40 km/h Area Assessment Results

This appendix provides details of the speed surveys and analysis conducted to assess the 40 km/h Neighbourhood Speed Limit Zone pilot project in the Lakeshore Woods, Heritage Way and West River neighbourhoods.

Background

On June 24, 2019, Council passed a <u>resolution</u> directing staff to undertake a pilot study in the West River area to test the effectiveness of neighbourhood 40km/h zones.

The report titled 'Neighbourhood 40km/h Speed Limit Pilot' was presented to Council on October 22, 2019 with the recommendations to implement 40 km/h Area pilots in West River and Heritage Way neighbourhoods. Implementation of these two pilots was approved by Council on October 22, 2019.

The report titled 'Neighborhood 40 km/h Speed Limit Pilot Studies' with the assessment results of the West River and Heritage Way 40 km/h Area pilots was presented to Council on January 25, 2021. The results of the West River and Heritage Way pilots did not show any significant reduction in operating speeds, and in some cases a marginal increase in operating speeds was observed. In this meeting, Council passed the following resolutions;

- 1. That Council endorses a 40 km/h speed limit on all local and minor collector roads.
- 2. That staff develop an implementation plan to establish a 40 km/h speed limit on all local and minor collector roads across the Town of Oakville, in conjunction with a comprehensive education program, working with the HRPS and any other complementary measures deemed necessary.
- 3. That staff report back on a two to three-year implementation plan in September of 2021.

The report titled 'Neighbourhood Traffic Safety Program' was presented to Council on October 18, 2021 with an implementation plan for the 40 km/h speed limit on minor collector and local roads. At that meeting, Council approved the implementation of a third 40 km/h Area pilot in the Lakeshore Woods neighbourhood. Council deferred the approval of the two options of the implementation plan of 40km/h speed limit presented in this report and directed staff to continue to monitor the two existing 40 km/h Area pilots and the newly approved pilot in Lakeshore Woods neighbourhood and report back with the assessment results from four seasons of collected speed data. Council passed the following resolutions related to 40 km/h implementation in the meeting:

• 2a - "Council defers approval of the implementation plan contained in this report for the 40km/h speed limit including changing the town wide default speed limit

- from 50km/h to 40km/h until the work described below in (b.) is completed and reported to Council."
- 2b "That staff continue monitoring the traffic patterns and speeds in the existing West River and Heritage Way 40 km/h pilot areas to collect four full seasons of data beginning this spring to explore and account for potential changes to traffic patterns due to the pandemic."
- 2b (amended) "That the motion moved by Councillor Duddeck regarding the Neighbourhood Traffic Safety Program be amended by adding Lakeshore Woods as a pilot area in Clause 2(b)."

As directed by Council, staff has completed the monitoring and assessment of the three pilot areas. This report presents the assessment results and the options for consideration by the Budget Committee and Council regarding the implementation of 40km/h speed limits on local and minor collector roads.

Pilot Projects

Neighbourhood 40km/h speed limit areas are areas where the speed limits within the zone are set to 40km/h with speed limit signage and "begins" and "ends" tabs installed at the entrances to, and exits from, the neighbourhood. All streets within those limits have a 40km/h speed limit, unless signed otherwise. Three neighbourhoods were chosen for the pilot program: West River, Heritage Way and Lakeshore Woods.

To assess the effectiveness of the Neighbourhood 40km/h Zones, as directed by Council, staff collected speed data for four seasons in the three 40 km/h Area pilots and compared the results with the speed data collected before implementing the pilots. As part of education campaign, letters were delivered to all households within these pilots to remind the residents speed limit on all the roads within the boundaries of these pilots is 40 km/h. These letters were delivered just before conducting the last set of speed studies in these pilots. These results were compared with the previously conducted speed studies conducted during the pilot and the speed studies before implementing the pilot to estimate the impact of this education campaign.

Summary of Results

The following sections include summaries of the pilot results, by neighbourhood.

Lakeshore Woods

The Lakeshore Woods 40 km/h Area pilot is the newest pilot area, approved by Council in 2021 and implemented in 2022. It includes roadways located south of Rebecca Street, north of Lakeshore Road West, west of Village Wood Park, and east of Burloak Drive. The section of Great Lakes Boulevard within this pilot area is classified as a major collector. Nautical Boulevard and Creek Path Avenue are minor collectors, and the remaining streets in the pilot are classified as local roads. The 40 km/h Area signs were installed at all entry points to the neighbourhood. Staff compared the speed data before and after implementing the pilot and determined:

- The 40 km/h Area signs installed at the entry points to the neighbourhood did not affect the driver behaviour. A slight reduction of 1.73 km/h was observed southbound on Great Lakes Boulevard south of Rebecca Street.
- Higher speeds observed on major collector
- By comparing before studies with the average of all after studies, there is an overall increase of 0.7 km/h in the operating speeds.

The results are shown in Table 1.

