



OPERATIONS COMMITTEE AGENDA

Operations Committee Meeting
Monday, September 16, 2019
Tom Davies Square - Council Chamber

COUNCILLOR DEB MCINTOSH, CHAIR

Mark Signoretti, Vice-Chair

2:00 p.m. OPERATIONS COMMITTEE MEETING
COUNCIL CHAMBER

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DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

PRESENTATIONS

1. Gatchell Outfall Sewer - Project Update
(ELECTRONIC PRESENTATION) (FOR INFORMATION ONLY)

- Wendi Mannerow, Water/Wastewater Engineer
- Rebecca Gilchrist, Project Manager

(This presentation outlines the Gatchell Sewer Outfall project which is the design and construction of a new shaft and rock tunnel, replacing an existing section of trunk sewer that is in a high risk area for failure.)

REGULAR AGENDA

MANAGERS' REPORTS

- R-1. Report dated August 30, 2019 from the General Manager of Growth and Infrastructure regarding All Way Stop Control - Brookfield Avenue at Tulane Avenue and Hudson Street, Sudbury. **4 - 7**
(RESOLUTION PREPARED)
(The Transportation and Innovation Services section has received a request from residents to review traffic control at the intersection. This report will detail the results of the traffic studies completed and provide a recommendation for traffic control at this intersection.)
- R-2. Report dated August 19, 2019 from the General Manager of Growth and Infrastructure regarding Solid Waste Management Planning. **8 - 11**
(RESOLUTION PREPARED)
(This report seeks approval to develop an updated Solid Waste Management Plan.)
- R-3. Report dated August 21, 2019 from the General Manager of Corporate Services regarding Status on Winter Control Equipment. **12 - 21**
(FOR INFORMATION ONLY)
(This report provides the status of winter control equipment for Operations Resolution OP2019-06.)
- R-4. Report dated September 3, 2019 from the General Manager of Growth and Infrastructure regarding Gateway Speed Limits in Residential Areas. **22 - 28**
(FOR INFORMATION ONLY)
(The Ontario Highway Traffic Act was recently updated to allow municipalities the ability to designate a speed limit for areas instead of only by individual roads. This report will explain this change and provide how it may be implemented in the City of Greater Sudbury.)

MEMBERS' MOTIONS

ADDENDUM

CIVIC PETITIONS

QUESTION PERIOD

ADJOURNMENT

Presented To:	Operations Committee
Presented:	Monday, Sep 16, 2019
Report Date	Friday, Aug 30, 2019
Type:	Managers' Reports

Request for Decision

All Way Stop Control - Brookfield Avenue at Tulane Avenue and Hudson Street, Sudbury

Resolution

THAT the City of Greater Sudbury controls the intersection of Brookfield Avenue at Tulane Avenue at Hudson Street with an All-way Stop;

AND THAT staff be directed to prepare a by-law to amend Traffic and Parking By-Law 2010-1 to implement the recommended changes, as outlined in the report entitled “All Way Stop Control – Brookfield Avenue at Tulane Avenue and Hudson Street, Sudbury”, from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on September 16, 2019.

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to operational matters.

Report Summary

The Transportation and Innovation Services section has received a request to review traffic control at the intersection of Brookfield Avenue at Tulane Avenue at Hudson Street located east of Falconbridge Road in Sudbury.

Financial Implications

Recommendations of this report may be carried out within existing approved budget and staff complement.

Signed By

Report Prepared By

Soutsay Boualavong
Traffic/Trans Eng Analyst
Digitally Signed Aug 30, 19

Manager Review

Joe Rocca
Traffic and Asset Management
Supervisor
Digitally Signed Aug 30, 19

Division Review

Akli Ben-Anteur
Project Engineer
Digitally Signed Aug 30, 19

Financial Implications

Jim Lister
Manager of Financial Planning and
Budgeting
Digitally Signed Aug 30, 19

Recommended by the Department

Tony Cecutti
General Manager of Growth and
Infrastructure
Digitally Signed Aug 30, 19

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Sep 4, 19



EXHIBIT: A
CITY OF GREATER SUDBURY
ALL-WAY STOP WARRANTS

Location:	<u>Brookfield /Hudson/Tulane</u>	Date:	<u>7/2/2019</u>
Date of TM Count:	<u>6/12/2019</u>	Analyst:	<u>SB</u>
Type of Intersection:	<u>5 legs Intersection</u>		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	50%	%
Warrant #2	Collision History	0%	%
Warrant #3	Traffic Control Signals	NO	Y/N
All-Way Stop Warranted?		NO	Y/N

Warrant #1 - Minimum Vehicle Volume
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Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500	350	250	126	50%
Veh + Pedestrian volumes from side street is ≥	200/hr	140/hr	N/A		
Traffic Split	70/30	70/30	70/30	82/18	60%

