	35.0	43.0	43.0	43.0
Total Split (%)	17.1%	44.3%	27.1%	27.1%	27.1%	25.0%	25.0%	25.0%	30.7%	30.7%	30.7%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	C-Max	C-Max	C-Max	None	None	None	Max	Max	Max
Act Effect Green (s)		65.4		32.0	32.0		19.6	19.6	37.0	37.0	37.0
Actuated g/C Ratio		0.47		0.23	0.23		0.14	0.14	0.26	0.26	0.26
v/c Ratio		0.62		0.61	0.67		0.51	0.10	0.86	0.36	0.44
Control Delay		29.4		53.1	10.0		59.2	0.8	70.0	55.5	18.6
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.4		53.1	10.0		59.2	0.8	70.0	55.5	18.6
LOS		C		D	B		E	A	E	E	B
Approach Delay		29.4		31.2			52.4			58.1	
Approach LOS		C		C			D			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 1 (1%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 41.0

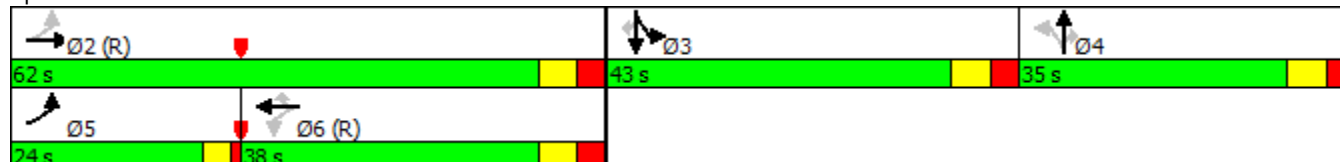
Intersection LOS: D

Intersection Capacity Utilization 110.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W



Existing AM Signal Timing Plans
6: Park Lawn Road & Gardiner Ramp N

10/05/2017

	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	7	124	32	656	982	239	532
Future Volume (vph)	7	124	32	656	982	239	532
Turn Type	Perm	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	6.0	22.0	22.0	22.0
Minimum Split (s)	33.0	33.0	33.0	10.5	41.0	41.0	41.0
Total Split (s)	33.0	33.0	33.0	14.0	55.0	41.0	41.0
Total Split (%)	37.5%	37.5%	37.5%	15.9%	62.5%	46.6%	46.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	3.0	6.0	6.0	6.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	17.2	17.2	17.2	62.8	59.8	35.0	35.0
Actuated g/C Ratio	0.20	0.20	0.20	0.71	0.68	0.40	0.40
v/c Ratio	0.03	0.58	0.10	0.85	0.48	0.19	0.69
Control Delay	24.3	40.3	0.6	22.9	6.7	17.8	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	40.3	0.6	22.9	6.7	17.8	8.7
LOS	C	D	A	C	A	B	A
Approach Delay		31.8			13.2	11.5	
Approach LOS		C			B	B	

Intersection Summary

Cycle Length: 88

Actuated Cycle Length: 88

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 13.9

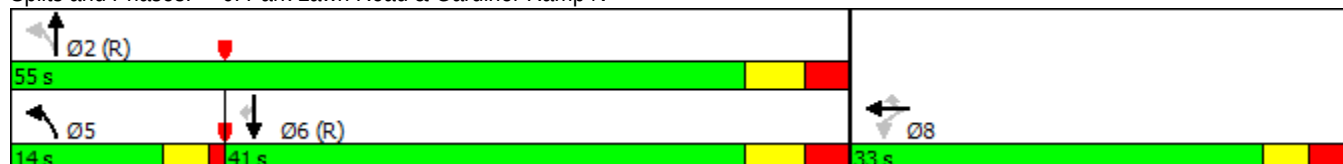
Intersection LOS: B

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Park Lawn Road & Gardiner Ramp N



Existing AM Signal Timing Plans

7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↔↔		↔↔	↔	↔		↔	↔
Traffic Volume (vph)	366	1077	2	90	200	34	37	16	436
Future Volume (vph)	366	1077	2	90	200	34	37	16	436
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	6.0	24.0	24.0	24.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	19.0	67.0	31.0	31.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	19.0	67.0	48.0	48.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	20.0%	70.5%	50.5%	50.5%	29.5%	29.5%	29.5%	29.5%	29.5%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		-1.0		-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)		6.0		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None
Act Effect Green (s)		63.0		63.0	20.0	20.0		20.0	20.0
Actuated g/C Ratio		0.66		0.66	0.21	0.21		0.21	0.21
v/c Ratio		0.87		0.06	0.81	0.27		0.21	0.70
Control Delay		20.1		2.4	58.9	14.0		32.0	9.3
Queue Delay		0.0		0.0	0.0	0.0		0.0	0.0
Total Delay		20.1		2.4	58.9	14.0		32.0	9.3
LOS		C		A	E	B		C	A
Approach Delay		20.1		2.4		43.7		11.7	
Approach LOS		C		A		D		B	

Intersection Summary

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 11 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 20.5

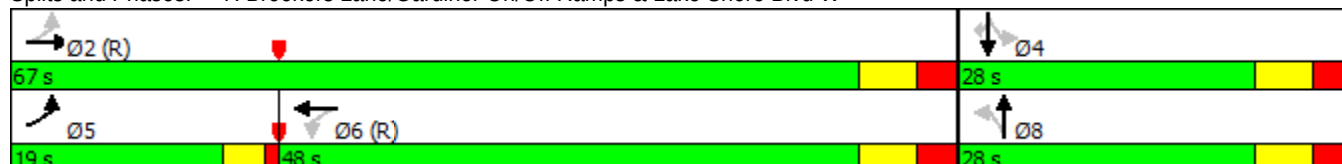
Intersection LOS: C

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W



Existing AM Signal Timing Plans

9: Park Lawn Road & Metro Entrance

10/05/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø8
Lane Configurations						
Traffic Volume (vph)	173	46	4	754	953	
Future Volume (vph)	173	46	4	754	953	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	8
Permitted Phases	4	4	2			
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	43.0	43.0	43.0	27.0
Total Split (%)	38.6%	38.6%	61.4%	61.4%	61.4%	39%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	None
Act Effect Green (s)	16.1	16.1	46.9	46.9	46.9	
Actuated g/C Ratio	0.23	0.23	0.67	0.67	0.67	
v/c Ratio	0.62	0.13	0.02	0.36	0.48	
Control Delay	32.3	6.8	3.8	4.7	7.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.3	6.8	3.8	4.7	7.2	
LOS	C	A	A	A	A	
Approach Delay				4.7	7.2	
Approach LOS				A	A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 8.4

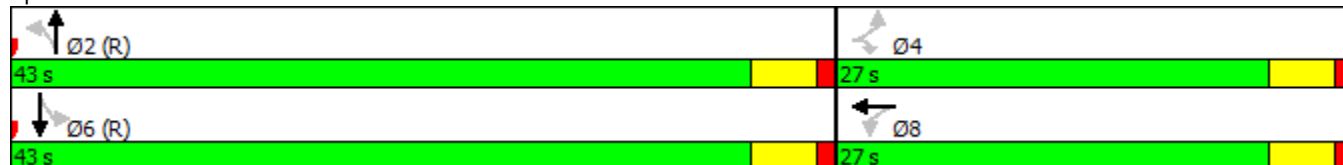
Intersection LOS: A

Intersection Capacity Utilization 44.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: Park Lawn Road & Metro Entrance



Existing AM Signal Timing Plans

11: Park Lawn Road & Gardiner Ramp S

10/05/2017



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖↗	↖	↖	↑↑	↑↑
Traffic Volume (vph)	657	743	33	981	226
Future Volume (vph)	657	743	33	981	226
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0
Minimum Split (s)	40.0	40.0	48.0	48.0	48.0
Total Split (s)	40.0	40.0	48.0	48.0	48.0
Total Split (%)	45.5%	45.5%	54.5%	54.5%	54.5%
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	32.7	32.7	45.3	45.3	45.3
Actuated g/C Ratio	0.37	0.37	0.51	0.51	0.51
v/c Ratio	0.64	0.94	0.07	0.60	0.16
Control Delay	25.1	30.7	12.9	17.7	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	30.7	12.9	17.7	4.0
LOS	C	C	B	B	A
Approach Delay	28.1			17.6	4.0
Approach LOS	C			B	A

Intersection Summary

Cycle Length: 88

Actuated Cycle Length: 88

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 21.8

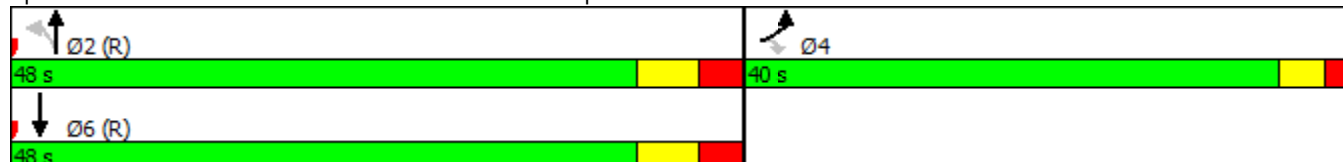
Intersection LOS: C

Intersection Capacity Utilization 91.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 11: Park Lawn Road & Gardiner Ramp S



Existing AM Signal Timing Plans

13: Park Lawn Road & The Queensway

10/05/2017

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	123	1160	277	646	59	139	278	570	77	358
Future Volume (vph)	123	1160	277	646	59	139	278	570	77	358
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4	3	8		5	2			6
Permitted Phases	4		8		8	2		2	6	
Detector Phase	7	4	3	8	8	5	2	2	6	6
Switch Phase										
Minimum Initial (s)	6.0	20.0	6.0	20.0	20.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	66.0	10.0	66.0	66.0	10.0	34.0	34.0	34.0	34.0
Total Split (s)	22.0	66.0	33.0	77.0	77.0	11.0	45.0	45.0	34.0	34.0
Total Split (%)	15.3%	45.8%	22.9%	53.5%	53.5%	7.6%	31.3%	31.3%	23.6%	23.6%
Yellow Time (s)	2.0	4.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	77.9	64.1	96.0	79.2	79.2	42.0	39.0	39.0	28.0	28.0
Actuated g/C Ratio	0.54	0.45	0.67	0.55	0.55	0.29	0.27	0.27	0.19	0.19
v/c Ratio	0.31	0.95	0.87	0.37	0.08	0.93	0.64	0.96	0.51	0.80
Control Delay	12.4	52.3	73.7	11.0	0.3	96.9	53.3	49.7	64.0	59.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	52.3	73.7	11.0	0.3	96.9	53.3	49.7	64.0	59.9
LOS	B	D	E	B	A	F	D	D	E	E
Approach Delay		48.9		28.1			57.4			60.5
Approach LOS		D		C			E			E

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 47.6

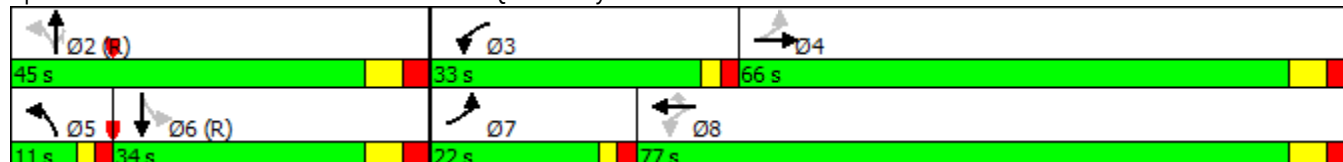
Intersection LOS: D

Intersection Capacity Utilization 112.9%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 13: Park Lawn Road & The Queensway



Existing AM Signal Timing Plans
15: The Queensway & Stephen Dr

10/05/2017



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Traffic Volume (vph)	6	1804	944	45	265
Future Volume (vph)	6	1804	944	45	265
Turn Type	Perm	NA	NA	Perm	Prot
Protected Phases		4	8		6
Permitted Phases	4			8	
Detector Phase	4	4	8	8	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	104.0	104.0	104.0	104.0	38.0
Total Split (s)	106.0	106.0	106.0	106.0	38.0
Total Split (%)	73.6%	73.6%	73.6%	73.6%	26.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	C-Max	None
Act Effect Green (s)	109.9	109.9	109.9	109.9	24.1
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.17
v/c Ratio	0.02	0.76	0.39	0.05	0.60
Control Delay	11.3	22.0	14.3	7.0	58.2
Queue Delay	0.0	0.0	0.2	0.0	1.0
Total Delay	11.3	22.0	14.6	7.0	59.2
LOS	B	C	B	A	E
Approach Delay		22.0	14.2		59.2
Approach LOS		C	B		E

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 21 (15%), Referenced to phase 4:EBTL and 8:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 22.9

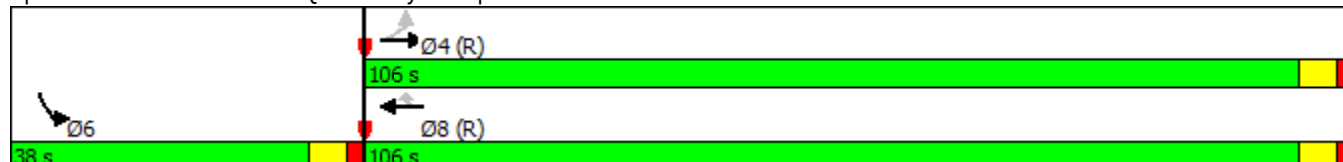
Intersection LOS: C

Intersection Capacity Utilization 105.2%

ICU Level of Service G

Analysis Period (min) 15

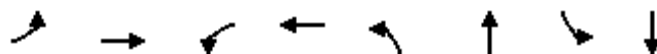
Splits and Phases: 15: The Queensway & Stephen Dr



Existing AM Signal Timing Plans

19: Sobeys Entrance & The Queensway

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	14	1863	34	940	53	4	3	3
Future Volume (vph)	14	1863	34	940	53	4	3	3
Turn Type	Perm	NA	pm+pt	NA	Split	NA	Perm	NA
Protected Phases		2	1	6	7	7		8
Permitted Phases	2		6				8	
Detector Phase	2	2	1	6	7	7	8	8
Switch Phase								
Minimum Initial (s)	24.0	24.0	6.0	24.0	7.0	7.0	7.0	7.0
Minimum Split (s)	30.0	30.0	10.0	30.0	24.0	24.0	33.0	33.0
Total Split (s)	74.0	74.0	11.0	85.0	25.0	25.0	34.0	34.0
Total Split (%)	51.4%	51.4%	7.6%	59.0%	17.4%	17.4%	23.6%	23.6%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)	5.0	5.0	3.0	5.0	5.0	5.0		6.0
Lead/Lag	Lag	Lag	Lead		Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	114.0	114.0	123.5	122.5	9.3	9.3		8.2
Actuated g/C Ratio	0.79	0.79	0.86	0.85	0.06	0.06		0.06
v/c Ratio	0.04	0.81	0.28	0.36	0.29	0.20		0.15
Control Delay	7.5	11.7	11.6	8.6	67.4	30.6		43.4
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0		0.0
Total Delay	7.5	12.0	11.6	8.6	67.4	30.6		43.4
LOS	A	B	B	A	E	C		D
Approach Delay		12.0		8.7		56.3		43.4
Approach LOS		B		A		E		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 17 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 12.2

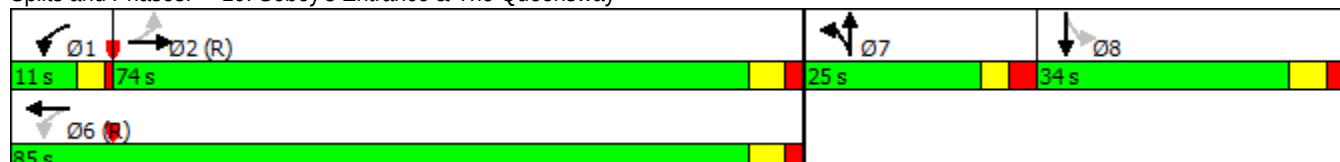
Intersection LOS: B

Intersection Capacity Utilization 70.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 19: Sobeys Entrance & The Queensway



Existing AM Signal Timing Plans
25: The Queensway & Kingsway Link Road

10/05/2017



Lane Group	EBT	WBT	SBR	Ø3
Lane Configurations	↑↑	↑↑	↑	
Traffic Volume (vph)	1484	584	190	
Future Volume (vph)	1484	584	190	
Turn Type	NA	NA	Perm	
Protected Phases	2	6		3
Permitted Phases			2 3	
Detector Phase	2	6	2 3	
Switch Phase				
Minimum Initial (s)	5.0	5.0		7.0
Minimum Split (s)	105.0	105.0		39.0
Total Split (s)	105.0	105.0		39.0
Total Split (%)	72.9%	72.9%		27%
Yellow Time (s)	4.0	4.0		3.0
All-Red Time (s)	3.0	3.0		2.0
Lost Time Adjust (s)	-1.0	-1.0		
Total Lost Time (s)	6.0	6.0		
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max		None
Act Effect Green (s)	109.8	109.8	144.0	
Actuated g/C Ratio	0.76	0.76	1.00	
v/c Ratio	0.59	0.43	0.14	
Control Delay	15.7	3.1	0.2	
Queue Delay	0.0	0.0	0.0	
Total Delay	15.7	3.1	0.2	
LOS	B	A	A	
Approach Delay	15.7	3.1		
Approach LOS	B	A		

Intersection Summary

Cycle Length: 144
 Actuated Cycle Length: 144
 Offset: 127 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 9.8
 Intersection Capacity Utilization 121.6%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service H

Splits and Phases: 25: The Queensway & Kingsway Link Road

→ Ø2 (R)	Ø3
105 s	39 s
← Ø6 (R)	
105 s	

Existing AM Signal Timing Plans
39: Palace Pier & Lake Shore Blvd W

10/05/2017



Lane Group	EBT	EBR	NBL
Lane Configurations	↑	↑	↑
Traffic Volume (vph)	1193	69	57
Future Volume (vph)	1193	69	57
Turn Type	NA	Perm	Perm
Protected Phases	2		
Permitted Phases		2	4
Detector Phase	2	2	4
Switch Phase			
Minimum Initial (s)	37.0	37.0	7.0
Minimum Split (s)	43.0	43.0	27.0
Total Split (s)	67.0	67.0	28.0
Total Split (%)	70.5%	70.5%	29.5%
Yellow Time (s)	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	4.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Max	C-Max	None
Act Effect Green (s)	73.0	73.0	13.0
Actuated g/C Ratio	0.77	0.77	0.14
v/c Ratio	0.92	0.08	0.55
Control Delay	15.7	1.0	27.1
Queue Delay	0.0	0.0	0.0
Total Delay	15.7	1.0	27.1
LOS	B	A	C
Approach Delay	14.9		27.1
Approach LOS	B		C

Intersection Summary

Cycle Length: 95
 Actuated Cycle Length: 95
 Offset: 26 (27%), Referenced to phase 2:EBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 16.1
 Intersection Capacity Utilization 78.2%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 39: Palace Pier & Lake Shore Blvd W



Existing AM Signal Timing Plans
40: Lake Shore Blvd W & TTC Streetcar Underpass

10/05/2017



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	7	1170	89	24	4
Future Volume (vph)	7	1170	89	24	4
Turn Type	Prot	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases		6		4	
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	26.0	26.0	29.0	29.0
Total Split (s)	32.0	65.0	33.0	30.0	30.0
Total Split (%)	33.7%	68.4%	34.7%	31.6%	31.6%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	4.0	4.0	4.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	7.0	7.0	7.0	4.0	4.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Max	C-Max	None	None
Act Effect Green (s)	8.4	83.0	79.7	8.6	8.6
Actuated g/C Ratio	0.09	0.87	0.84	0.09	0.09
v/c Ratio	0.11	0.80	0.06	0.17	0.01
Control Delay	44.6	9.8	2.2	42.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	9.8	2.2	42.3	0.0
LOS	D	A	A	D	A
Approach Delay	10.0		2.2		
Approach LOS	A		A		

Intersection Summary

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 35 (37%), Referenced to phase 2:EBT and 6:EBWB, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 10.0

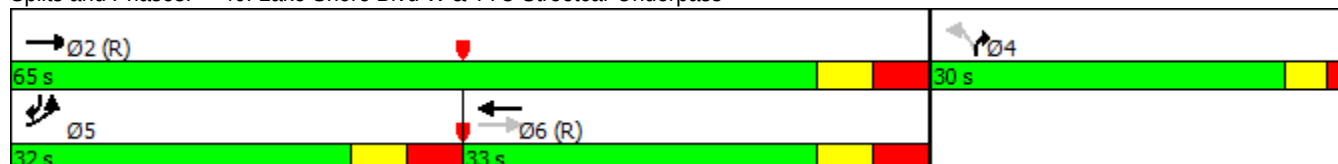
Intersection LOS: B

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 40: Lake Shore Blvd W & TTC Streetcar Underpass



Existing AM Signal Timing Plans
44: Lake Shore Blvd W & Ellis Ave

10/05/2017

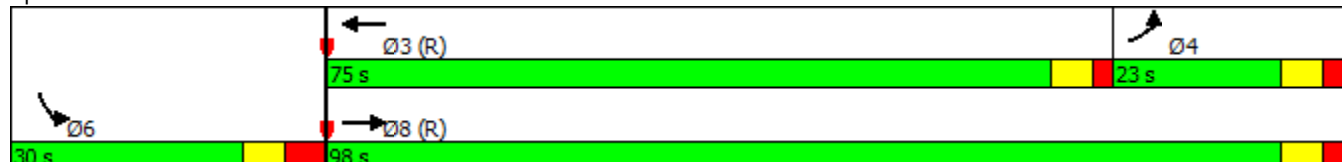


Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	197	3716	1640	125
Future Volume (vph)	197	3716	1640	125
Turn Type	Prot	NA	NA	Prot
Protected Phases	4	8	3	6
Permitted Phases				
Detector Phase	4	8	3	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	76.0	75.0	30.0
Total Split (s)	23.0	98.0	75.0	30.0
Total Split (%)	18.0%	76.6%	58.6%	23.4%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	2.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	5.0	7.0
Lead/Lag	Lag		Lead	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	Max	Max	Max	Max
Act Effect Green (s)	17.0	92.0	70.0	23.0
Actuated g/C Ratio	0.13	0.72	0.55	0.18
v/c Ratio	0.97	0.91	0.68	0.67
Control Delay	95.5	26.1	22.4	27.4
Queue Delay	0.0	26.4	0.0	0.0
Total Delay	95.5	52.4	22.4	27.4
LOS	F	D	C	C
Approach Delay		54.6	22.4	27.4
Approach LOS		D	C	C

Intersection Summary

Cycle Length: 128
 Actuated Cycle Length: 128
 Offset: 30 (23%), Referenced to phase 3:WBT and 8:EBT, Start of Green
 Natural Cycle: 130
 Control Type: Pretimed
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 43.8
 Intersection LOS: D
 Intersection Capacity Utilization 101.7%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 44: Lake Shore Blvd W & Ellis Ave



Existing AM Signal Timing Plans
46: Lake Shore Blvd W & Windermere Ave

10/05/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	SBR	Ø1
Lane Configurations								
Traffic Volume (vph)	206	3667	1766	101	246	3	397	
Future Volume (vph)	206	3667	1766	101	246	3	397	
Turn Type	Prot	NA	NA	custom	Perm	NA	Perm	
Protected Phases	5	2	6	8		8		1
Permitted Phases				6	8		8	
Detector Phase	5	2	6	8	8	8	8	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	64.0	63.0	34.0	34.0	34.0	34.0	12.0
Total Split (s)	31.0	80.0	63.0	34.0	34.0	34.0	34.0	14.0
Total Split (%)	24.2%	62.5%	49.2%	26.6%	26.6%	26.6%	26.6%	11%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	3.0	3.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	5.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lag	Lead					Lead
Lead-Lag Optimize?	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	Max	Max	Max	Max	None
Act Effect Green (s)	25.0	88.0	58.0	83.0	27.0	27.0	27.0	
Actuated g/C Ratio	0.20	0.69	0.45	0.65	0.21	0.21	0.21	
v/c Ratio	0.70	0.94	0.84	0.11	0.41	0.40	0.76	
Control Delay	60.5	24.0	62.2	7.4	47.9	47.7	19.2	
Queue Delay	0.0	39.3	0.0	0.0	1.2	1.1	0.0	
Total Delay	60.5	63.3	62.2	7.4	49.1	48.9	19.2	
LOS	E	E	E	A	D	D	B	
Approach Delay		63.2	59.2			30.7		
Approach LOS		E	E			C		

Intersection Summary

Cycle Length: 128

Actuated Cycle Length: 128

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 58.7

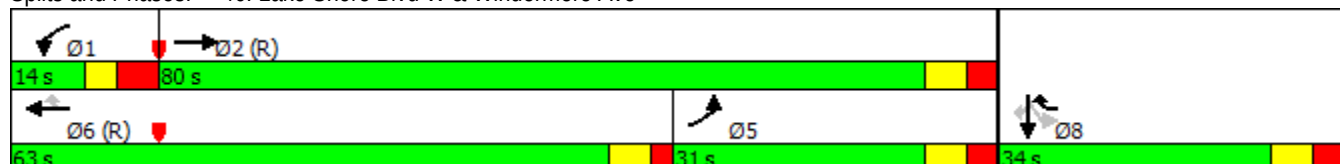
Intersection LOS: E

Intersection Capacity Utilization 95.6%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 46: Lake Shore Blvd W & Windermere Ave



Existing AM Signal Timing Plans
51: Ellis Ave & The Queensway

10/05/2017



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑↑	↵	↑↑	↵	↑	↵	↑
Traffic Volume (vph)	1513	79	754	34	77	149	239
Future Volume (vph)	1513	79	754	34	77	149	239
Turn Type	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	2	1	6		4		8
Permitted Phases				4		8	
Detector Phase	2	1	6	4	4	8	8
Switch Phase							
Minimum Initial (s)	21.0	6.0	21.0	7.0	7.0	7.0	7.0
Minimum Split (s)	27.0	11.0	27.0	40.0	40.0	40.0	40.0
Total Split (s)	83.0	11.0	94.0	50.0	50.0	50.0	50.0
Total Split (%)	57.6%	7.6%	65.3%	34.7%	34.7%	34.7%	34.7%
Yellow Time (s)	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	4.0	5.0	7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes					
Recall Mode	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	81.8	13.0	98.9	33.1	33.1	33.1	33.1
Actuated g/C Ratio	0.57	0.09	0.69	0.23	0.23	0.23	0.23
v/c Ratio	0.86	0.57	0.38	0.32	0.57	0.95	0.71
Control Delay	14.1	77.8	10.9	50.9	39.1	110.7	58.7
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	77.8	10.9	50.9	39.1	110.7	58.7
LOS	B	E	B	D	D	F	E
Approach Delay	14.2		16.9		40.7		76.8
Approach LOS	B		B		D		E

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 25.7

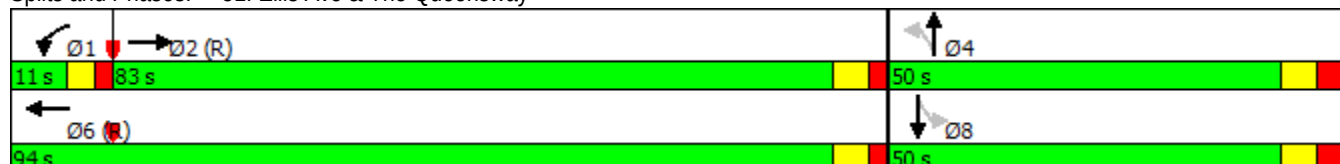
Intersection LOS: C

Intersection Capacity Utilization 95.8%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 51: Ellis Ave & The Queensway



Existing AM Signal Timing Plans
54: Windermere Ave & The Queensway

10/05/2017

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	81	1319	64	742	159	133	119	313
Future Volume (vph)	81	1319	64	742	159	133	119	313
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	1	6	7	4		8
Permitted Phases					4		8	
Detector Phase	5	2	1	6	7	4	8	8
Switch Phase								
Minimum Initial (s)	6.0	23.0	6.0	23.0	6.0	38.0	38.0	38.0
Minimum Split (s)	12.0	69.0	12.0	69.0	10.0	49.0	49.0	49.0
Total Split (s)	13.0	69.0	13.0	69.0	13.0	62.0	49.0	49.0
Total Split (%)	9.0%	47.9%	9.0%	47.9%	9.0%	43.1%	34.0%	34.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	2.0	3.0	2.0	1.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	Max
Act Effect Green (s)	8.0	64.0	8.0	64.0	59.0	55.0	42.0	42.0
Actuated g/C Ratio	0.06	0.44	0.06	0.44	0.41	0.38	0.29	0.29
v/c Ratio	0.98	0.96	0.79	0.55	0.68	0.41	0.45	0.73
Control Delay	158.3	47.6	132.5	22.8	44.1	30.4	47.7	54.8
Queue Delay	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	158.3	49.5	132.5	22.8	44.1	30.4	47.7	54.8
LOS	F	D	F	C	D	C	D	D
Approach Delay		55.8		31.3		35.9		53.0
Approach LOS		E		C		D		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 46.3

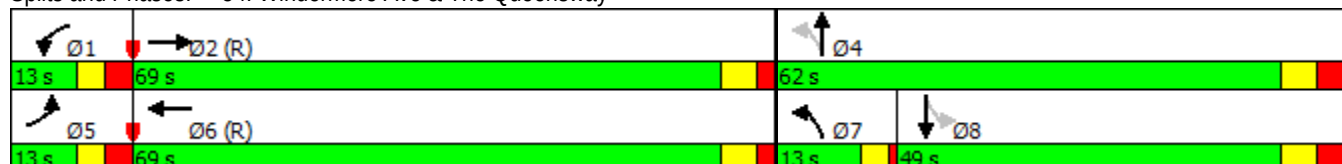
Intersection LOS: D

Intersection Capacity Utilization 143.3%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 54: Windermere Ave & The Queensway



Existing PM Signal Timing Plans

2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

10/06/2017



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑		↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	219	476	8	728	403	31	118	24	520	115	325
Future Volume (vph)	219	476	8	728	403	31	118	24	520	115	325
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm
Protected Phases	5	2		6			4		3	3	
Permitted Phases	2		6		6	4		4			3
Detector Phase	5	2	6	6	6	4	4	4	3	3	3
Switch Phase											
Minimum Initial (s)	6.0	30.0	30.0	30.0	30.0	7.0	7.0	7.0	35.0	35.0	35.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0	34.0	34.0	34.0	42.0	42.0	42.0
Total Split (s)	19.0	60.0	41.0	41.0	41.0	35.0	35.0	35.0	45.0	45.0	45.0
Total Split (%)	13.6%	42.9%	29.3%	29.3%	29.3%	25.0%	25.0%	25.0%	32.1%	32.1%	32.1%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	C-Max	C-Max	C-Max	C-Max	None	None	None	Max	Max	Max
Act Effect Green (s)		61.5		35.0	35.0		21.5	21.5	39.0	39.0	39.0
Actuated g/C Ratio		0.44		0.25	0.25		0.15	0.15	0.28	0.28	0.28
v/c Ratio		0.50		1.00	0.74		0.39	0.09	0.62	0.25	0.60
Control Delay		28.8		84.5	21.3		54.4	0.7	51.7	45.7	14.1
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		28.8		84.5	21.3		54.4	0.7	51.7	45.7	14.1
LOS		C		F	C		D	A	D	D	B
Approach Delay		28.8		61.8			46.9			38.3	
Approach LOS		C		E			D			D	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 1 (1%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 45.2

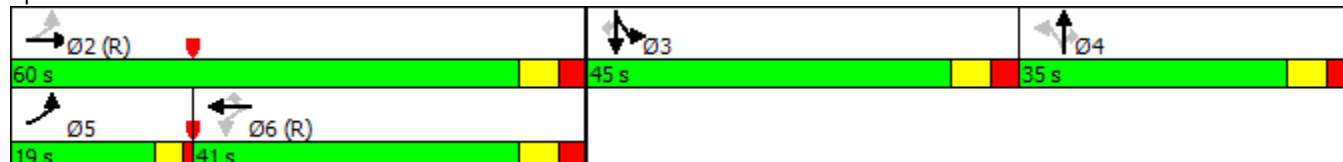
Intersection LOS: D

Intersection Capacity Utilization 94.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W



Existing PM Signal Timing Plans

6: Park Lawn Road & Gardiner Ramp N

10/06/2017

	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↑	↰	↰	↑↑	↑↑	↰
Traffic Volume (vph)	2	15	6	351	902	460	351
Future Volume (vph)	2	15	6	351	902	460	351
Turn Type	Perm	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	6.0	22.0	22.0	22.0
Minimum Split (s)	33.0	33.0	33.0	10.0	42.0	42.0	42.0
Total Split (s)	33.0	33.0	33.0	13.0	55.0	42.0	42.0
Total Split (%)	37.5%	37.5%	37.5%	14.8%	62.5%	47.7%	47.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	3.0	6.0	6.0	6.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	12.0	12.0	12.0	73.2	72.6	57.4	57.4
Actuated g/C Ratio	0.14	0.14	0.14	0.83	0.82	0.65	0.65
v/c Ratio	0.01	0.07	0.02	0.53	0.34	0.22	0.37
Control Delay	27.0	29.5	0.2	7.6	3.1	9.3	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	29.5	0.2	7.6	3.1	9.3	2.8
LOS	C	C	A	A	A	A	A
Approach Delay		21.1			4.4	6.5	
Approach LOS		C			A	A	

Intersection Summary

Cycle Length: 88

Actuated Cycle Length: 88

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 5.4

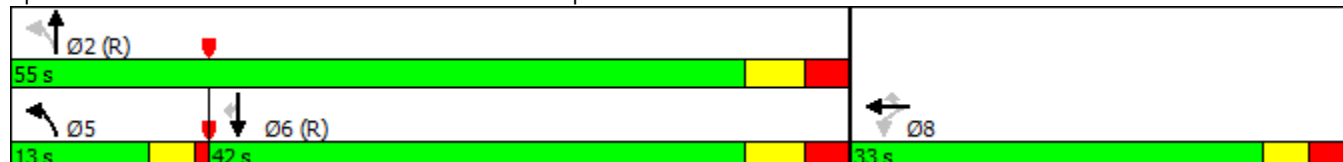
Intersection LOS: A

Intersection Capacity Utilization 69.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Park Lawn Road & Gardiner Ramp N



Existing PM Signal Timing Plans

7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

10/06/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↔↔		↔↔	↔	↔		↔	↔
Traffic Volume (vph)	107	752	5	77	92	14	96	71	970
Future Volume (vph)	107	752	5	77	92	14	96	71	970
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		2		6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	2	2	6	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	24.0	24.0	24.0	24.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	31.0	31.0	31.0	31.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	62.0	62.0	62.0	62.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	68.9%	68.9%	68.9%	68.9%	31.1%	31.1%	31.1%	31.1%	31.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		-1.0		-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)		6.0		6.0	6.0	6.0		6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None
Act Effect Green (s)		56.0		56.0	22.0	22.0		22.0	22.0
Actuated g/C Ratio		0.62		0.62	0.24	0.24		0.24	0.24
v/c Ratio		0.59		0.05	0.39	0.10		0.51	0.98
Control Delay		11.3		5.0	33.7	14.6		35.1	30.6
Queue Delay		0.0		0.0	0.0	0.0		0.0	0.0
Total Delay		11.3		5.0	33.7	14.6		35.1	30.6
LOS		B		A	C	B		D	C
Approach Delay		11.3		5.0		28.0		31.3	
Approach LOS		B		A		C		C	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 11 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 21.5

Intersection LOS: C

Intersection Capacity Utilization 100.9%

ICU Level of Service G

Analysis Period (min) 15

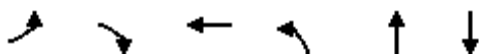
Splits and Phases: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

 Ø2 (R)	 Ø4
62 s	28 s
 Ø6 (R)	 Ø8
62 s	28 s

Existing PM Signal Timing Plans

9: Park Lawn Road & Metro Entrance

10/06/2017



Lane Group	EBL	EBR	WBT	NBL	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	101	31	0	15	725	928
Future Volume (vph)	101	31	0	15	725	928
Turn Type	Perm	Perm	NA	Perm	NA	NA
Protected Phases			8		2	6
Permitted Phases	4	4		2		
Detector Phase	4	4	8	2	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.0	25.0	25.0	45.0	45.0	45.0
Total Split (%)	35.7%	35.7%	35.7%	64.3%	64.3%	64.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	12.0	12.0	11.9	53.8	53.8	53.8
Actuated g/C Ratio	0.17	0.17	0.17	0.77	0.77	0.77
v/c Ratio	0.48	0.12	0.00	0.06	0.29	0.46
Control Delay	32.1	9.4	21.0	2.7	2.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	9.4	21.0	2.7	2.3	4.7
LOS	C	A	C	A	A	A
Approach Delay			21.0		2.3	4.7
Approach LOS			C		A	A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 5.3

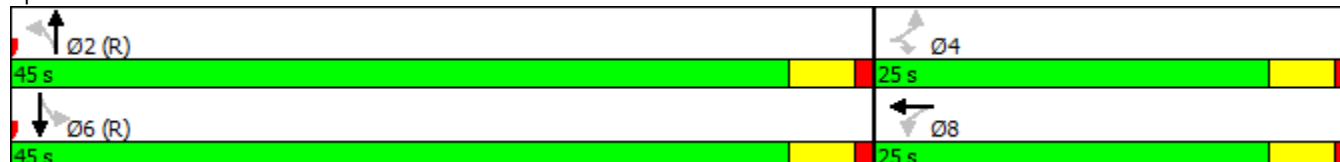
Intersection LOS: A

Intersection Capacity Utilization 50.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: Park Lawn Road & Metro Entrance



Existing PM Signal Timing Plans

11: Park Lawn Road & Gardiner Ramp S

10/06/2017



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	540	776	106	714	417
Future Volume (vph)	540	776	106	714	417
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0
Minimum Split (s)	40.0	40.0	48.0	48.0	48.0
Total Split (s)	40.0	40.0	48.0	48.0	48.0
Total Split (%)	45.5%	45.5%	54.5%	54.5%	54.5%
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	36.0	36.0	42.0	42.0	42.0
Actuated g/C Ratio	0.41	0.41	0.48	0.48	0.48
v/c Ratio	0.44	1.00	0.31	0.47	0.31
Control Delay	20.1	53.2	17.2	16.8	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	53.2	17.2	16.8	7.4
LOS	C	D	B	B	A
Approach Delay	39.0			16.8	7.4
Approach LOS	D			B	A

Intersection Summary

Cycle Length: 88

Actuated Cycle Length: 88

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 26.1

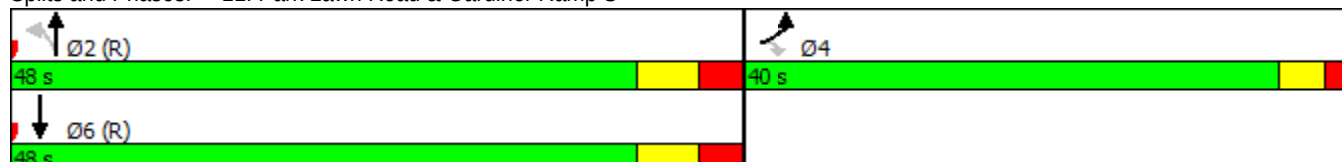
Intersection LOS: C

Intersection Capacity Utilization 91.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 11: Park Lawn Road & Gardiner Ramp S



Existing PM Signal Timing Plans

13: Park Lawn Road & The Queensway

10/06/2017

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	184	948	383	959	64	112	330	478	48	240
Future Volume (vph)	184	948	383	959	64	112	330	478	48	240
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4	3	8		5	2			6
Permitted Phases	4		8		8	2		2	6	
Detector Phase	7	4	3	8	8	5	2	2	6	6
Switch Phase										
Minimum Initial (s)	6.0	20.0	6.0	20.0	20.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	55.0	10.0	55.0	55.0	10.0	31.0	31.0	31.0	31.0
Total Split (s)	31.0	55.0	47.0	71.0	71.0	11.0	42.0	42.0	31.0	31.0
Total Split (%)	21.5%	38.2%	32.6%	49.3%	49.3%	7.6%	29.2%	29.2%	21.5%	21.5%
Yellow Time (s)	2.0	4.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	73.2	56.5	98.4	78.7	78.7	39.6	36.6	36.6	25.3	25.3
Actuated g/C Ratio	0.51	0.39	0.68	0.55	0.55	0.28	0.25	0.25	0.18	0.18
v/c Ratio	0.56	0.90	0.90	0.54	0.09	0.60	0.78	0.72	0.50	0.66
Control Delay	19.1	51.1	82.9	14.8	1.0	55.4	62.8	11.0	72.0	52.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	51.1	82.9	14.8	1.0	55.4	62.8	11.0	72.0	52.6
LOS	B	D	F	B	A	E	E	B	E	D
Approach Delay		46.6		32.7			35.0			54.8
Approach LOS		D		C			C			D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 40.0