West River

The West River 40 km/h Area pilot includes roadways located north of Rebecca Street, south of Speers Road / Cornwall Road, east of Kerr Street, and west of Sixteen Mile Creek. The road network within this pilot comprises minor collector and local roads. Queen Mary Drive and the section of Chisholm Street south of Bond Street are minor collectors and the rest of the streets in the pilot area are local roads. The 40 km/h Area signs were installed at all entry points of the neighbourhood. Staff reviewed the speed data before and after implementing the pilot and determined that overall, the results are similar to the other two pilots.

- Although not significant, there has been a speed reduction on some roads and a reduction in operating speed of a maximum of 6.1 km/h was observed on westbound Riverside Drive and 5.2 km/h southbound Queen Mary Drive.
- There is an overall 0.5 km/h reduction in operating speed in the pilot.

The results are shown in Table 2.

Heritage Way

The designated area for the pilot on Heritage Way includes roadways located south of Upper Middle Road, north of the North Service Road, west of Third Line, and east of Fourteen Mile Creek. Kings College Drive, Merchants Gate, Post Road, and Reeves Gate are major collector roads connecting to Heritage Way which is also a major collector. All the remaining roads in the pilot area are classified as local roads. The 40 km/h Area signs were installed at all entry points to the neighbourhood. Staff compared the speed data before and after implementing the pilot and determined:

- 40 km/h Area signs installed at the five entry points of the pilot did not effect the driver behaviour particularly on Kings College Drive where an increase of 8 km/h was observed in operating speed.
- Higher speeds were observed on all major collector roads.
- All local roads within the neighbourhood have relatively low operating speeds.
- The comparison of before studies with the average of all after studies shows is an overall increase of 1.0 km/h in the operating speeds.

The results are shown in Table 3.

Additional Analysis and Comparisons

Analysis was also conducted to determine if there was a noticeable reduction in speed in the first few months after the 40km/h zones were implemented (see Tables 4, 5 and 6); between the speed surveys taken before the speed limit signs were installed and the final speed studies (see Tables 7, 8 and 9); or as a result of the reminder notice sent between the third and fourth sets of speed studies (see Tables 10, 11 and 12). Based on the assessment results, it is evident that despite the implementation of lower speed limits on local and minor collector roads in three pilots and the education campaign, the motorists continue to drive at the speed that they are comfortable with as per the geometric features of the roads (roadway environment).

Each of these scenarios provided similar results to the summaries provided above. There were no areas or time periods where there was a consistent change in operating speeds in any of the neighbourhoods. Overall, on average, operating speeds speeds remained relatively consistent, with an average increase or decrease of 2km/h over the duration of pilot.

Conclusion

Neighbourhood 40km/h Zones are a tool available to lower speed limits within a defined area. The use of a 40km/h sign, with a "Area" and a "begins" tabs at each entry point to the neighbourhood signifies that the speed limit on all streets within the area is 40km/h. A 40km/h sign with the "neighbourhood" and "ends" tabs at the exit from the area lets drivers know that they are leaving the 40km/h zone.

Speed studies conducted before the Neighbourhood 40km/h Zone signs were installed, and at multiple locations and points in time after installation show that establishing these zones was not sufficient to appreciably reduce the operating speed of drivers within these neighbourhoods.

Regardless of the speed limit on town roads, additional measures, including education, enforcement and engineering (road design, traffic calming) should continue to be examined and used to encourage greater compliance with posted speed limits.

Comparison between Before Studies and Average of After Speed Studies (Tables 1 – 3)

	Table 1	- Lakeshore Woods Results (Comparisor	between Be	efore Studies	& Average o	f After Studie	es)	
			Before	Studies		Studies	Comp	arison
				Southbound/			NB/EB	WB/SB
١		D 10	Eastbound	westbound	Eastbound	westbound	Change	Change
No.	Road	Road Segment	85th Percentile	85th Percentile	85th Percentile	85th	85th	85th
			Speed	Speed	Speed	Percentile Speed	Percentile Speed	Percentile Speed
			km/h	km/h	km/h	km/h	km/h	km/h
1	Great Lakes Boulevard	Rebecca Street to Nautical Boulevard	48.3	54.2	49.6	52.5	1.3	-1.7
2	Nautical Boulevard	Milkweed Way to Butterfly Lane	56.2	49.8	56.8	58.0	0.6	8.2
3	Nautical Boulevard	#270 Nautical Boulevard	50.4	53.1	49.9	50.1	-0.6	-3.1
4	Creek Path Avenue	Robin Hill Circle	50.0	54.5	53.4	51.0	3.5	-3.5
5	Great Lakes Boulevard	Milkweed Way to Beechtree Crescent	58.9	62.2	58.6	63.8	-0.3	1.6
6	Timeless Drive	#3357 Timeless Dive	43.4	45.0	42.4	43.9	-1.0	-1.1
7	Nautical Boulevard	Raspberry Bush Trail to Turning Leaf Road.	49.1	49.3	50.6	51.2	1.5	1.9
8	Wavecrest Street	#3471 Wavecrest Street	49.3	47.3	50.0	48.4	0.8	1.1
9	Creek Path Avenue	#229 Creek Path Avenue	51.4	48.2	50.8	51.1	-0.6	3.0
10	Creek Path Avenue	#109 Creek Path Avenue.	55.0	52.5	51.0	54.2	-3.9	1.7
11	Great Lakes Boulevard	Fox Run Circle to Spring Azure Crescent	56.3	63.1	57.5	63.4	1.1	0.3
12	Stevenson Road	Warner Drive to Vogan Place	49.9	49.2	51.2	51.1	1.3	1.9
13	Stevenson Road	102 Stevenson Road	48.3	48.4	50.7	51.0	2.5	2.6
14	Stedford Road	3518 Stedford Road	45.3	48.7	47.0	48.4	1.8	-0.3
		Directional Average	50.8	51.8	51.4	52.7	0.6	0.9
		Cumulative Average	51	1.3	52	2.1	0	.7