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	0	0%

Warrant #3	Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.	NO	Y/N
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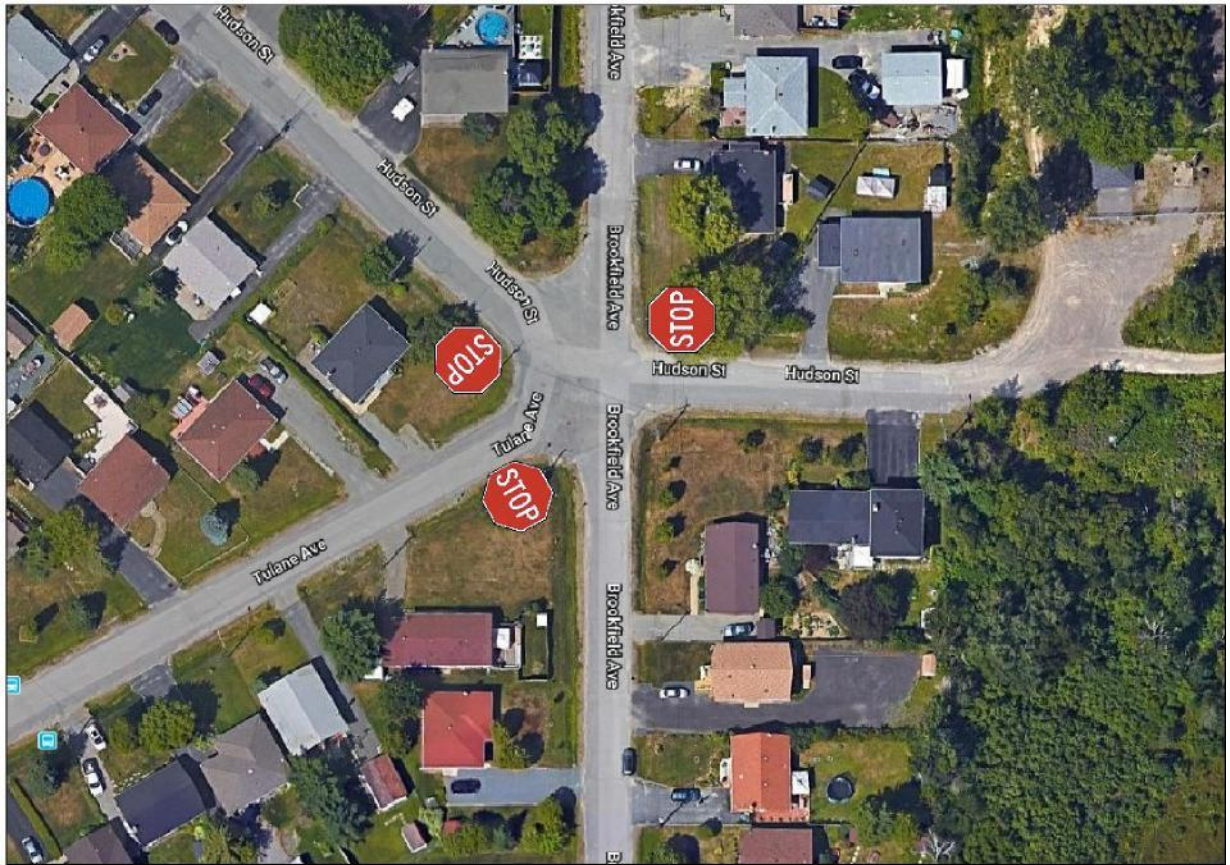
* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

All Way Stop Control

Brookfield Avenue at Tulane Avenue and Hudson Street

The Transportation and Innovation Services section received a request to review traffic control at the intersection of Brookfield Avenue at Tulane Avenue at Hudson Street located east of Falconbridge Road in Sudbury.



Brookfield Avenue at Tulane Avenue and Hudson Street intersects and forms a five leg intersection. Currently this intersection is controlled with three Stop signs facing eastbound and westbound traffic on Hudson Street and north eastbound traffic on Tulane Avenue.

In 2008, City Council adopted an all-way stop policy for the City of Greater Sudbury. The policy is based on a jurisdictional scan of Ontario municipalities and reduces the

requirements to have all-way stops installed. Staff conducted a turning movement count on June 12, 2019 at this intersection and applied the data to the City's Minimum volume warrant. Based on the average annual daily traffic volumes on Hudson Street, this intersection would be classified as a Local. As shown in Exhibit A, the total volume meets 50% of the volume requirements (See Exhibit A).

A review of the City's collision information from 2015 to 2019 year to date, revealed that there were no collisions during this period. For a local roadway, the collision warrant requires a minimum of three collisions per year over three year period.

While the traffic volumes and collision fall below the warrants, this uncommon and unconventional intersection is confusing for drivers and can cause unnecessary conflicts. Due to this unorthodox intersection geometry, staff recommends installing all-way stops at this intersection.

Presented To:	Operations Committee
Presented:	Monday, Sep 16, 2019
Report Date	Monday, Aug 19, 2019
Type:	Managers' Reports

Request for Decision

Solid Waste Management Planning

Resolution

THAT the City of Greater Sudbury approves developing an updated Solid Waste Management Plan as outlined in the report entitled "Solid Waste Management Planning" from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on September 16, 2019.

Relationship to the Strategic Plan / Health Impact Assessment

This report supports the "Asset Management and Service Excellence", "Climate Change" and the "Creating a Healthier Community" pillars of the Corporate Strategic Plan.

Report Summary

This report seeks approval to develop an updated Solid Waste Management Plan. The plan once finalized will provide the City, citizens, businesses and other stakeholders with a clear direction on how to achieve shared solid waste management goals for the next ten years.

Financial Implications

The pre-planning process will be developed within the existing approved budgets. The funding required to update the plan will be requested through future capital prioritization and presented to Council for approval through the budget process.

Signed By

Report Prepared By

Chantal Mathieu
Director of Environmental Services
Digitally Signed Aug 19, 19

Health Impact Review

Chantal Mathieu
Director of Environmental Services
Digitally Signed Aug 19, 19

Financial Implications

Jim Lister
Manager of Financial Planning and
Budgeting
Digitally Signed Aug 23, 19

Recommended by the Department

Tony Cecutti
General Manager of Growth and
Infrastructure
Digitally Signed Aug 28, 19

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Aug 28, 19

Introduction

The City of Greater Sudbury is responsible for the planning, design, approvals and the operation of solid waste management programs and facilities. These responsibilities are in-line with Council approved service levels and have been developed over time based on various planning studies, legislative requirements or funding best practices.