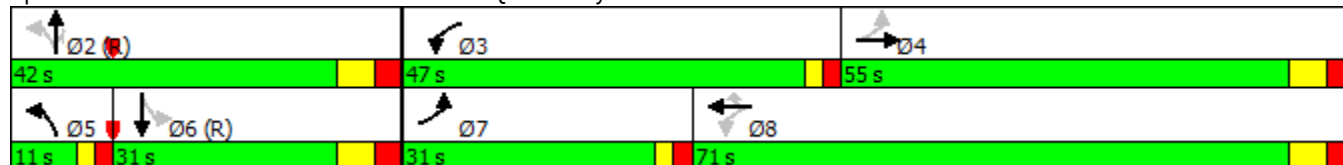
Intersection LOS: D

Intersection Capacity Utilization 111.3%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 13: Park Lawn Road & The Queensway



Existing PM Signal Timing Plans
15: The Queensway & Stephen Dr

10/06/2017



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations	↰	↱↱	↰↰	↱	↰↰↰
Traffic Volume (vph)	30	1417	1411	130	114
Future Volume (vph)	30	1417	1411	130	114
Turn Type	Perm	NA	NA	Perm	Prot
Protected Phases		4	8		6
Permitted Phases	4			8	
Detector Phase	4	4	8	8	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	104.0	104.0	104.0	104.0	35.0
Total Split (s)	109.0	109.0	109.0	109.0	35.0
Total Split (%)	75.7%	75.7%	75.7%	75.7%	24.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	C-Max	None
Act Effect Green (s)	111.9	111.9	111.9	111.9	22.1
Actuated g/C Ratio	0.78	0.78	0.78	0.78	0.15
v/c Ratio	0.18	0.56	0.56	0.13	0.34
Control Delay	13.6	13.2	18.0	6.0	44.8
Queue Delay	0.0	0.0	0.5	0.0	0.0
Total Delay	13.6	13.2	18.4	6.0	44.8
LOS	B	B	B	A	D
Approach Delay		13.2	17.4		44.8
Approach LOS		B	B		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 35 (24%), Referenced to phase 4:EBTL and 8:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 16.8

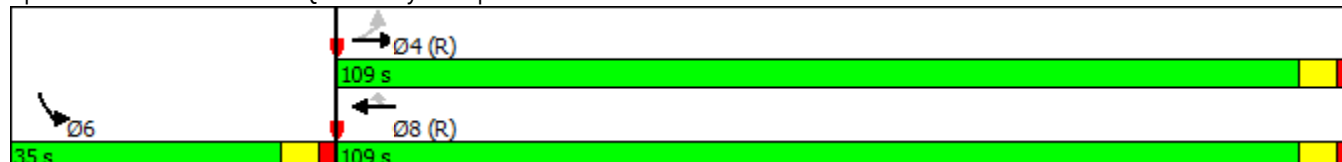
Intersection LOS: B

Intersection Capacity Utilization 105.5%

ICU Level of Service G

Analysis Period (min) 15

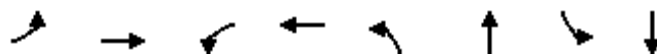
Splits and Phases: 15: The Queensway & Stephen Dr



Existing PM Signal Timing Plans

19: Sobeys Entrance & The Queensway

10/06/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	1204	147	1284	260	1	6	8
Future Volume (vph)	3	1204	147	1284	260	1	6	8
Turn Type	Perm	NA	pm+pt	NA	Split	NA	Perm	NA
Protected Phases		2	1	6	7	7		8
Permitted Phases	2		6				8	
Detector Phase	2	2	1	6	7	7	8	8
Switch Phase								
Minimum Initial (s)	24.0	24.0	6.0	24.0	7.0	7.0	7.0	7.0
Minimum Split (s)	30.0	30.0	10.0	30.0	24.0	24.0	33.0	33.0
Total Split (s)	74.0	74.0	11.0	85.0	25.0	25.0	34.0	34.0
Total Split (%)	51.4%	51.4%	7.6%	59.0%	17.4%	17.4%	23.6%	23.6%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)	5.0	5.0	3.0	5.0	5.0	5.0		6.0
Lead/Lag	Lag	Lag	Lead		Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	83.8	83.8	108.9	106.9	18.0	18.0		8.8
Actuated g/C Ratio	0.58	0.58	0.76	0.74	0.12	0.12		0.06
v/c Ratio	0.02	0.82	0.55	0.55	0.70	0.32		0.28
Control Delay	13.3	23.5	22.8	22.3	70.1	14.0		47.2
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0		0.0
Total Delay	13.3	23.5	22.8	22.8	70.1	14.0		47.2
LOS	B	C	C	C	E	B		D
Approach Delay		23.4		22.8		56.7		47.2
Approach LOS		C		C		E		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 17 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 26.8

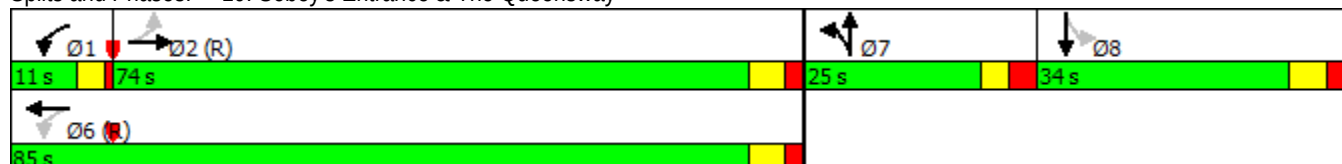
Intersection LOS: C

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 19: Sobeys Entrance & The Queensway



Existing PM Signal Timing Plans
25: The Queensway & Kingsway Link Road

10/06/2017



Lane Group	EBT	WBT	SBR	Ø3
Lane Configurations	↑↑	↑↑	↗	
Traffic Volume (vph)	1203	974	220	
Future Volume (vph)	1203	974	220	
Turn Type	NA	NA	Perm	
Protected Phases	2	6		3
Permitted Phases			2 3	
Detector Phase	2	6	2 3	
Switch Phase				
Minimum Initial (s)	5.0	5.0		7.0
Minimum Split (s)	105.0	105.0		39.0
Total Split (s)	105.0	105.0		39.0
Total Split (%)	72.9%	72.9%		27%
Yellow Time (s)	4.0	4.0		3.0
All-Red Time (s)	3.0	3.0		2.0
Lost Time Adjust (s)	-1.0	-1.0		
Total Lost Time (s)	6.0	6.0		
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max		None
Act Effect Green (s)	109.8	109.8	144.0	
Actuated g/C Ratio	0.76	0.76	1.00	
v/c Ratio	0.48	0.51	0.16	
Control Delay	18.4	2.2	0.2	
Queue Delay	0.0	0.1	0.0	
Total Delay	18.4	2.3	0.2	
LOS	B	A	A	
Approach Delay	18.4	2.3		
Approach LOS	B	A		

Intersection Summary

Cycle Length: 144
 Actuated Cycle Length: 144
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 9.4
 Intersection Capacity Utilization 126.7%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service H

Splits and Phases: 25: The Queensway & Kingsway Link Road

 Ø2 (R) 105 s	 Ø3 39 s
 Ø6 (R) 105 s	

Existing PM Signal Timing Plans
39: Palace Pier & Lake Shore Blvd W

10/06/2017



Lane Group	EBT	EBR	NBL
Lane Configurations	↑	↗	↘
Traffic Volume (vph)	676	154	18
Future Volume (vph)	676	154	18
Turn Type	NA	Perm	Perm
Protected Phases	2		
Permitted Phases		2	4
Detector Phase	2	2	4
Switch Phase			
Minimum Initial (s)	37.0	37.0	7.0
Minimum Split (s)	43.0	43.0	27.0
Total Split (s)	62.0	62.0	28.0
Total Split (%)	68.9%	68.9%	31.1%
Yellow Time (s)	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	4.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Max	C-Max	None
Act Effect Green (s)	70.4	70.4	14.0
Actuated g/C Ratio	0.78	0.78	0.16
v/c Ratio	0.51	0.15	0.20
Control Delay	6.0	2.1	16.4
Queue Delay	0.0	0.0	0.0
Total Delay	6.0	2.1	16.4
LOS	A	A	B
Approach Delay	5.3		16.4
Approach LOS	A		B

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 50 (56%), Referenced to phase 2:EBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 5.9
 Intersection Capacity Utilization 48.9%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 39: Palace Pier & Lake Shore Blvd W



Existing PM Signal Timing Plans
40: Lake Shore Blvd W & TTC Streetcar Underpass

10/06/2017



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	4	832	68	19	6
Future Volume (vph)	4	832	68	19	6
Turn Type	Prot	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases		6		4	
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	26.0	26.0	26.0	29.0	29.0
Total Split (s)	32.0	60.0	28.0	30.0	30.0
Total Split (%)	35.6%	66.7%	31.1%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	4.0	4.0	4.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	7.0	7.0	7.0	4.0	4.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Max	C-Max	None	None
Act Effect Green (s)	8.1	82.0	78.9	8.4	8.4
Actuated g/C Ratio	0.09	0.91	0.88	0.09	0.09
v/c Ratio	0.05	0.57	0.05	0.13	0.02
Control Delay	44.2	3.8	3.0	39.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.2	3.8	3.0	39.3	0.2
LOS	D	A	A	D	A
Approach Delay		4.0	3.0		
Approach LOS		A	A		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 53 (59%), Referenced to phase 2:EBT and 6:EBWB, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 4.6

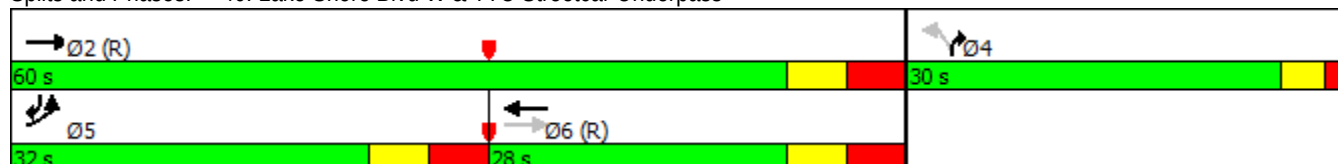
Intersection LOS: A

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 40: Lake Shore Blvd W & TTC Streetcar Underpass



Existing PM Signal Timing Plans
44: Lake Shore Blvd W & Ellis Ave

10/06/2017



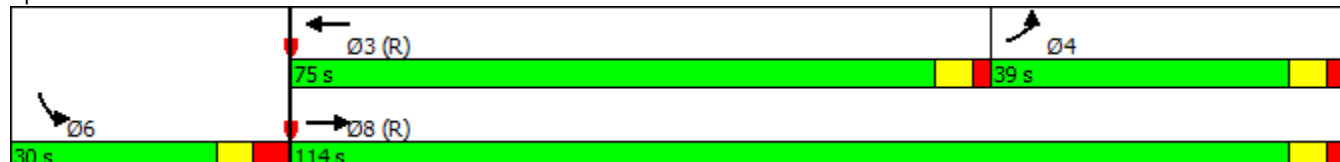
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	213	3681	2413	67
Future Volume (vph)	213	3681	2413	67
Turn Type	Prot	NA	NA	Prot
Protected Phases	4	8	3	6
Permitted Phases				
Detector Phase	4	8	3	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	76.0	75.0	30.0
Total Split (s)	39.0	114.0	75.0	30.0
Total Split (%)	27.1%	79.2%	52.1%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	2.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	5.0	7.0
Lead/Lag	Lag		Lead	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	Max	Max	Max	Max
Act Effect Green (s)	33.0	108.0	70.0	23.0
Actuated g/C Ratio	0.23	0.75	0.49	0.16
v/c Ratio	0.60	0.84	1.00	0.59
Control Delay	57.1	14.2	55.3	21.8
Queue Delay	0.0	1.8	0.0	0.0
Total Delay	57.1	16.0	55.3	21.8
LOS	E	B	E	C
Approach Delay		18.2	55.3	21.8
Approach LOS		B	E	C

Intersection Summary

Cycle Length: 144
 Actuated Cycle Length: 144
 Offset: 30 (21%), Referenced to phase 3:WBT and 8:EBT, Start of Green
 Natural Cycle: 130
 Control Type: Pretimed
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 31.6
 Intersection Capacity Utilization 102.6%
 Analysis Period (min) 15

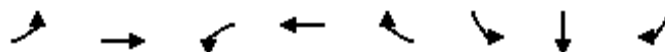
Intersection LOS: C
 ICU Level of Service G

Splits and Phases: 44: Lake Shore Blvd W & Ellis Ave



Existing PM Signal Timing Plans
46: Lake Shore Blvd W & Windermere Ave

10/06/2017



Lane Group	EBL	EBT	WBL	WBT	WBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	261	3739	2	2438	159	155	6	339
Future Volume (vph)	261	3739	2	2438	159	155	6	339
Turn Type	Prot	NA	Prot	NA	custom	Perm	NA	Perm
Protected Phases	5	2	1	6	8		8	
Permitted Phases					6	8		8
Detector Phase	5	2	1	6	8	8	8	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	65.0	12.0	64.0	31.0	31.0	31.0	31.0
Total Split (s)	33.0	83.0	14.0	64.0	31.0	31.0	31.0	31.0
Total Split (%)	25.8%	64.8%	10.9%	50.0%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	4.0	2.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	5.0	7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	27.0	88.3	6.8	59.0	81.0	24.0	24.0	24.0
Actuated g/C Ratio	0.21	0.69	0.05	0.46	0.63	0.19	0.19	0.19
v/c Ratio	0.80	0.92	0.02	0.90	0.18	0.29	0.28	0.67
Control Delay	65.7	22.0	58.0	37.5	1.4	47.9	47.4	11.2
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	65.7	22.0	58.0	37.9	1.4	47.9	47.4	11.2
LOS	E	C	E	D	A	D	D	B
Approach Delay		24.9		35.5			22.9	
Approach LOS		C		D			C	

Intersection Summary

Cycle Length: 128

Actuated Cycle Length: 128

Offset: 63.5 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 28.4

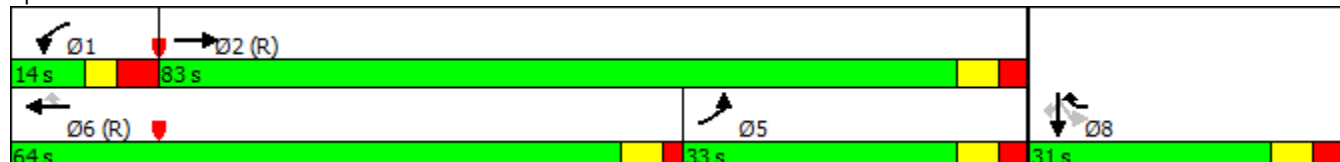
Intersection LOS: C

Intersection Capacity Utilization 97.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 46: Lake Shore Blvd W & Windermere Ave



Existing PM Signal Timing Plans

51: Ellis Ave & The Queensway

10/06/2017



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑↑	↵	↑↑	↵	↑	↵	↑
Traffic Volume (vph)	1005	95	1133	49	133	39	100
Future Volume (vph)	1005	95	1133	49	133	39	100
Turn Type	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	2	1	6		4		8
Permitted Phases				4		8	
Detector Phase	2	1	6	4	4	8	8
Switch Phase							
Minimum Initial (s)	21.0	6.0	21.0	7.0	7.0	7.0	7.0
Minimum Split (s)	27.0	11.0	27.0	40.0	40.0	40.0	40.0
Total Split (s)	79.0	11.0	90.0	54.0	54.0	54.0	54.0
Total Split (%)	54.9%	7.6%	62.5%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	4.0	5.0	7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes					
Recall Mode	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	80.6	21.1	105.7	26.3	26.3	26.3	26.3
Actuated g/C Ratio	0.56	0.15	0.73	0.18	0.18	0.18	0.18
v/c Ratio	0.60	0.44	0.51	0.29	0.75	0.41	0.40
Control Delay	9.2	63.3	9.6	80.8	87.8	61.7	50.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	63.3	9.6	80.8	87.8	61.7	50.7
LOS	A	E	A	F	F	E	D
Approach Delay	9.2		13.4		86.6		53.4
Approach LOS	A		B		F		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 21.3

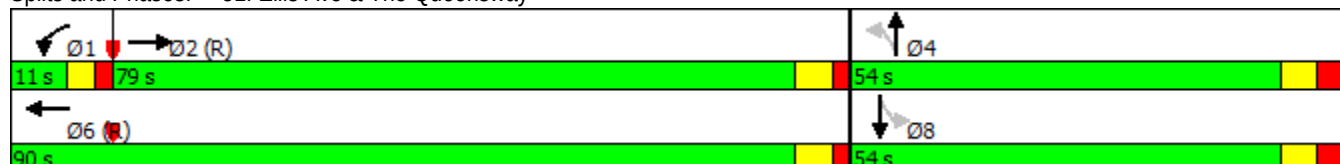
Intersection LOS: C

Intersection Capacity Utilization 77.8%

ICU Level of Service D

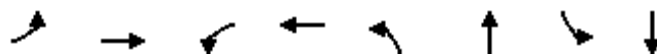
Analysis Period (min) 15

Splits and Phases: 51: Ellis Ave & The Queensway



Existing PM Signal Timing Plans
54: Windermere Ave & The Queensway

10/06/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	90	968	111	1048	129	189	73	263
Future Volume (vph)	90	968	111	1048	129	189	73	263
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	1	6	7	4		8
Permitted Phases					4		8	
Detector Phase	5	2	1	6	7	4	8	8
Switch Phase								
Minimum Initial (s)	6.0	23.0	6.0	23.0	6.0	38.0	38.0	38.0
Minimum Split (s)	12.0	69.0	12.0	69.0	10.0	49.0	49.0	49.0
Total Split (s)	13.0	69.0	13.0	69.0	13.0	62.0	49.0	49.0
Total Split (%)	9.0%	47.9%	9.0%	47.9%	9.0%	43.1%	34.0%	34.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	2.0	3.0	2.0	1.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	3.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	Max
Act Effect Green (s)	8.0	64.0	9.0	64.0	59.0	55.0	42.0	42.0
Actuated g/C Ratio	0.06	0.44	0.06	0.44	0.41	0.38	0.29	0.29
v/c Ratio	1.00	0.79	1.00	0.78	0.50	0.33	0.26	0.68
Control Delay	161.4	28.0	160.4	31.1	34.2	32.4	42.1	51.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	161.4	28.0	160.4	31.1	34.2	32.4	42.1	51.7
LOS	F	C	F	C	C	C	D	D
Approach Delay		37.5		42.2		33.1		49.9
Approach LOS		D		D		C		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 40.4

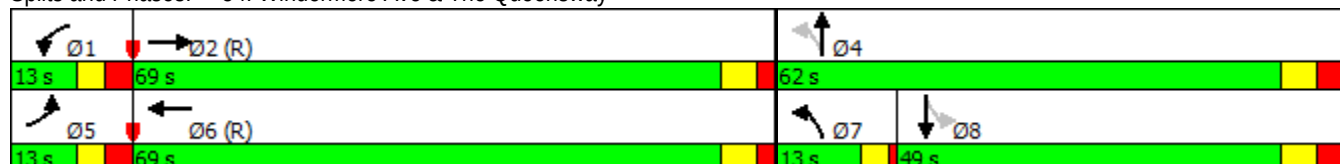
Intersection LOS: D

Intersection Capacity Utilization 143.3%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 54: Windermere Ave & The Queensway



Optimized AM Signal Timing Plans

2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑		↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	245	787	14	342	370	32	143	23	671	135	193
Future Volume (vph)	245	787	14	342	370	32	143	23	671	135	193
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2		6			8			3	5
Permitted Phases	2		6		6	8		8	3		3
Detector Phase	5	2	6	6	6	8	8	8	3	3	5
Switch Phase											
Minimum Initial (s)	6.0	30.0	30.0	30.0	30.0	7.0	7.0	7.0	35.0	35.0	6.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0	34.0	34.0	34.0	42.0	42.0	10.0
Total Split (s)	14.0	72.0	58.0	58.0	58.0	68.0	68.0	68.0	68.0	68.0	14.0
Total Split (%)	10.0%	51.4%	41.4%	41.4%	41.4%	48.6%	48.6%	48.6%	48.6%	48.6%	10.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	3.0
Lead/Lag	Lead		Lag	Lag	Lag						Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes						Yes
Recall Mode	Max	C-Max	C-Max	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)		66.0		52.0	52.0		62.0	62.0	62.0	62.0	76.0
Actuated g/C Ratio		0.47		0.37	0.37		0.44	0.44	0.44	0.44	0.54
v/c Ratio		0.67		0.37	0.55		0.16	0.05	0.78	0.22	0.28
Control Delay		29.6		33.3	5.8		23.8	0.2	34.1	21.3	10.5
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		29.6		33.3	5.8		23.8	0.2	34.1	21.3	10.5
LOS		C		C	A		C	A	C	C	B
Approach Delay		29.6		19.3			21.1			27.8	
Approach LOS		C		B			C			C	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 25.9

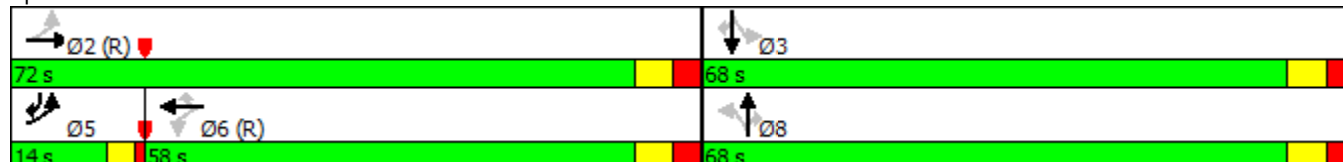
Intersection LOS: C

Intersection Capacity Utilization 121.7%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W



Optimized AM Signal Timing Plans

6: Park Lawn Road & Gardiner Ramp N

10/05/2017

	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	7	124	32	656	982	239	532
Future Volume (vph)	7	124	32	656	982	239	532
Turn Type	Perm	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	6.0	22.0	22.0	22.0
Minimum Split (s)	33.0	33.0	33.0	10.5	41.0	41.0	41.0
Total Split (s)	33.0	33.0	33.0	14.0	55.0	41.0	41.0
Total Split (%)	37.5%	37.5%	37.5%	15.9%	62.5%	46.6%	46.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	3.0	6.0	6.0	6.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	17.2	17.2	17.2	62.8	59.8	35.0	35.0
Actuated g/C Ratio	0.20	0.20	0.20	0.71	0.68	0.40	0.40
v/c Ratio	0.03	0.58	0.10	0.85	0.48	0.19	0.69
Control Delay	24.3	40.3	0.6	22.9	6.7	17.8	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	40.3	0.6	22.9	6.7	17.8	8.7
LOS	C	D	A	C	A	B	A
Approach Delay		31.8			13.2	11.5	
Approach LOS		C			B	B	

Intersection Summary

Cycle Length: 88

Actuated Cycle Length: 88

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 13.9

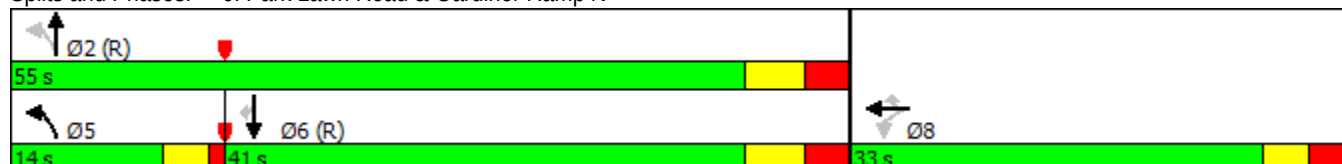
Intersection LOS: B

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Park Lawn Road & Gardiner Ramp N



Optimized AM Signal Timing Plans

7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↔↔		↔↔	↔	↔		↔	↔
Traffic Volume (vph)	366	1077	2	90	200	34	37	16	436
Future Volume (vph)	366	1077	2	90	200	34	37	16	436
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6		8		4	
Permitted Phases	2		6		8		4		4
Detector Phase	5	2	6	6	8	8	4	4	4
Switch Phase									
Minimum Initial (s)	6.0	24.0	24.0	24.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	19.0	67.0	31.0	31.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	19.0	71.0	52.0	52.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	19.0%	71.0%	52.0%	52.0%	29.0%	29.0%	29.0%	29.0%	29.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		-1.0		-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)		6.0		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None	None	None
Act Effect Green (s)		67.1		67.1	20.9	20.9		20.9	20.9
Actuated g/C Ratio		0.67		0.67	0.21	0.21		0.21	0.21
v/c Ratio		0.86		0.06	0.82	0.27		0.21	0.70
Control Delay		19.6		5.1	61.7	14.6		33.7	9.5
Queue Delay		0.0		0.0	0.0	0.0		0.0	0.0
Total Delay		19.6		5.1	61.7	14.6		33.7	9.5
LOS		B		A	E	B		C	A
Approach Delay		19.6		5.1		45.8		12.1	
Approach LOS		B		A		D		B	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 11 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 20.6

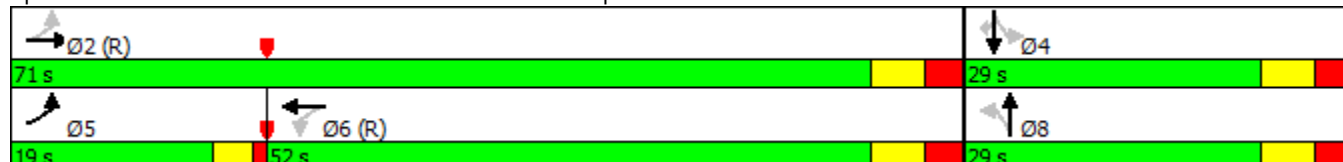
Intersection LOS: C

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W



Optimized AM Signal Timing Plans

9: Park Lawn Road & Metro Entrance

10/05/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	Ø8
Lane Configurations						
Traffic Volume (vph)	173	46	4	754	953	
Future Volume (vph)	173	46	4	754	953	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	8
Permitted Phases	4	4	2			
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	43.0	43.0	43.0	27.0
Total Split (%)	38.6%	38.6%	61.4%	61.4%	61.4%	39%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	None
Act Effect Green (s)	16.1	16.1	46.9	46.9	46.9	
Actuated g/C Ratio	0.23	0.23	0.67	0.67	0.67	
v/c Ratio	0.62	0.13	0.02	0.36	0.48	
Control Delay	32.3	6.8	4.0	4.2	7.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.3	6.8	4.0	4.2	7.2	
LOS	C	A	A	A	A	
Approach Delay				4.2	7.2	
Approach LOS				A	A	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 8.2

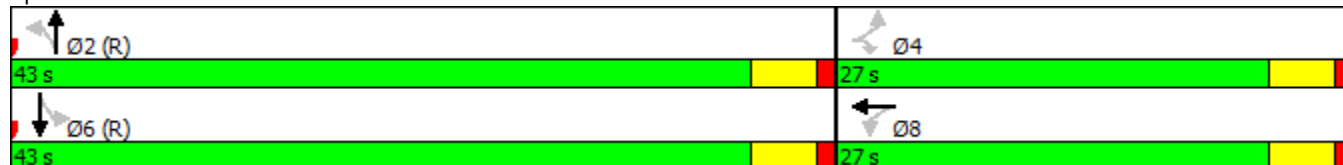
Intersection LOS: A

Intersection Capacity Utilization 44.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: Park Lawn Road & Metro Entrance



Optimized AM Signal Timing Plans

11: Park Lawn Road & Gardiner Ramp S

10/05/2017



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	657	743	33	981	226
Future Volume (vph)	657	743	33	981	226
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0
Minimum Split (s)	40.0	40.0	48.0	48.0	48.0
Total Split (s)	40.0	40.0	48.0	48.0	48.0
Total Split (%)	45.5%	45.5%	54.5%	54.5%	54.5%
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	32.7	32.7	45.3	45.3	45.3
Actuated g/C Ratio	0.37	0.37	0.51	0.51	0.51
v/c Ratio	0.64	0.94	0.07	0.60	0.16
Control Delay	25.1	30.7	12.9	17.7	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	30.7	12.9	17.7	4.0
LOS	C	C	B	B	A
Approach Delay	28.1			17.6	4.0
Approach LOS	C			B	A

Intersection Summary

Cycle Length: 88

Actuated Cycle Length: 88

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 21.8

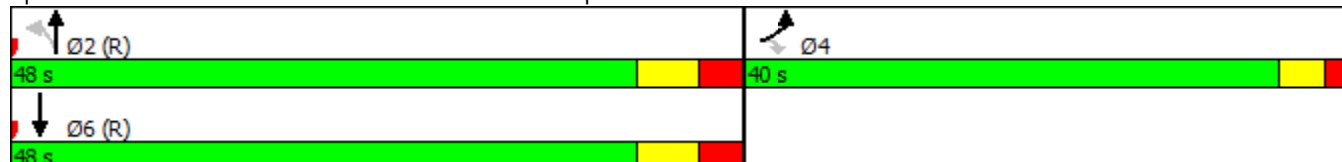
Intersection LOS: C

Intersection Capacity Utilization 91.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 11: Park Lawn Road & Gardiner Ramp S



Optimized AM Signal Timing Plans

13: Park Lawn Road & The Queensway

10/05/2017

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	123	1160	277	646	59	139	278	570	77	358
Future Volume (vph)	123	1160	277	646	59	139	278	570	77	358
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4	3	8		5	2			6
Permitted Phases	4		8		8	2		2	6	
Detector Phase	7	4	3	8	8	5	2	2	6	6
Switch Phase										
Minimum Initial (s)	6.0	20.0	6.0	20.0	20.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	56.0	10.0	56.0	56.0	10.0	34.0	34.0	34.0	34.0
Total Split (s)	11.0	66.0	25.0	80.0	80.0	13.0	53.0	53.0	40.0	40.0
Total Split (%)	7.6%	45.8%	17.4%	55.6%	55.6%	9.0%	36.8%	36.8%	27.8%	27.8%
Yellow Time (s)	2.0	4.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	71.5	60.5	88.0	74.0	74.0	50.0	47.0	47.0	34.0	34.0
Actuated g/C Ratio	0.50	0.42	0.61	0.51	0.51	0.35	0.33	0.33	0.24	0.24
v/c Ratio	0.35	0.98	0.93	0.39	0.08	0.67	0.53	0.94	0.36	0.67
Control Delay	15.8	60.9	98.5	14.7	0.5	50.2	43.5	50.5	51.3	49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	60.9	98.5	14.7	0.5	50.2	43.5	50.5	51.3	49.3
LOS	B	E	F	B	A	D	D	D	D	D
Approach Delay		57.0		36.1			48.5			49.6
Approach LOS		E		D			D			D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 48.7

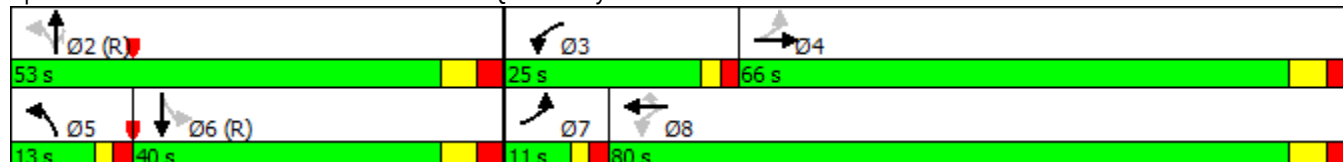
Intersection LOS: D

Intersection Capacity Utilization 110.7%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 13: Park Lawn Road & The Queensway



Optimized AM Signal Timing Plans

15: The Queensway & Stephen Dr

10/05/2017



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Traffic Volume (vph)	6	1804	944	45	265
Future Volume (vph)	6	1804	944	45	265
Turn Type	Perm	NA	NA	Perm	Prot
Protected Phases		4	8		6
Permitted Phases	4			8	
Detector Phase	4	4	8	8	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	104.0	104.0	104.0	104.0	38.0
Total Split (s)	106.0	106.0	106.0	106.0	38.0
Total Split (%)	73.6%	73.6%	73.6%	73.6%	26.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	C-Max	Max
Act Effect Green (s)	101.0	101.0	101.0	101.0	33.0
Actuated g/C Ratio	0.70	0.70	0.70	0.70	0.23
v/c Ratio	0.03	0.82	0.42	0.06	0.44
Control Delay	12.2	27.9	9.8	2.3	48.9
Queue Delay	0.0	0.0	0.6	0.0	0.0
Total Delay	12.2	27.9	10.4	2.3	48.9
LOS	B	C	B	A	D
Approach Delay		27.8	10.0		48.9
Approach LOS		C	B		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 21 (15%), Referenced to phase 4:EBTL and 8:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 24.1

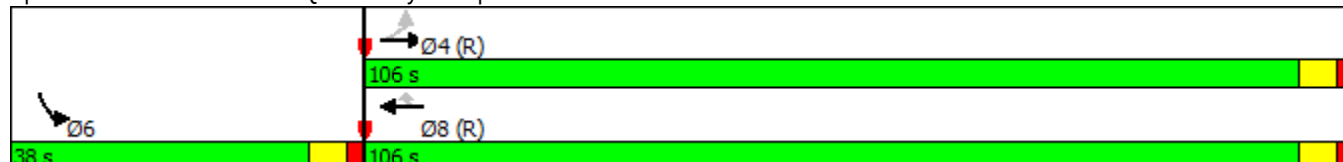
Intersection LOS: C

Intersection Capacity Utilization 116.7%

ICU Level of Service H

Analysis Period (min) 15

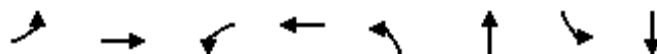
Splits and Phases: 15: The Queensway & Stephen Dr



Optimized AM Signal Timing Plans

19: Sobey's Entrance & The Queensway

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	14	1863	34	940	53	4	3	3
Future Volume (vph)	14	1863	34	940	53	4	3	3
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		3		8
Permitted Phases	2		6		3		8	
Detector Phase	2	2	1	6	3	3	8	8
Switch Phase								
Minimum Initial (s)	24.0	24.0	6.0	24.0	7.0	7.0	7.0	7.0
Minimum Split (s)	30.0	30.0	10.0	30.0	24.0	24.0	33.0	33.0
Total Split (s)	76.0	76.0	10.0	86.0	33.0	33.0	33.0	33.0
Total Split (%)	63.9%	63.9%	8.4%	72.3%	27.7%	27.7%	27.7%	27.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)	5.0	5.0	3.0	5.0	5.0	5.0		6.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	96.8	96.8	104.0	103.0	9.6	9.6		8.8
Actuated g/C Ratio	0.81	0.81	0.87	0.87	0.08	0.08		0.07
v/c Ratio	0.04	0.79	0.23	0.35	0.29	0.17		0.12
Control Delay	4.4	11.4	4.9	2.5	54.9	24.9		34.6
Queue Delay	0.0	1.9	0.0	0.0	0.0	0.0		0.0
Total Delay	4.4	13.3	4.9	2.5	54.9	24.9		34.6
LOS	A	B	A	A	D	C		C
Approach Delay		13.2		2.6		45.8		34.6
Approach LOS		B		A		D		C

Intersection Summary

Cycle Length: 119

Actuated Cycle Length: 119

Offset: 17 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 10.7

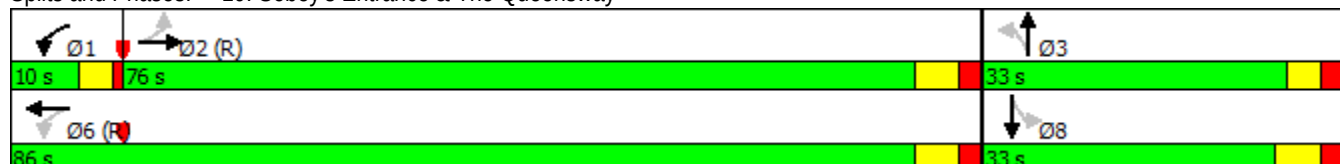
Intersection LOS: B

Intersection Capacity Utilization 70.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 19: Sobey's Entrance & The Queensway



Optimized AM Signal Timing Plans

25: The Queensway & Kingsway Link Road

10/05/2017



Lane Group	EBT	WBT	SBR	Ø3
Lane Configurations	↑↑	↑↑	↑	
Traffic Volume (vph)	1484	584	190	
Future Volume (vph)	1484	584	190	
Turn Type	NA	NA	Perm	
Protected Phases	2	6		3
Permitted Phases			2 3	
Detector Phase	2	6	2 3	
Switch Phase				
Minimum Initial (s)	5.0	5.0		7.0
Minimum Split (s)	105.0	105.0		39.0
Total Split (s)	105.0	105.0		39.0
Total Split (%)	72.9%	72.9%		27%
Yellow Time (s)	4.0	4.0		3.0
All-Red Time (s)	3.0	3.0		2.0
Lost Time Adjust (s)	-1.0	-1.0		
Total Lost Time (s)	6.0	6.0		
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max		None
Act Effect Green (s)	109.8	109.8	144.0	
Actuated g/C Ratio	0.76	0.76	1.00	
v/c Ratio	0.59	0.43	0.14	
Control Delay	10.5	3.6	0.2	
Queue Delay	0.0	0.0	0.0	
Total Delay	10.5	3.6	0.2	
LOS	B	A	A	
Approach Delay	10.5	3.6		
Approach LOS	B	A		

Intersection Summary

Cycle Length: 144
 Actuated Cycle Length: 144
 Offset: 127 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 7.2
 Intersection Capacity Utilization 121.6%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service H

Splits and Phases: 25: The Queensway & Kingsway Link Road

→ Ø2 (R)	Ø3
105 s	39 s
← Ø6 (R)	
105 s	

Optimized AM Signal Timing Plans

39: Palace Pier & Lake Shore Blvd W

10/05/2017



Lane Group	EBT	EBR	NBL
Lane Configurations	↑	↗	↘
Traffic Volume (vph)	1193	69	57
Future Volume (vph)	1193	69	57
Turn Type	NA	Perm	Perm
Protected Phases	2		
Permitted Phases		2	4
Detector Phase	2	2	4
Switch Phase			
Minimum Initial (s)	37.0	37.0	7.0
Minimum Split (s)	43.0	43.0	27.0
Total Split (s)	67.0	67.0	28.0
Total Split (%)	70.5%	70.5%	29.5%
Yellow Time (s)	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	4.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Max	C-Max	None
Act Effect Green (s)	73.0	73.0	13.0
Actuated g/C Ratio	0.77	0.77	0.14
v/c Ratio	0.92	0.08	0.55
Control Delay	22.3	4.2	27.1
Queue Delay	0.0	0.0	0.0
Total Delay	22.3	4.2	27.1
LOS	C	A	C
Approach Delay	21.3		27.1
Approach LOS	C		C

Intersection Summary

Cycle Length: 95
 Actuated Cycle Length: 95
 Offset: 26 (27%), Referenced to phase 2:EBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 21.8
 Intersection Capacity Utilization 78.2%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 39: Palace Pier & Lake Shore Blvd W



Optimized AM Signal Timing Plans

40: Lake Shore Blvd W & TTC Streetcar Underpass

10/05/2017



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	7	1170	89	24	4
Future Volume (vph)	7	1170	89	24	4
Turn Type	Prot	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases		6		4	
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	26.0	26.0	29.0	29.0
Total Split (s)	32.0	65.0	33.0	30.0	30.0
Total Split (%)	33.7%	68.4%	34.7%	31.6%	31.6%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	4.0	4.0	4.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	7.0	7.0	7.0	4.0	4.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Max	C-Max	None	None
Act Effect Green (s)	8.4	83.0	79.7	8.6	8.6
Actuated g/C Ratio	0.09	0.87	0.84	0.09	0.09
v/c Ratio	0.11	0.80	0.06	0.17	0.01
Control Delay	43.0	11.2	5.1	42.3	0.0
Queue Delay	0.0	0.7	0.0	0.0	0.0
Total Delay	43.0	11.9	5.1	42.3	0.0
LOS	D	B	A	D	A
Approach Delay		12.1	5.1		
Approach LOS		B	A		