	Table 2	2 - West River Results (Comparison between B	efore Studie	s & Average	of After Stu	dies)		
			Before	Before Studies After Studies Comparison orthbound of the state ound at the state ound of the state ound ound ound ound ound ound ound ound				
NI-	BI	David On word						
No.	Road	Road Segment	85th	85th	85th	85th	85th	85th
			Percentile	Percentile	Percentile	Percentile	Percentile	Percentile
			Speed	Speed	Speed	Speed	Speed	Speed
			km/h	km/h	km/h	km/h	km/h	km/h
1	River Side Drive (North Section)	Queen Mary Drive & North Forester Park Drive	49.6	51.7	47.3	45.7	-2.3	-6.1
2	River Side DriveSouth Section)	Queen Mary Drive & North Forester Park Drive	49.7	49.9	47.4	48.3	-2.3	-1.7
3	North Forester Park Drive	Kingswood Road & River Side Drive	48.9	48.7	44.9	44.5	-4.0	-4.2
4	South Forester Park Drive	Carolyn Drive & Oakwood Crescent	48.8	47.4	45.9	47.0	-2.9	-0.4
5	River Side Drive	South Forester Park Drive & Oakwood Crescent	46.6	44.4	45.4	43.9	-1.3	-0.5
6	River Side Drive	Queen Mary Drive & Carolyn Drive	46.1	49.5	50.5	50.1	4.4	0.6
7	Queen Mary Drive	River Side Drive and Kingswood Road	48.9	54.5	56.3	55.5	7.4	0.9
8	Queen Mary Drive	Kingswood Road & Glenmanor Drive	55.2	58.2	53.6	53.0	-1.6	-5.2
9	Queen Mary Drive	Crescent Road & Highland Rd	59.4	59.1	55.7	59.6	-3.7	0.5
10	Queen Mary Drive	Highland Road & River Side Drive	56.4	57.7	57.3	56.6	0.9	-1.1
11	Bartos Drive	Prince Charles Drive & Bartos Drive	40.4	46.7	42.9	44.3	2.5	-2.5
12	Stewart Street	Bartos Drive & Queen Mary Drive	41.2	46.0	45.9	46.0	4.7	-0.1
13	Washington Avenue	Kerr Street & Queen Mary Drive	48.4	51.1	52.3	51.4	3.9	0.4
14	Bond Street	Wilson Street & Chisholm Street	47.8	51.9	49.6	50.8	1.8	-1.1
		Directional Average	49.1	51.2	49.6	49.7	0.5	-1.5
		Cumulative Average	50).1	49	9.7	-0	.5

	Table 3 - Heritage Way Results (Comparison between Before Studies & Average of After Studies)												
			Before	Studies	After S	Studies	Comp	arison					
N.	Bood	Band Command	Northbound /Eastbound	Southbound /westbound	Northbound /Eastbound	Southbound /westbound	NB/EB Change	WB/SB Change					
No.	Road	Road Segment	85th	85th	85th	85th	85th	85th					
			Percentile	Percentile	Percentile	Percentile	Percentile	Percentile					
			Speed	Speed	Speed	Speed	Speed	Speed					
			km/h	km/h	km/h	km/h	km/h	km/h					
1	Reeves Gate	Upper Middle Road & Heritage Way	58.2	56.4	55.5	56.5	-2.6	0.0					
2	Postmaster Drive	Upper Middle Road & Heritage Way	58.4	54.1	57.6	58.9	-0.8	4.8					
3	Merchants Gate	Third Line & Heritage Way	52.6	53.8	54.9	53.2	2.3	-0.6					
4	Kings College Drive	Playter Place & Giles Gate	54.9	51.8	57.1	59.7	2.2	7.9					
5	Heritage Way	Saddler Circle & Stonecutter Drive	55.5	52.8	57.7	57.3	2.2	4.5					
6	Heritage Way	Merchants Gate & Schoolmaster Circle	56.6	57.5	55.1	53.5	-1.6	-4.0					
7	Heritage Way	Parish Lane & Cobbler Lane	51.6	52.1	53.2	55.4	1.6	3.3					
8	Shipwright Road	Reeves Gate & Mayors Manor	47.4	49.3	49.3	46.6	1.9	-2.7					
9	Silversmith Drive	Cobbler Lane & Cobbler Lane	40.8	41.1	44.5	43.0	3.7	1.9					
10	Carpenters Circle	Stonecutters Drive & Tinsmith Lane	47.6	44.4	46.3	47.5	-1.3	3.1					
11	Brays Lane	Heritage Way & Bowman Drive/Brays Lane	45.4	42.4	40.9	40.0	-4.6	-2.4					
12	Brays Lane	Hurley Drive & Langtry Drive	48.5	46.8	47.3	49.6	-1.3	2.8					
13	Tinsmith Lane	Stonecutters Drive & Carpenters Circle	43.3	37.4	40.4	41.2	-3.0	3.8					
14	Brays Lane	Bowman Drive & Giles Gate	46.3	45.1	49.4	48.9	3.1	3.8					
15	Lumberman Lane	Livery Lane & Wheelwright Road	44.6	45.5	48.9	47.8	4.4	2.3					
16	Blacksmith Lane	Heritage Way & Grainer Court	41.1	41.9	40.8	40.2	-0.3	-1.6					
		Directional Average	49.6	48.3	49.9	50.0	0.4	1.7					
		Cumulative Average	48.9	km/h	49.9	km/h	1.0	km/h					