Three key plans have been developed over the years and include the Waste Management Systems Plan, the Waste Optimization Study and the 2015-2020 Solid Waste Strategy. The Waste Management Systems Plan was initiated in the mid 1990's and provided the area with a long term waste disposal capacity system that was approved by the Province in 2002. The Waste Optimization Study was initiated in 2003, adopted in principle by Council in 2005 and the major system components were implemented over a four year period. These systems are today's roadside co-collection systems, the single-stream blue box recyclable processing system, the organic windrow composting system and the landfill gas to electricity system. The 2015-2020 Solid Waste Strategy included strategies to enhance educational services, the development of a construction & demolition material recycling site & program, policies that increase waste diversion, the review of solid waste processing & disposal capacities, the expansion of the organic program and divisional improvements such as the development of the Waste Wise App and a custom integrated software for AVL/GPS technology systems for waste collection vehicles.

Staff anticipates completing the required tasks outlined in the 2015-2020 Solid Waste Strategy over the next year or two. For this reason, staff is seeking approval from the Committee to develop an updated solid waste management plan.

An Updated Solid Waste Management Plan

The plan once finalized will provide the City, citizens, businesses and other stakeholders with a clear direction on how to achieve shared solid waste management goals for the next 10 years. The overarching goal of the plan will be to develop a sustainable waste management system that minimizes the quantity of waste requiring handling and disposal and maximizes waste diversion opportunities.

The following is a listing of key deliverables:

- Core statutory requirements (current and proposed).
- Linkages to the strategic priorities of Council, especially as it relates to asset management/service excellence, climate change and creating a healthier community.
- Alignment with the City's Long-Term Financial Plan 2018-2027 and a review of funding options.
- A review of other municipalities to determine best practices.
- A review of trends at the provincial, federal and international levels.
- The development of various policy statements to guide future decision making.
- A high level cost/benefit analysis of various options to determine the best value for money (this will include an estimate on the corresponding landfill life savings).

Plan Development

Given the significant amount of work involved in developing the plan, staff is recommending that the plan be developed over four phases.

Phase one will identify the current state of solid waste management in Greater Sudbury, including a review of upcoming legislations, trends and best practices.

Phase two will set the plan direction and determine where we want to be in the future. This includes setting goals and measurable targets in line with the City's Corporate Strategic Plan.

Phase three will identify any gaps, challenges or opportunities from moving from the current state to the future state. This information will then be used to outline various options for consideration and selection in line with the City's long-term financial plan.

Phase four will produce the final draft of the plan for review and adoption by the Committee. The adopted plan will be structured as a "Living" document and posted to the City's website.

Committee Review

Unless otherwise directed, staff is proposing to update the Committee following the completion of each phase, before and following public consultation.

Public Consultation Process

Staff is proposing the following public consultation process:

1. Survey – encourage residents, businesses and various stakeholders to participate in an online survey during each phase of the plan update. Paper versions of the survey will be made available upon request.
2. Open Houses – staff is recommending that open houses be organized following phase three. This will provide the public with the opportunity to review display materials and to ask questions in person.
3. Marketing – develop marketing and promotional tools to ensure awareness of the plan update and how the public can participate.

Implementing Recommended Plan Components

Anticipating that the plan will provide a list of recommendations, staff suggests that recommended plan components adopted by Committee and Council be initiated and implemented by staff as follows:

Implementing Recommended Plan Components – continued

Recommended plan components with no net financial implications – Implement the recommendation and advise the Committee by way of an information report, the public through established notification processes (if required) and update the “Living” document plan.

Recommended plan components with net financial implications – Prepare a report for the Committee’s review and approval, including the detailed financial implications. If the recommended plan component is approved, the request moves to the annual budgeting process. If budget approval is granted, the recommendation is implemented, the public is notified through established notification processes (if required) and the “Living” document plan is updated to indicate whether the plan component was implemented or delayed for future consideration.

Funding the Project

Upon approval of this report, staff will determine an estimate to conduct this project. Once this information is available, staff will submit a funding request as part of the capital prioritization process. Initiation of the project is subject to Council’s review and approval during annual budget deliberations.

For Information Only

Status on Winter Control Equipment

Presented To: Operations Committee

Presented: Monday, Sep 16, 2019

Report Date: Wednesday, Aug 21, 2019

Type: Managers' Reports

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to operational matters.

Report Summary

This report seeks to fulfill Operations Committee resolution # OP2019-6 which requests information regarding the status of winter control equipment including age, hours and kilometers of service.

Financial Implications

There are no financial implications associated with this report.

Signed By

Report Prepared By

Shawn Turner
Director of Assets and Fleet Services
Digitally Signed Aug 21, 19

Division Review

Ed Stankiewicz
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Financial Implications

Jim Lister
Manager of Financial Planning and Budgeting
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Recommended by the Department

Kevin Fowke
General Manager of Corporate Services
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Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Aug 27, 19

Background

This report seeks to fulfill Operations Committee resolution # OP2019-6 which requests an information report to the Operations Committee regarding the status of winter control equipment including age, hours and kilometers of service for the purpose of right sizing the City's fleet.

Specifications for City fleet are developed by both Fleet Services as well as the various operating departments. Fleet services are responsible for the planned and emergency maintenance of this equipment. Maintenance is mainly performed from the Fleet and Transit Garage located at 1160 Lorne Street. Additionally, a fleet technician is located at each of the Frobisher, Suez and Rayside depots in order to further assist operations with technical issues.

In addition to the City owned fleet, roads operations has established service contracts whereby the vendor supplies the labour and equipment and is wholly responsible for maintenance and ensuring the equipment is available for use. These contracts are administered by roads operational staff and this contracted equipment is not included in this report.

Operationally, each of the five City depots is responsible for winter maintenance of their particular jurisdiction. As such, Appendix A lists the vehicles and equipment according to their use in winter control activities and provides for the depot, unit number, model year, manufacturer, type of equipment and hours or kilometers of the vehicle/equipment.