Intersection Summary

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 0 (0%), Referenced to phase 2:EBT and 6:EBWB, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 40: Lake Shore Blvd W & TTC Streetcar Underpass



Optimized AM Signal Timing Plans

44: Lake Shore Blvd W & Ellis Ave

10/05/2017



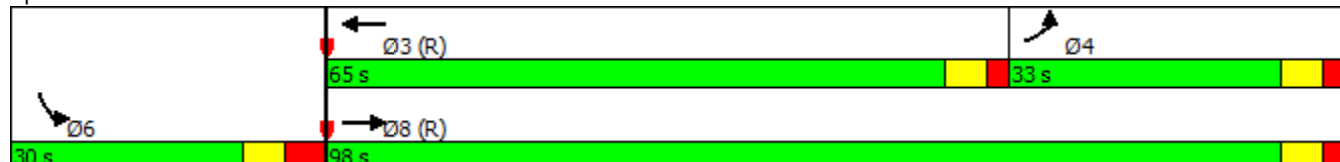
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	197	3716	1640	125
Future Volume (vph)	197	3716	1640	125
Turn Type	Prot	NA	NA	Prot
Protected Phases	4	8	3	6
Permitted Phases				
Detector Phase	4	8	3	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	66.0	65.0	30.0
Total Split (s)	33.0	98.0	65.0	30.0
Total Split (%)	25.8%	76.6%	50.8%	23.4%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	2.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	5.0	7.0
Lead/Lag	Lag		Lead	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	Max	Max	Max	Max
Act Effect Green (s)	27.0	92.0	60.0	23.0
Actuated g/C Ratio	0.21	0.72	0.47	0.18
v/c Ratio	0.61	0.91	0.79	0.64
Control Delay	54.1	18.5	31.7	22.2
Queue Delay	0.0	2.7	0.0	0.0
Total Delay	54.1	21.2	31.7	22.2
LOS	D	C	C	C
Approach Delay		22.9	31.7	22.3
Approach LOS		C	C	C

Intersection Summary

Cycle Length: 128
 Actuated Cycle Length: 128
 Offset: 0 (0%), Referenced to phase 3:WBT and 8:EBT, Start of Green
 Natural Cycle: 120
 Control Type: Pretimed
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 25.3
 Intersection Capacity Utilization 93.4%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service F

Splits and Phases: 44: Lake Shore Blvd W & Ellis Ave



Optimized AM Signal Timing Plans

46: Lake Shore Blvd W & Windermere Ave

10/05/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBT	SBR	Ø1
Lane Configurations	↰	↑↑↑	↑↑↑	↰	↰	↰	↰	
Traffic Volume (vph)	206	3667	1766	101	246	3	397	
Future Volume (vph)	206	3667	1766	101	246	3	397	
Turn Type	Prot	NA	NA	custom	Perm	NA	Perm	
Protected Phases	5	2	6	8		8		1
Permitted Phases				6	8		8	
Detector Phase	5	2	6	8	8	8	8	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	64.0	63.0	34.0	34.0	34.0	34.0	12.0
Total Split (s)	32.0	84.0	64.0	34.0	34.0	34.0	34.0	12.0
Total Split (%)	24.6%	64.6%	49.2%	26.2%	26.2%	26.2%	26.2%	9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	3.0	3.0	2.0	4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	5.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lag	Lead					Lead
Lead-Lag Optimize?	Yes	Yes	Yes					Yes
Recall Mode	None	C-Max	C-Max	Max	Max	Max	Max	None
Act Effect Green (s)	26.0	90.0	59.0	84.0	27.0	27.0	27.0	
Actuated g/C Ratio	0.20	0.69	0.45	0.65	0.21	0.21	0.21	
v/c Ratio	0.68	0.94	0.84	0.11	0.41	0.38	0.76	
Control Delay	59.7	23.3	35.7	1.4	49.1	48.1	18.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.7	23.3	35.7	1.4	49.1	48.1	18.9	
LOS	E	C	D	A	D	D	B	
Approach Delay		25.2	33.8			30.3		
Approach LOS		C	C			C		

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 28.2

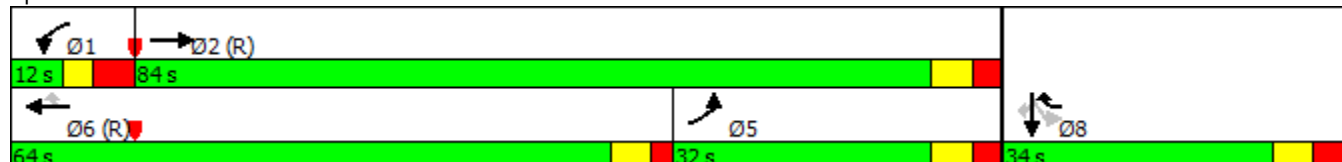
Intersection LOS: C

Intersection Capacity Utilization 95.6%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 46: Lake Shore Blvd W & Windermere Ave



Optimized AM Signal Timing Plans

51: Ellis Ave & The Queensway

10/05/2017



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑↑	↵	↑↑	↵	↑	↵	↑
Traffic Volume (vph)	1513	79	754	34	77	149	239
Future Volume (vph)	1513	79	754	34	77	149	239
Turn Type	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	2	1	6		4		8
Permitted Phases				4		8	
Detector Phase	2	1	6	4	4	8	8
Switch Phase							
Minimum Initial (s)	21.0	3.0	21.0	7.0	7.0	7.0	7.0
Minimum Split (s)	27.0	8.0	27.0	34.0	34.0	34.0	34.0
Total Split (s)	85.0	14.0	99.0	45.0	45.0	45.0	45.0
Total Split (%)	59.0%	9.7%	68.8%	31.3%	31.3%	31.3%	31.3%
Yellow Time (s)	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	4.0	5.0	7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes					
Recall Mode	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	84.2	10.7	98.9	33.1	33.1	33.1	33.1
Actuated g/C Ratio	0.58	0.07	0.69	0.23	0.23	0.23	0.23
v/c Ratio	0.84	0.70	0.38	0.33	0.58	0.95	0.71
Control Delay	10.2	93.0	10.6	52.4	40.6	111.6	59.3
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	93.0	10.6	52.4	40.6	111.6	59.3
LOS	B	F	B	D	D	F	E
Approach Delay	10.3		18.0		42.2		77.5
Approach LOS	B		B		D		E

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 24.3

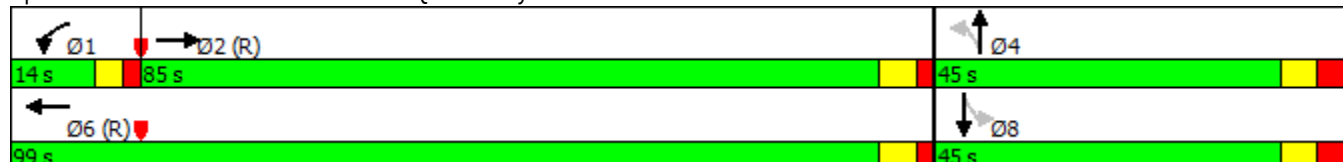
Intersection LOS: C

Intersection Capacity Utilization 92.6%

ICU Level of Service F

Analysis Period (min) 15

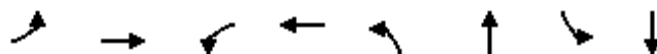
Splits and Phases: 51: Ellis Ave & The Queensway



Optimized AM Signal Timing Plans

54: Windermere Ave & The Queensway

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	81	1319	64	742	159	133	119	313
Future Volume (vph)	81	1319	64	742	159	133	119	313
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	1	6	7	4		8
Permitted Phases					4		8	
Detector Phase	5	2	1	6	7	4	8	8
Switch Phase								
Minimum Initial (s)	2.0	23.0	2.0	23.0	4.0	36.0	36.0	36.0
Minimum Split (s)	8.0	59.0	8.0	59.0	8.0	44.0	44.0	44.0
Total Split (s)	17.0	69.0	13.0	65.0	13.0	62.0	49.0	49.0
Total Split (%)	11.8%	47.9%	9.0%	45.1%	9.0%	43.1%	34.0%	34.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	2.0	3.0	2.0	1.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	Max
Act Effect Green (s)	11.4	64.0	8.0	60.6	59.0	55.0	42.0	42.0
Actuated g/C Ratio	0.08	0.44	0.06	0.42	0.41	0.38	0.29	0.29
v/c Ratio	0.68	0.96	0.79	0.58	0.69	0.41	0.45	0.73
Control Delay	103.7	43.2	129.4	25.8	44.3	30.5	47.9	54.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.7	43.2	129.4	25.8	44.3	30.5	47.9	54.9
LOS	F	D	F	C	D	C	D	D
Approach Delay		46.7		33.8		36.0		53.1
Approach LOS		D		C		D		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 42.9

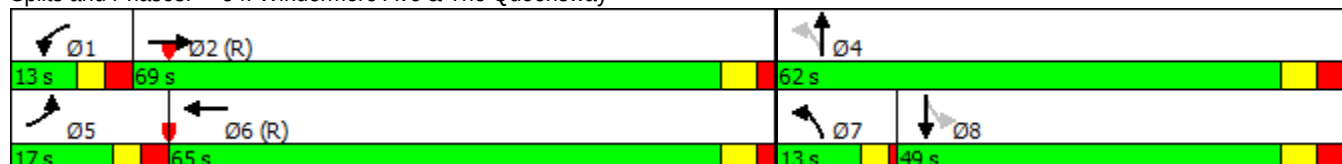
Intersection LOS: D

Intersection Capacity Utilization 128.7%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 54: Windermere Ave & The Queensway



Optimized PM Signal Timing Plans

2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

10/05/2017

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 			 		  	 	
Traffic Volume (vph)	219	476	8	728	403	31	118	24	520	115	325
Future Volume (vph)	219	476	8	728	403	31	118	24	520	115	325
Turn Type	pm+pt	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		6			8			3	
Permitted Phases	2		6		6	8		8	3		3
Detector Phase	5	2	6	6	6	8	8	8	3	3	3
Switch Phase											
Minimum Initial (s)	6.0	30.0	30.0	30.0	30.0	7.0	7.0	7.0	35.0	35.0	35.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0	34.0	34.0	34.0	42.0	42.0	42.0
Total Split (s)	17.0	63.0	46.0	46.0	46.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	16.2%	60.0%	43.8%	43.8%	43.8%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes						
Recall Mode	Max	C-Max	C-Max	C-Max	C-Max	None	None	None	Max	Max	Max
Act Effect Green (s)		57.0		40.0	40.0		36.0	36.0	36.0	36.0	36.0
Actuated g/C Ratio		0.54		0.38	0.38		0.34	0.34	0.34	0.34	0.34
v/c Ratio		0.44		0.67	0.54		0.17	0.06	0.76	0.20	0.55
Control Delay		13.8		30.4	5.0		24.7	0.2	38.4	25.5	8.5
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		13.8		30.4	5.0		24.7	0.2	38.4	25.5	8.5
LOS		B		C	A		C	A	D	C	A
Approach Delay		13.8		21.4			21.3			26.7	
Approach LOS		B		C			C			C	

Intersection Summary

Cycle Length: 105

Actuated Cycle Length: 105

Offset: 1 (1%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 21.2

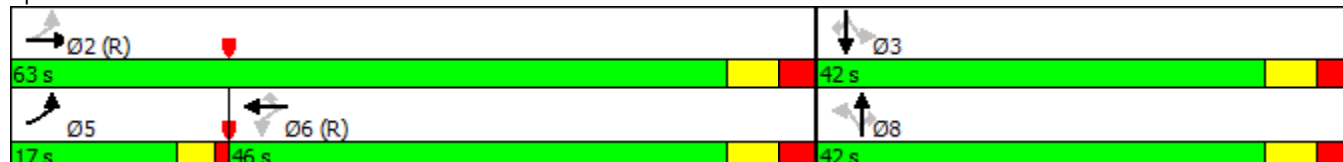
Intersection LOS: C

Intersection Capacity Utilization 94.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W



Optimized PM Signal Timing Plans

6: Park Lawn Road & Gardiner Ramp N

10/05/2017

	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	2	15	6	351	902	460	351
Future Volume (vph)	2	15	6	351	902	460	351
Turn Type	Perm	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8	2			6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	6.0	22.0	22.0	22.0
Minimum Split (s)	33.0	33.0	33.0	10.0	42.0	42.0	42.0
Total Split (s)	33.0	33.0	33.0	13.0	55.0	42.0	42.0
Total Split (%)	37.5%	37.5%	37.5%	14.8%	62.5%	47.7%	47.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	3.0	6.0	6.0	6.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	12.0	12.0	12.0	73.2	72.6	57.4	57.4
Actuated g/C Ratio	0.14	0.14	0.14	0.83	0.82	0.65	0.65
v/c Ratio	0.01	0.07	0.02	0.53	0.34	0.22	0.37
Control Delay	27.0	29.5	0.2	8.2	3.2	9.3	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	29.5	0.2	8.2	3.2	9.3	2.8
LOS	C	C	A	A	A	A	A
Approach Delay		21.1			4.6	6.5	
Approach LOS		C			A	A	

Intersection Summary

Cycle Length: 88

Actuated Cycle Length: 88

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 5.5

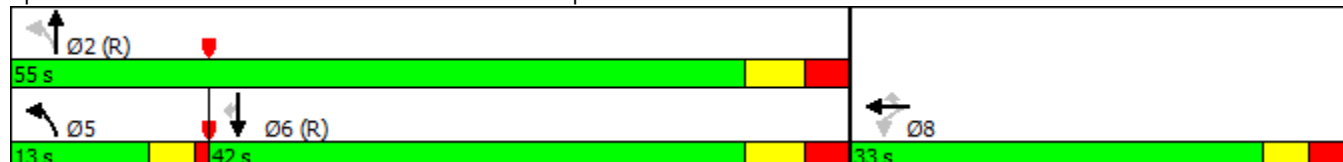
Intersection LOS: A

Intersection Capacity Utilization 69.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Park Lawn Road & Gardiner Ramp N



Optimized PM Signal Timing Plans

7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↔↔		↔↔	↔	↔		↔	↔
Traffic Volume (vph)	107	752	5	77	92	14	96	71	970
Future Volume (vph)	107	752	5	77	92	14	96	71	970
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Free
Protected Phases		2		6		8		4	
Permitted Phases	2		6		8		4		Free
Detector Phase	2	2	6	6	8	8	4	4	
Switch Phase									
Minimum Initial (s)	24.0	24.0	24.0	24.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	28.0	28.0	28.0	28.0	
Total Split (s)	58.0	58.0	58.0	58.0	32.0	32.0	32.0	32.0	
Total Split (%)	64.4%	64.4%	64.4%	64.4%	35.6%	35.6%	35.6%	35.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0	-1.0		-1.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0		6.0	
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None	
Act Effect Green (s)		60.7		60.7	17.3	17.3		17.3	90.0
Actuated g/C Ratio		0.67		0.67	0.19	0.19		0.19	1.00
v/c Ratio		0.55		0.05	0.52	0.12		0.64	0.67
Control Delay		9.3		4.8	41.2	14.9		43.3	2.4
Queue Delay		0.0		0.0	0.0	0.0		0.0	0.0
Total Delay		9.3		4.8	41.2	14.9		43.3	2.4
LOS		A		A	D	B		D	A
Approach Delay		9.3		4.8		33.3		8.4	
Approach LOS		A		A		C		A	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 11 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 10.0

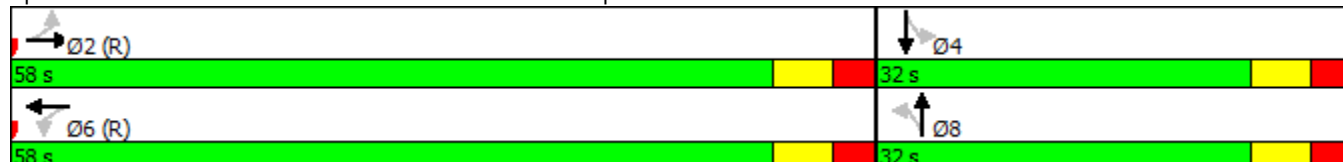
Intersection LOS: B

Intersection Capacity Utilization 58.8%

ICU Level of Service B

Analysis Period (min) 15

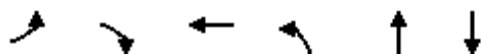
Splits and Phases: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W



Optimized PM Signal Timing Plans

9: Park Lawn Road & Metro Entrance

10/05/2017



Lane Group	EBL	EBR	WBT	NBL	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	101	31	0	15	725	928
Future Volume (vph)	101	31	0	15	725	928
Turn Type	Perm	Perm	NA	Perm	NA	NA
Protected Phases			8		2	6
Permitted Phases	4	4		2		
Detector Phase	4	4	8	2	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.0	25.0	25.0	45.0	45.0	45.0
Total Split (%)	35.7%	35.7%	35.7%	64.3%	64.3%	64.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	12.0	12.0	11.9	53.8	53.8	53.8
Actuated g/C Ratio	0.17	0.17	0.17	0.77	0.77	0.77
v/c Ratio	0.48	0.12	0.00	0.06	0.29	0.46
Control Delay	32.1	9.4	21.0	4.4	3.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	9.4	21.0	4.4	3.9	4.7
LOS	C	A	C	A	A	A
Approach Delay			21.0		3.9	4.7
Approach LOS			C		A	A

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 5.8

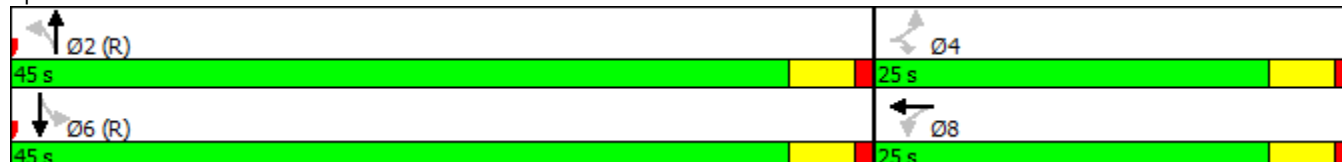
Intersection LOS: A

Intersection Capacity Utilization 50.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: Park Lawn Road & Metro Entrance



Optimized PM Signal Timing Plans

11: Park Lawn Road & Gardiner Ramp S

10/05/2017



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	540	776	106	714	417
Future Volume (vph)	540	776	106	714	417
Turn Type	Prot	Perm	Perm	NA	NA
Protected Phases	4			2	6
Permitted Phases		4	2		
Detector Phase	4	4	2	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0
Minimum Split (s)	40.0	40.0	44.0	44.0	44.0
Total Split (s)	44.0	44.0	44.0	44.0	44.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44
v/c Ratio	0.41	0.96	0.34	0.51	0.33
Control Delay	17.5	42.3	20.4	19.4	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	42.3	20.4	19.4	9.6
LOS	B	D	C	B	A
Approach Delay	31.6			19.5	9.6
Approach LOS	C			B	A

Intersection Summary

Cycle Length: 88

Actuated Cycle Length: 88

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 23.7

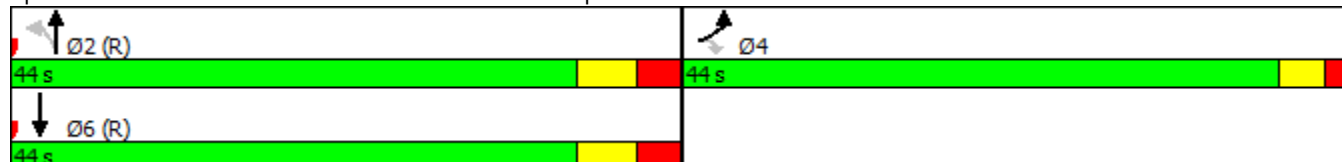
Intersection LOS: C

Intersection Capacity Utilization 88.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 11: Park Lawn Road & Gardiner Ramp S



Optimized PM Signal Timing Plans

13: Park Lawn Road & The Queensway

10/05/2017

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	184	948	383	959	64	112	330	478	48	240
Future Volume (vph)	184	948	383	959	64	112	330	478	48	240
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA
Protected Phases	7	4	3	8		5	2			6
Permitted Phases	4		8		8	2		2	6	
Detector Phase	7	4	3	8	8	5	2	2	6	6
Switch Phase										
Minimum Initial (s)	6.0	20.0	6.0	20.0	20.0	6.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	50.0	10.0	50.0	50.0	10.0	31.0	31.0	31.0	31.0
Total Split (s)	18.0	52.0	32.0	61.0	61.0	10.0	41.0	41.0	31.0	31.0
Total Split (%)	14.4%	41.6%	25.6%	48.8%	48.8%	8.0%	32.8%	32.8%	24.8%	24.8%
Yellow Time (s)	2.0	4.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead			Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	61.5	46.2	80.7	62.4	62.4	38.3	35.3	35.3	25.0	25.0
Actuated g/C Ratio	0.49	0.37	0.65	0.50	0.50	0.31	0.28	0.28	0.20	0.20
v/c Ratio	0.60	0.96	0.96	0.59	0.09	0.51	0.70	0.77	0.36	0.57
Control Delay	19.6	54.7	69.6	24.2	1.4	41.5	48.6	18.6	51.5	40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	54.7	69.6	24.2	1.4	41.5	48.6	18.6	51.5	40.4
LOS	B	D	E	C	A	D	D	B	D	D
Approach Delay		49.8		35.5			32.1			41.6
Approach LOS		D		D			C			D

Intersection Summary

Cycle Length: 125

Actuated Cycle Length: 125

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 40.0

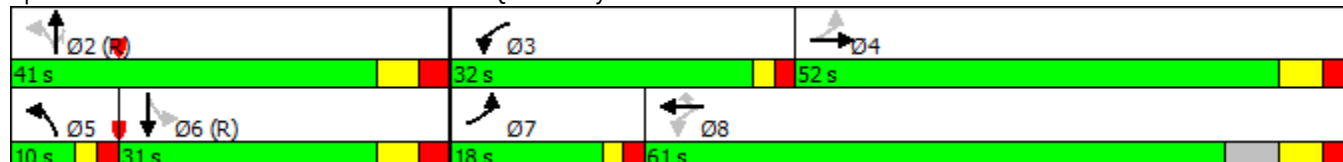
Intersection LOS: D

Intersection Capacity Utilization 109.8%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 13: Park Lawn Road & The Queensway



Optimized PM Signal Timing Plans

15: The Queensway & Stephen Dr

10/05/2017



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations	↰	↱↱	↰↰	↱	↰↰↰
Traffic Volume (vph)	30	1417	1411	130	114
Future Volume (vph)	30	1417	1411	130	114
Turn Type	Perm	NA	NA	Perm	Prot
Protected Phases		4	8		6
Permitted Phases	4			8	
Detector Phase	4	4	8	8	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	104.0	104.0	104.0	104.0	35.0
Total Split (s)	109.0	109.0	109.0	109.0	35.0
Total Split (%)	75.7%	75.7%	75.7%	75.7%	24.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	C-Max	None
Act Effect Green (s)	111.9	111.9	111.9	111.9	22.1
Actuated g/C Ratio	0.78	0.78	0.78	0.78	0.15
v/c Ratio	0.18	0.56	0.56	0.13	0.34
Control Delay	8.9	8.5	8.4	2.6	44.8
Queue Delay	0.0	0.0	0.8	0.0	0.0
Total Delay	8.9	8.5	9.2	2.6	44.8
LOS	A	A	A	A	D
Approach Delay		8.5	8.7		44.8
Approach LOS		A	A		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 35 (24%), Referenced to phase 4:EBTL and 8:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 10.3

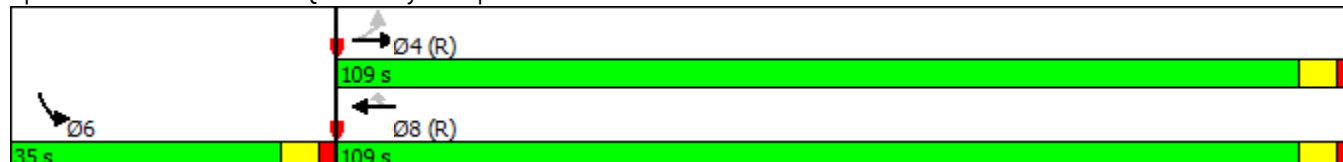
Intersection LOS: B

Intersection Capacity Utilization 105.5%

ICU Level of Service G

Analysis Period (min) 15

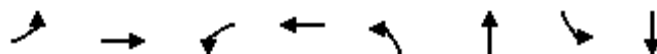
Splits and Phases: 15: The Queensway & Stephen Dr



Optimized PM Signal Timing Plans

19: Sobey's Entrance & The Queensway

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	1204	147	1284	260	1	6	8
Future Volume (vph)	3	1204	147	1284	260	1	6	8
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		2	1	6		3		8
Permitted Phases	2		6		3		8	
Detector Phase	2	2	1	6	3	3	8	8
Switch Phase								
Minimum Initial (s)	24.0	24.0	6.0	24.0	7.0	7.0	7.0	7.0
Minimum Split (s)	30.0	30.0	10.0	30.0	24.0	24.0	33.0	33.0
Total Split (s)	70.0	70.0	16.0	86.0	33.0	33.0	33.0	33.0
Total Split (%)	58.8%	58.8%	13.4%	72.3%	27.7%	27.7%	27.7%	27.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)	5.0	5.0	3.0	5.0	5.0	5.0		6.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	74.2	74.2	91.2	89.2	19.8	19.8		18.8
Actuated g/C Ratio	0.62	0.62	0.77	0.75	0.17	0.17		0.16
v/c Ratio	0.01	0.77	0.62	0.54	0.68	0.26		0.11
Control Delay	12.0	20.4	26.6	7.7	54.5	10.3		26.7
Queue Delay	0.0	2.9	0.0	0.0	0.0	0.0		0.0
Total Delay	12.0	23.3	26.6	7.7	54.5	10.3		26.7
LOS	B	C	C	A	D	B		C
Approach Delay		23.3		9.7		44.0		26.7
Approach LOS		C		A		D		C

Intersection Summary

Cycle Length: 119

Actuated Cycle Length: 119

Offset: 17 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 19.5

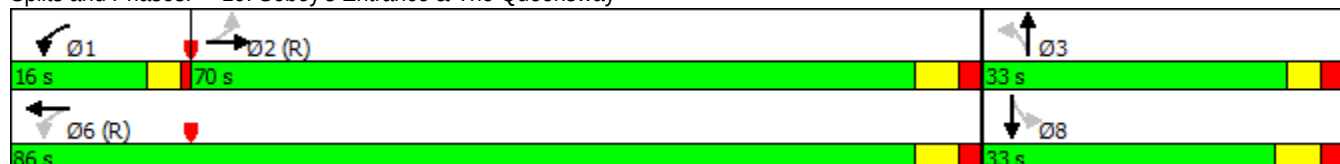
Intersection LOS: B

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 19: Sobey's Entrance & The Queensway



Optimized PM Signal Timing Plans

25: The Queensway & Kingsway Link Road

10/05/2017



Lane Group	EBT	WBT	SBR	Ø3
Lane Configurations	↑↑	↑↑	↑	
Traffic Volume (vph)	1203	974	220	
Future Volume (vph)	1203	974	220	
Turn Type	NA	NA	Perm	
Protected Phases	2	6		3
Permitted Phases			2 3	
Detector Phase	2	6	2 3	
Switch Phase				
Minimum Initial (s)	5.0	5.0		7.0
Minimum Split (s)	105.0	105.0		39.0
Total Split (s)	105.0	105.0		39.0
Total Split (%)	72.9%	72.9%		27%
Yellow Time (s)	4.0	4.0		3.0
All-Red Time (s)	3.0	3.0		2.0
Lost Time Adjust (s)	-1.0	-1.0		
Total Lost Time (s)	6.0	6.0		
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max		None
Act Effect Green (s)	109.8	109.8	144.0	
Actuated g/C Ratio	0.76	0.76	1.00	
v/c Ratio	0.48	0.51	0.16	
Control Delay	8.8	2.2	0.2	
Queue Delay	0.0	0.1	0.0	
Total Delay	8.8	2.3	0.2	
LOS	A	A	A	
Approach Delay	8.8	2.3		
Approach LOS	A	A		

Intersection Summary

Cycle Length: 144
 Actuated Cycle Length: 144
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 5.1
 Intersection Capacity Utilization 126.7%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service H

Splits and Phases: 25: The Queensway & Kingsway Link Road

105 s	39 s
105 s	

Optimized PM Signal Timing Plans

39: Palace Pier & Lake Shore Blvd W

10/05/2017



Lane Group	EBT	EBR	NBL
Lane Configurations	↑	↑	↑
Traffic Volume (vph)	676	154	18
Future Volume (vph)	676	154	18
Turn Type	NA	Perm	Perm
Protected Phases	2		
Permitted Phases		2	4
Detector Phase	2	2	4
Switch Phase			
Minimum Initial (s)	37.0	37.0	7.0
Minimum Split (s)	43.0	43.0	27.0
Total Split (s)	62.0	62.0	28.0
Total Split (%)	68.9%	68.9%	31.1%
Yellow Time (s)	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	4.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Max	C-Max	None
Act Effect Green (s)	70.4	70.4	14.0
Actuated g/C Ratio	0.78	0.78	0.16
v/c Ratio	0.51	0.15	0.20
Control Delay	6.5	2.0	16.4
Queue Delay	0.0	0.0	0.0
Total Delay	6.5	2.0	16.4
LOS	A	A	B
Approach Delay	5.7		16.4
Approach LOS	A		B

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 50 (56%), Referenced to phase 2:EBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 6.2
 Intersection Capacity Utilization 48.9%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 39: Palace Pier & Lake Shore Blvd W



Optimized PM Signal Timing Plans

40: Lake Shore Blvd W & TTC Streetcar Underpass

10/05/2017



Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	4	832	68	19	6
Future Volume (vph)	4	832	68	19	6
Turn Type	Prot	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases		6		4	
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	26.0	26.0	26.0	29.0	29.0
Total Split (s)	32.0	60.0	28.0	30.0	30.0
Total Split (%)	35.6%	66.7%	31.1%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	4.0	4.0	4.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	7.0	7.0	7.0	4.0	4.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Max	C-Max	None	None
Act Effect Green (s)	8.1	82.0	78.9	8.4	8.4
Actuated g/C Ratio	0.09	0.91	0.88	0.09	0.09
v/c Ratio	0.05	0.57	0.05	0.13	0.02
Control Delay	46.2	3.5	3.0	39.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	3.5	3.0	39.3	0.2
LOS	D	A	A	D	A
Approach Delay		3.7	3.0		
Approach LOS		A	A		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 53 (59%), Referenced to phase 2:EBT and 6:EBWB, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 4.4

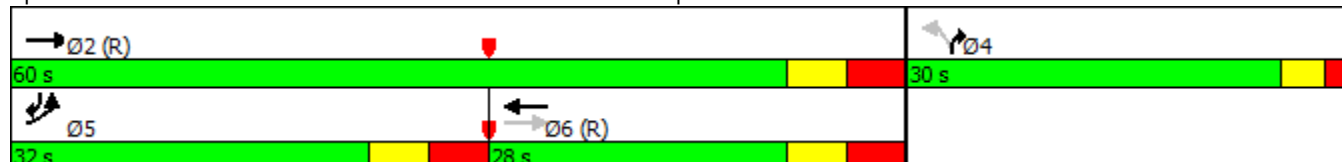
Intersection LOS: A

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 40: Lake Shore Blvd W & TTC Streetcar Underpass



Optimized PM Signal Timing Plans

44: Lake Shore Blvd W & Ellis Ave

10/05/2017



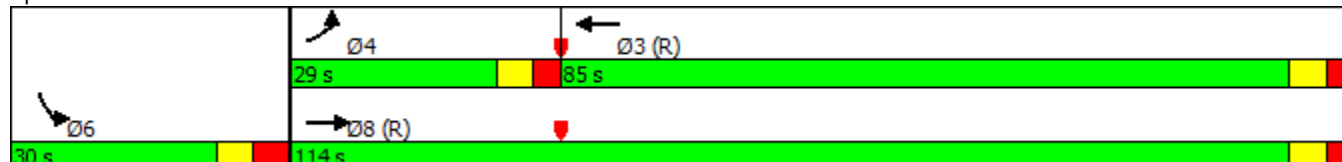
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	213	3681	2413	67
Future Volume (vph)	213	3681	2413	67
Turn Type	Prot	NA	NA	Prot
Protected Phases	4	8	3	6
Permitted Phases				
Detector Phase	4	8	3	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	76.0	76.0	30.0
Total Split (s)	29.0	114.0	85.0	30.0
Total Split (%)	20.1%	79.2%	59.0%	20.8%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	7.0
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	Max	Max	Max	Max
Act Effect Green (s)	23.0	108.0	79.0	23.0
Actuated g/C Ratio	0.16	0.75	0.55	0.16
v/c Ratio	0.86	0.84	0.99	0.59
Control Delay	87.7	14.2	45.9	26.0
Queue Delay	0.0	1.8	0.0	0.0
Total Delay	87.7	16.0	45.9	26.0
LOS	F	B	D	C
Approach Delay		19.9	45.9	26.0
Approach LOS		B	D	C

Intersection Summary

Cycle Length: 144
 Actuated Cycle Length: 144
 Offset: 30 (21%), Referenced to phase 3:WBT and 8:EBT, Start of Green
 Natural Cycle: 135
 Control Type: Pretimed
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 29.9
 Intersection Capacity Utilization 103.5%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service G

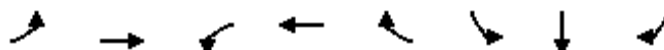
Splits and Phases: 44: Lake Shore Blvd W & Ellis Ave



Optimized PM Signal Timing Plans

46: Lake Shore Blvd W & Windermere Ave

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	WBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	261	3739	2	2438	159	155	6	339
Future Volume (vph)	261	3739	2	2438	159	155	6	339
Turn Type	Prot	NA	Prot	NA	pm+ov	Split	NA	Perm
Protected Phases	5	2	1	6	8	8	8	
Permitted Phases					6			8
Detector Phase	5	2	1	6	8	8	8	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	65.0	12.0	64.0	31.0	31.0	31.0	31.0
Total Split (s)	29.0	85.0	12.0	68.0	31.0	31.0	31.0	31.0
Total Split (%)	22.7%	66.4%	9.4%	53.1%	24.2%	24.2%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	4.0	2.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	5.0	7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	Max	Max	Max	Max
Act Effect Green (s)	23.0	88.6	6.0	63.0	85.0	24.0	24.0	24.0
Actuated g/C Ratio	0.18	0.69	0.05	0.49	0.66	0.19	0.19	0.19
v/c Ratio	0.94	0.92	0.03	0.91	0.17	0.29	0.28	0.73
Control Delay	90.6	21.6	59.0	36.4	2.0	47.9	47.4	18.5
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	90.6	21.6	59.0	36.7	2.0	47.9	47.4	18.5
LOS	F	C	E	D	A	D	D	B
Approach Delay		26.1		34.4			27.9	
Approach LOS		C		C			C	

Intersection Summary

Cycle Length: 128

Actuated Cycle Length: 128

Offset: 63.5 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 29.2

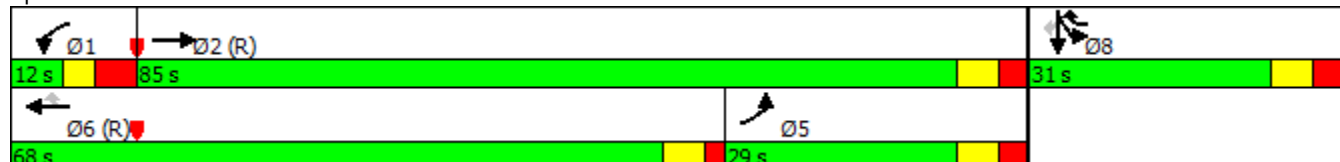
Intersection LOS: C

Intersection Capacity Utilization 97.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 46: Lake Shore Blvd W & Windermere Ave



Optimized PM Signal Timing Plans

51: Ellis Ave & The Queensway

10/05/2017



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑↑	↵	↑↑	↵	↑	↵	↑
Traffic Volume (vph)	1005	95	1133	49	133	39	100
Future Volume (vph)	1005	95	1133	49	133	39	100
Turn Type	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	2	1	6		4		8
Permitted Phases				4		8	
Detector Phase	2	1	6	4	4	8	8
Switch Phase							
Minimum Initial (s)	19.0	3.0	19.0	7.0	7.0	7.0	7.0
Minimum Split (s)	25.0	8.0	25.0	36.0	36.0	36.0	36.0
Total Split (s)	27.0	9.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	37.5%	12.5%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	4.0	5.0	7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes					
Recall Mode	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	29.3	10.4	43.8	16.2	16.2	16.2	16.2
Actuated g/C Ratio	0.41	0.14	0.61	0.22	0.22	0.22	0.22
v/c Ratio	0.82	0.44	0.65	0.21	0.58	0.20	0.32
Control Delay	51.7	39.3	13.4	9.1	13.1	21.6	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	39.3	13.4	9.1	13.1	21.6	19.8
LOS	D	D	B	A	B	C	B
Approach Delay	51.7		15.2		12.4		20.2
Approach LOS	D		B		B		C

Intersection Summary

Cycle Length: 72

Actuated Cycle Length: 72

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 28.8

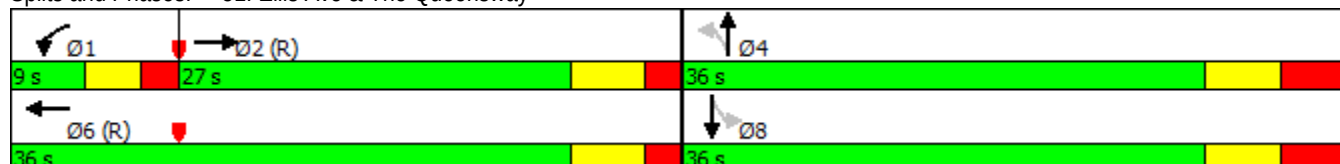
Intersection LOS: C

Intersection Capacity Utilization 76.7%

ICU Level of Service D

Analysis Period (min) 15

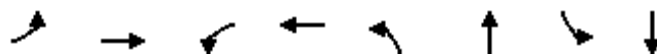
Splits and Phases: 51: Ellis Ave & The Queensway



Optimized PM Signal Timing Plans

54: Windermere Ave & The Queensway

10/05/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	90	968	111	1048	129	189	73	263
Future Volume (vph)	90	968	111	1048	129	189	73	263
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	1	6	7	4		8
Permitted Phases					4		8	
Detector Phase	5	2	1	6	7	4	8	8
Switch Phase								
Minimum Initial (s)	6.0	23.0	6.0	23.0	6.0	38.0	38.0	38.0
Minimum Split (s)	12.0	42.0	12.0	42.0	10.0	49.0	49.0	49.0
Total Split (s)	19.0	64.0	20.0	65.0	11.0	60.0	49.0	49.0
Total Split (%)	13.2%	44.4%	13.9%	45.1%	7.6%	41.7%	34.0%	34.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	2.0	3.0	2.0	1.0	4.0	4.0	4.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	Max	Max	Max
Act Effect Green (s)	12.8	60.2	13.8	61.2	57.0	53.0	42.0	42.0
Actuated g/C Ratio	0.09	0.42	0.10	0.42	0.40	0.37	0.29	0.29
v/c Ratio	0.66	0.84	0.70	0.81	0.54	0.34	0.26	0.68
Control Delay	92.2	35.5	92.7	44.0	38.0	34.0	42.1	51.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.2	35.5	92.7	44.0	38.0	34.0	42.1	51.9
LOS	F	D	F	D	D	C	D	D
Approach Delay		39.7		48.1		35.5		50.1
Approach LOS		D		D		D		D

Intersection Summary

Cycle Length: 144

Actuated Cycle Length: 144

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 43.8

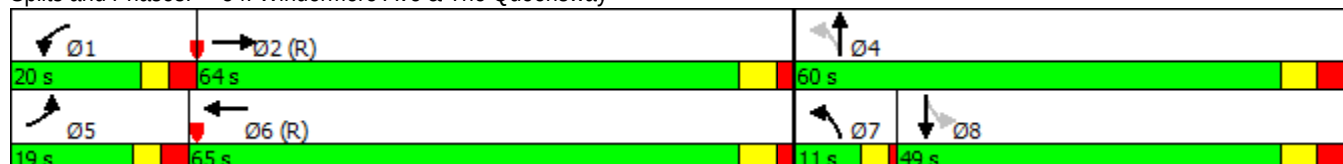
Intersection LOS: D

Intersection Capacity Utilization 121.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 54: Windermere Ave & The Queensway