Comparison between Before Studies and First Speed Studies after Pilot Implementation (Tables 4 – 6)

	Table 4 - Lakeshore Woods Results (Comparison between Before Studies & First Set of After Studies)												
			Before	Studies	First Set	of Studies	Comp	arison					
			Eastbound	/westbound	Eastbound	/westbound	Change	85th Percentile Speed h km/h -1.4 -1.4 -1.4 -1.4 -1.4 -1.4 -1.8 -1.8 -1.8 -1.8 -1.8 -1.9 -1.9 -1.9 -1.9 -1.9 -1.9 -1.9 -1.9					
No.	Road	Road Segment	85th Percentile Speed	85th Percentile Speed	85th Percentile Speed	85th Percentile Speed	85th Percentile Speed	Percentile					
			km/h	km/h	km/h	km/h	km/h	km/h					
1	Great Lakes Boulevard	Rebecca Street to Nautical Boulevard	48.3	54.2	49.0	52.7	0.8	-1.4					
2	Nautical Boulevard	Milkweed Way to Butterfly Lane	56.2	49.8	55.3	60.0	-0.8	10.2					
3	Nautical Boulevard	#270 Nautical Boulevard	50.4	53.1	51.0	51.7	0.6	-1.4					
4	Creek Path Avenue	Robin Hill Circle	50.0	54.5	51.4	49.7	1.5	-4.8					
5	Great Lakes Boulevard	Milkweed Way to Beechtree Crescent	58.9	62.2	59.4	64.0	0.5	1.8					
6	Timeless Drive	#3357 Timeless Dive	43.4	45.0	46.8	47.2	3.4	2.2					
7	Nautical Boulevard	Raspberry Bush Trail to Turning Leaf Road.	49.1	49.3	52.0	49.4	2.9	0.2					
8	Wavecrest Street	#3471 Wavecrest Street	49.3	47.3	51.0	48.9	1.7	1.6					
9	Creek Path Avenue	#229 Creek Path Avenue	51.4	48.2	52.3	50.1	0.9	1.9					
10	Creek Path Avenue	#109 Creek Path Avenue.	55.0	52.5	50.0	54.6	-5.0	2.2					
11	Great Lakes Boulevard	Fox Run Circle to Spring Azure Crescent	56.3	63.1	57.9	63.0	1.6	-0.1					
12	Stevenson Road	Warner Drive to Vogan Place	49.9	49.2	50.9	52.1	1.0	2.9					
13	Stevenson Road	102 Stevenson Road	48.3	48.4	51.3	51.3	3.0	2.9					
14	Stedford Road	3518 Stedford Road	45.3	48.7	42.9	48.4	-2.4	-0.3					
		Directional Average	50.8	51.8	51.5	53.1	0.7	1.3					
		Cumulative Average	51	.3	52	2.3	1	.0					