Operational Use - Vehicles and Equipment

Appendix A lists vehicles/equipment primarily by their operational use. Vehicles and equipment have been categorized into 8 separate operational uses. Operationally, these units are largely administered at the depot level according to the number of assets (roads, sidewalk) in the jurisdiction of each depot.

Table 1 below summarizes Appendix A data in terms of number of units, average age and average kilometers/hours as well as provides some context to the purpose and choice of vehicles/equipment that are used to perform winter control tasks.

TABLE 1 - Winter Control Vehicle/Equipment Summary

Operational Use	Description	Number of Vehicles / Pieces of Machinery	Average Age	Average KM's or Hours
Load Plow Trucks & Snow Removal	The City's fleet of 10 loaders is used in winter control to load multi-function trucks with sand and/or salt for spreading on City streets. They are also utilized to load dump trucks with snow that is removed from the downtown areas and road right of ways. Similarly, the 5 backhoes are also used for snow removal from medians and right of ways as well as ditches in order to ensure water flow through culverts.	15	11	11,747
Plow/Ice Blading - Roads	This category is comprised of 5 graders. Graders are utilized for plowing some roads due to their relative mobility. Additionally, graders are utilized late in the winter season in order to remove ice build-up in residential areas as a result of snow accumulating and becoming packed over the winter months. In the summer, these units are used for grading gravel roads and shouldering of paved roads.	5	7.5	5,223
Plow / Sand / Salt - Roads	In order to service the 23 plow routes in the City, multi-function units were introduced in the mid 2000's in order to minimize the number of pieces of equipment in the City fleet. The advantages of multi-function plows are that they can be utilized as a dump truck for summer road activities by inserting a cover over the sand/salt dispensing system as well as only requiring one piece of equipment to simultaneously plow and sand/salt the 3,600 km's of roadway in the winter. The size of a multi-function truck does present some drawbacks as it relates to maneuverability particularly in small areas such as cul de sacs and in residential neighbourhoods with narrow roadways. The underbody plow is more maneuverable than a multi-function and can provide more efficient plowing in tighter spaces while dispensing sand/salt. It is a single purpose vehicle and has limited use in the summer maintenance program.	40	4	89,729
Plow / Sand / Salt of Parking Lots, Cul de Sacs and Laneways	Medium duty vehicles are utilized in winter control to plow and spread material in smaller, tighter areas that require extra maneuverability. Areas such as parking lots, cul de sacs and laneways that cannot be serviced with the City's conventional plow fleet are where these trucks would be used. The plows are removed from these units in the summer to allow for these vehicles to be used as standard work trucks.	7	7	48,337

Plow / Sand / Sweep - Sidewalks	In order to maintain 350 km's of safe sidewalks during the winter, the City uses Municipal Tractors with various attachments to plow and blow snow as well as sand the sidewalk. In the spring these units are equipped with sweepers that clear the sand onto the roadway for pickup by the road sweeping and collection equipment. These units are utilized in the summer for roadside grass and shrub cutting as well as some asphalt and concrete grinding.	29	6.75	3,147
Snow Removal	These two large snow blowers are primarily used to remove snow in the downtown core. They can quickly handle large volumes of snow and efficiently move the snow from the roadway to a dump trunk for transport.	2	13	809
Street Sweeping	The City has 4 vacuum style street sweepers that are used to clean streets of winter sand and other debris. City forces are heavily augmented in the spring with contracted street sweeping services for spring clean up. Additionally, 2 tanker/flushers are also used to wet and clean city streets from winter sand and debris	6	6.8	38,475
Winter Control Supervision	These vehicles are used by non-union staff to patrol roads and inspect any deficiencies.	19	4.4	130,953

Winter Control Replacement

A number of factors are considered in making the decision to replace vehicles/equipment.

Consideration is given to age, use (km/hours), service provided, and condition of the vehicle/equipment.

Given the City's experience with these types of vehicles/equipment, the following expected useful life timelines and usage (KM's/Hours) are a guide.

Table 2 -Expected Useful Life		
Vehicle/Equipment	Age (Years)	KM's/ Hours
Loaders, Graders, Backhoes	12-15	15,000-20,000
Multi-Function Plows	10	300,000
Medium Duty	10	150,000
Municipal Tractors	12	10,000
Sweepers	10	N/A
Light Duty Trucks	7	200,000

The expected useful lives of the equipment listed above are similar to many municipalities. Municipal Benchmarking Network Canada (MBNCan), publishes age based data from the 17 participating municipalities in regards to light (light duty trucks), medium (medium duty) and heavy duty (multi-function plows) vehicles. Table 3 below displays the average age data from MBNCan for these periods.

Table 3 -MBNCan Average Age of Vehicles (All Municipalities)*		
	2017	2018
Light Duty	6.0	6.2
Medium Duty	7.3	7.3
Heavy Duty	7.1	7.4

*The results in Table 3 are all-inclusive of municipal vehicles that include winter control units.

Conclusion

There are some units in the winter control fleet that are beyond their expected useful life. However, the average age of the winter control fleet is similar in age to other municipalities that are involved in MBNCan.