Appendix C: Synchro HCM Signalized Intersection Capacity Analysis Reports

HCM Signalized Intersection Capacity Analysis

2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	787	18	14	342	370	32	143	23	671	135	193
Future Volume (vph)	245	787	18	14	342	370	32	143	23	671	135	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0			6.0	6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		0.91			0.95	1.00		0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.86		1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes		0.99			1.00	1.00		0.98	1.00	1.00	1.00	1.00
Frt		1.00			1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99			1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)		4708			3222	1288		3083	1083	3204	1534	1205
Flt Permitted		0.70			0.86	1.00		0.86	1.00	0.95	1.00	1.00
Satd. Flow (perm)		3349			2791	1288		2669	1083	3204	1534	1205
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	266	855	20	15	372	402	35	155	25	729	147	210
RTOR Reduction (vph)	0	1	0	0	0	310	0	0	22	0	0	155
Lane Group Flow (vph)	0	1140	0	0	387	92	0	190	4	729	147	56
Confl. Peds. (#/hr)	80		22	22		80	91		11	11		91
Confl. Bikes (#/hr)			5			19			1			12
Heavy Vehicles (%)	2%	3%	0%	0%	5%	1%	6%	13%	35%	2%	20%	7%
Bus Blockages (#/hr)	24	26	2	0	26	0	0	5	0	0	5	5
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm
Protected Phases	5	2			6			4		3	3	
Permitted Phases	2			6		6	4		4			3
Actuated Green, G (s)		64.4			31.0	31.0		18.6	18.6	36.0	36.0	36.0
Effective Green, g (s)		65.4			32.0	32.0		19.6	19.6	37.0	37.0	37.0
Actuated g/C Ratio		0.47			0.23	0.23		0.14	0.14	0.26	0.26	0.26
Clearance Time (s)		7.0			7.0	7.0		7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1859			637	294		373	151	846	405	318
v/s Ratio Prot		c0.13								c0.23	0.10	
v/s Ratio Perm		c0.15			0.14	0.07		c0.07	0.00			0.05
v/c Ratio		0.61			0.61	0.31		0.51	0.02	0.86	0.36	0.17
Uniform Delay, d1		27.9			48.4	44.9		55.7	51.9	49.1	41.9	39.7
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.21	1.25	3.04
Incremental Delay, d2		1.5			4.3	2.8		1.1	0.1	10.3	2.3	1.1
Delay (s)		29.4			52.6	47.6		56.8	52.0	69.9	54.7	121.8
Level of Service		C			D	D		E	D	E	D	F
Approach Delay (s)		29.4			50.1			56.3			77.9	
Approach LOS		C			D			E			E	
Intersection Summary												
HCM 2000 Control Delay			52.5				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			21.0		
Intersection Capacity Utilization			110.1%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Park Lawn Road & Gardiner Ramp N

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	7	124	32	656	982	0	0	239	532
Future Volume (vph)	0	0	0	7	124	32	656	982	0	0	239	532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.0	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)				5.0	5.0	5.0	3.0	6.0			6.0	6.0
Lane Util. Factor				1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00	1.00	0.99	1.00	1.00			1.00	0.96
Flpb, ped/bikes				1.00	1.00	1.00	0.99	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1305	1204	1404	1625	3303			3400	1387
Flt Permitted				0.95	1.00	1.00	0.54	1.00			1.00	1.00
Satd. Flow (perm)				1305	1204	1404	931	3303			3400	1387
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	8	135	35	713	1067	0	0	260	578
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	0	0	0	292
Lane Group Flow (vph)	0	0	0	8	135	7	713	1067	0	0	260	286
Confl. Peds. (#/hr)			1	1		1	14		5	5		14
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	0%	0%	0%	29%	56%	6%	3%	7%	0%	0%	5%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	5	0	0	5
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				16.2	16.2	16.2	58.8	58.8			34.0	34.0
Effective Green, g (s)				17.2	17.2	17.2	59.8	59.8			35.0	35.0
Actuated g/C Ratio				0.20	0.20	0.20	0.68	0.68			0.40	0.40
Clearance Time (s)				6.0	6.0	6.0	4.0	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				255	235	274	804	2244			1352	551
v/s Ratio Prot					c0.11		c0.22	0.32			0.08	
v/s Ratio Perm				0.01		0.00	c0.38					0.21
v/c Ratio				0.03	0.57	0.02	0.89	0.48			0.19	0.52
Uniform Delay, d1				28.7	32.1	28.6	8.3	6.7			17.3	20.1
Progression Factor				1.00	1.00	1.00	1.28	0.78			1.00	1.00
Incremental Delay, d2				0.1	3.4	0.0	9.6	0.6			0.3	3.5
Delay (s)				28.7	35.5	28.7	20.2	5.8			17.6	23.6
Level of Service				C	D	C	C	A			B	C
Approach Delay (s)		0.0			33.8			11.5			21.7	
Approach LOS		A			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			16.0		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			88.0		Sum of lost time (s)					14.0		
Intersection Capacity Utilization			90.2%		ICU Level of Service					E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔			↔	↔
Traffic Volume (vph)	366	1077	38	2	90	21	200	34	68	37	16	436
Future Volume (vph)	366	1077	38	2	90	21	200	34	68	37	16	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0			6.0		6.0	6.0			6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00	0.99			1.00	0.98
Flpb, ped/bikes		1.00			1.00		1.00	1.00			1.00	1.00
Frt		1.00			0.97		1.00	0.90			1.00	0.85
Flt Protected		0.99			1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)		3339			3276		1685	1676			1684	1441
Flt Permitted		0.83			0.94		0.72	1.00			0.75	1.00
Satd. Flow (perm)		2793			3070		1277	1676			1303	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	1171	41	2	98	23	217	37	74	40	17	474
RTOR Reduction (vph)	0	2	0	0	8	0	0	58	0	0	0	374
Lane Group Flow (vph)	0	1608	0	0	115	0	217	53	0	0	57	100
Confl. Peds. (#/hr)	1		32	32		1			1	1		
Confl. Bikes (#/hr)			1									3
Heavy Vehicles (%)	2%	4%	3%	0%	7%	0%	0%	0%	0%	11%	0%	3%
Bus Blockages (#/hr)	0	7	7	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		62.0			62.0		19.0	19.0			19.0	19.0
Effective Green, g (s)		63.0			63.0		20.0	20.0			20.0	20.0
Actuated g/C Ratio		0.66			0.66		0.21	0.21			0.21	0.21
Clearance Time (s)		7.0			7.0		7.0	7.0			7.0	7.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		1852			2035		268	352			274	303
v/s Ratio Prot								0.03				
v/s Ratio Perm		c0.58			0.04		c0.17				0.04	0.07
v/c Ratio		0.87			0.06		0.81	0.15			0.21	0.33
Uniform Delay, d1		12.7			5.6		35.7	30.6			31.0	31.8
Progression Factor		1.00			0.46		1.00	1.00			1.00	1.00
Incremental Delay, d2		4.6			0.1		16.3	0.2			0.4	0.6
Delay (s)		17.3			2.6		52.0	30.8			31.3	32.5
Level of Service		B			A		D	C			C	C
Approach Delay (s)		17.3			2.6			44.8			32.3	
Approach LOS		B			A			D			C	
Intersection Summary												
HCM 2000 Control Delay			23.2									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			95.0								15.0	
Intersection Capacity Utilization			73.3%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Park Lawn Road & Metro Entrance

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	0	46	0	0	0	4	754	0	0	953	45
Future Volume (vph)	173	0	46	0	0	0	4	754	0	0	953	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.0	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.5		3.5				3.5	3.5			3.5	
Lane Util. Factor	1.00		1.00				1.00	0.95			0.95	
Frt	1.00		0.85				1.00	1.00			0.99	
Flt Protected	0.95		1.00				0.95	1.00			1.00	
Satd. Flow (prot)	1668		1507				1685	3433			3381	
Flt Permitted	0.76		1.00				0.22	1.00			1.00	
Satd. Flow (perm)	1329		1507				395	3433			3381	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	188	0	50	0	0	0	4	820	0	0	1036	49
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	188	0	12	0	0	0	4	820	0	0	1081	0
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	4%	0%	0%	5%	2%
Turn Type	Perm		Perm				Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	15.1		15.1				45.9	45.9			45.9	
Effective Green, g (s)	16.1		16.1				46.9	46.9			46.9	
Actuated g/C Ratio	0.23		0.23				0.67	0.67			0.67	
Clearance Time (s)	4.5		4.5				4.5	4.5			4.5	
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)	305		346				264	2300			2265	
v/s Ratio Prot								0.24			c0.32	
v/s Ratio Perm	c0.14		0.01				0.01					
v/c Ratio	0.62		0.03				0.02	0.36			0.48	
Uniform Delay, d1	24.2		20.9				3.9	5.0			5.6	
Progression Factor	1.00		1.00				0.65	0.78			1.00	
Incremental Delay, d2	3.7		0.0				0.1	0.4			0.7	
Delay (s)	27.9		21.0				2.6	4.2			6.3	
Level of Service	C		C				A	A			A	
Approach Delay (s)		26.4			0.0			4.2			6.3	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.7				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			70.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			44.0%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Park Lawn Road & Gardiner Ramp S

10/04/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	→→	→→	←
Traffic Volume (vph)	657	743	33	981	226	20
Future Volume (vph)	657	743	33	981	226	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.5	3.5	3.0
Total Lost time (s)	4.0	4.0	6.0	6.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3026	1468	1651	3431	3293	
Flt Permitted	0.95	1.00	0.59	1.00	1.00	
Satd. Flow (perm)	3026	1468	1019	3431	3293	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	714	808	36	1066	246	22
RTOR Reduction (vph)	0	312	0	0	7	0
Lane Group Flow (vph)	714	496	36	1066	261	0
Confl. Peds. (#/hr)		27	27			23
Confl. Bikes (#/hr)		5				17
Heavy Vehicles (%)	8%	5%	0%	3%	6%	0%
Bus Blockages (#/hr)	0	0	0	5	5	5
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	31.7	31.7	44.3	44.3	44.3	
Effective Green, g (s)	32.7	32.7	45.3	45.3	45.3	
Actuated g/C Ratio	0.37	0.37	0.51	0.51	0.51	
Clearance Time (s)	5.0	5.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1124	545	524	1766	1695	
v/s Ratio Prot	0.24			0.31	0.08	
v/s Ratio Perm		0.34	0.04			
v/c Ratio	0.64	0.91	0.07	0.60	0.15	
Uniform Delay, d1	22.7	26.3	10.7	15.0	11.3	
Progression Factor	1.00	1.00	1.00	1.00	0.33	
Incremental Delay, d2	1.2	19.4	0.3	1.5	0.2	
Delay (s)	23.9	45.7	11.0	16.6	3.9	
Level of Service	C	D	B	B	A	
Approach Delay (s)	35.5			16.4	3.9	
Approach LOS	D			B	A	

Intersection Summary

HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

13: Park Lawn Road & The Queensway

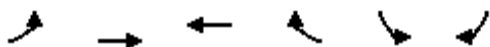
10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	1160	147	277	646	59	139	278	570	77	358	163
Future Volume (vph)	123	1160	147	277	646	59	139	278	570	77	358	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.8	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0		3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	*1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1649	3350		1652	3466	1418	1635	1754	1489	1652	3406	
Flt Permitted	0.38	1.00		0.06	1.00	1.00	0.18	1.00	1.00	0.49	1.00	
Satd. Flow (perm)	668	3350		104	3466	1418	310	1754	1489	852	3406	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	1261	160	301	702	64	151	302	620	84	389	177
RTOR Reduction (vph)	0	7	0	0	0	29	0	0	245	0	42	0
Lane Group Flow (vph)	134	1414	0	301	702	35	151	302	375	84	524	0
Confl. Peds. (#/hr)	9		9	9		9	10		10	10		10
Confl. Bikes (#/hr)			1			3			20			14
Heavy Vehicles (%)	2%	5%	1%	2%	3%	2%	3%	5%	6%	1%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	2	0	5	0	0	5	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	72.9	63.1		92.0	78.2	78.2	38.0	38.0	38.0	27.0	27.0	
Effective Green, g (s)	74.9	64.1		93.0	79.2	79.2	39.0	39.0	39.0	28.0	28.0	
Actuated g/C Ratio	0.52	0.45		0.65	0.55	0.55	0.27	0.27	0.27	0.19	0.19	
Clearance Time (s)	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	421	1491		345	1906	779	157	475	403	165	662	
v/s Ratio Prot	0.02	c0.42		c0.16	0.20		0.05	0.17			0.15	
v/s Ratio Perm	0.14			0.41		0.02	c0.21		c0.25	0.10		
v/c Ratio	0.32	0.95		0.87	0.37	0.05	0.96	0.64	0.93	0.51	0.79	
Uniform Delay, d1	18.0	38.4		46.2	18.3	15.0	48.3	46.2	51.2	51.9	55.2	
Progression Factor	1.00	1.00		1.24	0.56	0.12	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	12.9		19.9	0.1	0.0	60.1	6.4	30.4	10.8	9.4	
Delay (s)	18.5	51.3		77.1	10.4	1.7	108.3	52.6	81.5	62.6	64.6	
Level of Service	B	D		E	B	A	F	D	F	E	E	
Approach Delay (s)		48.5			28.7			77.2			64.4	
Approach LOS		D			C			E			E	
Intersection Summary												
HCM 2000 Control Delay			53.1		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			144.0		Sum of lost time (s)					18.0		
Intersection Capacity Utilization			112.9%		ICU Level of Service					H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

15: The Queensway & Stephen Dr

10/04/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	1804	944	45	265	22
Future Volume (vph)	6	1804	944	45	265	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.96	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.99	
Flt Protected	0.95	1.00	1.00	1.00	0.96	
Satd. Flow (prot)	1399	3400	3466	1219	3093	
Flt Permitted	0.25	1.00	1.00	1.00	0.96	
Satd. Flow (perm)	375	3400	3466	1219	3093	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	1961	1026	49	288	24
RTOR Reduction (vph)	0	0	0	10	5	0
Lane Group Flow (vph)	7	1961	1026	39	307	0
Confl. Peds. (#/hr)	22			22		14
Confl. Bikes (#/hr)				4		10
Heavy Vehicles (%)	20%	5%	3%	18%	3%	9%
Bus Blockages (#/hr)	0	0	0	2	5	5
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	
Permitted Phases	4			8		
Actuated Green, G (s)	108.9	108.9	108.9	108.9	23.1	
Effective Green, g (s)	109.9	109.9	109.9	109.9	24.1	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.17	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	286	2594	2645	930	517	
v/s Ratio Prot		c0.58	0.30		c0.10	
v/s Ratio Perm	0.02			0.03		
v/c Ratio	0.02	0.76	0.39	0.04	0.59	
Uniform Delay, d1	4.1	9.5	5.7	4.2	55.4	
Progression Factor	1.82	1.88	2.14	3.26	1.00	
Incremental Delay, d2	0.1	0.8	0.4	0.1	1.8	
Delay (s)	7.6	18.8	12.7	13.7	57.3	
Level of Service	A	B	B	B	E	
Approach Delay (s)		18.7	12.7		57.3	
Approach LOS		B	B		E	
Intersection Summary						
HCM 2000 Control Delay			20.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	10.0
Intersection Capacity Utilization			105.2%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

19: Sobey's Entrance & The Queensway

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1863	112	34	940	3	53	4	19	3	3	8
Future Volume (vph)	14	1863	112	34	940	3	53	4	19	3	3	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		3.0	5.0		5.0	5.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	1.00			1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.87			0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1574	3358		1546	3383		3143	1642			1710	
Flt Permitted	0.28	1.00		0.04	1.00		0.95	1.00			0.92	
Satd. Flow (perm)	463	3358		65	3383		3143	1642			1595	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	2025	122	37	1022	3	58	4	21	3	3	9
RTOR Reduction (vph)	0	2	0	0	0	0	0	20	0	0	9	0
Lane Group Flow (vph)	15	2145	0	37	1025	0	58	5	0	0	6	0
Heavy Vehicles (%)	7%	4%	3%	9%	4%	0%	4%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Turn Type	Perm	NA		pm+pt	NA		Split	NA		Perm	NA	
Protected Phases		2		1	6		7	7			8	
Permitted Phases	2			6						8		
Actuated Green, G (s)	105.9	105.9		115.1	115.1		6.9	6.9			3.0	
Effective Green, g (s)	106.9	106.9		116.1	116.1		7.9	7.9			4.0	
Actuated g/C Ratio	0.74	0.74		0.81	0.81		0.05	0.05			0.03	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0			7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	343	2492		116	2727		172	90			44	
v/s Ratio Prot		c0.64		0.01	c0.30		c0.02	0.00				
v/s Ratio Perm	0.03			0.24							c0.00	
v/c Ratio	0.04	0.86		0.32	0.38		0.34	0.06			0.14	
Uniform Delay, d1	4.9	13.2		19.9	3.9		65.5	64.5			68.3	
Progression Factor	1.06	0.70		0.97	2.24		1.00	1.00			1.00	
Incremental Delay, d2	0.2	3.0		1.5	0.4		1.2	0.3			1.5	
Delay (s)	5.4	12.2		20.8	9.1		66.7	64.8			69.8	
Level of Service	A	B		C	A		E	E			E	
Approach Delay (s)		12.1			9.5			66.1			69.8	
Approach LOS		B			A			E			E	
Intersection Summary												
HCM 2000 Control Delay			12.9			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			70.1%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: The Queensway & Kingsway Link Road

10/04/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	1484	584	431	0	190
Future Volume (vph)	0	1484	584	431	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)		6.0	6.0			6.0
Lane Util. Factor		0.95	0.95			1.00
Frpb, ped/bikes		1.00	1.00			0.98
Flpb, ped/bikes		1.00	1.00			1.00
Frt		1.00	0.94			0.86
Flt Protected		1.00	1.00			1.00
Satd. Flow (prot)		3556	3283			1502
Flt Permitted		1.00	1.00			1.00
Satd. Flow (perm)		3556	3283			1502
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1613	635	468	0	207
RTOR Reduction (vph)	0	0	70	0	0	0
Lane Group Flow (vph)	0	1613	1033	0	0	207
Confl. Peds. (#/hr)						20
Bus Blockages (#/hr)	0	2	9	9	0	0
Turn Type		NA	NA			Perm
Protected Phases		2	6			
Permitted Phases						2 3
Actuated Green, G (s)		108.8	108.8			144.0
Effective Green, g (s)		109.8	109.8			140.0
Actuated g/C Ratio		0.76	0.76			0.97
Clearance Time (s)		7.0	7.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		2711	2503			1460
v/s Ratio Prot		c0.45	0.31			
v/s Ratio Perm						c0.14
v/c Ratio		0.59	0.41			0.14
Uniform Delay, d1		7.4	5.9			0.1
Progression Factor		1.56	0.50			1.00
Incremental Delay, d2		0.7	0.4			0.0
Delay (s)		12.3	3.4			0.1
Level of Service		B	A			A
Approach Delay (s)		12.3	3.4		0.1	
Approach LOS		B	A		A	
Intersection Summary						
HCM 2000 Control Delay		8.1		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.52				
Actuated Cycle Length (s)		144.0		Sum of lost time (s)		11.0
Intersection Capacity Utilization		121.6%		ICU Level of Service		H
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

39: Palace Pier & Lake Shore Blvd W

10/04/2017

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗			↖	
Traffic Volume (vph)	1193	69	0	0	57	78
Future Volume (vph)	1193	69	0	0	57	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.0	3.0	3.0
Total Lost time (s)	5.0	5.0			4.0	
Lane Util. Factor	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.99	
Flpb, ped/bikes	1.00	1.00			1.00	
Frt	1.00	0.85			0.92	
Flt Protected	1.00	1.00			0.98	
Satd. Flow (prot)	1842	1288			1528	
Flt Permitted	1.00	1.00			0.98	
Satd. Flow (perm)	1842	1288			1528	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1297	75	0	0	62	85
RTOR Reduction (vph)	0	5	0	0	60	0
Lane Group Flow (vph)	1297	70	0	0	87	0
Confl. Peds. (#/hr)		14	14			
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	2%	10%	0%	0%	4%	3%
Bus Blockages (#/hr)	0	2	0	0	0	0
Turn Type	NA	Perm			Perm	
Protected Phases	2					
Permitted Phases		2			4	
Actuated Green, G (s)	72.0	72.0			12.0	
Effective Green, g (s)	73.0	73.0			13.0	
Actuated g/C Ratio	0.77	0.77			0.14	
Clearance Time (s)	6.0	6.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	1415	989			209	
v/s Ratio Prot	c0.70					
v/s Ratio Perm		0.05			c0.06	
v/c Ratio	0.92	0.07			0.41	
Uniform Delay, d1	8.6	2.7			37.5	
Progression Factor	0.53	0.30			1.00	
Incremental Delay, d2	7.8	0.1			1.3	
Delay (s)	12.4	0.9			38.8	
Level of Service	B	A			D	
Approach Delay (s)	11.7			0.0	38.8	
Approach LOS	B			A	D	
Intersection Summary						
HCM 2000 Control Delay		14.4		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.85				
Actuated Cycle Length (s)		95.0		Sum of lost time (s)		10.0
Intersection Capacity Utilization		78.2%		ICU Level of Service		D
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

40: Lake Shore Blvd W & TTC Streetcar Underpass

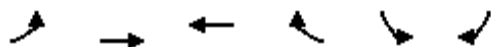
10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1170	5	0	89	0	24	0	4	0	0	0
Future Volume (vph)	7	1170	5	0	89	0	24	0	4	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	7.0	7.0			7.0		4.0		4.0			
Lane Util. Factor	1.00	1.00			1.00		1.00		1.00			
Frpb, ped/bikes	1.00	1.00			1.00		1.00		1.00			
Flpb, ped/bikes	1.00	1.00			1.00		1.00		1.00			
Frt	1.00	1.00			1.00		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	842	1822			1879		1685		1507			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	842	1822			1879		1685		1507			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	1272	5	0	97	0	26	0	4	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	4	0	0	0
Lane Group Flow (vph)	8	1277	0	0	97	0	26	0	0	0	0	0
Confl. Peds. (#/hr)			32	32								
Confl. Bikes (#/hr)			2									4
Heavy Vehicles (%)	100%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA		Perm		Prot			Over
Protected Phases	5	2			6				4			5
Permitted Phases		6					4					
Actuated Green, G (s)	1.7	77.2			67.5		4.8		4.8			
Effective Green, g (s)	2.7	78.2			68.5		5.8		5.8			
Actuated g/C Ratio	0.03	0.82			0.72		0.06		0.06			
Clearance Time (s)	8.0	8.0			8.0		5.0		5.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	23	1499			1354		102		92			
v/s Ratio Prot	0.01	c0.70			0.05				0.00			
v/s Ratio Perm							c0.02					
v/c Ratio	0.35	0.85			0.07		0.25		0.00			
Uniform Delay, d1	45.3	5.0			3.9		42.5		41.9			
Progression Factor	1.07	1.08			0.55		1.00		1.00			
Incremental Delay, d2	5.0	3.6			0.1		1.3		0.0			
Delay (s)	53.7	9.0			2.2		43.9		41.9			
Level of Service	D	A			A		D		D			
Approach Delay (s)		9.3			2.2			43.6			0.0	
Approach LOS		A			A			D			A	
Intersection Summary												
HCM 2000 Control Delay			9.5				HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			95.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			76.9%				ICU Level of Service		D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: Lake Shore Blvd W & Ellis Ave

10/04/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	197	3716	1640	57	125	227
Future Volume (vph)	197	3716	1640	57	125	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)	6.0	6.0	5.0		7.0	
Lane Util. Factor	1.00	0.86	0.91		0.97	
Frpb, ped/bikes	1.00	1.00	1.00		0.74	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.99		0.90	
Flt Protected	0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1668	6202	4978		2200	
Flt Permitted	0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1668	6202	4978		2200	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	4039	1783	62	136	247
RTOR Reduction (vph)	0	0	3	0	176	0
Lane Group Flow (vph)	214	4039	1842	0	207	0
Confl. Peds. (#/hr)	2			2		23
Confl. Bikes (#/hr)				21		301
Heavy Vehicles (%)	1%	4%	2%	7%	4%	2%
Bus Blockages (#/hr)	0	2	2	2	2	2
Turn Type	Prot	NA	NA		Prot	
Protected Phases	4	8	3		6	
Permitted Phases						
Actuated Green, G (s)	16.0	91.0	69.0		22.0	
Effective Green, g (s)	17.0	92.0	70.0		23.0	
Actuated g/C Ratio	0.13	0.72	0.55		0.18	
Clearance Time (s)	7.0	7.0	6.0		8.0	
Lane Grp Cap (vph)	221	4457	2722		395	
v/s Ratio Prot	0.13	c0.65	0.37		c0.09	
v/s Ratio Perm						
v/c Ratio	0.97	0.91	0.68		0.52	
Uniform Delay, d1	55.2	14.5	20.9		47.5	
Progression Factor	1.19	1.65	1.00		1.00	
Incremental Delay, d2	31.1	1.5	1.4		4.9	
Delay (s)	96.8	25.4	22.2		52.4	
Level of Service	F	C	C		D	
Approach Delay (s)		29.0	22.2		52.4	
Approach LOS		C	C		D	
Intersection Summary						
HCM 2000 Control Delay			28.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87			
Actuated Cycle Length (s)			128.0		Sum of lost time (s)	18.0
Intersection Capacity Utilization			101.7%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: Lake Shore Blvd W & Windermere Ave

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	3667	0	0	1766	101	0	0	0	246	3	397
Future Volume (vph)	206	3667	0	0	1766	101	0	0	0	246	3	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Total Lost time (s)	6.0	6.0			5.0	7.0				7.0	7.0	7.0
Lane Util. Factor	1.00	0.86			0.91	1.00				0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.98				1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00			1.00	1.00				1.00	1.00	1.00
Frt	1.00	1.00			1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)	1652	6143			5029	1431				1585	1591	1354
Flt Permitted	0.95	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)	1652	6143			5029	1431				1585	1591	1354
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	224	3986	0	0	1920	110	0	0	0	267	3	432
RTOR Reduction (vph)	0	0	0	0	0	37	0	0	0	0	0	281
Lane Group Flow (vph)	224	3986	0	0	1920	73	0	0	0	136	134	151
Confl. Peds. (#/hr)	6					6	35					35
Confl. Bikes (#/hr)												31
Heavy Vehicles (%)	2%	5%	0%	0%	2%	2%	0%	0%	0%	1%	0%	1%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA	custom				Perm	NA	Perm
Protected Phases	5	2		1	6	8					8	
Permitted Phases						6				8		8
Actuated Green, G (s)	24.0	87.0			57.0	83.0				26.0	26.0	26.0
Effective Green, g (s)	25.0	88.0			58.0	85.0				27.0	27.0	27.0
Actuated g/C Ratio	0.20	0.69			0.45	0.66				0.21	0.21	0.21
Clearance Time (s)	7.0	7.0			6.0	8.0				8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0				3.0	3.0	3.0
Lane Grp Cap (vph)	322	4223			2278	1028				334	335	285
v/s Ratio Prot	0.14	c0.65			0.38	0.01						
v/s Ratio Perm						0.04				0.09	0.08	c0.11
v/c Ratio	0.70	0.94			0.84	0.07				0.41	0.40	0.53
Uniform Delay, d1	48.0	17.8			31.0	7.6				43.6	43.5	44.9
Progression Factor	1.00	1.00			1.89	6.52				1.00	1.00	1.00
Incremental Delay, d2	6.4	5.8			3.0	0.1				3.7	3.5	6.9
Delay (s)	54.4	23.6			61.6	49.5				47.2	47.1	51.8
Level of Service	D	C			E	D				D	D	D
Approach Delay (s)		25.3			60.9			0.0			50.0	
Approach LOS		C			E			A			D	
Intersection Summary												
HCM 2000 Control Delay			38.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			128.0				Sum of lost time (s)			19.0		
Intersection Capacity Utilization			95.6%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: Ellis Ave & The Queensway

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑		↑	↑		↑	↑	
Traffic Volume (vph)	0	1513	34	79	754	49	34	77	143	149	239	40
Future Volume (vph)	0	1513	34	79	754	49	34	77	143	149	239	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		5.0		4.0	5.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	0.96		1.00	0.99	
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00		0.98	1.00	
Frt		1.00		1.00	0.99		1.00	0.90		1.00	0.98	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3434		1668	3373		1534	1599		1656	1823	
Flt Permitted		1.00		0.95	1.00		0.31	1.00		0.43	1.00	
Satd. Flow (perm)		3434		1668	3373		496	1599		743	1823	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1645	37	86	820	53	37	84	155	162	260	43
RTOR Reduction (vph)	0	1	0	0	3	0	0	51	0	0	5	0
Lane Group Flow (vph)	0	1681	0	86	870	0	37	188	0	162	298	0
Confl. Peds. (#/hr)	60		7	7		60	11		21	21		11
Confl. Bikes (#/hr)			4			43			25			35
Heavy Vehicles (%)	0%	3%	9%	1%	3%	2%	9%	5%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	2	0	2	0	0	0	0	0	0	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)		80.9		12.0	97.9		32.1	32.1		32.1	32.1	
Effective Green, g (s)		81.9		13.0	98.9		33.1	33.1		33.1	33.1	
Actuated g/C Ratio		0.57		0.09	0.69		0.23	0.23		0.23	0.23	
Clearance Time (s)		6.0		5.0	6.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1953		150	2316		114	367		170	419	
v/s Ratio Prot		c0.49		c0.05	0.26			0.12			0.16	
v/s Ratio Perm							0.07			c0.22		
v/c Ratio		0.86		0.57	0.38		0.32	0.51		0.95	0.71	
Uniform Delay, d1		26.2		62.8	9.5		46.1	48.4		54.7	51.1	
Progression Factor		0.39		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0		5.2	0.5		1.7	1.2		54.9	5.6	
Delay (s)		13.2		68.1	10.0		47.8	49.6		109.6	56.7	
Level of Service		B		E	A		D	D		F	E	
Approach Delay (s)		13.2			15.2			49.4			75.1	
Approach LOS		B			B			D			E	
Intersection Summary												
HCM 2000 Control Delay			25.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			95.8%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: Windermere Ave & The Queensway

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	1319	113	64	742	22	159	133	109	119	313	43
Future Volume (vph)	81	1319	113	64	742	22	159	133	109	119	313	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0		3.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		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	0.95		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.94	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.93		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)	1620	3370		1604	3411		1621	1645		1568	1799	
Flt Permitted	0.95	1.00		0.95	1.00		0.25	1.00		0.60	1.00	
Satd. Flow (perm)	1620	3370		1604	3411		425	1645		985	1799	
Peak-hour factor, PHF	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	1319	123	70	807	24	173	145	118	129	340	47
RTOR Reduction (vph)	0	5	0	0	2	0	0	20	0	0	4	0
Lane Group Flow (vph)	88	1437	0	70	829	0	173	243	0	129	383	0
Confl. Peds. (#/hr)	65		50	50		65	100		82	82		100
Confl. Bikes (#/hr)			2			16			23			26
Heavy Vehicles (%)	4%	4%	1%	5%	4%	0%	3%	0%	3%	1%	1%	0%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	7.0	63.0		7.0	63.0		54.0	54.0		41.0	41.0	
Effective Green, g (s)	8.0	64.0		8.0	64.0		55.0	55.0		42.0	42.0	
Actuated g/C Ratio	0.06	0.44		0.06	0.44		0.38	0.38		0.29	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0		4.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	1497		89	1516		245	628		287	524	
v/s Ratio Prot	c0.05	c0.43		0.04	0.24		c0.05	0.15			0.21	
v/s Ratio Perm							c0.22			0.13		
v/c Ratio	0.98	0.96		0.79	0.55		0.71	0.39		0.45	0.73	
Uniform Delay, d1	67.9	38.8		67.2	29.4		34.4	32.3		41.6	45.9	
Progression Factor	1.22	0.88		1.31	0.73		1.00	1.00		1.00	1.00	
Incremental Delay, d2	77.9	13.5		33.8	1.3		8.9	1.8		5.0	8.7	
Delay (s)	160.8	47.5		122.0	22.7		43.3	34.1		46.6	54.7	
Level of Service	F	D		F	C		D	C		D	D	
Approach Delay (s)		54.0			30.4			37.7			52.6	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			45.4			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			143.3%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

10/06/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑	↑		↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	219	476	55	8	728	403	31	118	24	520	115	325
Future Volume (vph)	219	476	55	8	728	403	31	118	24	520	115	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0			6.0	6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		0.91			0.95	1.00		0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.92		1.00	0.94	1.00	1.00	0.82
Flpb, ped/bikes		1.00			1.00	1.00		0.97	1.00	1.00	1.00	1.00
Frt		0.99			1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99			1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)		4682			3330	1382		3157	1176	3268	1788	1212
Flt Permitted		0.68			0.94	1.00		0.86	1.00	0.95	1.00	1.00
Satd. Flow (perm)		3241			3129	1382		2732	1176	3268	1788	1212
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	238	517	60	9	774	438	34	128	26	565	125	353
RTOR Reduction (vph)	0	6	0	0	0	243	0	0	22	0	0	255
Lane Group Flow (vph)	0	809	0	0	783	195	0	162	4	565	125	98
Confl. Peds. (#/hr)	49		19	19		49	137		27	27		137
Confl. Bikes (#/hr)			12			5			2			11
Heavy Vehicles (%)	3%	3%	0%	0%	2%	0%	6%	8%	21%	0%	3%	0%
Bus Blockages (#/hr)	22	24	2	0	24	0	0	5	0	0	5	5
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	Split	NA	Perm
Protected Phases	5	2			6			4		3	3	
Permitted Phases	2			6		6	4		4			3
Actuated Green, G (s)		60.5			34.0	34.0		20.5	20.5	38.0	38.0	38.0
Effective Green, g (s)		61.5			35.0	35.0		21.5	21.5	39.0	39.0	39.0
Actuated g/C Ratio		0.44			0.25	0.25		0.15	0.15	0.28	0.28	0.28
Clearance Time (s)		7.0			7.0	7.0		7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1665			782	345		419	180	910	498	337
v/s Ratio Prot		c0.08								c0.17	0.07	
v/s Ratio Perm		0.13			c0.25	0.14		c0.06	0.00			0.08
v/c Ratio		0.49			1.00	0.57		0.39	0.02	0.62	0.25	0.29
Uniform Delay, d1		28.0			52.5	45.9		53.3	50.3	44.1	39.2	39.7
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.10	1.13	2.51
Incremental Delay, d2		1.0			32.5	6.6		0.6	0.0	2.9	1.1	2.0
Delay (s)		29.0			85.0	52.4		53.9	50.4	51.3	45.2	101.4
Level of Service		C			F	D		D	D	D	D	F
Approach Delay (s)		29.0			73.3			53.4			67.5	
Approach LOS		C			E			D			E	

Intersection Summary

HCM 2000 Control Delay	59.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

6: Park Lawn Road & Gardiner Ramp N

10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	2	15	6	351	902	0	0	460	351
Future Volume (vph)	0	0	0	2	15	6	351	902	0	0	460	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)				5.0	5.0	5.0	3.0	6.0			6.0	6.0
Lane Util. Factor				1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00	1.00	0.98	1.00	1.00			1.00	0.95
Flpb, ped/bikes				1.00	1.00	1.00	0.99	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1631	1482	1625	3465			3535	1361
Flt Permitted				0.95	1.00	1.00	0.44	1.00			1.00	1.00
Satd. Flow (perm)				1681	1631	1482	760	3465			3535	1361
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	2	16	7	382	980	0	0	500	382
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	0	0	0	143
Lane Group Flow (vph)	0	0	0	2	16	1	382	980	0	0	500	239
Confl. Peds. (#/hr)	5		2	2		5	25		16	16		25
Confl. Bikes (#/hr)									6			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	2%	0%	0%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	33	0	0	5	5	0	0	5
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				8.2	8.2	8.2	66.8	66.8			54.0	54.0
Effective Green, g (s)				9.2	9.2	9.2	67.8	67.8			55.0	55.0
Actuated g/C Ratio				0.10	0.10	0.10	0.77	0.77			0.62	0.62
Clearance Time (s)				6.0	6.0	6.0	4.0	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				175	170	154	681	2669			2209	850
v/s Ratio Prot					c0.01		c0.06	0.28			0.14	
v/s Ratio Perm				0.00		0.00	c0.37					0.18
v/c Ratio				0.01	0.09	0.00	0.56	0.37			0.23	0.28
Uniform Delay, d1				35.3	35.6	35.3	3.1	3.2			7.2	7.5
Progression Factor				1.00	1.00	1.00	1.07	0.61			1.00	1.00
Incremental Delay, d2				0.0	0.2	0.0	1.0	0.4			0.2	0.8
Delay (s)				35.3	35.9	35.3	4.3	2.3			7.4	8.3
Level of Service				D	D	D	A	A			A	A
Approach Delay (s)		0.0			35.7			2.9			7.8	
Approach LOS		A			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.2								A	
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			88.0							14.0		
Intersection Capacity Utilization			69.5%								C	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	752	161	5	77	5	92	14	26	96	71	970
Future Volume (vph)	107	752	161	5	77	5	92	14	26	96	71	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5
Total Lost time (s)		6.0			6.0		6.0	6.0			6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes		0.98			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
Frt		0.98			0.99		1.00	0.90			1.00	0.85
Flt Protected		0.99			1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)		3294			3290		1685	1695			1785	1561
Flt Permitted		0.90			0.91		0.60	1.00			0.80	1.00
Satd. Flow (perm)		2980			3010		1058	1695			1466	1561
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	817	175	5	84	5	100	15	28	104	77	1054
RTOR Reduction (vph)	0	17	0	0	2	0	0	21	0	0	0	691
Lane Group Flow (vph)	0	1091	0	0	92	0	100	22	0	0	181	363
Confl. Peds. (#/hr)	1		65	65		1						
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	2%	0%	0%	8%	0%	0%	0%	0%	4%	0%	1%
Bus Blockages (#/hr)	0	7	7	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		55.0			55.0		21.0	21.0			21.0	21.0
Effective Green, g (s)		56.0			56.0		22.0	22.0			22.0	22.0
Actuated g/C Ratio		0.62			0.62		0.24	0.24			0.24	0.24
Clearance Time (s)		7.0			7.0		7.0	7.0			7.0	7.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		1854			1872		258	414			358	381
v/s Ratio Prot								0.01				
v/s Ratio Perm		c0.37			0.03		0.09				0.12	c0.23
v/c Ratio		0.59			0.05		0.39	0.05			0.51	0.95
Uniform Delay, d1		10.1			6.6		28.4	26.0			29.3	33.5
Progression Factor		1.00			0.79		1.00	1.00			1.00	1.00
Incremental Delay, d2		1.4			0.0		1.0	0.1			1.1	33.7
Delay (s)		11.5			5.3		29.3	26.1			30.4	67.1
Level of Service		B			A		C	C			C	E
Approach Delay (s)		11.5			5.3			28.4			61.8	
Approach LOS		B			A			C			E	
Intersection Summary												
HCM 2000 Control Delay			36.3				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			100.9%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Park Lawn Road & Metro Entrance

10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	0	31	1	0	0	15	725	0	0	928	201
Future Volume (vph)	101	0	31	1	0	0	15	725	0	0	928	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.5		3.5		3.5		3.5	3.5			3.5	
Lane Util. Factor	1.00		1.00		1.00		1.00	0.95			0.95	
Frt	1.00		0.85		1.00		1.00	1.00			0.97	
Flt Protected	0.95		1.00		0.95		0.95	1.00			1.00	
Satd. Flow (prot)	1685		1507		1685		1685	3500			3446	
Flt Permitted	0.76		1.00		0.95		0.20	1.00			1.00	
Satd. Flow (perm)	1343		1507		1685		355	3500			3446	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	0	34	1	0	0	16	788	0	0	1009	218
RTOR Reduction (vph)	0	0	29	0	0	0	0	0	0	0	16	0
Lane Group Flow (vph)	110	0	5	0	1	0	16	788	0	0	1211	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Turn Type	Perm		Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	9.8		9.8		9.8		51.2	51.2			51.2	
Effective Green, g (s)	10.8		10.8		10.8		52.2	52.2			52.2	
Actuated g/C Ratio	0.15		0.15		0.15		0.75	0.75			0.75	
Clearance Time (s)	4.5		4.5		4.5		4.5	4.5			4.5	
Vehicle Extension (s)	3.0		3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	207		232		259		264	2610			2569	
v/s Ratio Prot								0.23			c0.35	
v/s Ratio Perm	c0.08		0.00		0.00		0.05					
v/c Ratio	0.53		0.02		0.00		0.06	0.30			0.47	
Uniform Delay, d1	27.3		25.1		25.0		2.4	2.9			3.5	
Progression Factor	1.00		1.00		1.00		0.63	0.61			1.00	
Incremental Delay, d2	2.6		0.0		0.0		0.4	0.2			0.6	
Delay (s)	29.9		25.2		25.1		1.8	2.0			4.1	
Level of Service	C		C		C		A	A			A	
Approach Delay (s)		28.8			25.1			2.0			4.1	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.0									
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			50.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Park Lawn Road & Gardiner Ramp S