	Table 5 - West River Results (Comparison between Before Studies & First Set of After Studies)										
			Before	Studies	First Set	of Studies	Comp	arison			
NI -	B	Deed Comment	Northbound /Eastbound	Southbound /westbound		Southbound /westbound	NB/EB Change	WB/SB Change			
No.	Road	Road Segment	85th	85th	85th	85th	85th	85th			
			Percentile	Percentile	Percentile	Percentile	Percentile	Percentile			
			Speed	Speed	Speed	Speed	Speed	Speed			
			km/h	km/h	km/h	km/h	km/h	km/h			
1	River Side Drive (North Section)	Queen Mary Drive & North Forester Park Drive	49.6	51.7	45.1	44.1	-4.5	-7.6			
2	River Side Drive (South Section)	Queen Mary Drive & North Forester Park Drive	49.7	49.9	48.6	47.4	-1.1	-2.5			
3	North Forester Park Drive	Kingswood Road & River Side Drive	48.9	48.7	45.0	44.7	-3.9	-4.0			
4	South Forester Park Drive	Carolyn Drive & Oakwood Crescent	48.8	47.4	43.8	48.3	-5.1	0.9			
5	River Side Drive	South Forester Park Drive &	46.6	44.4	46.1	40.7	-0.5	-3.7			
6	River Side Drive	Queen Mary Drive & Carolyn Drive	46.1	49.5	49.9	46.4	3.9	-3.2			
7	Queen Mary Drive	River Side Drive and Kingswood	48.9	54.5	57.1	51.5	8.2	-3.0			
8	Queen Mary Drive	Kingswood Road & Glenmanor	55.2	58.2	55.5	49.9	0.3	-8.3			
9	Queen Mary Drive	Crescent Road & Highland Rd	59.4	59.1	58.6	62.0	-0.8	3.0			
10	Queen Mary Drive	Highland Road & River Side Drive	56.4	57.7	55.6	59.1	-0.7	1.5			
11	Bartos Drive	Prince Charles Drive & Bartos Drive	40.4	46.7	42.8	48.4	2.4	1.6			
12	Stewart Street	Bartos Drive & Queen Mary Drive	41.2	46.0	44.7	49.8	3.5	3.7			
13	Washington Avenue	Kerr Street & Queen Mary Drive	48.4	51.1	55.7	52.2	7.3	1.2			
14	Bond Street	Wilson Street & Chisholm Street	47.8	51.9	50.4	52.3	2.6	0.4			
		49.1	51.2	49.9	49.8	0.8	-1.4				
	Directional Average Cumulative Average		50).1	49	9.8	-0	.3			

	Tab	ole 6 - Heritage Way Results (Comparison I	oetween Bef	ore Studies &	& First Set o	f After Stud	ies)	
			Before	Studies	First Set	of Studies	Comp	arison
NI-	Book	Dood Comment	Northbound /Eastbound	Southbound /westbound			NB/EB Change	WB/SB Change
No.	Road	Road Segment	85th	85th	85th	85th	85th	85th
			Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed
			km/h	km/h	km/h	km/h	km/h	km/h
1	Reeves Gate	Upper Middle Road & Heritage Way	58.2	56.4	58.5	59.4	0.3	3.0
2	Postmaster Drive	Upper Middle Road & Heritage Way	58.4	54.1	57.9	58.9	-0.5	4.8
3	Merchants Gate	Third Line & Heritage Way	52.6	53.8	53.7	49.6	1.1	-4.2
4	Kings College Drive	Playter Place & Giles Gate	54.9	51.8	57.8	56.4	2.9	4.5
5	Heritage Way	Saddler Circle & Stonecutter Drive	55.5	52.8	57.9	61.0	2.4	8.2
6	Heritage Way	Merchants Gate & Schoolmaster Circle	56.6	57.5	58.1	53.3	1.5	-4.2
7	Heritage Way	Parish Lane & Cobbler Lane	51.6	52.1	53.4	56.9	1.8	4.8
8	Shipwright Road	Reeves Gate & Mayors Manor	47.4	49.3	48.0	47.2	0.6	-2.2
9	Silversmith Drive	Cobbler Lane & Cobbler Lane	40.8	41.1	45.0	44.2	4.2	3.1
10	Carpenters Circle	Stonecutters Drive & Tinsmith Lane	47.6	44.4	47.8	49.0	0.2	4.6
11	Brays Lane	Heritage Way & Bowman Drive/Brays Lane	45.4	42.4	43.2	49.7	-2.3	7.2
12	Brays Lane	Hurley Drive & Langtry Drive	48.5	46.8	47.1	48.8	-1.5	2.0
13	Tinsmith Lane	Stonecutters Drive & Carpenters Circle	43.3	37.4	45.8	44.2	2.5	6.8
14	Brays Lane	Bowman Drive & Giles Gate	46.3	45.1	48.8	49.7	2.5	4.6
15	Lumberman Lane	Livery Lane & Wheelwright Road	44.6	45.5	48.4	49.0	3.8	3.5
16	Blacksmith Lane	Heritage Way & Grainer Court	41.1	41.9	39.0	39.4	-2.2	-2.4
		Directional Average	49.6	48.3	50.6	51.0	1.1	2.8
		Cumulative Average	48.9	km/h	50.8	km/h	1.9	km/h

Comparison between Before Studies and Last Set of Speed Studies (Tables 7 – 9)

