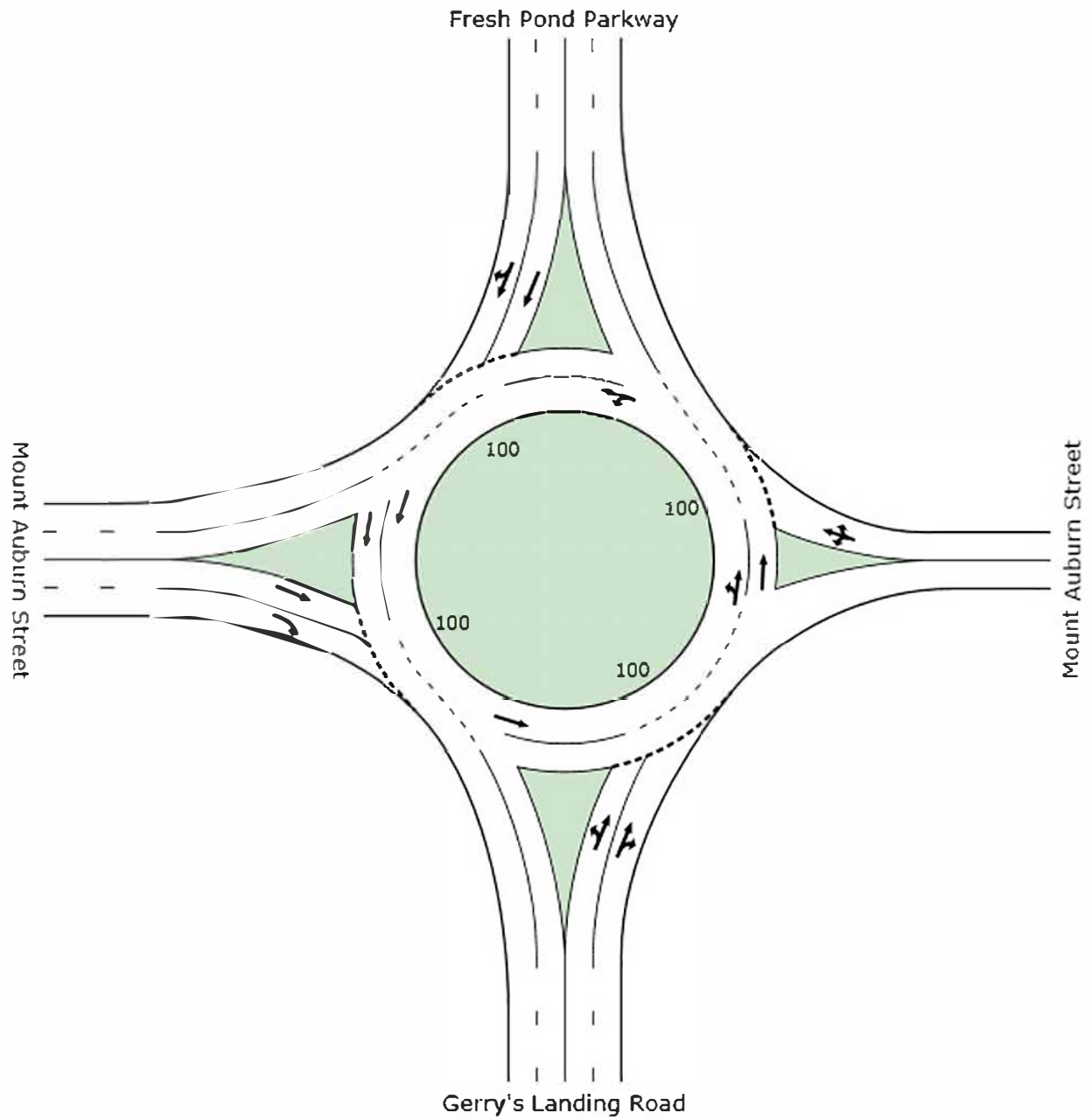




Mount Auburn Street Corridor Study

Appendix B: **SIDRA Roundabout Analysis**



MOVEMENT SUMMARY

Site: Mt Auburn/Fresh Pond/Gerrys Landing AM

Mount Auburn Street at Fresh Pond Parkway and Gerry's Landing Road Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Gerry's Landing Road											
3	L	474	0.0	1.142	97.6	LOS F	55.3	1381.4	1.00	2.62	10.1
8	T	1255	0.0	1.142	97.3	LOS F	55.6	1389.6	1.00	2.63	10.0
18	R	239	0.0	1.142	97.2	LOS F	55.6	1389.6	1.00	2.63	10.0
Approach		1968	0.0	1.142	97.4	LOS F	55.6	1389.6	1.00	2.63	10.0
East: Mount Auburn Street											
1	L	1	100.0	1.517	277.1	LOS F	58.8	1690.7	1.00	4.59	5.1
6	T	441	21.0	1.517	277.1	LOS F	58.8	1690.7	1.00	4.59	4.3
16	R	57	0.0	1.517	277.1	LOS F	58.8	1690.7	1.00	4.59	4.3
Approach		500	18.8	1.517	277.1	LOS F	58.8	1690.7	1.00	4.59	4.3
North: Fresh Pond Parkway											
4	T	2002	0.0	1.548	272.2	LOS F	123.5	3087.7	1.00	5.43	4.4
14	R	2	0.0	1.548	271.8	LOS F	123.5	3087.7	1.00	5.51	4.4
Approach		2004	0.0	1.548	272.2	LOS F	123.5	3087.7	1.00	5.43	4.4
West: Mount Auburn Street											
2	T	346	8.0	0.874	51.2	LOS F	5.1	136.6	0.90	1.23	15.1
12	R	512	0.0	1.121	108.8	LOS F	25.3	631.4	1.00	2.44	9.1
Approach		858	3.2	1.121	85.6	LOS F	25.3	631.4	0.96	1.95	10.9
All Vehicles		5330	2.3	1.548	178.1	LOS F	123.5	3087.7	0.99	3.76	6.3

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Model used. Geometric Delay not included.

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MOVEMENT SUMMARY