10/06/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	540	776	106	714	417	45
Future Volume (vph)	540	776	106	714	417	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.5	3.5	3.0
Total Lost time (s)	4.0	4.0	6.0	6.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.98	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3236	1566	1641	3431	3396	
Flt Permitted	0.95	1.00	0.45	1.00	1.00	
Satd. Flow (perm)	3236	1566	771	3431	3396	
Peak-hour factor, PHF	0.92	0.99	0.92	0.92	0.92	0.92
Adj. Flow (vph)	587	784	115	776	453	49
RTOR Reduction (vph)	0	141	0	0	9	0
Lane Group Flow (vph)	587	643	115	776	493	0
Confl. Peds. (#/hr)		7	50			50
Confl. Bikes (#/hr)		4				
Heavy Vehicles (%)	1%	0%	0%	3%	2%	0%
Bus Blockages (#/hr)	0	0	0	5	5	5
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	35.0	35.0	41.0	41.0	41.0	
Effective Green, g (s)	36.0	36.0	42.0	42.0	42.0	
Actuated g/C Ratio	0.41	0.41	0.48	0.48	0.48	
Clearance Time (s)	5.0	5.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1323	640	367	1637	1620	
v/s Ratio Prot	0.18			0.23	0.15	
v/s Ratio Perm		0.41	0.15			
v/c Ratio	0.44	1.00	0.31	0.47	0.30	
Uniform Delay, d1	18.8	26.0	14.1	15.5	14.1	
Progression Factor	1.00	1.00	1.00	1.00	0.51	
Incremental Delay, d2	0.2	36.6	2.2	1.0	0.5	
Delay (s)	19.0	62.6	16.4	16.5	7.6	
Level of Service	B	E	B	B	A	
Approach Delay (s)	44.0			16.5	7.6	
Approach LOS	D			B	A	

Intersection Summary

HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

13: Park Lawn Road & The Queensway

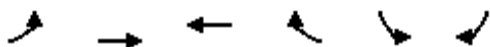
10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	184	948	181	383	959	64	112	330	478	48	240	131
Future Volume (vph)	184	948	181	383	959	64	112	330	478	48	240	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0		3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	*0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.96	1.00	1.00	0.95	1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1683	3440		1652	3535	1430	1676	1823	1392	1660	3210	
Flt Permitted	0.27	1.00		0.07	1.00	1.00	0.28	1.00	1.00	0.34	1.00	
Satd. Flow (perm)	483	3440		117	3535	1430	496	1823	1392	598	3210	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	200	1030	197	416	1042	70	122	359	520	52	261	142
RTOR Reduction (vph)	0	10	0	0	0	32	0	0	371	0	50	0
Lane Group Flow (vph)	200	1217	0	416	1042	38	122	359	149	52	353	0
Confl. Peds. (#/hr)	15		14	14		15	29		17	17		29
Confl. Bikes (#/hr)			3			2			8			16
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	1%	3%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	2	0	5	0	0	5	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	68.2	55.5		94.4	77.7	77.7	35.6	35.6	35.6	24.3	24.3	
Effective Green, g (s)	70.2	56.5		95.4	78.7	78.7	36.6	36.6	36.6	25.3	25.3	
Actuated g/C Ratio	0.49	0.39		0.66	0.55	0.55	0.25	0.25	0.25	0.18	0.18	
Clearance Time (s)	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	349	1349		460	1931	781	194	463	353	105	563	
v/s Ratio Prot	0.05	0.35		c0.23	0.29		0.04	c0.20			0.11	
v/s Ratio Perm	0.22			c0.37		0.03	0.12		0.11	0.09		
v/c Ratio	0.57	0.90		0.90	0.54	0.05	0.63	0.78	0.42	0.50	0.63	
Uniform Delay, d1	21.5	41.1		43.9	21.0	15.2	44.0	49.9	44.8	53.6	55.0	
Progression Factor	1.00	1.00		1.55	0.64	0.49	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	8.6		18.5	0.2	0.0	6.2	12.0	3.7	15.7	5.2	
Delay (s)	23.7	49.8		86.4	13.7	7.4	50.3	61.9	48.5	69.3	60.2	
Level of Service	C	D		F	B	A	D	E	D	E	E	
Approach Delay (s)		46.1			33.2			53.5			61.2	
Approach LOS		D			C			D			E	
Intersection Summary												
HCM 2000 Control Delay			44.9		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			144.0		Sum of lost time (s)					18.0		
Intersection Capacity Utilization			111.3%		ICU Level of Service					H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

15: The Queensway & Stephen Dr

10/06/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	1417	1411	130	114	37
Future Volume (vph)	30	1417	1411	130	114	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.96	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.96	
Flt Protected	0.95	1.00	1.00	1.00	0.96	
Satd. Flow (prot)	1633	3535	3535	1396	2953	
Flt Permitted	0.14	1.00	1.00	1.00	0.96	
Satd. Flow (perm)	234	3535	3535	1396	2953	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1540	1534	141	124	40
RTOR Reduction (vph)	0	0	0	20	24	0
Lane Group Flow (vph)	33	1540	1534	121	140	0
Confl. Peds. (#/hr)	24			24		24
Confl. Bikes (#/hr)				2		13
Heavy Vehicles (%)	3%	1%	1%	3%	4%	5%
Bus Blockages (#/hr)	0	0	0	2	5	5
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	
Permitted Phases	4			8		
Actuated Green, G (s)	110.9	110.9	110.9	110.9	21.1	
Effective Green, g (s)	111.9	111.9	111.9	111.9	22.1	
Actuated g/C Ratio	0.78	0.78	0.78	0.78	0.15	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	181	2746	2746	1084	453	
v/s Ratio Prot		c0.44	0.43		c0.05	
v/s Ratio Perm	0.14			0.09		
v/c Ratio	0.18	0.56	0.56	0.11	0.31	
Uniform Delay, d1	4.2	6.3	6.3	3.9	54.2	
Progression Factor	1.86	1.67	2.27	2.49	1.00	
Incremental Delay, d2	1.2	0.4	0.7	0.2	0.4	
Delay (s)	8.9	11.1	15.1	9.9	54.6	
Level of Service	A	B	B	A	D	
Approach Delay (s)		11.0	14.6		54.6	
Approach LOS		B	B		D	
Intersection Summary						
HCM 2000 Control Delay			14.9		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	10.0
Intersection Capacity Utilization			105.5%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

19: Sobey's Entrance & The Queensway

10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1204	300	147	1284	9	260	1	81	6	8	13
Future Volume (vph)	3	1204	300	147	1284	9	260	1	81	6	8	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		3.0	5.0		5.0	5.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	1.00			1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.85			0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1685	3388		1685	3448		3236	1600			1740	
Flt Permitted	0.19	1.00		0.05	1.00		0.95	1.00			0.89	
Satd. Flow (perm)	338	3388		90	3448		3236	1600			1573	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1309	326	160	1396	10	283	1	88	7	9	14
RTOR Reduction (vph)	0	13	0	0	0	0	0	77	0	0	13	0
Lane Group Flow (vph)	3	1622	0	160	1406	0	283	12	0	0	17	0
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Turn Type	Perm	NA		pm+pt	NA		Split	NA		Perm	NA	
Protected Phases		2		1	6		7	7			8	
Permitted Phases	2			6						8		
Actuated Green, G (s)	80.0	80.0		103.0	103.0		17.0	17.0			5.0	
Effective Green, g (s)	81.0	81.0		104.0	104.0		18.0	18.0			6.0	
Actuated g/C Ratio	0.56	0.56		0.72	0.72		0.12	0.12			0.04	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0			7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	190	1905		286	2490		404	200			65	
v/s Ratio Prot		c0.48		0.08	c0.41		c0.09	0.01				
v/s Ratio Perm	0.01			0.32							c0.01	
v/c Ratio	0.02	0.85		0.56	0.56		0.70	0.06			0.26	
Uniform Delay, d1	13.9	26.5		37.7	9.4		60.4	55.5			66.8	
Progression Factor	0.76	0.76		0.54	2.27		1.00	1.00			1.00	
Incremental Delay, d2	0.1	4.3		2.2	0.9		5.4	0.1			2.1	
Delay (s)	10.8	24.4		22.5	22.1		65.8	55.7			68.9	
Level of Service	B	C		C	C		E	E			E	
Approach Delay (s)		24.4			22.2			63.4			68.9	
Approach LOS		C			C			E			E	
Intersection Summary												
HCM 2000 Control Delay			27.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			19.0			
Intersection Capacity Utilization			82.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: The Queensway & Kingsway Link Road

10/06/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	1203	974	255	0	220
Future Volume (vph)	0	1203	974	255	0	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)		6.0	6.0			6.0
Lane Util. Factor		0.95	0.95			1.00
Frpb, ped/bikes		1.00	1.00			0.98
Flpb, ped/bikes		1.00	1.00			1.00
Frt		1.00	0.97			0.86
Flt Protected		1.00	1.00			1.00
Satd. Flow (prot)		3556	3397			1502
Flt Permitted		1.00	1.00			1.00
Satd. Flow (perm)		3556	3397			1502
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1308	1059	277	0	239
RTOR Reduction (vph)	0	0	12	0	0	0
Lane Group Flow (vph)	0	1308	1324	0	0	239
Confl. Peds. (#/hr)						20
Bus Blockages (#/hr)	0	2	9	9	0	0
Turn Type		NA	NA			Perm
Protected Phases		2	6			
Permitted Phases						2 3
Actuated Green, G (s)		108.8	108.8			144.0
Effective Green, g (s)		109.8	109.8			140.0
Actuated g/C Ratio		0.76	0.76			0.97
Clearance Time (s)		7.0	7.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		2711	2590			1460
v/s Ratio Prot		0.37	c0.39			
v/s Ratio Perm						c0.16
v/c Ratio		0.48	0.51			0.16
Uniform Delay, d1		6.4	6.7			0.1
Progression Factor		2.18	0.20			1.00
Incremental Delay, d2		0.5	0.5			0.1
Delay (s)		14.5	1.9			0.1
Level of Service		B	A			A
Approach Delay (s)		14.5	1.9		0.1	
Approach LOS		B	A		A	
Intersection Summary						
HCM 2000 Control Delay			7.4		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	11.0
Intersection Capacity Utilization			126.7%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

39: Palace Pier & Lake Shore Blvd W

10/06/2017

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗			↖	
Traffic Volume (vph)	676	154	0	0	18	29
Future Volume (vph)	676	154	0	0	18	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.0	3.0	3.0
Total Lost time (s)	5.0	5.0			4.0	
Lane Util. Factor	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.94			0.98	
Flpb, ped/bikes	1.00	1.00			1.00	
Frt	1.00	0.85			0.92	
Flt Protected	1.00	1.00			0.98	
Satd. Flow (prot)	1860	1385			1537	
Flt Permitted	1.00	1.00			0.98	
Satd. Flow (perm)	1860	1385			1537	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	735	167	0	0	20	32
RTOR Reduction (vph)	0	22	0	0	28	0
Lane Group Flow (vph)	735	145	0	0	24	0
Confl. Peds. (#/hr)		16	16			
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	1%	2%	0%	0%	0%	3%
Bus Blockages (#/hr)	0	2	0	0	0	0
Turn Type	NA	Perm			Perm	
Protected Phases	2					
Permitted Phases		2			4	
Actuated Green, G (s)	67.4	67.4			11.6	
Effective Green, g (s)	68.4	68.4			12.6	
Actuated g/C Ratio	0.76	0.76			0.14	
Clearance Time (s)	6.0	6.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	1413	1052			215	
v/s Ratio Prot	c0.40					
v/s Ratio Perm		0.10			c0.02	
v/c Ratio	0.52	0.14			0.11	
Uniform Delay, d1	4.3	2.9			33.8	
Progression Factor	0.78	0.72			1.00	
Incremental Delay, d2	1.2	0.2			0.2	
Delay (s)	4.5	2.3			34.1	
Level of Service	A	A			C	
Approach Delay (s)	4.1			0.0	34.1	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay		5.8		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.46				
Actuated Cycle Length (s)		90.0		Sum of lost time (s)		10.0
Intersection Capacity Utilization		48.9%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

40: Lake Shore Blvd W & TTC Streetcar Underpass

10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	832	38	0	68	0	19	0	6	0	0	0
Future Volume (vph)	4	832	38	0	68	0	19	0	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	7.0	7.0			7.0		4.0		4.0			
Lane Util. Factor	1.00	1.00			1.00		1.00		1.00			
Frpb, ped/bikes	1.00	0.99			1.00		1.00		1.00			
Flpb, ped/bikes	1.00	1.00			1.00		1.00		1.00			
Frt	1.00	0.99			1.00		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	842	1820			1842		1685		1507			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	842	1820			1842		1685		1507			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	904	41	0	74	0	21	0	7	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	7	0	0	0
Lane Group Flow (vph)	4	944	0	0	74	0	21	0	0	0	0	0
Confl. Peds. (#/hr)			43	43								
Confl. Bikes (#/hr)			4						4			2
Heavy Vehicles (%)	100%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA		Perm		Prot			Over
Protected Phases	5	2			6				4			5
Permitted Phases		6					4					
Actuated Green, G (s)	1.5	73.8			64.3		3.2		3.2			
Effective Green, g (s)	2.5	74.8			65.3		4.2		4.2			
Actuated g/C Ratio	0.03	0.83			0.73		0.05		0.05			
Clearance Time (s)	8.0	8.0			8.0		5.0		5.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	23	1512			1336		78		70			
v/s Ratio Prot	0.00	c0.52			0.04				0.00			
v/s Ratio Perm							c0.01					
v/c Ratio	0.17	0.62			0.06		0.27		0.00			
Uniform Delay, d1	42.7	2.7			3.5		41.4		40.9			
Progression Factor	1.14	0.94			0.80		1.00		1.00			
Incremental Delay, d2	3.0	1.6			0.1		1.9		0.0			
Delay (s)	51.7	4.1			2.9		43.3		40.9			
Level of Service	D	A			A		D		D			
Approach Delay (s)		4.3			2.9		42.7				0.0	
Approach LOS		A			A		D				A	
Intersection Summary												
HCM 2000 Control Delay			5.3				HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			61.2%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: Lake Shore Blvd W & Ellis Ave

10/06/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	213	3681	2413	68	67	186
Future Volume (vph)	213	3681	2413	68	67	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.7	3.0	3.0	3.0
Total Lost time (s)	6.0	6.0	5.0		7.0	
Lane Util. Factor	1.00	0.86	0.91		0.97	
Frpb, ped/bikes	1.00	1.00	1.00		0.64	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.89	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1685	6387	5098		1848	
Flt Permitted	0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1685	6387	5098		1848	
Peak-hour factor, PHF	0.92	0.92	1.00	0.92	0.92	0.92
Adj. Flow (vph)	232	4001	2413	74	73	202
RTOR Reduction (vph)	0	0	2	0	170	0
Lane Group Flow (vph)	232	4001	2485	0	105	0
Confl. Peds. (#/hr)	4			4		30
Confl. Bikes (#/hr)				13		345
Heavy Vehicles (%)	0%	1%	2%	5%	4%	4%
Bus Blockages (#/hr)	0	2	2	2	2	2
Turn Type	Prot	NA	NA		Prot	
Protected Phases	4	8	3		6	
Permitted Phases						
Actuated Green, G (s)	32.0	107.0	69.0		22.0	
Effective Green, g (s)	33.0	108.0	70.0		23.0	
Actuated g/C Ratio	0.23	0.75	0.49		0.16	
Clearance Time (s)	7.0	7.0	6.0		8.0	
Lane Grp Cap (vph)	386	4790	2478		295	
v/s Ratio Prot	0.14	c0.63	c0.49		c0.06	
v/s Ratio Perm						
v/c Ratio	0.60	0.84	1.00		0.36	
Uniform Delay, d1	49.6	12.0	37.0		53.9	
Progression Factor	1.00	1.00	1.00		1.04	
Incremental Delay, d2	6.8	1.9	18.7		3.1	
Delay (s)	56.4	13.9	55.7		59.3	
Level of Service	E	B	E		E	
Approach Delay (s)		16.2	55.7		59.3	
Approach LOS		B	E		E	
Intersection Summary						
HCM 2000 Control Delay			32.0		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.86			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	18.0
Intersection Capacity Utilization			102.6%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: Lake Shore Blvd W & Windermere Ave

10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	261	3739	0	2	2438	159	0	0	0	155	6	339
Future Volume (vph)	261	3739	0	2	2438	159	0	0	0	155	6	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1975	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.7	3.0	3.0	3.0	3.0	3.0	3.5	3.0
Total Lost time (s)	6.0	6.0		6.0	5.0	7.0				7.0	7.0	7.0
Lane Util. Factor	1.00	0.86		1.00	*1.00	1.00				0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97				1.00	1.00	0.89
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00				1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00				0.95	0.96	1.00
Satd. Flow (prot)	1685	6387		1685	5873	1429				1585	1691	1333
Flt Permitted	0.95	1.00		0.95	1.00	1.00				0.95	0.96	1.00
Satd. Flow (perm)	1685	6387		1685	5873	1429				1585	1691	1333
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	284	4064	0	2	2438	173	0	0	0	168	7	368
RTOR Reduction (vph)	0	0	0	0	0	68	0	0	0	0	0	299
Lane Group Flow (vph)	284	4064	0	2	2438	105	0	0	0	87	88	69
Confl. Peds. (#/hr)	11					11	38					38
Confl. Bikes (#/hr)												31
Heavy Vehicles (%)	0%	1%	0%	0%	2%	1%	0%	0%	0%	1%	0%	1%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA	custom				Perm	NA	Perm
Protected Phases	5	2		1	6	8					8	
Permitted Phases						6				8		8
Actuated Green, G (s)	31.6	81.7		1.3	52.4	75.4				23.0	23.0	23.0
Effective Green, g (s)	32.6	82.7		2.3	53.4	77.4				24.0	24.0	24.0
Actuated g/C Ratio	0.25	0.65		0.02	0.42	0.60				0.19	0.19	0.19
Clearance Time (s)	7.0	7.0		7.0	6.0	8.0				8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0				3.0	3.0	3.0
Lane Grp Cap (vph)	429	4126		30	2450	942				297	317	249
v/s Ratio Prot	0.17	c0.64		0.00	c0.42	0.02						
v/s Ratio Perm						0.05				c0.05	0.05	0.05
v/c Ratio	0.66	0.98		0.07	1.00	0.11				0.29	0.28	0.28
Uniform Delay, d1	42.8	22.0		61.8	37.2	10.7				44.7	44.6	44.6
Progression Factor	1.00	1.00		1.00	1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2	3.8	10.9		0.9	17.1	0.2				2.5	2.2	2.7
Delay (s)	46.6	33.0		62.7	54.2	11.0				47.2	46.7	47.3
Level of Service	D	C		E	D	B				D	D	D
Approach Delay (s)		33.9			51.4			0.0			47.2	
Approach LOS		C			D			A			D	
Intersection Summary												
HCM 2000 Control Delay			40.9									D
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			128.0							19.0		
Intersection Capacity Utilization			97.0%									F
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: Ellis Ave & The Queensway

10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑		↖	↑		↖	↑	
Traffic Volume (vph)	0	1005	58	95	1133	111	49	133	99	39	100	22
Future Volume (vph)	0	1005	58	95	1133	111	49	133	99	39	100	22
Ideal Flow (vphpl)	1900	1900	1900	1900	2005	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		5.0		4.0	5.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00		1.00	1.00		0.97	1.00		0.99	1.00	
Frt		0.99		1.00	0.99		1.00	0.94		1.00	0.97	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3449		1604	3598		1548	1703		1669	1778	
Flt Permitted		1.00		0.95	1.00		0.61	1.00		0.32	1.00	
Satd. Flow (perm)		3449		1604	3598		996	1703		565	1778	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1092	63	103	1232	121	53	145	108	42	109	24
RTOR Reduction (vph)	0	3	0	0	3	0	0	23	0	0	7	0
Lane Group Flow (vph)	0	1152	0	103	1350	0	53	230	0	42	126	0
Confl. Peds. (#/hr)	26		8	8		26	21		12	12		21
Confl. Bikes (#/hr)			17			19			39			16
Heavy Vehicles (%)	0%	2%	3%	5%	2%	0%	6%	0%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	2	2	0	2	0	0	0	0	0	0	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)		79.6		20.1	104.7		25.3	25.3		25.3	25.3	
Effective Green, g (s)		80.6		21.1	105.7		26.3	26.3		26.3	26.3	
Actuated g/C Ratio		0.56		0.15	0.73		0.18	0.18		0.18	0.18	
Clearance Time (s)		6.0		5.0	6.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1930		235	2641		181	311		103	324	
v/s Ratio Prot		c0.33		0.06	c0.38			c0.14			0.07	
v/s Ratio Perm							0.05			0.07		
v/c Ratio		0.60		0.44	0.51		0.29	0.74		0.41	0.39	
Uniform Delay, d1		21.0		56.0	8.2		50.8	55.6		52.0	51.8	
Progression Factor		0.38		1.00	1.00		1.61	1.60		1.00	1.00	
Incremental Delay, d2		0.9		1.3	0.7		0.6	6.4		2.6	0.8	
Delay (s)		8.8		57.4	8.9		82.2	95.2		54.6	52.6	
Level of Service		A		E	A		F	F		D	D	
Approach Delay (s)		8.8			12.3			93.0			53.1	
Approach LOS		A			B			F			D	
Intersection Summary												
HCM 2000 Control Delay			21.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			77.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: Windermere Ave & The Queensway

10/06/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	968	142	111	1048	45	129	189	22	73	263	61
Future Volume (vph)	90	968	142	111	1048	45	129	189	22	73	263	61
Ideal Flow (vphpl)	1900	1900	1900	2050	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		4.0	5.0		3.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		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	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.96	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1668	3411		1782	3436		1642	1808		1595	1758	
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00		0.62	1.00	
Satd. Flow (perm)	1668	3411		1782	3436		511	1808		1034	1758	
Peak-hour factor, PHF	0.98	0.92	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	1052	154	111	1139	49	140	205	24	79	286	66
RTOR Reduction (vph)	0	8	0	0	2	0	0	3	0	0	6	0
Lane Group Flow (vph)	92	1198	0	111	1186	0	140	226	0	79	346	0
Confl. Peds. (#/hr)	55		29	29		55	127		57	57		127
Confl. Bikes (#/hr)			12			7			23			21
Heavy Vehicles (%)	1%	2%	0%	2%	3%	0%	1%	1%	5%	1%	1%	0%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	7.0	63.0		7.0	63.0		54.0	54.0		41.0	41.0	
Effective Green, g (s)	8.0	64.0		9.0	64.0		55.0	55.0		42.0	42.0	
Actuated g/C Ratio	0.06	0.44		0.06	0.44		0.38	0.38		0.29	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0		4.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	92	1516		111	1527		273	690		301	512	
v/s Ratio Prot	0.06	c0.35		c0.06	0.35		c0.04	0.12			c0.20	
v/s Ratio Perm							0.16			0.08		
v/c Ratio	1.00	0.79		1.00	0.78		0.51	0.33		0.26	0.68	
Uniform Delay, d1	68.0	34.3		67.5	33.9		31.8	31.4		39.1	45.0	
Progression Factor	1.12	0.71		1.26	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	88.8	3.8		80.3	3.5		1.6	1.3		2.1	7.0	
Delay (s)	164.8	28.0		165.2	30.9		33.5	32.7		41.2	52.0	
Level of Service	F	C		F	C		C	C		D	D	
Approach Delay (s)		37.7			42.4			33.0			50.0	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			40.5			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			143.3%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	787	18	14	342	370	32	143	23	671	135	193
Future Volume (vph)	245	787	18	14	342	370	32	143	23	671	135	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0			6.0	6.0		6.0	6.0	6.0	6.0	3.0
Lane Util. Factor		0.91			0.95	1.00		0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.87		1.00	0.97	1.00	1.00	0.90
Flpb, ped/bikes		0.99			1.00	1.00		0.98	1.00	0.99	1.00	1.00
Frt		1.00			1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99			1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)		4704			3222	1297		3084	1084	3162	1534	1236
Flt Permitted		0.73			0.88	1.00		0.88	1.00	0.63	1.00	1.00
Satd. Flow (perm)		3470			2828	1297		2729	1084	2104	1534	1236
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	266	855	20	15	372	402	35	155	25	729	147	210
RTOR Reduction (vph)	0	1	0	0	0	253	0	0	14	0	0	78
Lane Group Flow (vph)	0	1140	0	0	387	149	0	190	11	729	147	132
Confl. Peds. (#/hr)	80		22	22		80	91		11	11		91
Confl. Bikes (#/hr)			5			19			1			12
Heavy Vehicles (%)	2%	3%	0%	0%	5%	1%	6%	13%	35%	2%	20%	7%
Bus Blockages (#/hr)	24	26	2	0	26	0	0	5	0	0	5	5
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2			6			8			3	5
Permitted Phases	2			6		6	8		8	3		3
Actuated Green, G (s)		65.0			51.0	51.0		61.0	61.0	61.0	61.0	71.0
Effective Green, g (s)		66.0			52.0	52.0		62.0	62.0	62.0	62.0	73.0
Actuated g/C Ratio		0.47			0.37	0.37		0.44	0.44	0.44	0.44	0.52
Clearance Time (s)		7.0			7.0	7.0		7.0	7.0	7.0	7.0	4.0
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1732			1050	481		1208	480	931	679	644
v/s Ratio Prot		c0.05									0.10	0.02
v/s Ratio Perm		c0.26			0.14	0.12		0.07	0.01	c0.35		0.09
v/c Ratio		0.66			0.37	0.31		0.16	0.02	0.78	0.22	0.20
Uniform Delay, d1		28.4			32.0	31.3		23.4	22.0	33.3	24.0	17.9
Progression Factor		1.00			1.00	1.00		1.00	1.00	0.83	0.85	2.46
Incremental Delay, d2		2.0			1.0	1.7		0.3	0.1	5.9	0.7	0.6
Delay (s)		30.3			33.0	32.9		23.6	22.0	33.5	21.0	44.7
Level of Service		C			C	C		C	C	C	C	D
Approach Delay (s)		30.3			33.0			23.4			34.0	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			31.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			15.0		
Intersection Capacity Utilization			121.7%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Park Lawn Road & Gardiner Ramp N

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	7	124	32	656	982	0	0	239	532
Future Volume (vph)	0	0	0	7	124	32	656	982	0	0	239	532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)				5.0	5.0	5.0	3.0	6.0			6.0	6.0
Lane Util. Factor				1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00	1.00	0.99	1.00	1.00			1.00	0.96
Flpb, ped/bikes				1.00	1.00	1.00	0.99	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1305	1204	1404	1625	3303			3400	1387
Flt Permitted				0.95	1.00	1.00	0.54	1.00			1.00	1.00
Satd. Flow (perm)				1305	1204	1404	931	3303			3400	1387
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	8	135	35	713	1067	0	0	260	578
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	0	0	0	292
Lane Group Flow (vph)	0	0	0	8	135	7	713	1067	0	0	260	286
Confl. Peds. (#/hr)			1	1		1	14		5	5		14
Confl. Bikes (#/hr)									5			5
Heavy Vehicles (%)	0%	0%	0%	29%	56%	6%	3%	7%	0%	0%	5%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	5	5	0	0	5
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				16.2	16.2	16.2	58.8	58.8			34.0	34.0
Effective Green, g (s)				17.2	17.2	17.2	59.8	59.8			35.0	35.0
Actuated g/C Ratio				0.20	0.20	0.20	0.68	0.68			0.40	0.40
Clearance Time (s)				6.0	6.0	6.0	4.0	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				255	235	274	804	2244			1352	551
v/s Ratio Prot					c0.11		c0.22	0.32			0.08	
v/s Ratio Perm				0.01		0.00	c0.38					0.21
v/c Ratio				0.03	0.57	0.02	0.89	0.48			0.19	0.52
Uniform Delay, d1				28.7	32.1	28.6	8.3	6.7			17.3	20.1
Progression Factor				1.00	1.00	1.00	1.28	0.78			1.00	1.00
Incremental Delay, d2				0.1	3.4	0.0	9.6	0.6			0.3	3.5
Delay (s)				28.7	35.5	28.7	20.2	5.8			17.6	23.6
Level of Service				C	D	C	C	A			B	C
Approach Delay (s)		0.0			33.8			11.5			21.7	
Approach LOS		A			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			16.0									
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			88.0									
Intersection Capacity Utilization			90.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔			↔	↔
Traffic Volume (vph)	366	1077	38	2	90	21	200	34	68	37	16	436
Future Volume (vph)	366	1077	38	2	90	21	200	34	68	37	16	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0			6.0		6.0	6.0			6.0	6.0
Lane Util. Factor		0.95			0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes		1.00			1.00		1.00	0.99			1.00	0.98
Flpb, ped/bikes		1.00			1.00		1.00	1.00			1.00	1.00
Frt		1.00			0.97		1.00	0.90			1.00	0.85
Flt Protected		0.99			1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)		3339			3275		1685	1676			1684	1441
Flt Permitted		0.83			0.94		0.72	1.00			0.75	1.00
Satd. Flow (perm)		2792			3070		1277	1676			1304	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	1171	41	2	98	23	217	37	74	40	17	474
RTOR Reduction (vph)	0	2	0	0	8	0	0	59	0	0	0	375
Lane Group Flow (vph)	0	1608	0	0	115	0	217	52	0	0	57	99
Confl. Peds. (#/hr)	1		32	32		1			1	1		
Confl. Bikes (#/hr)			1									3
Heavy Vehicles (%)	2%	4%	3%	0%	7%	0%	0%	0%	0%	11%	0%	3%
Bus Blockages (#/hr)	0	7	7	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)		66.1			66.1		19.9	19.9			19.9	19.9
Effective Green, g (s)		67.1			67.1		20.9	20.9			20.9	20.9
Actuated g/C Ratio		0.67			0.67		0.21	0.21			0.21	0.21
Clearance Time (s)		7.0			7.0		7.0	7.0			7.0	7.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		1873			2059		266	350			272	301
v/s Ratio Prot								0.03				
v/s Ratio Perm		c0.58			0.04		c0.17				0.04	0.07
v/c Ratio		0.86			0.06		0.82	0.15			0.21	0.33
Uniform Delay, d1		12.8			5.6		37.7	32.3			32.7	33.6
Progression Factor		1.00			1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		4.2			0.1		17.3	0.2			0.4	0.6
Delay (s)		16.9			5.7		55.0	32.5			33.1	34.2
Level of Service		B			A		D	C			C	C
Approach Delay (s)		16.9			5.7			47.4			34.1	
Approach LOS		B			A			D			C	
Intersection Summary												
HCM 2000 Control Delay			23.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		15.0			
Intersection Capacity Utilization			73.3%				ICU Level of Service		D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Park Lawn Road & Metro Entrance

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	0	46	0	0	0	4	754	0	0	953	45
Future Volume (vph)	173	0	46	0	0	0	4	754	0	0	953	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.0	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.5		3.5				3.5	3.5			3.5	
Lane Util. Factor	1.00		1.00				1.00	0.95			0.95	
Frt	1.00		0.85				1.00	1.00			0.99	
Flt Protected	0.95		1.00				0.95	1.00			1.00	
Satd. Flow (prot)	1668		1507				1685	3433			3381	
Flt Permitted	0.76		1.00				0.22	1.00			1.00	
Satd. Flow (perm)	1329		1507				395	3433			3381	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	188	0	50	0	0	0	4	820	0	0	1036	49
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	188	0	12	0	0	0	4	820	0	0	1081	0
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	4%	0%	0%	5%	2%
Turn Type	Perm		Perm				Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	15.1		15.1				45.9	45.9			45.9	
Effective Green, g (s)	16.1		16.1				46.9	46.9			46.9	
Actuated g/C Ratio	0.23		0.23				0.67	0.67			0.67	
Clearance Time (s)	4.5		4.5				4.5	4.5			4.5	
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)	305		346				264	2300			2265	
v/s Ratio Prot								0.24			c0.32	
v/s Ratio Perm	c0.14		0.01				0.01					
v/c Ratio	0.62		0.03				0.02	0.36			0.48	
Uniform Delay, d1	24.2		20.9				3.9	5.0			5.6	
Progression Factor	1.00		1.00				0.70	0.68			1.00	
Incremental Delay, d2	3.7		0.0				0.1	0.4			0.7	
Delay (s)	27.9		21.0				2.8	3.8			6.3	
Level of Service	C		C				A	A			A	
Approach Delay (s)		26.4			0.0			3.8			6.3	
Approach LOS		C			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.6				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			70.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			44.0%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Park Lawn Road & Gardiner Ramp S

10/04/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	657	743	33	981	226	20
Future Volume (vph)	657	743	33	981	226	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.5	3.5	3.0
Total Lost time (s)	4.0	4.0	6.0	6.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3026	1468	1651	3431	3293	
Flt Permitted	0.95	1.00	0.59	1.00	1.00	
Satd. Flow (perm)	3026	1468	1019	3431	3293	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	714	808	36	1066	246	22
RTOR Reduction (vph)	0	312	0	0	7	0
Lane Group Flow (vph)	714	496	36	1066	261	0
Confl. Peds. (#/hr)		27	27			23
Confl. Bikes (#/hr)		5				17
Heavy Vehicles (%)	8%	5%	0%	3%	6%	0%
Bus Blockages (#/hr)	0	0	0	5	5	5
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	31.7	31.7	44.3	44.3	44.3	
Effective Green, g (s)	32.7	32.7	45.3	45.3	45.3	
Actuated g/C Ratio	0.37	0.37	0.51	0.51	0.51	
Clearance Time (s)	5.0	5.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1124	545	524	1766	1695	
v/s Ratio Prot	0.24			c0.31	0.08	
v/s Ratio Perm		c0.34	0.04			
v/c Ratio	0.64	0.91	0.07	0.60	0.15	
Uniform Delay, d1	22.7	26.3	10.7	15.0	11.3	
Progression Factor	1.00	1.00	1.00	1.00	0.33	
Incremental Delay, d2	1.2	19.4	0.3	1.5	0.2	
Delay (s)	23.9	45.7	11.0	16.6	3.9	
Level of Service	C	D	B	B	A	
Approach Delay (s)	35.5			16.4	3.9	
Approach LOS	D			B	A	

Intersection Summary

HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

13: Park Lawn Road & The Queensway

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	1160	147	277	646	59	139	278	570	77	358	163
Future Volume (vph)	123	1160	147	277	646	59	139	278	570	77	358	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0		3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	*1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1649	3350		1652	3466	1418	1634	1754	1364	1650	3409	
Flt Permitted	0.38	1.00		0.06	1.00	1.00	0.23	1.00	1.00	0.58	1.00	
Satd. Flow (perm)	668	3350		110	3466	1418	399	1754	1364	1001	3409	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	1261	160	301	702	64	151	302	620	84	389	177
RTOR Reduction (vph)	0	7	0	0	0	31	0	0	164	0	42	0
Lane Group Flow (vph)	134	1414	0	301	702	33	151	302	456	84	524	0
Confl. Peds. (#/hr)	9		9	9		9	10		10	10		10
Confl. Bikes (#/hr)			1			3			20			14
Heavy Vehicles (%)	2%	5%	1%	2%	3%	2%	3%	5%	6%	1%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	2	0	5	0	0	5	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	65.0	59.0		83.0	73.0	73.0	47.0	47.0	47.0	32.3	32.3	
Effective Green, g (s)	67.0	60.0		84.0	74.0	74.0	48.0	48.0	48.0	33.3	33.3	
Actuated g/C Ratio	0.47	0.42		0.58	0.51	0.51	0.33	0.33	0.33	0.23	0.23	
Clearance Time (s)	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	358	1395		289	1781	728	233	584	454	231	788	
v/s Ratio Prot	0.02	0.42		c0.15	0.20		0.05	0.17			0.15	
v/s Ratio Perm	0.16			c0.45		0.02	0.16		c0.33	0.08		
v/c Ratio	0.37	1.01		1.04	0.39	0.05	0.65	0.52	1.00	0.36	0.67	
Uniform Delay, d1	22.4	42.0		49.2	21.3	17.4	36.6	38.7	48.0	46.5	50.3	
Progression Factor	1.00	1.00		1.61	0.67	0.30	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	27.5		62.4	0.1	0.0	6.1	3.3	43.3	4.4	4.4	
Delay (s)	23.1	69.5		141.6	14.5	5.3	42.7	41.9	91.3	50.8	54.7	
Level of Service	C	E		F	B	A	D	D	F	D	D	
Approach Delay (s)		65.5			49.8			70.6			54.2	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			61.2		HCM 2000 Level of Service					E		
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			144.0		Sum of lost time (s)					18.0		
Intersection Capacity Utilization			112.9%		ICU Level of Service					H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

15: The Queensway & Stephen Dr

10/04/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	1804	944	45	265	22
Future Volume (vph)	6	1804	944	45	265	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.96	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.99	
Flt Protected	0.95	1.00	1.00	1.00	0.96	
Satd. Flow (prot)	1399	3400	3466	1219	3094	
Flt Permitted	0.24	1.00	1.00	1.00	0.96	
Satd. Flow (perm)	357	3400	3466	1219	3094	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	1961	1026	49	288	24
RTOR Reduction (vph)	0	0	0	13	5	0
Lane Group Flow (vph)	7	1961	1026	36	307	0
Confl. Peds. (#/hr)	22			22		14
Confl. Bikes (#/hr)				4		10
Heavy Vehicles (%)	20%	5%	3%	18%	3%	9%
Bus Blockages (#/hr)	0	0	0	2	5	5
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	
Permitted Phases	4			8		
Actuated Green, G (s)	100.0	100.0	100.0	100.0	32.0	
Effective Green, g (s)	101.0	101.0	101.0	101.0	33.0	
Actuated g/C Ratio	0.70	0.70	0.70	0.70	0.23	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	250	2384	2431	854	709	
v/s Ratio Prot		c0.58	0.30		c0.10	
v/s Ratio Perm	0.02			0.03		
v/c Ratio	0.03	0.82	0.42	0.04	0.43	
Uniform Delay, d1	6.5	15.2	9.1	6.6	47.5	
Progression Factor	1.68	1.65	1.00	1.00	1.00	
Incremental Delay, d2	0.1	1.0	0.5	0.1	1.9	
Delay (s)	11.1	26.0	9.7	6.7	49.4	
Level of Service	B	C	A	A	D	
Approach Delay (s)		25.9	9.5		49.4	
Approach LOS		C	A		D	
Intersection Summary						
HCM 2000 Control Delay			22.9		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	10.0
Intersection Capacity Utilization			116.7%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