Appendix "A"
Winter Control Equipment -City of Greater Sudbury

Operational Use	Depot	Unit	Model Year	Manufacturer	Type of Equipment	Kms/hrs
Load Plow Trucks & Snow Removal	Black Lake	S181	2006	Komatsu WA320-5L	Loader	17,175
Load Plow Trucks & Snow Removal	Black Lake	S417	1996	Volvo L50C	Loader	9,245
Load Plow Trucks & Snow Removal	Frobisher	S17611	2011	John Deere 624K	Loader	19,516
Load Plow Trucks & Snow Removal	Northwest	S180	2014	John Deere 624K	Loader	6,813
Load Plow Trucks & Snow Removal	Northwest	S182	2007	Komatsu WA320-5L	Loader	17,268
Load Plow Trucks & Snow Removal	Northwest	S414	1999	JCB 416	Loader	19,000
Load Plow Trucks & Snow Removal	St. Clair	S1412	2007	Komatsu WA320-5L	Loader	18,700
Load Plow Trucks & Snow Removal	St. Clair	S1418	2008	John Deere 624J	Loader	10,200
Load Plow Trucks & Snow Removal	Suez	S1413	2008	John Deere 624J	Loader	14,936
Load Plow Trucks & Snow Removal	Suez	S40917	2017	John Deere 624K-II	Loader	1,338
Load Plow Trucks & Snow Removal	Black Lake	S1395	2008	John Deere 310	Backhoe	9,241
Load Plow Trucks & Snow Removal	Chelmsford	S1393	2008	John Deere 310	Backhoe	7,909
Load Plow Trucks & Snow Removal	Frobisher	S39609	2009	John Deere 310	Backhoe	9,358
Load Plow Trucks & Snow Removal	St Clair	S39710	2010	John Deere 310	Backhoe	7,585
Load Plow Trucks & Snow Removal	Suez	S1401	2008	John Deere 310	Backhoe	7,918
Plow/Ice Blading - Roads	Black Lake	S35411	2011	Volvo G960	Grader	7,323
Plow/Ice Blading - Roads	Frobisher	S35111	2011	Volvo G960	Grader	3,889
Plow/Ice Blading - Roads	Northwest	S353	2011	Volvo G960	Grader	3,509
Plow/Ice Blading - Roads	St. Clair	S19012	2012	Volvo 770G	Grader	6,598
Plow/Ice Blading - Roads	Suez	S35012	2012	Volvo 770G	Grader	4,798
Plow/Sand/Salt - Roads	Black Lake	S13415	2015	Western Star 4700 SF	Multi-Function	125,492
Plow/Sand/Salt - Roads	Black Lake	S61018	2018	Freightliner SD114	Multi-Function	52,391
Plow/Sand/Salt - Roads	Black Lake	S61118	2018	Freightliner SD114	Multi-Function	56,989
Plow/Sand/Salt - Roads	Black Lake	S61618	2018	Freightliner SD114	Multi-Function	46,993
Plow/Sand/Salt - Roads	Black Lake	S645	2008	International 7400	Multi-Function	261,635
Plow/Sand/Salt - Roads	Black Lake	S66910	2010	2010 Freightliner	Multi-Function	176,483
Plow/Sand/Salt - Roads	Frobisher	S13116	2016	Western Star 4700 SF	Multi-Function	90,871
Plow/Sand/Salt - Roads	Frobisher	S60416	2016	Western Star 4700 SF	Multi-Function	69,635
Plow/Sand/Salt - Roads	Frobisher	S60516	2016	Western Star 4700 SF	Multi-Function	90,073

Appendix "A"
Winter Control Equipment -City of Greater Sudbury

Operational Use	Depot	Unit	Model Year	Manufacturer	Type of Equipment	Kms/hrs
Plow/Sand/Salt - Roads	Frobisher	S61420	2020	International HV613	Multi-Function	-
Plow/Sand/Salt - Roads	Frobisher	S61819	2019	International HV613	Multi-Function	9,044
Plow/Sand/Salt - Roads	Frobisher	S61915	2015	Western Star 4700 SF	Multi-Function	103,820
Plow/Sand/Salt - Roads	Frobisher	S626	2020	International HV613	Multi-Function	-
Plow/Sand/Salt - Roads	Frobisher	S640	2006	International 7400	Multi-Function	214,475
Plow/Sand/Salt - Roads	Frobisher	S641	2006	International 7400	Multi-Function	251,491
Plow/Sand/Salt - Roads	Northwest	S13316	2016	Western Star 4700 SF	Multi-Function	94,500
Plow/Sand/Salt - Roads	Northwest	S60918	2018	Freightliner SD114	Multi-Function	46,776
Plow/Sand/Salt - Roads	Northwest	S63414	2014	Western Star 4700 SF	Multi-Function	103,219
Plow/Sand/Salt - Roads	Northwest	S642	2006	International 7400	Multi-Function	256,162
Plow/Sand/Salt - Roads	Northwest	S64320	2020	International HV613	Multi-Function	-
Plow/Sand/Salt - Roads	Northwest	S64815	2015	Western Star 4700 SF	Multi-Function	132,200
Plow/Sand/Salt - Roads	Northwest	S66810	2010	Freightliner	Multi-Function	169,887
Plow/Sand/Salt - Roads	St. Clair	S60718	2018	Freightliner SD114	Multi-Function	43,844
Plow/Sand/Salt - Roads	St. Clair	S61218	2018	Freightliner SD114	Multi-Function	43,140
Plow/Sand/Salt - Roads	St. Clair	S61318	2018	Freightliner SD114	Multi-Function	32,623
Plow/Sand/Salt - Roads	St. Clair	S61519	2019	International HV613	Multi-Function	13,150
Plow/Sand/Salt - Roads	St. Clair	S61719	2019	International HV613	Multi-Function	9,065
Plow/Sand/Salt - Roads	St. Clair	S62013	2013	International 7400	Multi-Function	61,881
Plow/Sand/Salt - Roads	St. Clair	S62320	2020	International HV613	Multi-Function	-
Plow/Sand/Salt - Roads	St. Clair	S624	2006	International 7400	Multi-Function	263,893
Plow/Sand/Salt - Roads	St. Clair	S66714	2014	Western Star 4700	Multi-Function	80,590
Plow/Sand/Salt - Roads	St. Clair	S67012	2012	Western Star 4700 SF	Multi-Function	175,770
Plow/Sand/Salt - Roads	St. Clair	S63120	2020	International HV607	Underbody	-
Plow/Sand/Salt - Roads	Suez	S60616	2016	Western Star 4700 SF	Multi-Function	84,312
Plow/Sand/Salt - Roads	Suez	S60818	2018	Freightliner SD114	Multi-Function	45,483
Plow/Sand/Salt - Roads	Suez	S62519	2019	International HV613	Multi-Function	11,836
Plow/Sand/Salt - Roads	Suez	S63918	2018	Freightliner SD114	Multi-Function	41,579
Plow/Sand/Salt - Roads	Suez	S63514	2014	Western Star 4700	Multi-Function	73,980