Site: Mt Auburn/Fresh Pond/Gerrys
Landing PM

Mount Auburn Street at Fresh Pond Parkway and Gerry's Landing Road
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Gerry's Landing Road											
3	L	1117	0.0	1.644	309.3	LOS F	192.0	4801.0	1.00	5.59	4.1
8	T	1366	0.0	1.644	309.1	LOS F	195.0	4875.1	1.00	5.65	3.9
18	R	365	0.0	1.644	309.0	LOS F	195.0	4875.1	1.00	5.67	3.9
Approach		2849	0.0	1.644	309.2	LOS F	195.0	4875.1	1.00	5.63	4.0
East: Mount Auburn Street											
1	L	1	0.0	0.989	77.5	LOS F	9.2	239.2	0.97	1.61	11.9
6	T	336	5.0	0.989	77.5	LOS F	9.2	239.2	0.97	1.59	11.7
16	R	34	0.0	0.989	77.5	LOS F	9.2	239.2	0.97	1.60	11.7
Approach		371	4.5	0.989	77.5	LOS F	9.2	239.2	0.97	1.60	11.7
North: Fresh Pond Parkway											
4	T	1666	0.0	1.561	281.6	LOS F	104.6	2614.8	1.00	5.20	4.3
14	R	1	0.0	1.561	281.0	LOS F	104.6	2614.8	1.00	5.30	4.3
Approach		1667	0.0	1.561	281.6	LOS F	104.6	2614.8	1.00	5.20	4.3
West: Mount Auburn Street											
2	T	366	0.0	0.723	27.1	LOS D	3.7	92.7	0.82	1.03	20.6
12	R	623	5.0	1.224	142.6	LOS F	43.4	1127.6	1.00	3.34	7.4
Approach		990	3.1	1.224	99.8	LOS F	43.4	1127.6	0.93	2.48	9.8
All Vehicles		5877	0.8	1.644	251.5	LOS F	195.0	4875.1	0.99	4.72	4.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Model used. Geometric Delay not included.

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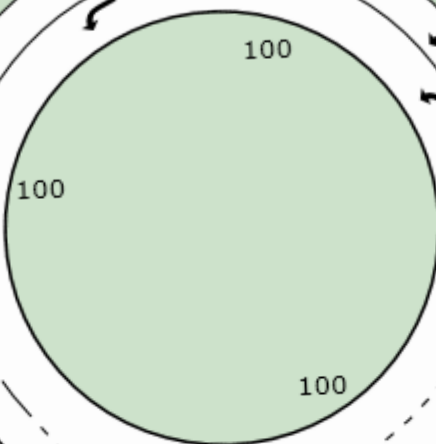
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INTERSECTION