19: Sobey's Entrance & The Queensway

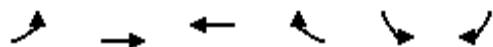
10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1863	112	34	940	3	53	4	19	3	3	8
Future Volume (vph)	14	1863	112	34	940	3	53	4	19	3	3	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		3.0	5.0		5.0	5.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	1.00			1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.87			0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1574	3358		1546	3383		3143	1642			1710	
Flt Permitted	0.28	1.00		0.05	1.00		0.75	1.00			0.92	
Satd. Flow (perm)	463	3358		81	3383		2473	1642			1595	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	2025	122	37	1022	3	58	4	21	3	3	9
RTOR Reduction (vph)	0	2	0	0	0	0	0	20	0	0	8	0
Lane Group Flow (vph)	15	2145	0	37	1025	0	58	5	0	0	7	0
Heavy Vehicles (%)	7%	4%	3%	9%	4%	0%	4%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			3			8	
Permitted Phases	2			6			3			8		
Actuated Green, G (s)	91.8	91.8		99.6	99.6		7.4	7.4			6.4	
Effective Green, g (s)	92.8	92.8		100.6	100.6		8.4	8.4			7.4	
Actuated g/C Ratio	0.78	0.78		0.85	0.85		0.07	0.07			0.06	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0			7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	361	2618		127	2859		174	115			99	
v/s Ratio Prot		c0.64		0.01	c0.30			0.00				
v/s Ratio Perm	0.03			0.23			c0.02				0.00	
v/c Ratio	0.04	0.82		0.29	0.36		0.33	0.05			0.07	
Uniform Delay, d1	3.0	8.0		11.5	2.0		52.6	51.6			52.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.2	3.0		1.3	0.4		1.1	0.2			0.3	
Delay (s)	3.2	11.0		12.8	2.4		53.8	51.7			52.8	
Level of Service	A	B		B	A		D	D			D	
Approach Delay (s)		10.9			2.8			53.2			52.8	
Approach LOS		B			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			9.6			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			119.0			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			70.1%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: The Queensway & Kingsway Link Road

10/04/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	1484	584	431	0	190
Future Volume (vph)	0	1484	584	431	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)		6.0	6.0			6.0
Lane Util. Factor		0.95	0.95			1.00
Frpb, ped/bikes		1.00	1.00			0.98
Flpb, ped/bikes		1.00	1.00			1.00
Frt		1.00	0.94			0.86
Flt Protected		1.00	1.00			1.00
Satd. Flow (prot)		3556	3283			1502
Flt Permitted		1.00	1.00			1.00
Satd. Flow (perm)		3556	3283			1502
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1613	635	468	0	207
RTOR Reduction (vph)	0	0	70	0	0	0
Lane Group Flow (vph)	0	1613	1033	0	0	207
Confl. Peds. (#/hr)						20
Bus Blockages (#/hr)	0	2	9	9	0	0
Turn Type		NA	NA			Perm
Protected Phases		2	6			
Permitted Phases						2 3
Actuated Green, G (s)		108.8	108.8			144.0
Effective Green, g (s)		109.8	109.8			140.0
Actuated g/C Ratio		0.76	0.76			0.97
Clearance Time (s)		7.0	7.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		2711	2503			1460
v/s Ratio Prot		c0.45	0.31			
v/s Ratio Perm						c0.14
v/c Ratio		0.59	0.41			0.14
Uniform Delay, d1		7.4	5.9			0.1
Progression Factor		1.00	0.49			1.00
Incremental Delay, d2		1.0	0.4			0.0
Delay (s)		8.4	3.4			0.1
Level of Service		A	A			A
Approach Delay (s)		8.4	3.4		0.1	
Approach LOS		A	A		A	
Intersection Summary						
HCM 2000 Control Delay			5.9		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	11.0
Intersection Capacity Utilization			121.6%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

39: Palace Pier & Lake Shore Blvd W

10/04/2017

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1193	69	0	0	57	78
Future Volume (vph)	1193	69	0	0	57	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0	5.0			4.0	
Lane Util. Factor	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.99	
Flpb, ped/bikes	1.00	1.00			1.00	
Frt	1.00	0.85			0.92	
Flt Protected	1.00	1.00			0.98	
Satd. Flow (prot)	1842	1288			1528	
Flt Permitted	1.00	1.00			0.98	
Satd. Flow (perm)	1842	1288			1528	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1297	75	0	0	62	85
RTOR Reduction (vph)	0	5	0	0	60	0
Lane Group Flow (vph)	1297	70	0	0	87	0
Confl. Peds. (#/hr)		14	14			
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	2%	10%	0%	0%	4%	3%
Bus Blockages (#/hr)	0	2	0	0	0	0
Turn Type	NA	Perm			Perm	
Protected Phases	2					
Permitted Phases		2			4	
Actuated Green, G (s)	72.0	72.0			12.0	
Effective Green, g (s)	73.0	73.0			13.0	
Actuated g/C Ratio	0.77	0.77			0.14	
Clearance Time (s)	6.0	6.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	1415	989			209	
v/s Ratio Prot	c0.70					
v/s Ratio Perm		0.05			c0.06	
v/c Ratio	0.92	0.07			0.41	
Uniform Delay, d1	8.6	2.7			37.5	
Progression Factor	1.00	1.00			1.00	
Incremental Delay, d2	10.8	0.1			1.3	
Delay (s)	19.5	2.8			38.8	
Level of Service	B	A			D	
Approach Delay (s)	18.6			0.0	38.8	
Approach LOS	B			A	D	
Intersection Summary						
HCM 2000 Control Delay		20.5		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.85				
Actuated Cycle Length (s)		95.0		Sum of lost time (s)		10.0
Intersection Capacity Utilization		78.2%		ICU Level of Service		D
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

40: Lake Shore Blvd W & TTC Streetcar Underpass

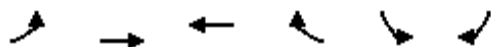
10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1170	5	0	89	0	24	0	4	0	0	0
Future Volume (vph)	7	1170	5	0	89	0	24	0	4	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	7.0	7.0			7.0		4.0		4.0			
Lane Util. Factor	1.00	1.00			1.00		1.00		1.00			
Frpb, ped/bikes	1.00	1.00			1.00		1.00		1.00			
Flpb, ped/bikes	1.00	1.00			1.00		1.00		1.00			
Frt	1.00	1.00			1.00		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	842	1822			1879		1685		1507			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	842	1822			1879		1685		1507			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	1272	5	0	97	0	26	0	4	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	4	0	0	0
Lane Group Flow (vph)	8	1277	0	0	97	0	26	0	0	0	0	0
Confl. Peds. (#/hr)			32	32								
Confl. Bikes (#/hr)			2									4
Heavy Vehicles (%)	100%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA		Perm		Prot			Over
Protected Phases	5	2			6				4			5
Permitted Phases		6					4					
Actuated Green, G (s)	1.8	92.1			82.3		4.9		4.9			
Effective Green, g (s)	2.8	93.1			83.3		5.9		5.9			
Actuated g/C Ratio	0.03	0.85			0.76		0.05		0.05			
Clearance Time (s)	8.0	8.0			8.0		5.0		5.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	21	1542			1422		90		80			
v/s Ratio Prot	0.01	c0.70			0.05				0.00			
v/s Ratio Perm							c0.02					
v/c Ratio	0.38	0.83			0.07		0.29		0.00			
Uniform Delay, d1	52.7	4.3			3.4		50.0		49.3			
Progression Factor	1.00	1.00			1.00		1.00		1.00			
Incremental Delay, d2	11.2	5.3			0.1		1.8		0.0			
Delay (s)	63.9	9.6			3.5		51.8		49.3			
Level of Service	E	A			A		D		D			
Approach Delay (s)		9.9			3.5		51.5				0.0	
Approach LOS		A			A		D				A	
Intersection Summary												
HCM 2000 Control Delay			10.4				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			76.9%				ICU Level of Service		D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: Lake Shore Blvd W & Ellis Ave

10/04/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	197	3716	1640	57	125	227
Future Volume (vph)	197	3716	1640	57	125	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)	6.0	6.0	5.0		7.0	
Lane Util. Factor	1.00	0.86	0.91		0.97	
Frpb, ped/bikes	1.00	1.00	1.00		0.74	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.99		0.90	
Flt Protected	0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1668	6202	4978		2200	
Flt Permitted	0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1668	6202	4978		2200	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	4039	1783	62	136	247
RTOR Reduction (vph)	0	0	3	0	176	0
Lane Group Flow (vph)	214	4039	1842	0	207	0
Confl. Peds. (#/hr)	2			2		23
Confl. Bikes (#/hr)				21		301
Heavy Vehicles (%)	1%	4%	2%	7%	4%	2%
Bus Blockages (#/hr)	0	2	2	2	2	2
Turn Type	Prot	NA	NA		Prot	
Protected Phases	4	8	3		6	
Permitted Phases						
Actuated Green, G (s)	16.0	91.0	69.0		22.0	
Effective Green, g (s)	17.0	92.0	70.0		23.0	
Actuated g/C Ratio	0.13	0.72	0.55		0.18	
Clearance Time (s)	7.0	7.0	6.0		8.0	
Lane Grp Cap (vph)	221	4457	2722		395	
v/s Ratio Prot	0.13	c0.65	0.37		c0.09	
v/s Ratio Perm						
v/c Ratio	0.97	0.91	0.68		0.52	
Uniform Delay, d1	55.2	14.5	20.9		47.5	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	52.9	3.6	1.4		4.9	
Delay (s)	108.1	18.1	22.2		52.4	
Level of Service	F	B	C		D	
Approach Delay (s)		22.6	22.2		52.4	
Approach LOS		C	C		D	
Intersection Summary						
HCM 2000 Control Delay			24.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87			
Actuated Cycle Length (s)			128.0		Sum of lost time (s)	18.0
Intersection Capacity Utilization			101.7%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: Lake Shore Blvd W & Windermere Ave

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	206	3667	0	0	1766	101	0	0	0	246	3	397
Future Volume (vph)	206	3667	0	0	1766	101	0	0	0	246	3	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.0	3.0	3.0	3.5	3.0
Total Lost time (s)	6.0	6.0			5.0	7.0				7.0	7.0	7.0
Lane Util. Factor	1.00	0.86			0.91	1.00				0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.98				1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00			1.00	1.00				1.00	1.00	1.00
Frt	1.00	1.00			1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (prot)	1652	6143			5029	1431				1585	1685	1353
Flt Permitted	0.95	1.00			1.00	1.00				0.95	0.95	1.00
Satd. Flow (perm)	1652	6143			5029	1431				1585	1685	1353
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	224	3986	0	0	1920	110	0	0	0	267	3	432
RTOR Reduction (vph)	0	0	0	0	0	37	0	0	0	0	0	286
Lane Group Flow (vph)	224	3986	0	0	1920	73	0	0	0	136	134	146
Confl. Peds. (#/hr)	6					6	35					35
Confl. Bikes (#/hr)												31
Heavy Vehicles (%)	2%	5%	0%	0%	2%	2%	0%	0%	0%	1%	0%	1%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA	custom				Perm	NA	Perm
Protected Phases	5	2		1	6	8					8	
Permitted Phases						6				8		8
Actuated Green, G (s)	25.0	89.0			58.0	84.0				26.0	26.0	26.0
Effective Green, g (s)	26.0	90.0			59.0	86.0				27.0	27.0	27.0
Actuated g/C Ratio	0.20	0.69			0.45	0.66				0.21	0.21	0.21
Clearance Time (s)	7.0	7.0			6.0	8.0				8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0				3.0	3.0	3.0
Lane Grp Cap (vph)	330	4252			2282	1023				329	349	281
v/s Ratio Prot	0.14	0.65			0.38	0.01						
v/s Ratio Perm						0.04				0.09	0.08	0.11
v/c Ratio	0.68	0.94			0.84	0.07				0.41	0.38	0.52
Uniform Delay, d1	48.1	17.5			31.4	7.8				44.6	44.3	45.7
Progression Factor	1.00	1.00			1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2	5.5	5.3			4.0	0.1				3.8	3.2	6.7
Delay (s)	53.6	22.9			35.3	7.9				48.4	47.5	52.5
Level of Service	D	C			D	A				D	D	D
Approach Delay (s)		24.5			33.8		0.0				50.7	
Approach LOS		C			C		A				D	
Intersection Summary												
HCM 2000 Control Delay			29.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)			19.0		
Intersection Capacity Utilization			95.6%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: Ellis Ave & The Queensway

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑		↑	↑		↑	↑	
Traffic Volume (vph)	0	1513	34	79	754	49	34	77	143	149	239	40
Future Volume (vph)	0	1513	34	79	754	49	34	77	143	149	239	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		5.0		4.0	5.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	0.96		1.00	0.99	
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00		0.98	1.00	
Frt		1.00		1.00	0.99		1.00	0.90		1.00	0.98	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3434		1668	3373		1534	1599		1656	1823	
Flt Permitted		1.00		0.95	1.00		0.31	1.00		0.43	1.00	
Satd. Flow (perm)		3434		1668	3373		496	1599		743	1823	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1645	37	86	820	53	37	84	155	162	260	43
RTOR Reduction (vph)	0	1	0	0	3	0	0	51	0	0	5	0
Lane Group Flow (vph)	0	1681	0	86	870	0	37	188	0	162	298	0
Confl. Peds. (#/hr)	60		7	7		60	11		21	21		11
Confl. Bikes (#/hr)			4			43			25			35
Heavy Vehicles (%)	0%	3%	9%	1%	3%	2%	9%	5%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	2	2	0	2	0	0	0	0	0	0	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)		80.9		12.0	97.9		32.1	32.1		32.1	32.1	
Effective Green, g (s)		81.9		13.0	98.9		33.1	33.1		33.1	33.1	
Actuated g/C Ratio		0.57		0.09	0.69		0.23	0.23		0.23	0.23	
Clearance Time (s)		6.0		5.0	6.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1953		150	2316		114	367		170	419	
v/s Ratio Prot		c0.49		c0.05	0.26			0.12			0.16	
v/s Ratio Perm							0.07			c0.22		
v/c Ratio		0.86		0.57	0.38		0.32	0.51		0.95	0.71	
Uniform Delay, d1		26.2		62.8	9.5		46.1	48.4		54.7	51.1	
Progression Factor		0.41		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.3		5.2	0.5		1.7	1.2		54.9	5.6	
Delay (s)		13.2		68.1	10.0		47.8	49.6		109.6	56.7	
Level of Service		B		E	A		D	D		F	E	
Approach Delay (s)		13.2			15.2			49.4			75.1	
Approach LOS		B			B			D			E	
Intersection Summary												
HCM 2000 Control Delay			25.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			95.8%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: Windermere Ave & The Queensway

10/04/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	1319	113	64	742	22	159	133	109	119	313	43
Future Volume (vph)	81	1319	113	64	742	22	159	133	109	119	313	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0		3.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		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	0.95		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.94	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.93		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)	1620	3374		1604	3411		1621	1645		1568	1799	
Flt Permitted	0.95	1.00		0.95	1.00		0.25	1.00		0.60	1.00	
Satd. Flow (perm)	1620	3374		1604	3411		425	1645		985	1799	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	1434	123	70	807	24	173	145	118	129	340	47
RTOR Reduction (vph)	0	4	0	0	2	0	0	20	0	0	4	0
Lane Group Flow (vph)	88	1553	0	70	829	0	173	243	0	129	383	0
Confl. Peds. (#/hr)	65		50	50		65	100		82	82		100
Confl. Bikes (#/hr)			2			16			23			26
Heavy Vehicles (%)	4%	4%	1%	5%	4%	0%	3%	0%	3%	1%	1%	0%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	8.0	67.0		6.0	65.0		51.0	51.0		41.0	41.0	
Effective Green, g (s)	9.0	68.0		7.0	66.0		52.0	52.0		42.0	42.0	
Actuated g/C Ratio	0.06	0.47		0.05	0.46		0.36	0.36		0.29	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0		4.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	101	1593		77	1563		211	594		287	524	
v/s Ratio Prot	c0.05	c0.46		0.04	0.24		c0.04	0.15			0.21	
v/s Ratio Perm							c0.26			0.13		
v/c Ratio	0.87	0.97		0.91	0.53		0.82	0.41		0.45	0.73	
Uniform Delay, d1	66.9	37.2		68.2	27.9		42.7	34.5		41.6	45.9	
Progression Factor	1.26	0.75		1.29	0.72		1.00	1.00		1.00	1.00	
Incremental Delay, d2	44.3	15.2		68.9	1.2		21.4	2.1		5.0	8.7	
Delay (s)	128.8	42.9		157.1	21.2		64.1	36.5		46.6	54.7	
Level of Service	F	D		F	C		E	D		D	D	
Approach Delay (s)		47.5			31.8			47.5			52.6	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			44.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			143.3%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

10/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	476	55	8	728	403	31	118	24	520	115	325
Future Volume (vph)	219	476	55	8	728	403	31	118	24	520	115	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0			6.0	6.0		6.0	6.0	6.0	6.0	6.0
Lane Util. Factor		0.91			0.95	1.00		0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.93		1.00	0.96	1.00	1.00	0.86
Flpb, ped/bikes		1.00			1.00	1.00		0.98	1.00	0.97	1.00	1.00
Frt		0.99			1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99			1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)		4686			3331	1409		3180	1191	3186	1788	1273
Flt Permitted		0.66			0.94	1.00		0.88	1.00	0.65	1.00	1.00
Satd. Flow (perm)		3129			3139	1409		2815	1191	2178	1788	1273
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	238	517	60	9	791	438	34	128	26	565	125	353
RTOR Reduction (vph)	0	9	0	0	0	271	0	0	17	0	0	202
Lane Group Flow (vph)	0	806	0	0	800	167	0	162	9	565	125	151
Confl. Peds. (#/hr)	49		19	19		49	137		27	27		137
Confl. Bikes (#/hr)			12			5			2			11
Heavy Vehicles (%)	3%	3%	0%	0%	2%	0%	6%	8%	21%	0%	3%	0%
Bus Blockages (#/hr)	22	24	2	0	24	0	0	5	0	0	5	5
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			3	
Permitted Phases	2			6		6	8		8	3		3
Actuated Green, G (s)		56.0			39.0	39.0		35.0	35.0	35.0	35.0	35.0
Effective Green, g (s)		57.0			40.0	40.0		36.0	36.0	36.0	36.0	36.0
Actuated g/C Ratio		0.54			0.38	0.38		0.34	0.34	0.34	0.34	0.34
Clearance Time (s)		7.0			7.0	7.0		7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1906			1195	536		965	408	746	613	436
v/s Ratio Prot		c0.06									0.07	
v/s Ratio Perm		0.17			c0.25	0.12		0.06	0.01	c0.26		0.12
v/c Ratio		0.42			0.67	0.31		0.17	0.02	0.76	0.20	0.35
Uniform Delay, d1		14.2			27.0	22.8		24.1	22.8	30.6	24.4	25.7
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.7			3.0	1.5		0.1	0.0	7.1	0.8	2.2
Delay (s)		14.9			30.0	24.3		24.1	22.9	37.7	25.1	27.9
Level of Service		B			C	C		C	C	D	C	C
Approach Delay (s)		14.9			28.0			24.0			32.9	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			105.0				Sum of lost time (s)			15.0		
Intersection Capacity Utilization			94.2%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Park Lawn Road & Gardiner Ramp N

10/05/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰	↷	↷	↰	↷			↷	↰
Traffic Volume (vph)	0	0	0	2	15	6	351	902	0	0	460	351
Future Volume (vph)	0	0	0	2	15	6	351	902	0	0	460	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)				5.0	5.0	5.0	3.0	6.0			6.0	6.0
Lane Util. Factor				1.00	1.00	1.00	1.00	0.95			0.95	1.00
Frpb, ped/bikes				1.00	1.00	0.98	1.00	1.00			1.00	0.95
Flpb, ped/bikes				1.00	1.00	1.00	0.99	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1631	1482	1625	3465			3535	1361
Flt Permitted				0.95	1.00	1.00	0.44	1.00			1.00	1.00
Satd. Flow (perm)				1681	1631	1482	760	3465			3535	1361
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	2	16	7	382	980	0	0	500	382
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	0	0	0	143
Lane Group Flow (vph)	0	0	0	2	16	1	382	980	0	0	500	239
Confl. Peds. (#/hr)	5		2	2		5	25		16	16		25
Confl. Bikes (#/hr)									6			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	2%	0%	0%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	33	0	0	5	5	0	0	5
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				8.2	8.2	8.2	66.8	66.8			54.0	54.0
Effective Green, g (s)				9.2	9.2	9.2	67.8	67.8			55.0	55.0
Actuated g/C Ratio				0.10	0.10	0.10	0.77	0.77			0.62	0.62
Clearance Time (s)				6.0	6.0	6.0	4.0	7.0			7.0	7.0
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				175	170	154	681	2669			2209	850
v/s Ratio Prot					c0.01		c0.06	0.28			0.14	
v/s Ratio Perm				0.00		0.00	c0.37					0.18
v/c Ratio				0.01	0.09	0.00	0.56	0.37			0.23	0.28
Uniform Delay, d1				35.3	35.6	35.3	3.1	3.2			7.2	7.5
Progression Factor				1.00	1.00	1.00	1.19	0.63			1.00	1.00
Incremental Delay, d2				0.0	0.2	0.0	1.0	0.4			0.2	0.8
Delay (s)				35.3	35.9	35.3	4.7	2.4			7.4	8.3
Level of Service				D	D	D	A	A			A	A
Approach Delay (s)		0.0			35.7			3.0			7.8	
Approach LOS		A			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.2									
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			88.0								14.0	
Intersection Capacity Utilization			69.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

10/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔			↔	↔
Traffic Volume (vph)	107	752	161	5	77	5	92	14	26	96	71	970
Future Volume (vph)	107	752	161	5	77	5	92	14	26	96	71	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5
Total Lost time (s)		6.0			6.0		6.0	6.0			6.0	3.0
Lane Util. Factor		0.95			0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes		0.98			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
Frt		0.98			0.99		1.00	0.90			1.00	0.85
Flt Protected		0.99			1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)		3294			3290		1685	1695			1785	1562
Flt Permitted		0.90			0.91		0.56	1.00			0.80	1.00
Satd. Flow (perm)		2982			3015		1000	1695			1466	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	817	175	5	84	5	100	15	28	104	77	1054
RTOR Reduction (vph)	0	13	0	0	2	0	0	23	0	0	0	0
Lane Group Flow (vph)	0	1095	0	0	92	0	100	20	0	0	181	1054
Confl. Peds. (#/hr)	1		65	65		1						
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	2%	0%	0%	8%	0%	0%	0%	0%	4%	0%	1%
Bus Blockages (#/hr)	0	7	7	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Free
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		Free
Actuated Green, G (s)		59.7			59.7		16.3	16.3			16.3	90.0
Effective Green, g (s)		60.7			60.7		17.3	17.3			17.3	90.0
Actuated g/C Ratio		0.67			0.67		0.19	0.19			0.19	1.00
Clearance Time (s)		7.0			7.0		7.0	7.0			7.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2011			2033		192	325			281	1562
v/s Ratio Prot								0.01				
v/s Ratio Perm		0.37			0.03		0.10				0.12	c0.67
v/c Ratio		0.54			0.05		0.52	0.06			0.64	0.67
Uniform Delay, d1		7.5			4.9		32.6	29.7			33.5	0.0
Progression Factor		1.00			0.83		1.00	1.00			1.00	1.00
Incremental Delay, d2		1.1			0.0		2.5	0.1			5.0	2.4
Delay (s)		8.6			4.1		35.2	29.8			38.5	2.4
Level of Service		A			A		D	C			D	A
Approach Delay (s)		8.6			4.1			33.6			7.7	
Approach LOS		A			A			C			A	
Intersection Summary												
HCM 2000 Control Delay			9.4									HCM 2000 Level of Service A
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			90.0								12.0	
Intersection Capacity Utilization			58.8%									ICU Level of Service B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Park Lawn Road & Metro Entrance

10/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	101	0	31	1	0	0	15	725	0	0	928	201
Future Volume (vph)	101	0	31	1	0	0	15	725	0	0	928	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.0	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.5		3.5		3.5		3.5	3.5			3.5	
Lane Util. Factor	1.00		1.00		1.00		1.00	0.95			0.95	
Frt	1.00		0.85		1.00		1.00	1.00			0.97	
Flt Protected	0.95		1.00		0.95		0.95	1.00			1.00	
Satd. Flow (prot)	1685		1507		1785		1685	3500			3446	
Flt Permitted	0.76		1.00		0.95		0.20	1.00			1.00	
Satd. Flow (perm)	1343		1507		1785		355	3500			3446	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	0	34	1	0	0	16	788	0	0	1009	218
RTOR Reduction (vph)	0	0	29	0	0	0	0	0	0	0	16	0
Lane Group Flow (vph)	110	0	5	0	1	0	16	788	0	0	1211	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Turn Type	Perm		Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	9.8		9.8		9.8		51.2	51.2			51.2	
Effective Green, g (s)	10.8		10.8		10.8		52.2	52.2			52.2	
Actuated g/C Ratio	0.15		0.15		0.15		0.75	0.75			0.75	
Clearance Time (s)	4.5		4.5		4.5		4.5	4.5			4.5	
Vehicle Extension (s)	3.0		3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	207		232		275		264	2610			2569	
v/s Ratio Prot								0.23			c0.35	
v/s Ratio Perm	c0.08		0.00		0.00		0.05					
v/c Ratio	0.53		0.02		0.00		0.06	0.30			0.47	
Uniform Delay, d1	27.3		25.1		25.0		2.4	2.9			3.5	
Progression Factor	1.00		1.00		1.00		1.00	1.00			1.00	
Incremental Delay, d2	2.6		0.0		0.0		0.4	0.3			0.6	
Delay (s)	29.9		25.2		25.1		2.8	3.2			4.1	
Level of Service	C		C		C		A	A			A	
Approach Delay (s)		28.8			25.1			3.2			4.1	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.4				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			70.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			50.4%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Park Lawn Road & Gardiner Ramp S

10/05/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	→→	→→	←
Traffic Volume (vph)	540	776	106	714	417	45
Future Volume (vph)	540	776	106	714	417	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.5	3.5	3.0
Total Lost time (s)	4.0	4.0	6.0	6.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.98	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3236	1566	1636	3431	3395	
Flt Permitted	0.95	1.00	0.44	1.00	1.00	
Satd. Flow (perm)	3236	1566	755	3431	3395	
Peak-hour factor, PHF	0.92	1.00	0.92	0.92	0.92	0.92
Adj. Flow (vph)	587	776	115	776	453	49
RTOR Reduction (vph)	0	113	0	0	9	0
Lane Group Flow (vph)	587	663	115	776	493	0
Confl. Peds. (#/hr)		7	50			50
Confl. Bikes (#/hr)		4				
Heavy Vehicles (%)	1%	0%	0%	3%	2%	0%
Bus Blockages (#/hr)	0	0	0	5	5	5
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	38.0	38.0	38.0	38.0	38.0	
Effective Green, g (s)	39.0	39.0	39.0	39.0	39.0	
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	
Clearance Time (s)	5.0	5.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1434	694	334	1520	1504	
v/s Ratio Prot	0.18			0.23	0.15	
v/s Ratio Perm		0.42	0.15			
v/c Ratio	0.41	0.96	0.34	0.51	0.33	
Uniform Delay, d1	16.7	23.7	16.1	17.6	16.0	
Progression Factor	1.00	1.00	1.00	1.00	0.57	
Incremental Delay, d2	0.2	23.5	2.8	1.2	0.6	
Delay (s)	16.9	47.2	18.9	18.9	9.7	
Level of Service	B	D	B	B	A	
Approach Delay (s)	34.1			18.9	9.7	
Approach LOS	C			B	A	
Intersection Summary						
HCM 2000 Control Delay			24.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			88.0		Sum of lost time (s)	10.0
Intersection Capacity Utilization			88.0%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

13: Park Lawn Road & The Queensway

10/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	184	948	181	383	959	64	112	330	478	48	240	131
Future Volume (vph)	184	948	181	383	959	64	112	330	478	48	240	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0		3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	*0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.96	1.00	1.00	0.96	1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1683	3441		1652	3535	1431	1675	1823	1399	1661	3220	
Flt Permitted	0.24	1.00		0.08	1.00	1.00	0.32	1.00	1.00	0.41	1.00	
Satd. Flow (perm)	432	3441		141	3535	1431	572	1823	1399	725	3220	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	200	1030	197	416	1042	70	122	359	520	52	261	142
RTOR Reduction (vph)	0	13	0	0	0	35	0	0	283	0	58	0
Lane Group Flow (vph)	200	1214	0	416	1042	35	122	359	237	52	345	0
Confl. Peds. (#/hr)	15		14	14		15	29		17	17		29
Confl. Bikes (#/hr)			3			2			8			16
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	1%	3%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	2	0	5	0	0	5	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	56.5	45.2		76.7	61.4	61.4	34.3	34.3	34.3	24.0	24.0	
Effective Green, g (s)	58.5	46.2		77.7	62.4	62.4	35.3	35.3	35.3	25.0	25.0	
Actuated g/C Ratio	0.47	0.37		0.62	0.50	0.50	0.28	0.28	0.28	0.20	0.20	
Clearance Time (s)	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	325	1271		432	1764	714	225	514	395	145	644	
v/s Ratio Prot	0.06	0.35		c0.22	0.29		0.03	c0.20			0.11	
v/s Ratio Perm	0.23			c0.38		0.02	0.12		0.17	0.07		
v/c Ratio	0.62	0.96		0.96	0.59	0.05	0.54	0.70	0.60	0.36	0.54	
Uniform Delay, d1	20.3	38.4		39.0	22.2	16.1	35.2	40.1	38.8	43.1	44.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.4	15.7		33.6	0.5	0.0	2.7	7.7	6.6	6.8	3.2	
Delay (s)	23.7	54.1		72.6	22.8	16.1	37.9	47.8	45.4	49.9	48.0	
Level of Service	C	D		E	C	B	D	D	D	D	D	
Approach Delay (s)		49.8			36.0			45.3			48.2	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			43.8			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			109.8%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

15: The Queensway & Stephen Dr

10/05/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	1417	1411	130	114	37
Future Volume (vph)	30	1417	1411	130	114	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	0.96	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.96	
Flt Protected	0.95	1.00	1.00	1.00	0.96	
Satd. Flow (prot)	1633	3535	3535	1396	2953	
Flt Permitted	0.14	1.00	1.00	1.00	0.96	
Satd. Flow (perm)	234	3535	3535	1396	2953	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1540	1534	141	124	40
RTOR Reduction (vph)	0	0	0	20	24	0
Lane Group Flow (vph)	33	1540	1534	121	140	0
Confl. Peds. (#/hr)	24			24		24
Confl. Bikes (#/hr)				2		13
Heavy Vehicles (%)	3%	1%	1%	3%	4%	5%
Bus Blockages (#/hr)	0	0	0	2	5	5
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	
Permitted Phases	4			8		
Actuated Green, G (s)	110.9	110.9	110.9	110.9	21.1	
Effective Green, g (s)	111.9	111.9	111.9	111.9	22.1	
Actuated g/C Ratio	0.78	0.78	0.78	0.78	0.15	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	181	2746	2746	1084	453	
v/s Ratio Prot		c0.44	0.43		c0.05	
v/s Ratio Perm	0.14			0.09		
v/c Ratio	0.18	0.56	0.56	0.11	0.31	
Uniform Delay, d1	4.2	6.3	6.3	3.9	54.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.2	0.8	0.8	0.2	0.4	
Delay (s)	6.4	7.2	7.1	4.1	54.6	
Level of Service	A	A	A	A	D	
Approach Delay (s)		7.2	6.9		54.6	
Approach LOS		A	A		D	
Intersection Summary						
HCM 2000 Control Delay			9.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	10.0
Intersection Capacity Utilization			105.5%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

19: Sobey's Entrance & The Queensway

10/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1204	300	147	1284	9	260	1	81	6	8	13
Future Volume (vph)	3	1204	300	147	1284	9	260	1	81	6	8	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		3.0	5.0		5.0	5.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	1.00			1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.85			0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1685	3388		1685	3448		3236	1600			1740	
Flt Permitted	0.19	1.00		0.07	1.00		0.74	1.00			0.93	
Satd. Flow (perm)	335	3388		132	3448		2513	1600			1639	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1309	326	160	1396	10	283	1	88	7	9	14
RTOR Reduction (vph)	0	15	0	0	0	0	0	73	0	0	12	0
Lane Group Flow (vph)	3	1620	0	160	1406	0	283	16	0	0	18	0
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			3			8	
Permitted Phases	2			6			3			8		
Actuated Green, G (s)	73.2	73.2		88.2	88.2		18.8	18.8			17.8	
Effective Green, g (s)	74.2	74.2		89.2	89.2		19.8	19.8			18.8	
Actuated g/C Ratio	0.62	0.62		0.75	0.75		0.17	0.17			0.16	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0			7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	208	2112		255	2584		418	266			258	
v/s Ratio Prot		c0.48		c0.06	0.41			0.01				
v/s Ratio Perm	0.01			0.40			c0.11				0.01	
v/c Ratio	0.01	0.77		0.63	0.54		0.68	0.06			0.07	
Uniform Delay, d1	8.5	16.2		22.7	6.3		46.6	41.8			42.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	2.7		4.8	0.8		4.3	0.1			0.1	
Delay (s)	8.6	18.9		27.4	7.1		50.9	41.8			42.8	
Level of Service	A	B		C	A		D	D			D	
Approach Delay (s)		18.9			9.2			48.7			42.8	
Approach LOS		B			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			18.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			119.0			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			82.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: The Queensway & Kingsway Link Road

10/05/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	1203	974	255	0	220
Future Volume (vph)	0	1203	974	255	0	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)		6.0	6.0			6.0
Lane Util. Factor		0.95	0.95			1.00
Frpb, ped/bikes		1.00	1.00			0.98
Flpb, ped/bikes		1.00	1.00			1.00
Frt		1.00	0.97			0.86
Flt Protected		1.00	1.00			1.00
Satd. Flow (prot)		3556	3397			1502
Flt Permitted		1.00	1.00			1.00
Satd. Flow (perm)		3556	3397			1502
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1308	1059	277	0	239
RTOR Reduction (vph)	0	0	12	0	0	0
Lane Group Flow (vph)	0	1308	1324	0	0	239
Confl. Peds. (#/hr)						20
Bus Blockages (#/hr)	0	2	9	9	0	0
Turn Type		NA	NA			Perm
Protected Phases		2	6			
Permitted Phases						2 3
Actuated Green, G (s)		108.8	108.8			144.0
Effective Green, g (s)		109.8	109.8			140.0
Actuated g/C Ratio		0.76	0.76			0.97
Clearance Time (s)		7.0	7.0			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		2711	2590			1460
v/s Ratio Prot		0.37	c0.39			
v/s Ratio Perm						c0.16
v/c Ratio		0.48	0.51			0.16
Uniform Delay, d1		6.4	6.7			0.1
Progression Factor		1.00	0.21			1.00
Incremental Delay, d2		0.6	0.5			0.1
Delay (s)		7.0	1.9			0.1
Level of Service		A	A			A
Approach Delay (s)		7.0	1.9		0.1	
Approach LOS		A	A		A	
Intersection Summary						
HCM 2000 Control Delay			4.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	11.0
Intersection Capacity Utilization			126.7%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

39: Palace Pier & Lake Shore Blvd W

10/05/2017

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	676	154	0	0	18	29
Future Volume (vph)	676	154	0	0	18	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.0	3.0	3.0
Total Lost time (s)	5.0	5.0			4.0	
Lane Util. Factor	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.94			0.98	
Flpb, ped/bikes	1.00	1.00			1.00	
Frt	1.00	0.85			0.92	
Flt Protected	1.00	1.00			0.98	
Satd. Flow (prot)	1860	1385			1537	
Flt Permitted	1.00	1.00			0.98	
Satd. Flow (perm)	1860	1385			1537	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	735	167	0	0	20	32
RTOR Reduction (vph)	0	22	0	0	28	0
Lane Group Flow (vph)	735	145	0	0	24	0
Confl. Peds. (#/hr)		16	16			
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	1%	2%	0%	0%	0%	3%
Bus Blockages (#/hr)	0	2	0	0	0	0
Turn Type	NA	Perm			Perm	
Protected Phases	2					
Permitted Phases		2			4	
Actuated Green, G (s)	67.4	67.4			11.6	
Effective Green, g (s)	68.4	68.4			12.6	
Actuated g/C Ratio	0.76	0.76			0.14	
Clearance Time (s)	6.0	6.0			5.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	1413	1052			215	
v/s Ratio Prot	c0.40					
v/s Ratio Perm		0.10			c0.02	
v/c Ratio	0.52	0.14			0.11	
Uniform Delay, d1	4.3	2.9			33.8	
Progression Factor	0.86	0.69			1.00	
Incremental Delay, d2	1.2	0.2			0.2	
Delay (s)	4.9	2.2			34.1	
Level of Service	A	A			C	
Approach Delay (s)	4.4			0.0	34.1	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay		6.0		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.46				
Actuated Cycle Length (s)		90.0		Sum of lost time (s)		10.0
Intersection Capacity Utilization		48.9%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

40: Lake Shore Blvd W & TTC Streetcar Underpass

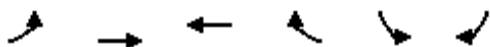
10/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	832	38	0	68	0	19	0	6	0	0	0
Future Volume (vph)	4	832	38	0	68	0	19	0	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.0	3.0	3.0	3.5	3.0
Total Lost time (s)	7.0	7.0			7.0		4.0		4.0			
Lane Util. Factor	1.00	1.00			1.00		1.00		1.00			
Frpb, ped/bikes	1.00	0.99			1.00		1.00		1.00			
Flpb, ped/bikes	1.00	1.00			1.00		1.00		1.00			
Frt	1.00	0.99			1.00		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	842	1820			1842		1685		1507			
Flt Permitted	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	842	1820			1842		1685		1507			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	904	41	0	74	0	21	0	7	0	0	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	7	0	0	0
Lane Group Flow (vph)	4	944	0	0	74	0	21	0	0	0	0	0
Confl. Peds. (#/hr)			43	43								
Confl. Bikes (#/hr)			4						4			2
Heavy Vehicles (%)	100%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA		Perm		Prot			Over
Protected Phases	5	2			6				4			5
Permitted Phases		6					4					
Actuated Green, G (s)	1.5	73.8			64.3		3.2		3.2			
Effective Green, g (s)	2.5	74.8			65.3		4.2		4.2			
Actuated g/C Ratio	0.03	0.83			0.73		0.05		0.05			
Clearance Time (s)	8.0	8.0			8.0		5.0		5.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)	23	1512			1336		78		70			
v/s Ratio Prot	0.00	c0.52			0.04				0.00			
v/s Ratio Perm							c0.01					
v/c Ratio	0.17	0.62			0.06		0.27		0.00			
Uniform Delay, d1	42.7	2.7			3.5		41.4		40.9			
Progression Factor	1.19	0.83			0.80		1.00		1.00			
Incremental Delay, d2	3.1	1.7			0.1		1.9		0.0			
Delay (s)	54.1	3.9			2.9		43.3		40.9			
Level of Service	D	A			A		D		D			
Approach Delay (s)		4.1			2.9			42.7			0.0	
Approach LOS		A			A			D			A	
Intersection Summary												
HCM 2000 Control Delay			5.1				HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)		18.0			
Intersection Capacity Utilization			61.2%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: Lake Shore Blvd W & Ellis Ave

10/05/2017



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	213	3681	2413	68	67	186
Future Volume (vph)	213	3681	2413	68	67	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.0	3.0
Total Lost time (s)	6.0	6.0	6.0		7.0	
Lane Util. Factor	1.00	0.86	0.91		0.97	
Frpb, ped/bikes	1.00	1.00	1.00		0.64	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	1.00		0.89	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1685	6387	4988		1848	
Flt Permitted	0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1685	6387	4988		1848	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	232	4001	2623	74	73	202
RTOR Reduction (vph)	0	0	2	0	170	0
Lane Group Flow (vph)	232	4001	2695	0	105	0
Confl. Peds. (#/hr)	4			4		30
Confl. Bikes (#/hr)				13		345
Heavy Vehicles (%)	0%	1%	2%	5%	4%	4%
Bus Blockages (#/hr)	0	2	2	2	2	2
Turn Type	Prot	NA	NA		Prot	
Protected Phases	4	8	3		6	
Permitted Phases						
Actuated Green, G (s)	22.0	107.0	78.0		22.0	
Effective Green, g (s)	23.0	108.0	79.0		23.0	
Actuated g/C Ratio	0.16	0.75	0.55		0.16	
Clearance Time (s)	7.0	7.0	7.0		8.0	
Lane Grp Cap (vph)	269	4790	2736		295	
v/s Ratio Prot	0.14	c0.63	c0.54		c0.06	
v/s Ratio Perm						
v/c Ratio	0.86	0.84	0.99		0.36	
Uniform Delay, d1	59.0	12.0	31.9		53.9	
Progression Factor	1.00	1.00	1.00		1.31	
Incremental Delay, d2	28.7	1.9	14.0		3.1	
Delay (s)	87.6	13.9	46.0		73.9	
Level of Service	F	B	D		E	
Approach Delay (s)		17.9	46.0		73.9	
Approach LOS		B	D		E	
Intersection Summary						
HCM 2000 Control Delay			30.6		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87			
Actuated Cycle Length (s)			144.0		Sum of lost time (s)	19.0
Intersection Capacity Utilization			103.5%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: Lake Shore Blvd W & Windermere Ave