Appendix "A"
Winter Control Equipment -City of Greater Sudbury

Operational Use	Depot	Unit	Model Year	Manufacturer	Type of Equipment	Kms/hrs
Plow/Sand/Salt - Roads	Suez	S67512	2012	Western Star	Multi-Function	133,122
Plow/Sand/Salt - Roads	Suez	S67915	2015	Western Star 4700SF	Multi-Function	122,741
Plow/Sand/Salt of Parking Lots, Cul de Sac	Black Lake	S62712	2012	2012 Ford F450 4X4	Medium Duty	64,128
Plow/Sand/Salt of Parking Lots, Cul de Sac	Frobisher	S58412	2012	F450 w/dump	Medium Duty	66,093
Plow/Sand/Salt of Parking Lots, Cul de Sac	Northwest	S57211	2011	F450 4x4	Medium Duty	38,725
Plow/Sand/Salt of Parking Lots, Cul de Sac	St. Clair	S03412	2012	Ford F450 Dump, plow & sander	Medium Duty	57,218
Plow/Sand/Salt of Parking Lots, Cul de Sac	Suez	S44119	2019	F350 pick up w/plow	Medium Duty	1,769
Plow/Sand/Salt of Parking Lots, Cul de Sac	Suez	S11910	2010	Ford F450	Medium Duty	95,556
Plow/Sand/Salt of Parking Lots, Cul de Sac	Suez	S1028	2008	Ford F450 Dump, plow & sander	Medium Duty	14,872
Plow/Sand/Sweep - Sidewalks	Black Lake	S23919	2019	Trackless MT7	Municipal Tractor	600
Plow/Sand/Sweep - Sidewalks	Frobisher	S24317	2017	Trackless MT7	Municipal Tractor	1,582
Plow/Sand/Sweep - Sidewalks	Frobisher	S26019	2019	Trackless MT7	Municipal Tractor	-
Plow/Sand/Sweep - Sidewalks	Frobisher	S232	2006	Trackless MT5T	Municipal Tractor	5,522
Plow/Sand/Sweep - Sidewalks	Frobisher	S23716	2016	Trackless MT6	Municipal Tractor	965
Plow/Sand/Sweep - Sidewalks	Frobisher	S25419	2019	Trackless MT7	Municipal Tractor	840
Plow/Sand/Sweep - Sidewalks	Frobisher	S25713	2013	Trackless MT6	Municipal Tractor	4,336
Plow/Sand/Sweep - Sidewalks	Frobisher	S26118	2018	Willee	Municipal Tractor	363
Plow/Sand/Sweep - Sidewalks	Northwest	S26218	2018	Willee	Municipal Tractor	175
Plow/Sand/Sweep - Sidewalks	Northwest	S1242	2007	Trackless MT5T	Municipal Tractor	3,895
Plow/Sand/Sweep - Sidewalks	Northwest	S1251	2009	Trackless MT6	Municipal Tractor	2,981
Plow/Sand/Sweep - Sidewalks	Northwest	S25610	2010	Trackless MT6	Municipal Tractor	3,634
Plow/Sand/Sweep - Sidewalks	Northwest	S25816	2016	Trackless MT6	Municipal Tractor	1,027
Plow/Sand/Sweep - Sidewalks	Northwest	S1260	2008	Trackless MT5T	Municipal Tractor	5,950
Plow/Sand/Sweep - Sidewalks	St. Clair	S1240	2007	Trackless MT5T	Municipal Tractor	7,382
Plow/Sand/Sweep - Sidewalks	St. Clair	S1246	2008	Trackless MT5T	Municipal Tractor	7,172
Plow/Sand/Sweep - Sidewalks	St. Clair	S1250	2008	Trackless MT5T	Municipal Tractor	5,883
Plow/Sand/Sweep - Sidewalks	St. Clair	S231	2006	Trackless MT5T	Municipal Tractor	4,995
Plow/Sand/Sweep - Sidewalks	St. Clair	S23616	2016	Trackless MT6	Municipal Tractor	1,790
Plow/Sand/Sweep - Sidewalks	St. Clair	S23817	2017	Trackless MT7	Municipal Tractor	1,456