	Table 7 - Lakeshore Woods Results (Comparison between Before Studies & Last Set of After Studies)											
			Before	Studies	Last Set	of Studies	Comp	arison				
					Northbound/		NB/EB	WB/SB				
l		-	Eastbound	/westbound	Eastbound	/westbound	Change	Change				
No.	Road	Road Segment	85th	85th	85th	85th	85th	85th				
			Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed				
			km/h	km/h	km/h	km/h	km/h	km/h				
1	Great Lakes Boulevard	Rebecca Street to Nautical Boulevard	48.3	54.2	46.23	52.2	-2.0	-2.0				
2	Nautical Boulevard	Milkweed Way to Butterfly Lane	56.2	49.8	56.11	56.9	0.0	7.1				
3	Nautical Boulevard	#270 Nautical Boulevard	50.4	53.1	49.15	49.4	-1.3	-3.8				
4	Creek Path Avenue	Robin Hill Circle	50.0	54.5	55.24	48.9	5.3	-5.6				
5	Great Lakes Boulevard	Milkweed Way to Beechtree Crescent	58.9	62.2	57.34	63.2	-1.5	1.0				
6	Timeless Drive	#3357 Timeless Dive	43.4	45.0	38.66	40.4	-4.8	-4.6				
7	Nautical Boulevard	Raspberry Bush Trail to Turning Leaf Road.	49.1	49.3	50.57	51.5	1.5	2.3				
8	Wavecrest Street	#3471 Wavecrest Street	49.3	47.3	49.55	47.5	0.3	0.2				
9	Creek Path Avenue	#229 Creek Path Avenue	51.4	48.2	49.49	53.8	-1.9	5.6				
10	Creek Path Avenue	#109 Creek Path Avenue.	55.0	52.5	49.51	54.2	-5.4	1.8				
11	Great Lakes Boulevard	Fox Run Circle to Spring Azure Crescent	56.3	63.1	54.8	63.6	-1.5	0.5				
12	Stevenson Road	Warner Drive to Vogan Place	49.9	49.2	52.75	50.0	2.8	0.8				
13	Stevenson Road	102 Stevenson Road	48.3	48.4	51.76	49.1	3.5	0.7				
14	Stedford Road	3518 Stedford Road	45.3	48.7	51.39	48.7	6.1	0.0				
		Directional Average	50.8	51.8	50.9	52.1	0.1	0.3				
	Cumulative Averag			1.3	51	1.5	0	.2				

Appendix A

	Table 8 - West River Results (Comparison between Before Studies & Last Set of After Studies)											
			Before	Studies	Last Set	of Studies	Comp	arison				
No.	Road	Road Segment	Northbound /Eastbound	Southbound /westbound		Southbound /westbound	NB/EB Change	WB/SB Change				
110.	- Noud	rtodd ooginon	85th	85th	85th	85th	85th	85th				
			Percentile	Percentile	Percentile	Percentile	Percentile	Percentile				
			Speed	Speed	Speed	Speed	Speed	Speed				
			km/h	km/h	km/h	km/h	km/h	km/h				
1	River Side Drive (North Section)	Queen Mary Drive & North Forester Park Drive	49.6	51.7	49.6	49.3	0.0	-2.5				
2	River Side DriveSouth Section)	Queen Mary Drive & North Forester Park Drive	49.7	49.9	47.7	48.5	-2.0	-1.4				
3	North Forester Park Drive	Kingswood Road & River Side Drive	48.9	48.7	44.0	44.6	-4.9	-4.1				
4	South Forester Park Drive	Carolyn Drive & Oakwood Crescent	48.8	47.4	40.5	45.7	-8.4	-1.8				
5	River Side Drive	South Forester Park Drive & Oakwood Crescent	46.6	44.4	43.2	44.6	-3.4	0.1				
6	River Side Drive	Queen Mary Drive & Carolyn Drive	46.1	49.5	48.3	51.3	2.2	1.8				
7	Queen Mary Drive	River Side Drive and Kingswood Road	48.9	54.5	54.0	57.6	5.1	3.1				
8	Queen Mary Drive	Kingswood Road & Glenmanor Drive	55.2	58.2	56.7	53.0	1.5	-5.2				
9	Queen Mary Drive	Crescent Road & Highland Rd	59.4	59.1	49.8	57.4	-9.6	-1.6				
10	Queen Mary Drive	Highland Road & River Side Drive	56.4	57.7	58.3	59.2	2.0	1.6				
11	Bartos Drive	Prince Charles Drive & Bartos Drive	40.4	46.7	42.7	43.1	2.3	-3.7				
12	Stewart Street	Bartos Drive & Queen Mary Drive	41.2	46.0	42.8	38.9	1.6	-7.1				
		Directional Average	49.3	51.2	48.1	49.4	-1.1	-1.7				
	Cumulative Avera		50	0.2	48	3.8	-1	.4				