10/05/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑		↰	↑↑↑	↰				↰	↰	↰
Traffic Volume (vph)	261	3739	0	2	2438	159	0	0	0	155	6	339
Future Volume (vph)	261	3739	0	2	2438	159	0	0	0	155	6	339
Ideal Flow (vphpl)	1900	1900	1900	1900	2005	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.7	3.0	3.0	3.0	3.0	3.0	3.5	3.0
Total Lost time (s)	6.0	6.0		6.0	5.0	7.0				7.0	7.0	7.0
Lane Util. Factor	1.00	0.86		1.00	0.91	1.00				0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.96				1.00	1.00	0.89
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00				1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85				1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00				0.95	0.96	1.00
Satd. Flow (prot)	1685	6387		1685	5426	1428				1585	1691	1333
Flt Permitted	0.95	1.00		0.95	1.00	1.00				0.95	0.96	1.00
Satd. Flow (perm)	1685	6387		1685	5426	1428				1585	1691	1333
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	284	4064	0	2	2438	173	0	0	0	168	7	368
RTOR Reduction (vph)	0	0	0	0	0	49	0	0	0	0	0	254
Lane Group Flow (vph)	284	4064	0	2	2438	124	0	0	0	87	88	115
Confl. Peds. (#/hr)	11					11	38					38
Confl. Bikes (#/hr)												31
Heavy Vehicles (%)	0%	1%	0%	0%	2%	1%	0%	0%	0%	1%	0%	1%
Bus Blockages (#/hr)	0	2	0	0	0	2	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA	pm+ov				Split	NA	Perm
Protected Phases	5	2		1	6	8				8	8	
Permitted Phases						6						8
Actuated Green, G (s)	27.6	82.0		1.0	56.4	79.4				23.0	23.0	23.0
Effective Green, g (s)	28.6	83.0		2.0	57.4	81.4				24.0	24.0	24.0
Actuated g/C Ratio	0.22	0.65		0.02	0.45	0.64				0.19	0.19	0.19
Clearance Time (s)	7.0	7.0		7.0	6.0	8.0				8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0				3.0	3.0	3.0
Lane Grp Cap (vph)	376	4141		26	2433	986				297	317	249
v/s Ratio Prot	0.17	c0.64		0.00	c0.45	0.02				0.05	0.05	
v/s Ratio Perm						0.06						c0.09
v/c Ratio	0.76	0.98		0.08	1.00	0.13				0.29	0.28	0.46
Uniform Delay, d1	46.4	21.8		62.1	35.3	9.2				44.7	44.6	46.2
Progression Factor	1.00	1.00		1.00	1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2	8.4	10.3		1.3	18.7	0.3				2.5	2.2	6.0
Delay (s)	54.8	32.0		63.4	54.0	9.5				47.2	46.7	52.2
Level of Service	D	C		E	D	A				D	D	D
Approach Delay (s)		33.5			51.1			0.0			50.5	
Approach LOS		C			D			A			D	
Intersection Summary												
HCM 2000 Control Delay			40.9									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			128.0							19.0		
Intersection Capacity Utilization			97.0%									ICU Level of Service F
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: Ellis Ave & The Queensway

10/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑		↖	↑		↖	↑	
Traffic Volume (vph)	0	1005	58	95	1133	111	49	133	99	39	100	22
Future Volume (vph)	0	1005	58	95	1133	111	49	133	99	39	100	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		5.0		4.0	5.0		7.0	7.0		7.0	7.0	
Lane Util. Factor		0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00		1.00	1.00		0.98	1.00		0.99	1.00	
Frt		0.99		1.00	0.99		1.00	0.94		1.00	0.97	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3450		1604	3421		1564	1714		1674	1784	
Flt Permitted		1.00		0.95	1.00		0.67	1.00		0.52	1.00	
Satd. Flow (perm)		3450		1604	3421		1106	1714		922	1784	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1092	63	103	1232	121	53	145	108	42	109	24
RTOR Reduction (vph)	0	5	0	0	7	0	0	48	0	0	14	0
Lane Group Flow (vph)	0	1150	0	103	1346	0	53	205	0	42	119	0
Confl. Peds. (#/hr)	26		8	8		26	21		12	12		21
Confl. Bikes (#/hr)			17			19			39			16
Heavy Vehicles (%)	0%	2%	3%	5%	2%	0%	6%	0%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	2	2	0	2	0	0	0	0	0	0	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases							4			8		
Actuated Green, G (s)		28.4		9.4	42.8		15.2	15.2		15.2	15.2	
Effective Green, g (s)		29.4		10.4	43.8		16.2	16.2		16.2	16.2	
Actuated g/C Ratio		0.41		0.14	0.61		0.22	0.22		0.22	0.22	
Clearance Time (s)		6.0		5.0	6.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1408		231	2081		248	385		207	401	
v/s Ratio Prot		c0.33		0.06	c0.39			c0.12			0.07	
v/s Ratio Perm							0.05			0.05		
v/c Ratio		0.82		0.45	0.65		0.21	0.53		0.20	0.30	
Uniform Delay, d1		18.9		28.2	9.1		22.7	24.6		22.7	23.2	
Progression Factor		2.51		1.00	1.00		0.41	0.62		1.00	1.00	
Incremental Delay, d2		3.2		1.4	1.6		0.2	0.6		0.5	0.4	
Delay (s)		50.6		29.5	10.7		9.6	15.8		23.1	23.6	
Level of Service		D		C	B		A	B		C	C	
Approach Delay (s)		50.6			12.0			14.7			23.5	
Approach LOS		D			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			27.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			72.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			76.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: Windermere Ave & The Queensway

10/05/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	968	142	111	1048	45	129	189	22	73	263	61
Future Volume (vph)	90	968	142	111	1048	45	129	189	22	73	263	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0		3.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.95	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1668	3405		1652	3430		1639	1806		1585	1752	
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00		0.62	1.00	
Satd. Flow (perm)	1668	3405		1652	3430		511	1806		1027	1752	
Peak-hour factor, PHF	0.92	0.92	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	1052	154	111	1139	49	140	205	24	79	286	66
RTOR Reduction (vph)	0	8	0	0	2	0	0	3	0	0	6	0
Lane Group Flow (vph)	98	1198	0	111	1186	0	140	226	0	79	346	0
Confl. Peds. (#/hr)	55		29	29		55	127		57	57		127
Confl. Bikes (#/hr)			12			7			23			21
Heavy Vehicles (%)	1%	2%	0%	2%	3%	0%	1%	1%	5%	1%	1%	0%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases							4			8		
Actuated Green, G (s)	11.8	59.2		12.8	60.2		52.0	52.0		41.0	41.0	
Effective Green, g (s)	12.8	60.2		13.8	61.2		53.0	53.0		42.0	42.0	
Actuated g/C Ratio	0.09	0.42		0.10	0.43		0.37	0.37		0.29	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0		4.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	148	1423		158	1457		250	664		299	511	
v/s Ratio Prot	0.06	c0.35		c0.07	0.35		c0.03	0.13			c0.20	
v/s Ratio Perm							0.17			0.08		
v/c Ratio	0.66	0.84		0.70	0.81		0.56	0.34		0.26	0.68	
Uniform Delay, d1	63.5	37.6		63.1	36.4		34.1	32.9		39.1	45.0	
Progression Factor	1.15	0.79		1.18	1.08		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.6	5.6		10.6	4.0		2.9	1.4		2.1	7.1	
Delay (s)	82.5	35.2		84.9	43.4		37.0	34.3		41.3	52.1	
Level of Service	F	D		F	D		D	C		D	D	
Approach Delay (s)		38.8			46.9			35.3			50.1	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.9			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			144.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			121.1%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

Appendix D: SimTraffic Queueing Reports

Queuing and Blocking Report

10/05/2017

Intersection: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	T	TR	LT	T	R	LT	T	R	L	L	T
Maximum Queue (m)	170.7	142.3	92.4	65.5	71.0	63.8	52.1	44.4	19.2	118.9	125.9	76.9
Average Queue (m)	106.9	88.8	44.6	37.7	40.5	33.1	27.8	18.6	5.4	73.0	78.1	33.4
95th Queue (m)	152.1	130.4	84.1	57.9	63.3	59.8	47.0	38.2	15.1	107.3	113.3	62.0
Link Distance (m)	234.6	234.6	234.6	191.8	191.8		115.2	115.2			153.2	153.2
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (m)						60.0			60.0	124.0		
Storage Blk Time (%)					1	2				0	0	
Queuing Penalty (veh)					2	3				0	1	

Intersection: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

Movement	SB
Directions Served	R
Maximum Queue (m)	39.7
Average Queue (m)	16.5
95th Queue (m)	31.1
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	142.0
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Humber Bay Park & Marine Parade Drive

Movement	EB	NB
Directions Served	LT	L
Maximum Queue (m)	16.7	7.9
Average Queue (m)	1.2	2.2
95th Queue (m)	7.8	7.9
Link Distance (m)	115.2	104.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Park Lawn Road & Gardiner Ramp N

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	R
Maximum Queue (m)	26.7	75.3	21.2	159.9	201.2	206.0	42.7	51.9	117.5
Average Queue (m)	2.2	36.5	6.2	151.7	157.1	87.9	13.3	13.4	59.2
95th Queue (m)	12.1	64.6	15.8	186.8	261.2	215.9	30.2	32.2	101.7
Link Distance (m)		103.0	103.0		190.4	190.4	136.1	136.1	136.1
Upstream Blk Time (%)					13	1			0
Queuing Penalty (veh)					104	11			0
Storage Bay Dist (m)	20.0			150.0					
Storage Blk Time (%)	0	31		46	2				
Queuing Penalty (veh)	0	2		225	14				

Intersection: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

Movement	EB	EB	B34	B34	B71	B71	B71	WB	WB	NB	NB	SB
Directions Served	LT	TR	T	T	T	T		LT	TR	L	TR	LT
Maximum Queue (m)	96.8	91.2	46.4	37.3	4.7	7.1	7.9	15.0	17.3	57.8	59.0	34.1
Average Queue (m)	64.0	59.1	4.5	3.5	0.2	0.3	0.3	1.8	3.0	35.3	19.1	9.5
95th Queue (m)	101.4	98.4	23.3	20.3	3.3	3.4	3.5	8.8	11.6	55.9	41.7	24.6
Link Distance (m)	73.6	73.6	195.8	195.8	191.8	191.8	191.8	55.7	55.7		99.2	61.8
Upstream Blk Time (%)	7	5									0	
Queuing Penalty (veh)	51	40									0	
Storage Bay Dist (m)										50.0		
Storage Blk Time (%)										3	0	
Queuing Penalty (veh)										3	0	

Intersection: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

Movement	SB
Directions Served	R
Maximum Queue (m)	3.3
Average Queue (m)	0.1
95th Queue (m)	2.3
Link Distance (m)	61.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Park Lawn Road & Metro Entrance

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (m)	44.4	12.8	11.8	37.8	29.3	68.3	57.2
Average Queue (m)	28.7	6.2	1.3	19.1	14.4	28.2	20.0
95th Queue (m)	45.3	13.0	7.0	34.9	27.5	55.3	44.0
Link Distance (m)	39.8	39.8		153.2	153.2	155.8	155.8
Upstream Blk Time (%)	3						
Queuing Penalty (veh)	0						
Storage Bay Dist (m)			15.0				
Storage Blk Time (%)				9			
Queuing Penalty (veh)				0			

Intersection: 11: Park Lawn Road & Gardiner Ramp S

Movement	EB	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	TR
Maximum Queue (m)	257.8	262.1	80.0	39.8	128.2	123.3	17.3	17.6
Average Queue (m)	120.2	113.5	17.4	12.7	80.5	55.6	4.4	4.2
95th Queue (m)	257.3	265.6	63.1	37.6	130.1	108.2	13.2	13.4
Link Distance (m)	250.4	250.4			134.5	134.5	190.4	190.4
Upstream Blk Time (%)	9	15			4	1		
Queuing Penalty (veh)	0	0			20	3		
Storage Bay Dist (m)			70.0	35.0				
Storage Blk Time (%)		5	0	0	38			
Queuing Penalty (veh)		36	0	0	13			

Intersection: 13: Park Lawn Road & The Queensway

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	T
Maximum Queue (m)	94.9	264.5	242.8	90.8	75.0	48.1	24.5	74.9	124.2	138.6	89.4	116.9
Average Queue (m)	47.1	137.0	134.1	56.4	23.8	22.2	3.3	36.0	63.5	69.0	25.5	108.9
95th Queue (m)	112.1	222.5	214.5	88.3	60.7	40.7	14.8	73.5	102.5	137.6	62.9	112.3
Link Distance (m)		348.6	348.6		284.4	284.4			135.5	135.5		93.2
Upstream Blk Time (%)									0	1	0	72
Queuing Penalty (veh)									1	5	0	0
Storage Bay Dist (m)	85.0			85.0			25.0	65.0			80.0	
Storage Blk Time (%)		26		4		11		0	10		0	3
Queuing Penalty (veh)		32		14		6		1	13		0	14

Intersection: 13: Park Lawn Road & The Queensway

Movement	SB	B17
Directions Served	TR	T
Maximum Queue (m)	90.0	264.0
Average Queue (m)	89.0	252.8
95th Queue (m)	91.9	277.3
Link Distance (m)		248.4
Upstream Blk Time (%)	15	80
Queuing Penalty (veh)	0	0
Storage Bay Dist (m)	80.0	
Storage Blk Time (%)	82	
Queuing Penalty (veh)	211	

Intersection: 15: The Queensway & Stephen Dr

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	R	L	LR
Maximum Queue (m)	24.5	82.1	82.5	50.0	50.1	41.7	44.9	98.9
Average Queue (m)	1.9	71.0	72.3	38.9	39.4	6.7	31.0	54.4
95th Queue (m)	11.8	86.0	84.4	53.4	52.8	25.1	57.9	88.4
Link Distance (m)		72.4	72.4	41.8	41.8			205.3
Upstream Blk Time (%)		11	13	10	10	0		
Queuing Penalty (veh)		97	116	47	47	0		
Storage Bay Dist (m)	35.0					35.0	35.0	
Storage Blk Time (%)		21			14	0	2	28
Queuing Penalty (veh)		1			6	0	3	37

Intersection: 19: Sobeys Entrance & The Queensway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	L	TR	LTR
Maximum Queue (m)	20.8	76.0	75.7	25.9	50.9	53.1	30.0	11.3	14.5	14.2
Average Queue (m)	2.7	37.3	41.2	8.8	15.5	17.1	12.7	2.1	5.0	3.5
95th Queue (m)	12.4	79.9	82.4	20.1	40.8	42.5	27.2	8.3	13.3	11.3
Link Distance (m)		70.2	70.2		137.4	137.4	59.7	59.7	59.7	73.8
Upstream Blk Time (%)		2	3							
Queuing Penalty (veh)		22	26							
Storage Bay Dist (m)	45.0			115.0						
Storage Blk Time (%)		6								
Queuing Penalty (veh)		1								

Intersection: 22: The Queensway

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 24: The Queensway

Movement	NB	NB
Directions Served	R	R
Maximum Queue (m)	21.7	2.2
Average Queue (m)	0.7	0.1
95th Queue (m)	15.3	1.5
Link Distance (m)	496.3	496.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: The Queensway & Kingsway Link Road

Movement	EB	EB	WB	WB	SB
Directions Served	T	T	T	TR	R
Maximum Queue (m)	64.2	62.3	48.8	59.6	18.1
Average Queue (m)	39.9	41.6	16.2	23.8	5.2
95th Queue (m)	76.0	76.6	38.9	52.9	13.6
Link Distance (m)	53.5	53.5	167.6	167.6	127.9
Upstream Blk Time (%)	6	7			
Queuing Penalty (veh)	43	53			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 26: The Queensway & Kingsway W to S Ramp & Kingsway N to W Ramp

Movement	SB
Directions Served	R
Maximum Queue (m)	32.0
Average Queue (m)	15.2
95th Queue (m)	25.7
Link Distance (m)	132.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 30: Kingsway N to E Ramp & The Queensway

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (m)	29.8	30.2	111.4
Average Queue (m)	1.3	3.0	105.1
95th Queue (m)	11.2	16.1	134.5
Link Distance (m)	61.4	61.4	106.8
Upstream Blk Time (%)			84
Queuing Penalty (veh)			0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 33: Marine Parade Drive & Lake Shore Blvd W

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	56.4	108.1
Average Queue (m)	7.2	65.8
95th Queue (m)	39.0	138.5
Link Distance (m)	120.2	147.2
Upstream Blk Time (%)	0	7
Queuing Penalty (veh)	1	11
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 37: Windermere Ave & Windermere by the Lake

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LT	LT	TR
Maximum Queue (m)	26.9	25.6	9.7	12.8	1.8
Average Queue (m)	12.3	12.3	0.4	0.5	0.1
95th Queue (m)	21.3	21.2	4.2	4.7	1.3
Link Distance (m)	40.6	33.0	99.1	80.8	80.8
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 38: Marine Parade Drive & Waterfront Drive

Movement	NB
Directions Served	T
Maximum Queue (m)	59.8
Average Queue (m)	21.4
95th Queue (m)	73.9
Link Distance (m)	843.6
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 39: Palace Pier & Lake Shore Blvd W

Movement	EB	EB	NB
Directions Served	T	R	LR
Maximum Queue (m)	148.3	29.6	48.7
Average Queue (m)	85.1	5.2	23.2
95th Queue (m)	156.4	21.9	42.4
Link Distance (m)	146.8		
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	8		
Storage Bay Dist (m)		20.0	
Storage Blk Time (%)	20	0	
Queuing Penalty (veh)	13	1	

Intersection: 40: Lake Shore Blvd W & TTC Streetcar Underpass

Movement	EB	EB	B35	B35	WB	NB	NB
Directions Served	L	TR	T		T	L	R
Maximum Queue (m)	18.7	127.4	74.0	79.2	8.9	16.5	13.2
Average Queue (m)	4.1	38.5	32.8	21.1	0.5	4.8	1.2
95th Queue (m)	14.8	106.6	73.6	66.3	4.7	12.8	6.5
Link Distance (m)		157.4	55.7	55.7	120.2	95.4	95.4
Upstream Blk Time (%)		0	3	2			
Queuing Penalty (veh)		5	20	11			
Storage Bay Dist (m)	10.0						
Storage Blk Time (%)	10	9					
Queuing Penalty (veh)	120	1					

Intersection: 41: Waterfront Drive & Palace Pier

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 42:

Movement	EB	EB
Directions Served	L	L
Maximum Queue (m)	1.7	3.7
Average Queue (m)	0.1	0.2
95th Queue (m)	1.2	2.3
Link Distance (m)	154.3	154.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 44: Lake Shore Blvd W & Ellis Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	T	T	TR	L	LR
Maximum Queue (m)	64.8	142.0	157.2	181.6	127.8	143.0	117.5	90.1	37.2	78.9
Average Queue (m)	54.1	80.4	82.8	83.9	86.5	93.2	78.3	49.8	16.3	25.9
95th Queue (m)	74.0	131.9	132.9	132.1	107.2	128.2	110.3	79.2	31.6	59.3
Link Distance (m)		255.2	255.2	255.2	255.2	165.8	165.8	165.8	182.8	182.8
Upstream Blk Time (%)				0						
Queuing Penalty (veh)				0						
Storage Bay Dist (m)	55.0									
Storage Blk Time (%)	22	5								
Queuing Penalty (veh)	208	9								

Intersection: 46: Lake Shore Blvd W & Windermere Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (m)	85.7	105.8	129.0	131.5	127.5	183.1	182.9	196.8	85.0	44.7	59.6	77.0
Average Queue (m)	43.9	73.5	87.7	99.5	100.2	142.7	140.8	135.9	45.2	23.1	27.9	56.6
95th Queue (m)	70.0	104.9	121.8	132.2	129.0	172.5	173.3	179.5	106.6	41.7	49.1	86.0
Link Distance (m)			124.2	124.2	124.2	255.2	255.2	255.2			60.6	60.6
Upstream Blk Time (%)			0	1	1			0			0	18
Queuing Penalty (veh)			2	8	7			0			1	59
Storage Bay Dist (m)	100.0	100.0							75.0	35.0		
Storage Blk Time (%)	0	0	1			37		35	0	4	6	
Queuing Penalty (veh)	0	1	6			0		35	0	5	7	

Intersection: 46: Lake Shore Blvd W & Windermere Ave

Movement	B55
Directions Served	T
Maximum Queue (m)	53.3
Average Queue (m)	6.6
95th Queue (m)	32.3
Link Distance (m)	99.1
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 47: Lake Shore Blvd W

Movement	NE	NE	NE	SW	SW	SW
Directions Served	T	T	T	R	R	R
Maximum Queue (m)	18.7	193.8	18.6	36.5	63.2	22.9
Average Queue (m)	0.9	8.3	2.4	1.2	2.1	0.8
95th Queue (m)	8.7	88.9	12.1	18.5	26.7	16.1
Link Distance (m)	421.8	421.8	421.8	124.2	124.2	124.2
Upstream Blk Time (%)		0			0	
Queuing Penalty (veh)		0			0	
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 51: Ellis Ave & The Queensway

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	84.4	87.7	57.6	77.2	79.8	27.9	73.8	50.8	114.3
Average Queue (m)	52.6	55.3	23.8	36.5	36.9	9.6	42.6	35.8	62.0
95th Queue (m)	76.9	80.6	48.5	66.1	64.2	22.2	70.2	60.5	103.9
Link Distance (m)	262.4	262.4		276.8	276.8	182.8	182.8		206.7
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			60.0					41.0	
Storage Blk Time (%)			2	1				3	25
Queuing Penalty (veh)			7	0				9	37

Intersection: 54: Windermere Ave & The Queensway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	64.8	82.7	82.4	38.2	61.7	70.1	61.7	79.9	37.8	212.4
Average Queue (m)	31.0	73.6	73.2	16.7	27.0	32.4	30.8	41.3	26.6	116.3
95th Queue (m)	64.4	82.5	80.9	33.9	49.0	55.2	54.3	70.9	49.5	204.9
Link Distance (m)		70.4	70.4		262.4	262.4	80.8	80.8		214.5
Upstream Blk Time (%)	0	39	42				0	0		6
Queuing Penalty (veh)	0	295	317				0	0		0
Storage Bay Dist (m)	55.0			80.0					28.0	
Storage Blk Time (%)	2	49			0				4	59
Queuing Penalty (veh)	14	40			0				14	70

Intersection: 58: The Queensway & Kingsway W to N Ramp

Movement	NE	NE
Directions Served	T	TR
Maximum Queue (m)	62.5	65.1
Average Queue (m)	15.9	21.2
95th Queue (m)	48.4	59.8
Link Distance (m)	60.9	60.9
Upstream Blk Time (%)	0	1
Queuing Penalty (veh)	3	10
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 60: Park Lawn Road & South Beach Condos

Movement	EB	EB	NB	NB	NB
Directions Served	L	R	L	T	T
Maximum Queue (m)	55.2	36.8	13.5	45.2	30.0
Average Queue (m)	26.1	11.3	2.2	5.8	3.0
95th Queue (m)	51.8	30.0	9.2	38.5	27.0
Link Distance (m)	56.2	56.2		155.8	155.8
Upstream Blk Time (%)	6	2			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (m)			10.0		
Storage Blk Time (%)			2	5	
Queuing Penalty (veh)			8	1	

Intersection: 62: The Queensway & Aldgate Ave

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (m)	178.5	206.9	26.2
Average Queue (m)	7.3	7.1	8.1
95th Queue (m)	73.6	78.5	21.6
Link Distance (m)	284.4	284.4	103.3
Upstream Blk Time (%)	0	1	
Queuing Penalty (veh)	0	6	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 64: The Queensway & Smithfield Dr

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (m)	103.7	114.7	13.0
Average Queue (m)	54.7	63.4	4.8
95th Queue (m)	100.0	111.5	12.5
Link Distance (m)	118.2	118.2	102.1
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	1	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 66: The Queensway & High St

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (m)	36.9	36.8	33.7	34.3	10.4
Average Queue (m)	6.5	7.3	4.3	5.6	3.5
95th Queue (m)	27.1	28.3	19.1	22.2	10.5
Link Distance (m)	34.4	34.4	70.2	70.2	103.4
Upstream Blk Time (%)	1	1			
Queuing Penalty (veh)	10	12			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 68: The Queensway & Southport St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	TR	T	TR	R	R
Maximum Queue (m)	172.7	173.6	15.2	21.2	90.8	32.3
Average Queue (m)	108.4	111.9	0.9	1.2	42.0	13.5
95th Queue (m)	208.0	209.3	7.6	8.5	90.4	25.8
Link Distance (m)	167.6	167.6	70.4	70.4	91.6	123.5
Upstream Blk Time (%)	3	4			9	
Queuing Penalty (veh)	23	29			0	
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 74: Park Lawn Road & Starbucks/Parking Garage

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (m)	33.5	8.5	59.8	55.6	12.9	6.9
Average Queue (m)	12.7	2.6	9.3	2.7	2.1	0.4
95th Queue (m)	24.5	8.9	34.7	25.3	8.9	2.9
Link Distance (m)	51.1	22.0	136.1	136.1	135.5	
Upstream Blk Time (%)	0		0	0		
Queuing Penalty (veh)	0		0	0		
Storage Bay Dist (m)						35.0
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 80: Ontario Food Terminal & The Queensway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (m)	40.2	46.1	28.9	39.1	39.9	45.0
Average Queue (m)	4.2	5.6	9.1	16.5	18.0	11.6
95th Queue (m)	22.0	27.2	22.9	40.7	42.1	32.6
Link Distance (m)	41.8	41.8		34.4	34.4	100.5
Upstream Blk Time (%)	0	0	0	3	3	
Queuing Penalty (veh)	2	4	0	14	15	
Storage Bay Dist (m)			20.0			
Storage Blk Time (%)			4	6		
Queuing Penalty (veh)			18	2		

Network Summary

Network wide Queuing Penalty: 2826

Intersection: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

Movement	EB	EB	EB	WB	WB	WB	B71	B71	B34	B34	B34	NB
Directions Served	LT	T	TR	LT	T	R	T	T	T	T		LT
Maximum Queue (m)	151.6	134.9	71.4	209.1	211.2	65.0	97.0	111.5	14.9	15.1	20.5	39.9
Average Queue (m)	94.9	76.8	31.7	161.2	171.5	64.0	36.8	41.7	6.9	7.9	10.7	20.5
95th Queue (m)	136.9	120.1	65.4	234.3	239.2	71.4	155.9	161.0	37.9	42.9	58.7	35.9
Link Distance (m)	234.6	234.6	234.6	191.8	191.8		195.8	195.8	73.6	73.6	73.6	115.2
Upstream Blk Time (%)				15	23		6	11	0	0	5	
Queuing Penalty (veh)				88	131		37	61	0	1	19	
Storage Bay Dist (m)						60.0						
Storage Blk Time (%)					52	12						
Queuing Penalty (veh)					212	42						

Intersection: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	R
Maximum Queue (m)	37.8	18.6	80.7	85.5	43.7	65.4
Average Queue (m)	13.2	4.7	50.9	55.7	18.8	33.9
95th Queue (m)	28.9	14.3	74.5	79.8	34.6	60.0
Link Distance (m)	115.2			153.2	153.2	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		60.0	124.0		142.0	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Humber Bay Park & Marine Parade Drive

Movement	EB	EB	NB	SB
Directions Served	LT	R	L	R
Maximum Queue (m)	12.8	1.4	13.0	8.6
Average Queue (m)	0.7	0.0	5.2	1.2
95th Queue (m)	5.2	0.9	11.6	6.0
Link Distance (m)	115.2	115.2	104.1	22.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Park Lawn Road & Gardiner Ramp N

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	R
Maximum Queue (m)	7.0	16.4	8.8	64.4	56.3	50.7	47.8	54.5	63.8
Average Queue (m)	0.4	4.7	1.9	31.4	12.4	11.9	12.3	17.2	17.4
95th Queue (m)	3.3	13.4	7.6	55.5	38.0	35.4	32.6	39.8	41.7
Link Distance (m)		103.0	103.0		190.4	190.4	136.1	136.1	136.1
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	20.0			150.0					
Storage Blk Time (%)		0							
Queuing Penalty (veh)		0							

Intersection: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

Movement	EB	EB	B34	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	T	LT	TR	L	TR	LT	R
Maximum Queue (m)	83.2	81.5	2.2	17.7	14.0	40.2	18.2	61.4	51.0
Average Queue (m)	37.2	37.4	0.1	3.6	2.1	18.5	6.9	26.6	11.4
95th Queue (m)	70.1	73.8	1.6	12.1	8.9	33.5	15.5	49.2	52.2
Link Distance (m)	73.6	73.6	195.8	55.7	55.7		99.2	61.8	61.8
Upstream Blk Time (%)	0	1						0	7
Queuing Penalty (veh)	2	3						0	0
Storage Bay Dist (m)						50.0			
Storage Blk Time (%)						0			
Queuing Penalty (veh)						0			

Intersection: 9: Park Lawn Road & Metro Entrance

Movement	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	L	R	LTR	L	T	T	T	TR
Maximum Queue (m)	33.5	14.6	7.7	12.3	35.2	26.1	43.4	50.4
Average Queue (m)	17.6	6.0	0.5	2.9	13.3	9.4	15.7	19.7
95th Queue (m)	30.1	13.2	3.4	10.1	28.6	21.2	34.3	39.1
Link Distance (m)	39.8	39.8	48.8		153.2	153.2	155.8	155.8
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (m)				15.0				
Storage Blk Time (%)				0	4			
Queuing Penalty (veh)				2	1			

Intersection: 11: Park Lawn Road & Gardiner Ramp S

Movement	EB	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	TR
Maximum Queue (m)	72.9	56.0	63.9	39.8	90.6	65.5	39.2	55.3
Average Queue (m)	37.9	24.0	18.5	18.0	45.1	33.8	14.0	20.0
95th Queue (m)	61.3	47.1	45.0	38.3	73.3	56.9	30.5	42.1
Link Distance (m)	250.4	250.4			134.5	134.5	190.4	190.4
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			70.0	35.0				
Storage Blk Time (%)			0	1	12			
Queuing Penalty (veh)			0	2	13			

Intersection: 13: Park Lawn Road & The Queensway

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	T
Maximum Queue (m)	94.9	215.1	211.6	94.9	158.2	142.2	34.9	74.9	137.3	104.2	87.0	112.0
Average Queue (m)	51.5	122.4	125.2	76.3	65.9	55.6	7.0	37.2	81.1	35.0	20.3	72.9
95th Queue (m)	108.4	206.4	203.1	108.9	134.0	108.5	26.1	77.7	139.9	93.7	58.1	131.8
Link Distance (m)		348.6	348.6		284.4	284.4			135.5	135.5		93.2
Upstream Blk Time (%)									2	0	0	22
Queuing Penalty (veh)									10	1	0	0
Storage Bay Dist (m)	85.0			85.0			25.0	65.0			80.0	
Storage Blk Time (%)	0	21		14	2	28		0	22		0	11
Queuing Penalty (veh)	1	38		69	7	18		0	25		0	33

Intersection: 13: Park Lawn Road & The Queensway

Movement	SB	B17
Directions Served	TR	T
Maximum Queue (m)	90.0	139.7
Average Queue (m)	72.7	34.0
95th Queue (m)	101.6	125.6
Link Distance (m)		248.4
Upstream Blk Time (%)	2	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (m)	80.0	
Storage Blk Time (%)	24	
Queuing Penalty (veh)	40	

Intersection: 15: The Queensway & Stephen Dr

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	R	L	LR
Maximum Queue (m)	44.8	81.8	82.6	48.9	51.0	41.8	44.5	72.1
Average Queue (m)	8.8	62.7	66.7	40.9	41.1	12.7	7.7	30.0
95th Queue (m)	27.5	93.3	92.7	53.5	54.6	37.4	29.7	54.6
Link Distance (m)		72.4	72.4	41.8	41.8			205.3
Upstream Blk Time (%)		5	8	13	11	0		
Queuing Penalty (veh)		38	57	99	89	0		
Storage Bay Dist (m)	35.0					35.0	35.0	
Storage Blk Time (%)		16			15	0	0	7
Queuing Penalty (veh)		5			20	1	0	4

Intersection: 19: Sobeys Entrance & The Queensway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	L	TR	LTR
Maximum Queue (m)	25.4	79.2	77.4	50.6	107.5	110.0	64.3	60.1	24.5	19.2
Average Queue (m)	1.0	49.8	54.7	21.6	48.1	52.6	47.5	30.2	10.7	6.8
95th Queue (m)	11.6	91.3	90.9	39.2	87.0	92.6	66.2	56.0	20.5	16.2
Link Distance (m)		70.2	70.2		137.4	137.4	59.7	59.7	59.7	73.8
Upstream Blk Time (%)		4	6				4	0		
Queuing Penalty (veh)		29	42				0	0		
Storage Bay Dist (m)	45.0			115.0						
Storage Blk Time (%)		10			0					
Queuing Penalty (veh)		0			0					

Intersection: 22: The Queensway

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 24: The Queensway

Movement

Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: The Queensway & Kingsway Link Road

Movement	EB	EB	WB	WB	SB
Directions Served	T	T	T	TR	R
Maximum Queue (m)	58.6	63.0	33.6	41.2	29.8
Average Queue (m)	35.0	37.6	11.5	15.8	10.4
95th Queue (m)	73.8	77.6	29.5	36.6	22.0
Link Distance (m)	53.5	53.5	167.6	167.6	127.9
Upstream Blk Time (%)	4	6			
Queuing Penalty (veh)	24	37			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 26: The Queensway & Kingsway W to S Ramp & Kingsway N to W Ramp

Movement	SB	SW
Directions Served	R	T
Maximum Queue (m)	57.1	2.1
Average Queue (m)	26.6	0.1
95th Queue (m)	46.6	1.5
Link Distance (m)	132.8	61.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Kingsway N to E Ramp & The Queensway

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (m)	6.0	13.9	51.4
Average Queue (m)	0.2	0.6	21.4
95th Queue (m)	3.3	5.9	38.9
Link Distance (m)	61.4	61.4	106.8
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 33: Marine Parade Drive & Lake Shore Blvd W

Movement	NB
Directions Served	LR
Maximum Queue (m)	35.7
Average Queue (m)	13.2
95th Queue (m)	24.8
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 36: Windermere Ave & Windermere by the Lake

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LT	LT	TR
Maximum Queue (m)	9.2	9.7	15.5	15.5	1.4
Average Queue (m)	2.6	1.5	2.2	0.9	0.0
95th Queue (m)	8.8	6.9	10.3	6.8	1.0
Link Distance (m)	40.6	32.4	99.2	80.8	80.8
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 38: Marine Parade Drive & Waterfront Drive

Movement	WB	SB
Directions Served	LR	T
Maximum Queue (m)	15.0	9.4
Average Queue (m)	8.8	7.0
95th Queue (m)	13.5	11.4
Link Distance (m)	147.2	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 39: Palace Pier & Lake Shore Blvd W

Movement	EB	EB	NB
Directions Served	T	R	LR
Maximum Queue (m)	95.7	30.0	24.3
Average Queue (m)	24.6	7.3	8.5
95th Queue (m)	72.2	24.2	18.8
Link Distance (m)	146.8		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	20.0		
Storage Blk Time (%)	6	0	
Queuing Penalty (veh)	9	2	

Intersection: 40: Lake Shore Blvd W & TTC Streetcar Underpass

Movement	EB	EB	B35	B35	WB	NB	NB
Directions Served	L	TR	T		T	L	R
Maximum Queue (m)	16.8	80.8	56.9	48.2	8.6	15.0	13.0
Average Queue (m)	1.9	15.1	8.8	3.8	0.9	3.8	2.0
95th Queue (m)	10.4	50.6	38.5	24.0	5.0	11.2	8.3
Link Distance (m)		157.4	55.7	55.7	120.2	95.4	95.4
Upstream Blk Time (%)			1	0			
Queuing Penalty (veh)			3	1			
Storage Bay Dist (m)	10.0						
Storage Blk Time (%)	3	6					
Queuing Penalty (veh)	30	0					

Intersection: 41: Waterfront Drive & Palace Pier

Movement

Directions Served
 Maximum Queue (m)
 Average Queue (m)
 95th Queue (m)
 Link Distance (m)
 Upstream Blk Time (%)
 Queuing Penalty (veh)
 Storage Bay Dist (m)
 Storage Blk Time (%)
 Queuing Penalty (veh)

Intersection: 42: Lake Shore Blvd W

Movement

	EB	EB	NE
Directions Served	L	L	T
Maximum Queue (m)	102.7	105.0	1.7
Average Queue (m)	20.5	25.2	0.1
95th Queue (m)	64.0	69.0	1.2
Link Distance (m)	154.3	154.3	163.2
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 44: Lake Shore Blvd W & Ellis Ave

Movement

	EB	EB	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	T	T	TR	L	LR
Maximum Queue (m)	64.8	108.9	123.3	137.1	137.3	179.8	183.0	181.6	21.2	59.2
Average Queue (m)	43.5	50.5	61.2	71.9	76.7	171.2	171.3	170.8	8.9	14.5
95th Queue (m)	67.2	100.6	119.4	136.8	143.4	175.2	177.6	183.4	18.5	40.0
Link Distance (m)		255.1	255.1	255.1	255.1	165.9	165.9	165.9	182.2	182.2
Upstream Blk Time (%)						47	43	52		
Queuing Penalty (veh)						0	0	0		
Storage Bay Dist (m)	55.0									
Storage Blk Time (%)	6	4								
Queuing Penalty (veh)	56	9								

Intersection: 46: Lake Shore Blvd W & Windermere Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	L	T	T	T	R	L	LT
Maximum Queue (m)	86.2	89.4	108.6	111.7	115.7	4.3	257.1	257.9	272.6	85.0	33.6	43.2
Average Queue (m)	49.5	52.0	67.3	83.6	88.7	0.6	191.3	203.3	214.7	56.3	14.4	18.2
95th Queue (m)	79.4	78.8	94.7	106.9	108.7	3.5	271.3	274.9	292.6	114.1	28.3	33.8
Link Distance (m)			123.6	123.6	123.6		255.1	255.1	255.1			60.0
Upstream Blk Time (%)			0	0	0		1	1	5			0
Queuing Penalty (veh)			0	1	1		5	6	47			0
Storage Bay Dist (m)	100.0	100.0				75.0				75.0	35.0	
Storage Blk Time (%)	0	0	0				44		49	0	0	1
Queuing Penalty (veh)	0	1	0				1		77	0	0	0

Intersection: 46: Lake Shore Blvd W & Windermere Ave

Movement	SB	B55
Directions Served	R	T
Maximum Queue (m)	78.7	48.7
Average Queue (m)	54.1	6.7
95th Queue (m)	84.6	29.0
Link Distance (m)	60.0	99.2
Upstream Blk Time (%)	17	
Queuing Penalty (veh)	44	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 47: Lake Shore Blvd W

Movement	NE	NE	NE
Directions Served	T	T	T
Maximum Queue (m)	260.5	434.7	341.7
Average Queue (m)	17.2	37.3	25.8
95th Queue (m)	156.5	236.1	190.6
Link Distance (m)	421.8	421.8	421.8
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	1	2	1
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 51: Ellis Ave & The Queensway

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	48.0	53.7	67.2	103.5	94.8	39.6	83.8	39.8	65.6
Average Queue (m)	23.9	27.5	27.7	54.1	51.4	13.4	52.8	10.2	29.3
95th Queue (m)	43.4	48.0	55.1	89.7	88.1	29.2	80.5	26.8	51.8
Link Distance (m)	262.4	262.4		276.8	276.8	182.2	182.2		206.7
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			60.0					41.0	
Storage Blk Time (%)			0	4					4
Queuing Penalty (veh)			0	4					2

Intersection: 54: Windermere Ave & The Queensway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	64.4	82.6	80.7	89.9	209.3	211.9	49.0	72.0	37.8	154.1
Average Queue (m)	38.3	64.4	64.8	75.8	112.8	115.1	22.8	34.8	20.6	86.3
95th Queue (m)	69.8	90.6	86.6	109.8	231.1	230.8	42.1	64.2	45.9	155.6
Link Distance (m)		70.4	70.4		262.4	262.4	80.8	80.8		214.5
Upstream Blk Time (%)	0	17	13		0	0		0		1
Queuing Penalty (veh)	0	104	77		1	1		0		0
Storage Bay Dist (m)	55.0			80.0					28.0	
Storage Blk Time (%)	15	18		56	2				0	54
Queuing Penalty (veh)	72	16		291	2				1	40