Appendix "A"
Winter Control Equipment -City of Greater Sudbury

Operational Use	Depot	Unit	Model Year	Manufacturer	Type of Equipment	Kms/hrs
Plow/Sand/Sweep - Sidewalks	St. Clair	S1249	2009	Trackless MT6	Municipal Tractor	4,685
Plow/Sand/Sweep - Sidewalks	St. Clair	S24510	2010	Trackless MT6	Municipal Tractor	3,142
Plow/Sand/Sweep - Sidewalks	St. Clair	S24719	2019	Trackless MT5T	Municipal Tractor	-
Plow/Sand/Sweep - Sidewalks	St. Clair	S248	2004	Trackless MT5T	Municipal Tractor	7,062
Plow/Sand/Sweep - Sidewalks	St. Clair	S25313	2013	Trackless MT6	Municipal Tractor	2,649
Plow/Sand/Sweep - Sidewalks	St. Clair	S25912	2012	Trackless MT6	Municipal Tractor	3,256
Plow/Sand/Sweep - Sidewalks	Suez	S1252	2009	Trackless MT6	Municipal Tractor	1,557
Plow/Sand/Sweep - Sidewalks	Suez	S234	2006	Trackless MT5T	Municipal Tractor	5,784
Plow/Sand/Sweep - Sidewalks	Suez	S23516	2016	Trackless MT6	Municipal Tractor	2,572
Snow Removal	St. Clair	R967	1996	Blanchet B-96-6BTA-5.9-SP	Blower	1,414
Snow Removal	St. Clair	R95216	2016	RPM Tech LM220M	Blower	204
Street Sweeping	All	S1814	2008	Freightliner/Whirlwind	Sweeper	58,495
Street Sweeping	All	S20011	2011	Elgin	Sweeper	45,470
Street Sweeping	All	S81314	2014	Freightliner/Whirlwind	Sweeper	25,496
Street Sweeping	All	S81115	2015	Freightliner/Whirlwind	Sweeper	18,749
Street Sweeping	Frobisher	S82011	2011	Freightliner M2	Tanker/flusher	54,609
Street Sweeping	St Clair	S82114	2014	Western Star 4700	Tanker/flusher	28,030
Winter Control Supervision	Capreol	S43614	2014	FORD	F150	220,822
Winter Control Supervision	Capreol	S44412	2012	DODGE	1500	245,899
Winter Control Supervision	Chelmsford	S1546	2008	CHEV	Silverado	167,157
Winter Control Supervision	Chelmsford	S47318	2018	FORD	F150	5,864
Winter Control Supervision	Chelmsford	S49813	2013	FORD	F150	259,330
Winter Control Supervision	Frobisher	S43913	2013	FORD	F150	205,652
Winter Control Supervision	Frobisher	S44317	2017	FORD	F150	41,530
Winter Control Supervision	Frobisher	S52618	2018	FORD	F150	11,249
Winter Control Supervision	Frobisher	S54918	2018	FORD	F150	11,425
Winter Control Supervision	St Clair	S44512	2012	DODGE	1500	161,493
Winter Control Supervision	St Clair	S48413	2013	FORD	F150	176,667
Winter Control Supervision	St Clair	S50614	2014	FORD	F150	112,154

Appendix "A"
Winter Control Equipment -City of Greater Sudbury

Operational Use	Depot	Unit	Model Year	Manufacturer	Type of Equipment	Kms/hrs
Winter Control Supervision	St Clair	S53312	2012	DODGE	1500	134,480
Winter Control Supervision	St Clair	S53420	2020	Nissan	Frontier	-
Winter Control Supervision	St Clair	S01918	2018	FORD	F150	20,280
Winter Control Supervision	Walden	S49013	2013	FORD	F150	189,600
Winter Control Supervision	Walden	S49513	2013	FORD	F150	222,145
Winter Control Supervision	Walden	S535	2020	Nissan	Frontier	-
Winter Control Supervision	Walden	S54713	2013	FORD	F150	153,132

Presented To:	Operations Committee
Presented:	Monday, Sep 16, 2019
Report Date	Tuesday, Sep 03, 2019
Type:	Managers' Reports

For Information Only

Gateway Speed Limits in Residential Areas

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

The implementation of reduced speed limits through the Gateway Speed Limit program advances City Council's strategic goal related to Creating a Healthier Community as outlined in City Council's adopted 2019-2027 Strategic Plan.

Report Summary

This report provides an overview of the changes to the Highway Traffic Act which allows, municipalities to post speed limits lower than 50 km/h in geographic areas, how this could be applied to residential roads in the City and provides a summary of the impact changing speed limits has on vehicle operating speeds.

Financial Implications

There are no financial implications at this time.

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Gateway Speed Limits in Residential Areas

The Ontario Highway Traffic Act (HTA) states that “no person shall drive a motor vehicle at a rate of speed greater than 50 kilometers per hour (km/h) on a highway within a local municipality or within a built-up area.” This speed limit is commonly known as the Statutory Speed Limit.

As part of the Safer School Zones Act, the provincial government amended the HTA to allow municipalities to designate an entire area as having a posted speed limit lower than 50km/h. Previously, to designate a speed limit which differed from the Statutory Speed Limit, the municipality would have been required to post speed limit signs for the entire length of each roadway with the reduced speed limit. In addition, each roadway would need to have a by-law passed prescribing the rate of speed. These requirements made posting large sections of a community with a reduced speed limit a substantial financial undertaking and resulted in speed limits of less than 50 km/h being isolated to small areas such as school zones.

In 2013, in response to the Ontario Chief Coroner’s report titled [“Pedestrian Death Report,”](#) staff were asked to investigate options to reduce speed limits on residential roads to 40 km/h in an effort to improve safety for vulnerable road users. Studies have shown that the operating speed of a vehicle which strikes a vulnerable road user has a direct correlation to the risk of serious injury or death. Figure 1 (shown below), from the City of Toronto’s Complete Streets Guidelines, demonstrates that a reduction in vehicle operating speeds from 50 km/h to 40 km/h significantly increases the chance of survival for a vulnerable road user from 15% to 70%. This is further increased to 90% for operating speeds of 30 km/h.