Appendix A

	Tabl	e 9 - Heritage Way Results (Comparison b	etween Befo	re Studies &	Last Set of	After Studie	s)	
			Before	Studies	Last Set of	of Studies	Comp	arison
Na	Bood	Read Samment	Northbound /Eastbound	Southbound /westbound			NB/EB Change	WB/SB Change
No.	Road	Road Segment	85th	85th	85th	85th	85th	85th
			Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed
			km/h	km/h	km/h	km/h	km/h	km/h
1	Reeves Gate	Upper Middle Road & Heritage Way	58.2	56.4	52.3	55.0	-5.9	-1.4
2	Postmaster Drive	Upper Middle Road & Heritage Way	58.4	54.1	58.4	60.2	0.0	6.1
3	Merchants Gate	Third Line & Heritage Way	52.6	53.8	53.3	55.7	0.7	1.9
4	Kings College Drive	Playter Place & Giles Gate	54.9	51.8	59.2	62.4	4.3	10.6
5	Heritage Way	Saddler Circle & Stonecutter Drive	55.5	52.8	54.0	57.7	-1.5	4.9
6	Heritage Way	Merchants Gate & Schoolmaster Circle	56.6	57.5	59.3	54.8	2.7	-2.7
7	Heritage Way	Parish Lane & Cobbler Lane	51.6	52.1	55.2	52.7	3.6	0.6
8	Shipwright Road	Reeves Gate & Mayors Manor	47.4	49.3	49.7	49.2	2.3	-0.2
9	Silversmith Drive	Cobbler Lane & Cobbler Lane	40.8	41.1	43.1	43.6	2.3	2.5
10	Carpenters Circle	Stonecutters Drive & Tinsmith Lane	47.6	44.4	48.0	48.3	0.4	3.9
11	Brays Lane	Heritage Way & Bowman Drive/Brays Lane	45.4	42.4	36.8	32.6	-8.6	-9.8
12	Brays Lane	Hurley Drive & Langtry Drive	48.5	46.8	51.0	49.4	2.4	2.6
13	Tinsmith Lane	Stonecutters Drive & Carpenters Circle	43.3	37.4	38.5	37.6	-4.9	0.2
14	Brays Lane	Bowman Drive & Giles Gate	46.3	45.1	48.7	46.4	2.4	1.3
15	Lumberman Lane	Livery Lane & Wheelwright Road	44.6	45.5	46.7	45.4	2.2	-0.2
16	Blacksmith Lane	Heritage Way & Grainer Court	41.1	41.9	42.2	39.7	1.1	-2.2
		Directional Average	49.6	48.3	49.8	49.4	0.2	1.1
		Cumulative Average	48.9	km/h	49.6	km/h	0.7	km/h

Comparison between Last Two Speed Studies (Tables 10 – 12)

	Table 10 - Lakeshore Woods Results (Comparison between Last Two Sets of After Studies)											
			2nd Last Se	et of Studies	Last Set	of Studies	Comp	arison				
					Northbound/		NB/EB	WB/SB				
			Eastbound	/westbound		/westbound	Change	Change				
No.	Road	Road Segment	85th	85th	85th	85th	85th	85th				
			Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed	Percentile Speed				
			km/h	km/h	km/h	km/h	km/h	km/h				
1	Great Lakes Boulevard	Rebecca Street to Nautical Boulevard		-	_							
			53.6	52.4	46.23	52.2	-7.3	-0.2				
2	Nautical Boulevard	Milkweed Way to Butterfly Lane	58.9	57.0	56.11	56.9	-2.8	-0.1				
3	Nautical Boulevard	#270 Nautical Boulevard	49.4	49.1	49.15	49.4	-0.2	0.3				
4	Creek Path Avenue	Robin Hill Circle	53.6	54.3	55.24	48.9	1.7	-5.4				
5	Great Lakes Boulevard	Milkweed Way to Beechtree Crescent	59.0	64.0	57.34	63.2	-1.6	-0.8				
6	Timeless Drive	#3357 Timeless Dive	41.9	44.1	38.66	40.4	-3.2	-3.7				
7	Nautical Boulevard	Raspberry Bush Trail to Turning Leaf Road.	49.3	52.6	50.57	51.5	1.3	-1.0				
8	Wavecrest Street	#3471 Wavecrest Street	49.6	48.7	49.55	47.5	0.0	-1.2				
9	Creek Path Avenue	#229 Creek Path Avenue	50.5	49.6	49.49	53.8	-1.1	4.2				
10	Creek Path Avenue	#109 Creek Path Avenue.	53.6	53.6	49.51	54.2	-4.1	0.6				
11	Great Lakes Boulevard	Fox Run Circle to Spring Azure Crescent	59.7	63.7	54.8	63.6	-4.9	0.0				
12	Stevenson Road	Warner Drive to Vogan Place	50.0	51.3	52.75	50.0	2.8	-1.3				
13	Stevenson Road	102 Stevenson Road	49.1	52.7	51.76	49.1	2.6	-3.6				
14	Stedford Road	3518 Stedford Road	46.9	48.1	51.39	48.7	4.5	0.6				
		Directional Average	51.8	52.9	50.9	52.1	-0.9	-0.8				
		Cumulative Average	52	2.4	51	.5	-0).9				