Gerry's Landing Road

Memorial Drive



Gerry's Landing Road

MOVEMENT SUMMARY

Site: Gerrys Landing/Memorial Drive AM

Gerry's Landing Road at Memorial Drive Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Gerry's Landing Road											
3	L	1609	1.0	1.066	72.3	LOS F	34.6	871.0	1.00	2.04	12.1
18	R	146	1.0	1.066	72.0	LOS F	34.5	869.2	1.00	2.04	12.1
Approach		1756	1.0	1.066	72.2	LOS F	34.6	871.0	1.00	2.04	12.1
North East: Memorial Drive											
1X	L	304	0.0	0.845	50.2	LOS F	4.6	115.9	0.93	1.23	14.8
16X	R	375	0.0	0.965	70.2	LOS F	8.3	207.5	0.98	1.50	12.3
Approach		679	0.0	0.965	61.2	LOS F	8.3	207.5	0.96	1.38	13.4
North West: Gerry's Landing Road											
7X	L	581	0.0	1.376	191.9	LOS F	125.9	3148.1	1.00	4.09	6.2
14X	R	1914	0.0	1.376	191.7	LOS F	127.3	3181.5	1.00	4.12	5.9
Approach		2495	0.0	1.376	191.7	LOS F	127.3	3181.5	1.00	4.11	6.0
All Vehicles		4930	0.4	1.376	131.2	LOS F	127.3	3181.5	0.99	3.00	8.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Model used. Geometric Delay not included.

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MOVEMENT SUMMARY

Site: Gerrys Landing/Memorial
Drive PM

Gerry's Landing Road at Memorial Drive
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Gerry's Landing Road											
3	L	2322	0.0	1.367	188.4	LOS F	119.0	2974.5	1.00	4.19	6.1
18	R	71	0.0	1.367	188.3	LOS F	119.0	2974.5	1.00	4.21	6.0
Approach		2393	0.0	1.367	188.4	LOS F	119.0	2974.5	1.00	4.19	6.1
North East: Memorial Drive											
1X	L	435	0.0	1.376	220.1	LOS F	43.2	1080.1	1.00	3.33	5.4
16X	R	607	0.0	1.763	381.7	LOS F	88.8	2220.9	1.00	4.87	3.2
Approach		1042	0.0	1.763	314.2	LOS F	88.8	2220.9	1.00	4.23	3.9
North West: Gerry's Landing Road											
7X	L	430	0.0	1.220	126.9	LOS F	80.3	2007.2	1.00	3.13	8.5
14X	R	1762	0.0	1.220	126.7	LOS F	80.9	2023.0	1.00	3.14	8.2
Approach		2192	0.0	1.220	126.8	LOS F	80.9	2023.0	1.00	3.14	8.3
All Vehicles		5627	0.0	1.763	187.7	LOS F	119.0	2974.5	1.00	3.79	6.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Model used. Geometric Delay not included.

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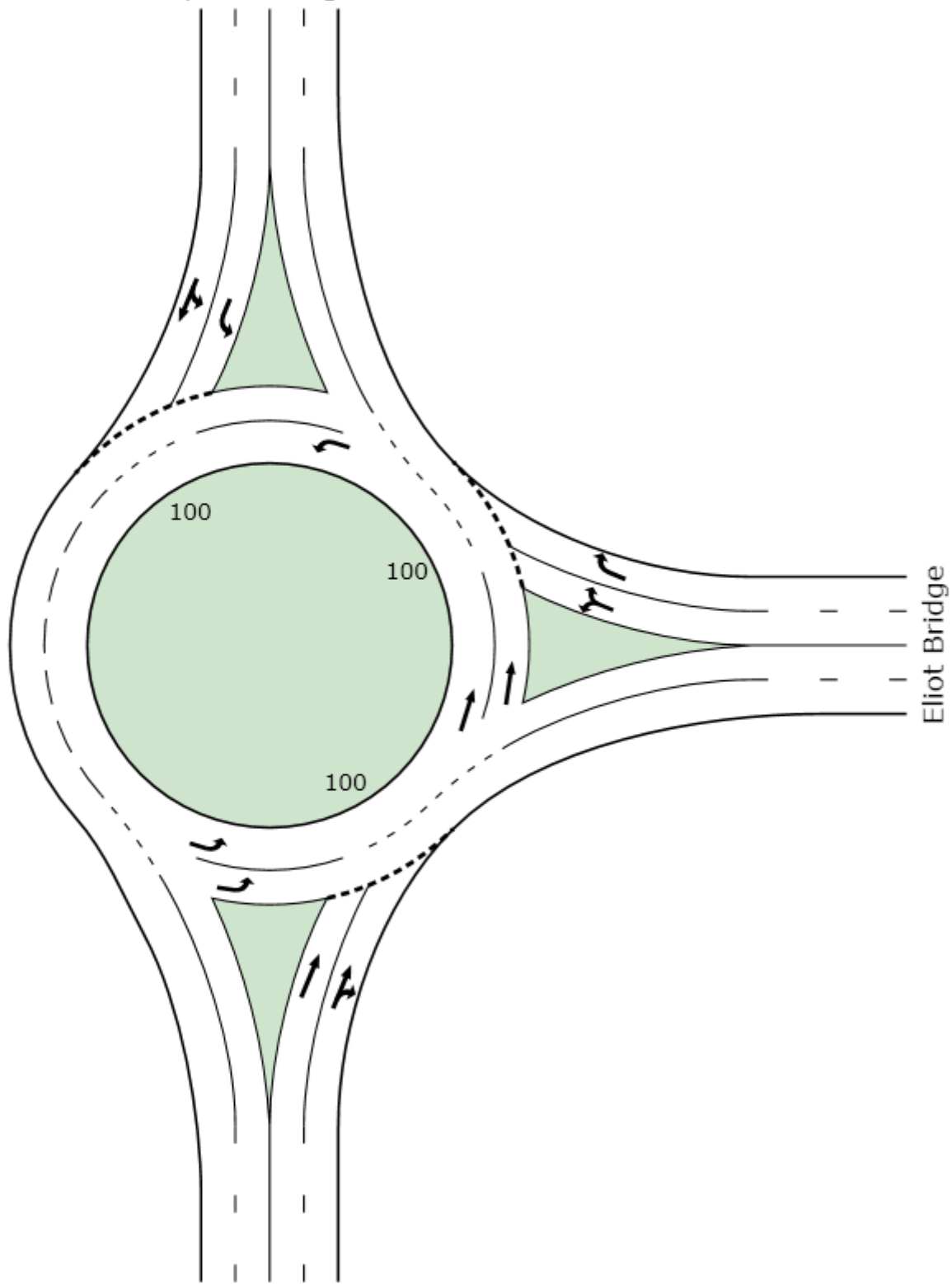
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Gerry's Landing Road