Intersection: 58: The Queensway & Kingsway W to N Ramp

Movement	NE	NE
Directions Served	T	TR
Maximum Queue (m)	55.6	65.4
Average Queue (m)	13.4	17.8
95th Queue (m)	42.4	51.8
Link Distance (m)	60.9	60.9
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	1	3
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 60: Park Lawn Road & South Beach Condos

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (m)	23.6	10.6	15.3	12.1	65.9
Average Queue (m)	7.2	4.0	6.0	0.4	3.5
95th Queue (m)	16.8	11.3	14.2	6.5	37.5
Link Distance (m)	56.2	56.2		155.8	134.5
Upstream Blk Time (%)					0
Queuing Penalty (veh)					1
Storage Bay Dist (m)			10.0		
Storage Blk Time (%)			8	0	
Queuing Penalty (veh)			30	0	

Intersection: 62: The Queensway & Aldgate Ave

Movement	EB	EB	WB	SB
Directions Served	LT	T	R	LR
Maximum Queue (m)	39.4	91.6	4.6	12.3
Average Queue (m)	5.2	3.2	0.3	3.4
95th Queue (m)	21.8	45.6	2.8	10.2
Link Distance (m)	284.4	284.4		103.3
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (m)			30.0	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 64: The Queensway & Smithfield Dr

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (m)	58.5	59.1	16.9
Average Queue (m)	17.9	22.0	4.5
95th Queue (m)	45.5	52.0	13.8
Link Distance (m)	118.2	118.2	102.1
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 66: The Queensway & High St

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (m)	37.2	44.3	73.8	74.5	10.5
Average Queue (m)	13.0	15.7	32.8	35.0	3.4
95th Queue (m)	36.6	42.7	76.5	78.6	10.3
Link Distance (m)	34.4	34.4	70.2	70.2	103.4
Upstream Blk Time (%)	2	3	1	1	
Queuing Penalty (veh)	14	19	6	8	
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 68: The Queensway & Southport St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	TR	T	TR	R	R
Maximum Queue (m)	98.4	108.9	18.2	24.7	16.4	22.8
Average Queue (m)	19.3	21.6	1.7	1.8	5.0	7.8
95th Queue (m)	71.1	75.1	11.3	12.6	13.6	17.3
Link Distance (m)	167.6	167.6	70.4	70.4	91.6	123.5
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 74: Park Lawn Road & Starbucks/Parking Garage

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	TR	TR
Maximum Queue (m)	20.4	12.2	43.9	7.0	3.8
Average Queue (m)	7.1	3.6	7.7	0.5	0.1
95th Queue (m)	15.7	10.5	28.7	5.8	1.9
Link Distance (m)	51.1	22.0	136.1	136.1	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					35.0
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 80: Ontario Food Terminal & The Queensway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (m)	34.4	41.4	24.2	42.5	41.0	13.0
Average Queue (m)	3.7	6.5	4.5	30.8	30.6	2.1
95th Queue (m)	19.2	26.1	17.5	48.1	49.1	9.7
Link Distance (m)	41.8	41.8		34.4	34.4	100.5
Upstream Blk Time (%)	0	0		9	9	
Queuing Penalty (veh)	1	2		68	69	
Storage Bay Dist (m)			20.0			
Storage Blk Time (%)			1	13		
Queuing Penalty (veh)			10	2		

Network Summary

Network wide Queuing Penalty: 2443

Queuing and Blocking Report

10/05/2017

Intersection: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

Movement	EB	EB	EB	WB	WB	WB	B34	NB	NB	NB	SB	SB
Directions Served	LT	T	TR	LT	T	R	T	LT	T	R	L	L
Maximum Queue (m)	160.0	153.5	99.9	63.4	76.6	64.0	14.7	43.6	38.5	17.3	91.8	98.3
Average Queue (m)	111.7	92.9	50.4	33.1	35.1	30.0	0.5	20.6	11.2	4.4	51.1	53.6
95th Queue (m)	153.9	137.0	89.0	53.5	56.5	54.8	10.4	38.3	28.3	14.2	79.1	83.6
Link Distance (m)	234.6	234.6	234.6	191.8	191.8		73.6	115.2	115.2			153.2
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (m)						60.0				60.0	124.0	
Storage Blk Time (%)					0	1						
Queuing Penalty (veh)					1	1						

Intersection: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	49.2	42.9
Average Queue (m)	19.2	15.2
95th Queue (m)	40.4	32.3
Link Distance (m)	153.2	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	142.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Humber Bay Park & Marine Parade Drive

Movement	EB	NB
Directions Served	LT	L
Maximum Queue (m)	10.8	7.9
Average Queue (m)	0.7	2.5
95th Queue (m)	5.3	8.4
Link Distance (m)	115.2	104.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Park Lawn Road & Gardiner Ramp N

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	R
Maximum Queue (m)	26.0	81.0	21.8	160.0	200.3	201.3	50.5	63.5	126.2
Average Queue (m)	2.4	36.8	6.7	143.0	135.2	78.0	13.1	14.3	60.9
95th Queue (m)	12.4	65.7	15.9	196.1	266.0	205.2	30.9	39.7	107.4
Link Distance (m)		103.0	103.0		190.4	190.4	136.1	136.1	136.1
Upstream Blk Time (%)		0			11	1			0
Queuing Penalty (veh)		0			93	7			1
Storage Bay Dist (m)	20.0			150.0					
Storage Blk Time (%)	0	30		39	1				
Queuing Penalty (veh)	0	2		194	9				

Intersection: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

Movement	EB	EB	B34	B34	B71	B71	WB	WB	NB	NB	SB
Directions Served	LT	TR	T	T	T		LT	TR	L	TR	LT
Maximum Queue (m)	95.1	91.3	31.2	25.4	7.0	5.1	16.6	28.6	57.7	64.2	28.7
Average Queue (m)	66.6	61.8	3.5	2.4	0.3	0.2	2.8	5.7	38.2	17.8	9.6
95th Queue (m)	98.2	96.2	17.6	13.2	3.2	3.0	10.6	18.3	58.3	43.1	21.6
Link Distance (m)	73.6	73.6	195.8	195.8	191.8	191.8	55.7	55.7		99.2	61.8
Upstream Blk Time (%)	6	4									
Queuing Penalty (veh)	47	33									
Storage Bay Dist (m)									50.0		
Storage Blk Time (%)									3	0	
Queuing Penalty (veh)									3	0	

Intersection: 9: Park Lawn Road & Metro Entrance

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (m)	46.1	18.3	11.8	49.7	43.7	59.7	54.8
Average Queue (m)	28.6	7.1	1.0	21.0	16.6	27.4	20.1
95th Queue (m)	45.1	15.1	6.2	40.1	34.0	53.2	40.7
Link Distance (m)	39.8	39.8		153.2	153.2	155.8	155.8
Upstream Blk Time (%)	3						
Queuing Penalty (veh)	0						
Storage Bay Dist (m)			15.0				
Storage Blk Time (%)				8			
Queuing Penalty (veh)				0			

Intersection: 11: Park Lawn Road & Gardiner Ramp S

Movement	EB	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	TR
Maximum Queue (m)	189.7	210.3	79.3	39.8	130.9	119.9	17.8	20.9
Average Queue (m)	93.5	83.8	16.7	11.8	77.6	54.5	3.5	4.9
95th Queue (m)	200.5	207.9	63.4	35.4	126.6	104.8	12.3	15.3
Link Distance (m)	250.4	250.4			134.5	134.5	190.4	190.4
Upstream Blk Time (%)	3	6			1	0		
Queuing Penalty (veh)	0	0			6	0		
Storage Bay Dist (m)			70.0	35.0				
Storage Blk Time (%)		3	0	0	37			
Queuing Penalty (veh)		21	0	0	12			

Intersection: 13: Park Lawn Road & The Queensway

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	T
Maximum Queue (m)	94.9	288.7	285.4	94.8	134.6	99.6	34.2	74.8	109.3	136.1	89.8	116.1
Average Queue (m)	45.4	195.7	189.1	68.7	39.7	30.3	4.6	31.6	54.6	60.1	26.7	108.7
95th Queue (m)	110.0	320.3	312.4	103.2	102.9	67.9	20.0	63.9	88.7	120.7	67.4	113.0
Link Distance (m)		348.6	348.6		284.4	284.4			135.5	135.5		93.2
Upstream Blk Time (%)		3	2							0	0	63
Queuing Penalty (veh)		0	0							1	0	0
Storage Bay Dist (m)	85.0			85.0			25.0	65.0			80.0	
Storage Blk Time (%)	0	42		15	0	17	0	0	5		0	8
Queuing Penalty (veh)	0	52		50	1	10	0	1	8		0	32

Intersection: 13: Park Lawn Road & The Queensway

Movement	SB	B17
Directions Served	TR	T
Maximum Queue (m)	90.0	262.3
Average Queue (m)	88.6	204.5
95th Queue (m)	93.1	335.6
Link Distance (m)		248.4
Upstream Blk Time (%)	12	50
Queuing Penalty (veh)	0	0
Storage Bay Dist (m)	80.0	
Storage Blk Time (%)	71	
Queuing Penalty (veh)	182	

Intersection: 15: The Queensway & Stephen Dr

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	R	L	LR
Maximum Queue (m)	22.6	82.2	83.8	49.9	47.3	31.5	44.9	92.0
Average Queue (m)	1.3	73.9	74.1	39.5	39.0	5.3	30.0	48.8
95th Queue (m)	10.4	78.3	78.3	51.7	51.0	19.4	57.6	75.7
Link Distance (m)		72.4	72.4	41.8	41.8			205.3
Upstream Blk Time (%)		14	16	9	9	0		
Queuing Penalty (veh)		126	145	43	43	0		
Storage Bay Dist (m)	35.0					35.0	35.0	
Storage Blk Time (%)		24			13	0	2	24
Queuing Penalty (veh)		1			6	0	3	32

Intersection: 19: Sobeys Entrance & The Queensway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	L	TR	LTR
Maximum Queue (m)	11.9	74.3	76.2	22.7	41.7	45.5	31.8	12.8	19.4	14.4
Average Queue (m)	2.5	43.9	48.6	8.1	14.1	17.6	11.5	1.6	5.6	3.3
95th Queue (m)	9.3	81.2	83.7	19.1	34.1	37.9	24.6	7.9	14.6	10.9
Link Distance (m)		70.2	70.2		137.4	137.4	59.7	59.7	59.7	73.8
Upstream Blk Time (%)		1	2							
Queuing Penalty (veh)		14	19							
Storage Bay Dist (m)	45.0			115.0						
Storage Blk Time (%)		5								
Queuing Penalty (veh)		1								

Intersection: 22: The Queensway

Movement	EB
Directions Served	T
Maximum Queue (m)	1.7
Average Queue (m)	0.1
95th Queue (m)	1.2
Link Distance (m)	137.4
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 24: The Queensway

Movement	NB	NB
Directions Served	R	R
Maximum Queue (m)	9.0	2.1
Average Queue (m)	0.3	0.1
95th Queue (m)	6.4	1.5
Link Distance (m)	496.3	496.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: The Queensway & Kingsway Link Road

Movement	EB	EB	WB	WB	SB
Directions Served	T	T	T	TR	R
Maximum Queue (m)	58.3	60.8	46.4	56.1	19.3
Average Queue (m)	35.7	38.9	14.9	22.7	5.0
95th Queue (m)	69.6	73.3	35.1	48.8	14.1
Link Distance (m)	53.5	53.5	167.6	167.6	127.9
Upstream Blk Time (%)	3	5			
Queuing Penalty (veh)	23	37			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 26: The Queensway & Kingsway W to S Ramp & Kingsway N to W Ramp

Movement	SB	NE
Directions Served	R	TR
Maximum Queue (m)	34.4	1.9
Average Queue (m)	15.6	0.1
95th Queue (m)	27.0	1.4
Link Distance (m)	132.8	123.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Kingsway N to E Ramp & The Queensway

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (m)	10.0	14.9	111.4
Average Queue (m)	0.3	0.9	86.2
95th Queue (m)	5.1	7.5	139.7
Link Distance (m)	61.4	61.4	106.8
Upstream Blk Time (%)			48
Queuing Penalty (veh)			0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 33: Marine Parade Drive & Lake Shore Blvd W

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	106.0	146.9
Average Queue (m)	25.1	97.2
95th Queue (m)	83.7	181.6
Link Distance (m)	120.2	147.2
Upstream Blk Time (%)	0	27
Queuing Penalty (veh)	5	42
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 37: Windermere Ave & Windermere by the Lake

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	TR	LT
Maximum Queue (m)	30.0	26.3	13.5	4.4	14.7
Average Queue (m)	12.9	12.6	0.7	0.1	0.7
95th Queue (m)	22.1	21.4	6.1	3.1	6.4
Link Distance (m)	40.6	33.0	99.1	99.1	80.8
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 38: Marine Parade Drive & Waterfront Drive

Movement	NB
Directions Served	T
Maximum Queue (m)	109.8
Average Queue (m)	49.0
95th Queue (m)	162.2
Link Distance (m)	843.6
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 39: Palace Pier & Lake Shore Blvd W

Movement	EB	EB	NB
Directions Served	T	R	LR
Maximum Queue (m)	150.4	30.0	60.4
Average Queue (m)	114.5	6.8	25.9
95th Queue (m)	176.1	25.1	47.6
Link Distance (m)	146.8		
Upstream Blk Time (%)	2		
Queuing Penalty (veh)	27		
Storage Bay Dist (m)		20.0	
Storage Blk Time (%)	22	0	
Queuing Penalty (veh)	15	2	

Intersection: 40: Lake Shore Blvd W & TTC Streetcar Underpass

Movement	EB	EB	B35	B35	WB	NB	NB
Directions Served	L	TR	T		T	L	R
Maximum Queue (m)	17.9	165.1	81.1	79.6	25.6	21.7	9.2
Average Queue (m)	3.6	49.6	37.5	27.6	4.1	5.9	0.9
95th Queue (m)	14.2	136.2	80.1	74.3	15.9	16.0	5.0
Link Distance (m)		157.4	55.7	55.7	120.2	95.4	95.4
Upstream Blk Time (%)		2	5	2			
Queuing Penalty (veh)		19	28	14			
Storage Bay Dist (m)	10.0						
Storage Blk Time (%)	8	10					
Queuing Penalty (veh)	92	1					

Intersection: 41: Waterfront Drive & Palace Pier

Movement

Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 42:

Movement

EB EB

Directions Served L L
Maximum Queue (m) 31.8 1.7
Average Queue (m) 1.2 0.1
95th Queue (m) 22.6 1.2
Link Distance (m) 154.3 154.3
Upstream Blk Time (%) 0
Queuing Penalty (veh) 0
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 44: Lake Shore Blvd W & Ellis Ave

Movement

EB EB EB EB EB WB WB WB SB SB

Directions Served L T T T T T T TR L LR
Maximum Queue (m) 64.8 124.3 129.9 182.9 143.0 114.1 119.3 116.7 37.0 73.9
Average Queue (m) 42.8 70.6 76.5 87.6 89.3 81.5 80.2 72.3 17.5 29.8
95th Queue (m) 71.9 120.0 126.8 148.7 142.0 106.9 107.1 102.7 34.2 64.4
Link Distance (m) 255.2 255.2 255.2 255.2 562.1 562.1 562.1 182.8 182.8
Upstream Blk Time (%) 0
Queuing Penalty (veh) 0
Storage Bay Dist (m) 55.0
Storage Blk Time (%) 3 9
Queuing Penalty (veh) 26 17

Intersection: 46: Lake Shore Blvd W & Windermere Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	T	T	T	R	L	LT	R
Maximum Queue (m)	73.6	103.2	121.5	129.8	122.5	95.0	104.5	204.4	71.0	44.7	54.2	82.2
Average Queue (m)	39.7	70.1	81.9	92.6	94.1	34.9	43.3	48.0	9.3	24.6	29.3	64.8
95th Queue (m)	66.8	98.2	112.9	122.0	121.2	74.9	84.5	113.9	40.6	40.4	46.7	91.3
Link Distance (m)			123.6	123.6	123.6	255.2	255.2	255.2			60.6	60.6
Upstream Blk Time (%)			0	0	0			0			0	34
Queuing Penalty (veh)			1	3	2			1			0	109
Storage Bay Dist (m)	100.0	100.0							75.0	35.0		
Storage Blk Time (%)		0	0			1		2		2	5	
Queuing Penalty (veh)		0	5			0		2		3	6	

Intersection: 46: Lake Shore Blvd W & Windermere Ave

Movement	B55	B55
Directions Served	T	T
Maximum Queue (m)	1.1	62.4
Average Queue (m)	0.0	15.1
95th Queue (m)	0.8	50.2
Link Distance (m)	99.1	99.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 47: Lake Shore Blvd W

Movement	NE	NE	NE
Directions Served	T	T	T
Maximum Queue (m)	1.9	21.6	10.2
Average Queue (m)	0.1	1.2	1.3
95th Queue (m)	1.3	10.5	7.5
Link Distance (m)	421.8	421.8	421.8
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 51: Ellis Ave & The Queensway

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	61.7	66.5	49.7	58.3	62.8	28.1	86.0	50.8	116.6
Average Queue (m)	36.3	39.3	21.0	30.3	35.0	9.9	41.7	35.7	65.7
95th Queue (m)	57.3	61.8	39.7	51.7	55.7	23.2	76.3	59.7	105.0
Link Distance (m)	262.4	262.4		562.4	562.4	182.8	182.8		206.7
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			60.0					41.0	
Storage Blk Time (%)			0	0				6	29
Queuing Penalty (veh)			0	0				17	42

Intersection: 54: Windermere Ave & The Queensway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	64.9	84.9	81.4	48.7	72.5	74.6	62.3	80.2	37.8	202.6
Average Queue (m)	26.1	72.7	72.6	17.7	32.4	37.5	27.4	39.1	26.9	113.5
95th Queue (m)	55.6	84.7	82.5	37.8	58.2	62.4	51.0	69.7	48.6	191.2
Link Distance (m)		70.4	70.4		262.4	262.4	80.8	80.8		214.5
Upstream Blk Time (%)	0	36	40					1		0
Queuing Penalty (veh)	0	274	300					1		0
Storage Bay Dist (m)	55.0			80.0					28.0	
Storage Blk Time (%)	0	46			0			3	58	
Queuing Penalty (veh)	0	37			0			11	69	

Intersection: 58: The Queensway & Kingsway W to N Ramp

Movement	NE	NE
Directions Served	T	TR
Maximum Queue (m)	46.1	61.2
Average Queue (m)	8.0	13.2
95th Queue (m)	30.9	45.1
Link Distance (m)	60.9	60.9
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	3
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 60: Park Lawn Road & South Beach Condos

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (m)	54.6	27.9	18.7	24.7	10.2	1.2	2.7
Average Queue (m)	26.0	8.8	3.1	1.5	0.3	0.0	0.1
95th Queue (m)	50.8	18.8	12.1	11.5	7.2	0.9	1.7
Link Distance (m)	56.2	56.2		155.8	155.8	134.5	134.5
Upstream Blk Time (%)	3	0					
Queuing Penalty (veh)	0	0					
Storage Bay Dist (m)			10.0				
Storage Blk Time (%)			2	1			
Queuing Penalty (veh)			11	0			

Intersection: 62: The Queensway & Aldgate Ave

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (m)	183.7	236.0	22.5
Average Queue (m)	9.2	19.9	6.8
95th Queue (m)	85.9	141.2	15.3
Link Distance (m)	284.4	284.4	103.3
Upstream Blk Time (%)	0	1	
Queuing Penalty (veh)	0	11	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 64: The Queensway & Smithfield Dr

Movement	EB	EB	SB
Directions Served	LT	T	LR
Maximum Queue (m)	112.0	111.2	15.7
Average Queue (m)	72.3	79.3	5.9
95th Queue (m)	105.1	110.2	14.1
Link Distance (m)	118.2	118.2	102.1
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 66: The Queensway & High St

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (m)	37.6	39.8	26.7	27.5	13.0
Average Queue (m)	7.3	8.2	2.3	2.8	3.9
95th Queue (m)	28.3	31.7	13.3	14.4	11.5
Link Distance (m)	34.4	34.4	70.2	70.2	103.4
Upstream Blk Time (%)	1	1			
Queuing Penalty (veh)	6	9			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 68: The Queensway & Southport St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	TR	T	TR	R	R
Maximum Queue (m)	163.8	168.6	19.0	21.2	85.0	25.3
Average Queue (m)	82.9	88.1	1.1	1.7	41.3	12.5
95th Queue (m)	178.9	183.4	7.9	9.9	97.7	21.5
Link Distance (m)	167.6	167.6	70.4	70.4	91.6	123.5
Upstream Blk Time (%)	1	1			21	
Queuing Penalty (veh)	4	6			0	
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 74: Park Lawn Road & Starbucks/Parking Garage

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (m)	33.3	11.1	61.1	25.0	16.8	12.9
Average Queue (m)	13.1	1.9	9.4	1.2	3.6	0.7
95th Queue (m)	25.3	8.0	34.4	13.5	12.2	5.6
Link Distance (m)	51.1	22.0	136.1	136.1	135.5	
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)						35.0
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 80: Ontario Food Terminal & The Queensway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (m)	46.6	43.6	26.9	40.0	38.5	43.1
Average Queue (m)	5.5	6.6	8.2	14.3	16.6	11.9
95th Queue (m)	25.8	28.7	22.2	37.5	39.9	32.6
Link Distance (m)	41.8	41.8		34.4	34.4	100.5
Upstream Blk Time (%)	0	0	0	2	2	
Queuing Penalty (veh)	3	4	0	8	9	
Storage Bay Dist (m)			20.0			
Storage Blk Time (%)			5	4		
Queuing Penalty (veh)			23	1		

Network Summary

Network wide Queuing Penalty: 2533

Queuing and Blocking Report

10/05/2017

Intersection: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	T	TR	LT	T	R	LT	T	R	L	L	T
Maximum Queue (m)	126.3	107.5	43.6	78.3	91.8	65.0	36.2	31.0	18.0	85.3	85.9	35.1
Average Queue (m)	71.1	54.5	12.1	52.1	55.2	40.7	16.3	8.9	3.7	44.1	48.0	15.2
95th Queue (m)	110.6	95.1	33.8	75.2	81.4	74.2	31.1	22.3	11.9	68.6	71.3	29.5
Link Distance (m)	234.6	234.6	234.6	191.8	191.8		115.2	115.2			153.2	153.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)						60.0			60.0	124.0		
Storage Blk Time (%)					4	1						
Queuing Penalty (veh)					15	3						

Intersection: 2: Marine Parade Drive/Park Lawn Road & Lake Shore Blvd W

Movement	SB
Directions Served	R
Maximum Queue (m)	70.5
Average Queue (m)	31.9
95th Queue (m)	55.9
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	142.0
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Humber Bay Park & Marine Parade Drive

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	TR	L	R
Maximum Queue (m)	14.4	1.4	1.4	10.5	8.5
Average Queue (m)	1.1	0.0	0.0	4.8	0.5
95th Queue (m)	7.0	1.0	1.0	11.2	3.9
Link Distance (m)	115.2	115.2	843.6	104.1	22.6
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Park Lawn Road & Gardiner Ramp N

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	T	T	R
Maximum Queue (m)	3.5	16.2	9.0	76.6	54.4	62.8	36.8	41.4	44.4
Average Queue (m)	0.3	4.2	1.2	29.1	10.8	12.1	9.0	13.2	13.7
95th Queue (m)	2.9	13.1	6.1	55.7	35.9	40.2	24.6	31.4	31.0
Link Distance (m)		103.0	103.0		190.4	190.4	136.1	136.1	136.1
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	20.0			150.0					
Storage Blk Time (%)		0							
Queuing Penalty (veh)		0							

Intersection: 7: Brookers Lane/Gardiner On/Off Ramps & Lake Shore Blvd W

Movement	EB	EB	B34	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	T	LT	TR	L	TR	LT	R
Maximum Queue (m)	76.3	78.7	3.5	18.3	13.6	42.4	20.5	58.1	59.4
Average Queue (m)	34.7	33.4	0.1	3.4	2.5	18.3	7.3	26.2	4.0
95th Queue (m)	65.3	66.6	2.4	11.5	9.2	33.0	16.5	47.9	27.2
Link Distance (m)	73.6	73.6	195.8	55.7	55.7		99.2	61.8	61.8
Upstream Blk Time (%)	0	0						0	0
Queuing Penalty (veh)	1	2						0	0
Storage Bay Dist (m)						50.0			
Storage Blk Time (%)						0			
Queuing Penalty (veh)						0			

Intersection: 9: Park Lawn Road & Metro Entrance

Movement	EB	EB	WB	NB	NB	NB	SB	SB
Directions Served	L	R	LTR	L	T	T	T	TR
Maximum Queue (m)	34.2	15.6	3.1	14.5	35.4	33.3	41.9	48.9
Average Queue (m)	18.0	5.4	0.2	3.6	14.7	12.1	16.2	21.5
95th Queue (m)	31.0	13.4	2.4	11.3	28.9	25.5	34.3	42.5
Link Distance (m)	39.8	39.8	48.8		153.2	153.2	155.8	155.8
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (m)				15.0				
Storage Blk Time (%)				0	5			
Queuing Penalty (veh)				0	1			

Intersection: 11: Park Lawn Road & Gardiner Ramp S

Movement	EB	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	L	R	L	T	T	T	TR
Maximum Queue (m)	64.5	58.0	53.7	39.8	79.6	65.3	42.4	48.9
Average Queue (m)	36.4	23.8	16.5	22.3	42.8	31.8	16.8	21.4
95th Queue (m)	58.4	45.6	41.4	43.4	71.0	54.0	34.3	40.1
Link Distance (m)	250.4	250.4			134.5	134.5	190.4	190.4
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			70.0	35.0				
Storage Blk Time (%)		0	0	1	12			
Queuing Penalty (veh)		0	0	3	13			

Intersection: 13: Park Lawn Road & The Queensway

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	T
Maximum Queue (m)	94.9	222.2	212.8	94.8	139.1	136.7	35.0	74.8	112.8	95.4	64.2	107.9
Average Queue (m)	55.6	136.2	133.6	67.6	68.5	63.5	10.6	30.2	63.2	28.8	14.3	43.4
95th Queue (m)	113.9	231.5	223.3	104.8	135.4	113.7	33.4	67.4	101.5	83.3	39.5	97.5
Link Distance (m)		348.6	348.6		284.4	284.4			135.5	135.5		93.2
Upstream Blk Time (%)												4
Queuing Penalty (veh)												0
Storage Bay Dist (m)	85.0			85.0			25.0	65.0			80.0	
Storage Blk Time (%)	0	30		10	1	29	0	0	10		0	4
Queuing Penalty (veh)	0	55		49	5	18	0	1	11		0	11

Intersection: 13: Park Lawn Road & The Queensway

Movement	SB	B17
Directions Served	TR	T
Maximum Queue (m)	87.7	27.2
Average Queue (m)	56.4	3.0
95th Queue (m)	89.1	21.0
Link Distance (m)		248.4
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)	80.0	
Storage Blk Time (%)	5	
Queuing Penalty (veh)	8	

Intersection: 15: The Queensway & Stephen Dr

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	R	L	LR
Maximum Queue (m)	38.3	77.0	78.2	49.6	48.8	41.8	44.3	59.8
Average Queue (m)	8.5	46.1	52.2	38.4	39.0	12.3	7.5	29.1
95th Queue (m)	25.1	87.8	89.2	54.8	54.5	33.9	30.2	53.5
Link Distance (m)		72.4	72.4	41.8	41.8			205.3
Upstream Blk Time (%)		2	4	9	9	0		
Queuing Penalty (veh)		16	26	69	67	0		
Storage Bay Dist (m)	35.0					35.0	35.0	
Storage Blk Time (%)		10			13	0	0	8
Queuing Penalty (veh)		3			17	1	0	5

Intersection: 19: Sobeys Entrance & The Queensway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	L	TR	LTR
Maximum Queue (m)	8.9	76.3	77.9	59.2	88.9	90.4	61.4	54.6	20.5	16.7
Average Queue (m)	0.8	56.4	62.8	24.3	42.6	47.5	41.9	25.0	9.5	5.1
95th Queue (m)	4.9	86.9	87.1	44.2	78.7	82.3	64.5	51.1	17.8	13.6
Link Distance (m)		70.2	70.2		137.4	137.4	59.7	59.7	59.7	73.8
Upstream Blk Time (%)		4	7				1	0		
Queuing Penalty (veh)		32	56				0	0		
Storage Bay Dist (m)	45.0			115.0						
Storage Blk Time (%)		13								
Queuing Penalty (veh)		0								

Intersection: 22: The Queensway

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 24: The Queensway

Movement

Directions Served

Maximum Queue (m)

Average Queue (m)

95th Queue (m)

Link Distance (m)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (m)

Storage Blk Time (%)

Queuing Penalty (veh)

Intersection: 25: The Queensway & Kingsway Link Road

Movement	EB	EB	WB	WB	SB
Directions Served	T	T	T	TR	R
Maximum Queue (m)	59.1	61.2	28.7	38.5	24.2
Average Queue (m)	27.7	32.6	9.1	13.9	9.4
95th Queue (m)	63.0	69.7	23.3	32.6	18.7
Link Distance (m)	53.5	53.5	167.6	167.6	127.9
Upstream Blk Time (%)	2	3			
Queuing Penalty (veh)	11	20			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 26: The Queensway & Kingsway W to S Ramp & Kingsway N to W Ramp

Movement	SB
Directions Served	R
Maximum Queue (m)	56.6
Average Queue (m)	26.8
95th Queue (m)	48.0
Link Distance (m)	132.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 30: Kingsway N to E Ramp & The Queensway

Movement	EB	EB	NB
Directions Served	T	T	R
Maximum Queue (m)	2.8	6.4	50.9
Average Queue (m)	0.1	0.2	22.0
95th Queue (m)	2.0	3.2	39.4
Link Distance (m)	61.4	61.4	106.8
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 33: Marine Parade Drive & Lake Shore Blvd W

Movement	NB
Directions Served	LR
Maximum Queue (m)	28.3
Average Queue (m)	12.3
95th Queue (m)	22.6
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 36: Windermere Ave & Windermere by the Lake

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	TR	LT
Maximum Queue (m)	9.4	8.1	16.7	4.6	10.0
Average Queue (m)	2.9	1.2	2.8	0.2	0.5
95th Queue (m)	9.4	5.9	11.0	2.8	4.2
Link Distance (m)	40.6	32.4	99.2	99.2	80.8
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 38: Marine Parade Drive & Waterfront Drive

Movement	WB	SB
Directions Served	LR	T
Maximum Queue (m)	14.8	9.4
Average Queue (m)	8.6	7.3
95th Queue (m)	13.4	11.1
Link Distance (m)	147.2	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 39: Palace Pier & Lake Shore Blvd W

Movement	EB	EB	NB
Directions Served	T	R	LR
Maximum Queue (m)	78.0	30.0	23.0
Average Queue (m)	20.8	7.2	7.9
95th Queue (m)	57.9	25.1	16.9
Link Distance (m)	146.3		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	20.0		
Storage Blk Time (%)	6	0	
Queuing Penalty (veh)	9	1	

Intersection: 40: Lake Shore Blvd W & TTC Streetcar Underpass

Movement	EB	EB	B35	B35	WB	NB	NB
Directions Served	L	TR	T		T	L	R
Maximum Queue (m)	19.6	93.4	71.3	57.0	9.8	15.2	9.4
Average Queue (m)	2.9	16.7	11.9	4.8	1.0	3.7	1.9
95th Queue (m)	13.0	52.6	45.1	27.3	5.9	10.3	7.3
Link Distance (m)		157.4	55.7	55.7	120.2	95.4	95.4
Upstream Blk Time (%)		0	0	0			
Queuing Penalty (veh)		1	2	0			
Storage Bay Dist (m)	10.0						
Storage Blk Time (%)	5	7					
Queuing Penalty (veh)	45	0					

Intersection: 41: Waterfront Drive & Palace Pier

Movement

Directions Served
 Maximum Queue (m)
 Average Queue (m)
 95th Queue (m)
 Link Distance (m)
 Upstream Blk Time (%)
 Queuing Penalty (veh)
 Storage Bay Dist (m)
 Storage Blk Time (%)
 Queuing Penalty (veh)

Intersection: 42: Lake Shore Blvd W

Movement

EB EB

Directions Served L L
 Maximum Queue (m) 140.1 112.1
 Average Queue (m) 18.5 22.6
 95th Queue (m) 67.2 71.4
 Link Distance (m) 154.3 154.3
 Upstream Blk Time (%) 0 0
 Queuing Penalty (veh) 0 0
 Storage Bay Dist (m)
 Storage Blk Time (%)
 Queuing Penalty (veh)

Intersection: 44: Lake Shore Blvd W & Ellis Ave

Movement

EB EB EB EB EB WB WB WB SB SB

Directions Served L T T T T T T TR L LR
 Maximum Queue (m) 64.8 121.0 163.0 161.2 144.2 234.4 232.0 235.8 19.9 76.4
 Average Queue (m) 48.3 59.6 68.9 76.6 80.4 156.5 154.8 149.1 9.4 27.6
 95th Queue (m) 71.2 119.8 135.3 146.3 151.6 228.3 224.3 222.0 20.5 64.6
 Link Distance (m) 255.1 255.1 255.1 255.1 562.1 562.1 562.1 182.2 182.2
 Upstream Blk Time (%) 0
 Queuing Penalty (veh) 0
 Storage Bay Dist (m) 55.0
 Storage Blk Time (%) 12 5
 Queuing Penalty (veh) 111 10

Intersection: 46: Lake Shore Blvd W & Windermere Ave

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	L	T	T	T	R	L	LT
Maximum Queue (m)	94.2	99.5	107.0	120.6	118.6	8.4	254.8	260.6	274.2	85.0	34.5	38.1
Average Queue (m)	57.3	52.8	68.5	85.2	90.0	1.0	190.8	198.9	209.2	53.0	14.4	18.3
95th Queue (m)	87.2	80.8	97.7	111.2	112.2	5.1	267.8	274.4	291.8	111.9	27.7	32.6
Link Distance (m)			123.6	123.6	123.6		255.1	255.1	255.1			60.0
Upstream Blk Time (%)			0	0	0		1	1	5			
Queuing Penalty (veh)			0	1	1		6	8	44			
Storage Bay Dist (m)	100.0	100.0				75.0				75.0	35.0	
Storage Blk Time (%)	0	0	0				40		43	0	0	0
Queuing Penalty (veh)	1	3	1				1		68	0	0	0

Intersection: 46: Lake Shore Blvd W & Windermere Ave

Movement	SB	B55
Directions Served	R	T
Maximum Queue (m)	78.4	53.1
Average Queue (m)	54.6	8.2
95th Queue (m)	84.1	37.8
Link Distance (m)	60.0	99.2
Upstream Blk Time (%)	18	
Queuing Penalty (veh)	46	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 47: Lake Shore Blvd W

Movement	NE	NE	NE	SW	SW	SW
Directions Served	T	T	T	R	R	R
Maximum Queue (m)	340.8	435.8	337.6	16.5	63.3	69.0
Average Queue (m)	14.2	29.0	19.9	0.5	2.1	2.4
95th Queue (m)	140.3	207.0	165.3	11.6	27.3	29.2
Link Distance (m)	421.8	421.8	421.8	123.6	123.6	123.6
Upstream Blk Time (%)	0	0	0		0	0
Queuing Penalty (veh)	0	3	0		0	0
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 51: Ellis Ave & The Queensway

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	167.2	174.2	56.5	89.1	90.8	22.7	64.8	19.9	38.1
Average Queue (m)	113.8	117.7	23.7	48.2	52.9	7.5	22.2	7.0	15.7
95th Queue (m)	169.9	175.4	48.9	79.7	83.5	18.2	48.1	16.7	30.6
Link Distance (m)	262.4	262.4		562.4	562.4	182.2	182.2		206.7
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			60.0					41.0	
Storage Blk Time (%)			1	3					0
Queuing Penalty (veh)			4	3					0

Intersection: 54: Windermere Ave & The Queensway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	64.8	80.3	78.2	89.7	151.3	156.4	49.0	77.1	37.8	152.4
Average Queue (m)	26.3	65.2	66.6	29.8	77.4	82.7	22.0	36.9	20.9	81.6
95th Queue (m)	55.1	86.9	84.1	64.7	120.8	125.6	43.4	67.5	46.6	151.2
Link Distance (m)		70.4	70.4		262.4	262.4	80.8	80.8		214.5
Upstream Blk Time (%)	0	15	19					0		0
Queuing Penalty (veh)	0	89	113					0		0
Storage Bay Dist (m)	55.0			80.0					28.0	
Storage Blk Time (%)	0	27		0	6				1	53
Queuing Penalty (veh)	2	24		0	7				3	39

Intersection: 58: The Queensway & Kingsway W to N Ramp

Movement	NE	NE
Directions Served	T	TR
Maximum Queue (m)	45.5	59.2
Average Queue (m)	4.7	7.9
95th Queue (m)	23.4	33.9
Link Distance (m)	60.9	60.9
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 60: Park Lawn Road & South Beach Condos

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (m)	22.3	8.8	19.0	18.4	7.8	2.6	37.6
Average Queue (m)	8.0	4.1	6.8	0.6	0.3	0.1	3.4
95th Queue (m)	18.1	11.3	15.5	9.4	5.5	2.1	38.2
Link Distance (m)	56.2	56.2		155.8	155.8	134.5	134.5
Upstream Blk Time (%)							0
Queuing Penalty (veh)							1
Storage Bay Dist (m)			10.0				
Storage Blk Time (%)			8	0			
Queuing Penalty (veh)			30	0			

Intersection: 62: The Queensway & Aldgate Ave

Movement	EB	EB	WB	SB
Directions Served	LT	T	R	LR
Maximum Queue (m)	54.6	49.7	4.6	11.4
Average Queue (m)	7.3	3.8	0.2	2.6
95th Queue (m)	28.7	23.5	2.2	8.5
Link Distance (m)	284.4	284.4		103.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			30.0	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 64: The Queensway & Smithfield Dr

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (m)	62.2	63.1	1.3	1.7	15.2
Average Queue (m)	14.5	16.1	0.0	0.1	4.4
95th Queue (m)	43.3	49.7	0.9	1.2	12.1
Link Distance (m)	118.2	118.2	72.4	72.4	102.1
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 66: The Queensway & High St

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (m)	39.9	39.8	67.2	71.1	10.5
Average Queue (m)	16.1	16.3	11.0	12.6	2.4
95th Queue (m)	40.6	42.3	41.7	46.1	8.9
Link Distance (m)	34.4	34.4	70.2	70.2	103.4
Upstream Blk Time (%)	2	3	0	0	
Queuing Penalty (veh)	16	20	1	2	
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 68: The Queensway & Southport St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	TR	T	TR	R	R
Maximum Queue (m)	76.6	77.4	28.6	27.8	20.0	19.2
Average Queue (m)	13.9	16.0	1.8	2.1	5.5	7.7
95th Queue (m)	48.8	50.8	14.9	15.8	15.1	15.9
Link Distance (m)	167.6	167.6	70.4	70.4	91.6	123.5
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 74: Park Lawn Road & Starbucks/Parking Garage

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	TR	TR
Maximum Queue (m)	16.3	8.2	33.1	3.1	1.2
Average Queue (m)	6.4	3.6	3.3	0.1	0.0
95th Queue (m)	13.9	10.1	16.3	2.2	0.9
Link Distance (m)	51.1	22.0	136.1	136.1	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					35.0
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 80: Ontario Food Terminal & The Queensway

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	TR	L	T	T	LR
Maximum Queue (m)	43.0	46.3	19.9	40.5	42.2	22.8
Average Queue (m)	6.1	8.2	4.5	20.7	20.1	4.9
95th Queue (m)	26.7	32.1	16.3	45.9	46.4	18.3
Link Distance (m)	41.8	41.8		34.4	34.4	100.5
Upstream Blk Time (%)	0	1		4	4	
Queuing Penalty (veh)	2	4		29	30	
Storage Bay Dist (m)			20.0			
Storage Blk Time (%)			1	7		
Queuing Penalty (veh)			11	1		

Network Summary

Network wide Queuing Penalty: 1314