	Та	ble 11 - West River Results (Comparison betwe	en Last Two	Sets of After	Studies)			
			2nd Last Se	et of Studies	Last Set	of Studies	Comp	arison
No.	Road	Road Segment	Northbound /Eastbound	Southbound/ westbound	Northbound /Eastbound	Southbound/ westbound	NB/EB Change	WB/SB Change
110.	rioud	rodd oogmon	85th	85th	85th	85th	85th	85th
			Percentile	Percentile	Percentile	Percentile		Percentile
			Speed km/h	Speed km/h	Speed km/h	Speed km/h	Speed km/h	Speed km/h
1	River Side Drive (North Section)	Queen Mary Drive & North Forester Park Drive	52.0	47.4	49.6	49.3	-2.5	1.9
2	River Side DriveSouth Section)	Queen Mary Drive & North Forester Park Drive	47.2	52.3	47.7	48.5	0.5	-3.8
3	North Forester Park Drive	Kingswood Road & River Side Drive	44.3	46.7	44.0	44.6	-0.3	-2.1
4	South Forester Park Drive	Carolyn Drive & Oakwood Crescent	48.9	48.1	40.5	45.7	-8.5	-2.5
5	River Side Drive	South Forester Park Drive & Oakwood Crescent	44.3	47.9	43.2	44.6	-1.1	-3.4
6	River Side Drive	Queen Mary Drive & Carolyn Drive	50.8	49.5	48.3	51.3	-2.6	1.9
7	Queen Mary Drive	River Side Drive and Kingswood Road	59.2	57.7	54.0	57.6	-5.2	-0.1
8	Queen Mary Drive	Kingswood Road & Glenmanor Drive	49.8	55.6	56.7	53.0	6.9	-2.6
9	Queen Mary Drive	Crescent Road & Highland Rd	57.1	60.8	49.8	57.4	-7.3	-3.4
10	Queen Mary Drive	Highland Road & River Side Drive	56.9	54.6	58.3	59.2	1.4	4.7
11	Bartos Drive	Prince Charles Drive & Bartos Drive	43.5	42.5	42.7	43.1	-0.8	0.5
12	Stewart Street	Bartos Drive & Queen Mary Drive	45.3	48.6	42.8	38.9	-2.5	-9.7
		Directional Average	49.9	51.0	48.1	49.4	-1.8	-1.5
		Cumulative Average	50	0.5	48	8.8	-1	.7

Appendix A

		Table 12 - Heritage Way Results (Compar	ison betwee	n Last Two S	Sets of After	Studies)		
			2nd Last Se	et of Studies	Last Set	of Studies	Comp	arison
			Northbound /Eastbound	Southbound/ westbound	Northbound /Eastbound	Southbound/ westbound	NB/EB Change	WB/SB Change
No.	Road	Road Segment	85th	85th	85th	85th	85th	85th
			Percentile	Percentile	Percentile	Percentile	Percentile	Percentile
			Speed	Speed	Speed	Speed	Speed	Speed
			km/h	km/h	km/h	km/h	km/h	km/h
1	Reeves Gate	Upper Middle Road & Heritage Way	58.8	60.6	52.3	55.0	-6.5	-5.6
2	Postmaster Drive	Upper Middle Road & Heritage Way	55.8	59.3	58.4	60.2	2.7	0.9
3	Merchants Gate	Third Line & Heritage Way	55.3	57.0	53.3	55.7	-2.0	-1.3
4	Kings College Drive	Playter Place & Giles Gate	56.8	62.2	59.2	62.4	2.4	0.2
5	Heritage Way	Saddler Circle & Stonecutter Drive	59.3	56.4	54.0	57.7	-5.3	1.3
6	Heritage Way	Merchants Gate & Schoolmaster Circle	54.6	54.4	59.3	54.8	4.7	0.4
7	Heritage Way	Parish Lane & Cobbler Lane	51.2	54.7	55.2	52.7	4.0	-2.1
8	Shipwright Road	Reeves Gate & Mayors Manor	50.0	45.3	49.7	49.2	-0.3	3.9
9	Silversmith Drive	Cobbler Lane & Cobbler Lane	43.7	41.5	43.1	43.6	-0.6	2.1
10	Carpenters Circle	Stonecutters Drive & Tinsmith Lane	44.9	46.5	48.0	48.3	3.1	1.8
11	Brays Lane	Heritage Way & Bowman Drive/Brays Lane	44.1	39.7	36.8	32.6	-7.3	-7.1
12	Brays Lane	Hurley Drive & Langtry Drive	45.6	50.9	51.0	49.4	5.3	-1.5
13	Tinsmith Lane	Stonecutters Drive & Carpenters Circle	38.8	40.0	38.5	37.6	-0.4	-2.4
14	Brays Lane	Bowman Drive & Giles Gate	50.9	51.8	48.7	46.4	-2.2	-5.4
15	Lumberman Lane	Livery Lane & Wheelwright Road	51.1	46.4	46.7	45.4	-4.3	-1.0
16	Blacksmith Lane	Heritage Way & Grainer Court	43.3	41.4	42.2	39.7	-1.2	-1.8
		Directional Average	50.3	50.5	49.8	49.4	-0.5	-1.1
	Cumulative Average 50.4 km/h 49.6 km/h						-0.8	km/h