Gerry's Landing Road

Eliot Bridge

MOVEMENT SUMMARY

Site: Gerrys Landing/Eliot Bridge
AM

Gerry's Landing Road at Eliot Bridge
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Gerry's Landing Road											
8	T	413	1.0	1.231	160.8	LOS F	30.5	768.4	1.00	2.79	6.9
18	R	522	0.0	1.422	233.6	LOS F	54.7	1367.2	1.00	3.84	5.0
Approach		934	0.4	1.422	201.4	LOS F	54.7	1367.2	1.00	3.38	5.7
East: Eliot Bridge											
1	L	349	0.0	0.987	48.8	LOS E	22.9	571.7	1.00	1.45	15.2
16	R	1396	0.0	0.987	48.6	LOS E	22.9	571.7	1.00	1.44	15.3
Approach		1745	0.0	0.987	48.6	LOS E	22.9	571.7	1.00	1.44	15.3
North: Gerry's Landing Road											
7	L	2055	0.0	1.278	150.9	LOS F	94.2	2357.9	1.00	3.61	7.4
4	T	186	1.0	1.278	150.8	LOS F	94.2	2357.9	1.00	3.63	7.1
Approach		2241	0.1	1.278	150.9	LOS F	94.2	2357.9	1.00	3.61	7.4
All Vehicles		4920	0.1	1.422	124.2	LOS F	94.2	2357.9	1.00	2.80	8.4

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Model used. Geometric Delay not included.

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MOVEMENT SUMMARY

Site: Gerrys Landing/Eliot Bridge
PM

Gerry's Landing Road at Eliot Bridge
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Gerry's Landing Road											
8	T	287	0.0	0.853	54.3	LOS F	4.6	115.2	0.94	1.23	14.6
18	R	307	0.0	0.853	51.2	LOS F	4.6	114.0	0.94	1.22	14.9
Approach		595	0.0	0.853	52.7	LOS F	4.6	115.2	0.94	1.22	14.8
East: Eliot Bridge											
1	L	398	0.0	1.311	164.0	LOS F	109.3	2732.0	1.00	3.64	7.0
16	R	2008	0.0	1.311	163.9	LOS F	110.3	2756.3	1.00	3.65	6.7
Approach		2406	0.0	1.311	163.9	LOS F	110.3	2756.3	1.00	3.65	6.7
North: Gerry's Landing Road											
7	L	2035	0.0	1.253	140.0	LOS F	91.6	2290.1	1.00	3.33	7.8
4	T	238	0.0	1.253	139.9	LOS F	91.6	2290.1	1.00	3.35	7.6
Approach		2273	0.0	1.253	140.0	LOS F	91.6	2290.1	1.00	3.33	7.8
All Vehicles		5274	0.0	1.311	141.1	LOS F	110.3	2756.3	0.99	3.24	7.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Model used. Geometric Delay not included.

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