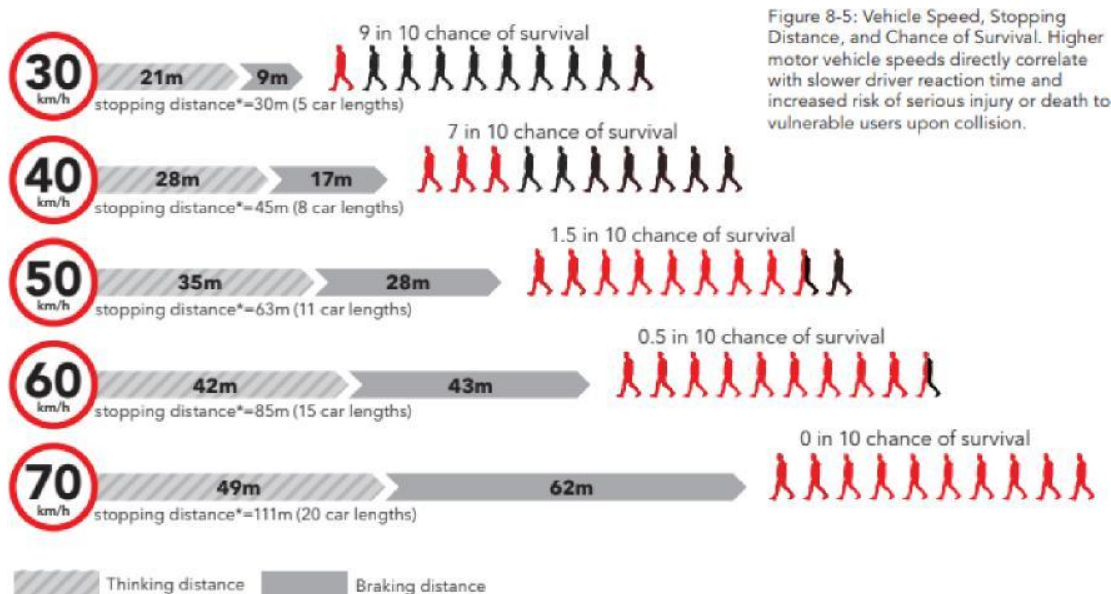


Figure 8-5: Vehicle Speed, Stopping Distance, and Chance of Survival. Higher motor vehicle speeds directly correlate with slower driver reaction time and increased risk of serious injury or death to vulnerable users upon collision.

*Stopping distances during wet conditions. Single car length=5.6m. Based on a 2.5s reaction time, representing 90th percentile of drivers.

source: Adapted from World Health Organization, 2008. Speed management: a road safety manual for decision-makers and practitioners. Transportation Association of Canada, 2011. Geometric Design Guide for Canadian Roads Part 1. 1.2.5.2 - 1.2.5.4.

Figure 1 – Vulnerable Road User Chance of Survival

In January 2014, staff presented a report to the Operations Committee titled [Residential 40 km/h Speed Limits](#) in which it was estimated it would require 9,600 signs to post every local and collector residential roadway with a 40 km/h speed limit under the old regulation. At the time, staff estimated the cost to install these 9,600 signs at \$2.5 million dollars with an additional \$125,000 increase in the yearly sign maintenance budget.

With the amendments to the HTA, a municipality is now only required to post a new type of speed limit sign (Figure 2 shown below) at all the entrance/exit points to the area they have designated. However, the reduced speed limit would apply to all roadways within the area. These changes greatly reduce the number of required signs and associated costs to reduce the speed limit in a large area. Staff are referring to these new signs as Gateway Speed Limit signs.



Figure 2 – Gateway Speed Limit Signs

Implementation

While this change to HTA may be applied to any type of road in the City, staff recommended Gateway Speed Limits only be considered on local and collector residential roads. In addition, in the event a school zone speed limit of 40 km/h falls within one of these designated areas, it is recommended that the school zone speed limit be reduced to 30 km/h. Further reducing school zone speed limits will reinforce to motorists that they are entering a school zone and extra caution is needed as they are more likely to encounter young children within the road.

Figure 3 (shown on page 3), provides a typical example of how a Gateway Speed Limit area would be signed. Gateway Speed Limit signs would be posted on all the entrances to the residential roads. As a result, all roads within the area will have a 40 km/h speed limit.

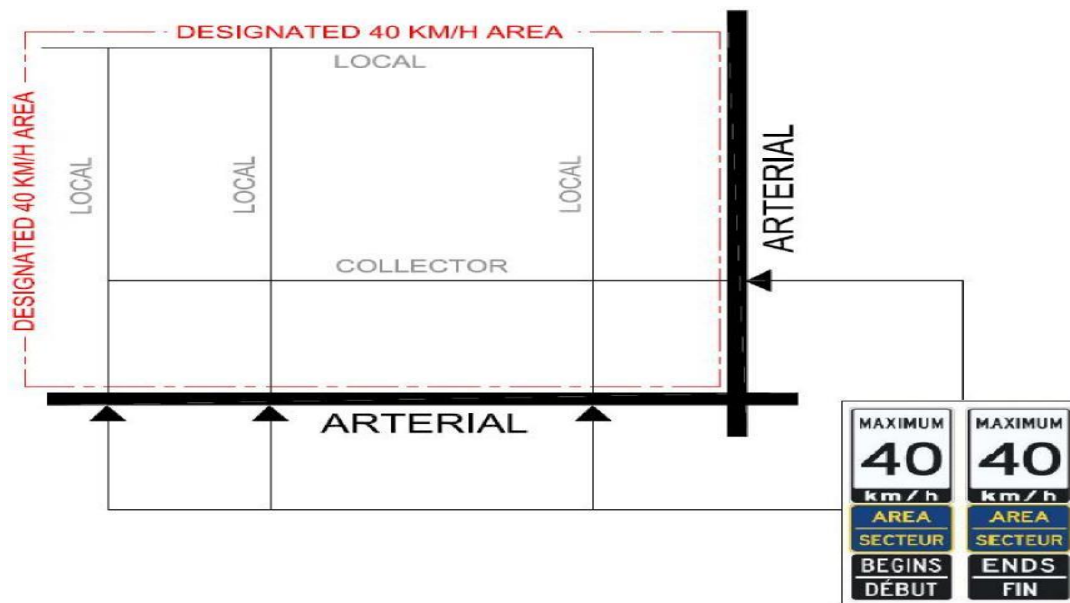


Figure 3 – Gateway Speed Limit Area Example

Figure 4 below shows a typical example of how a school zone would be signed within a Gateway Speed Limit area.

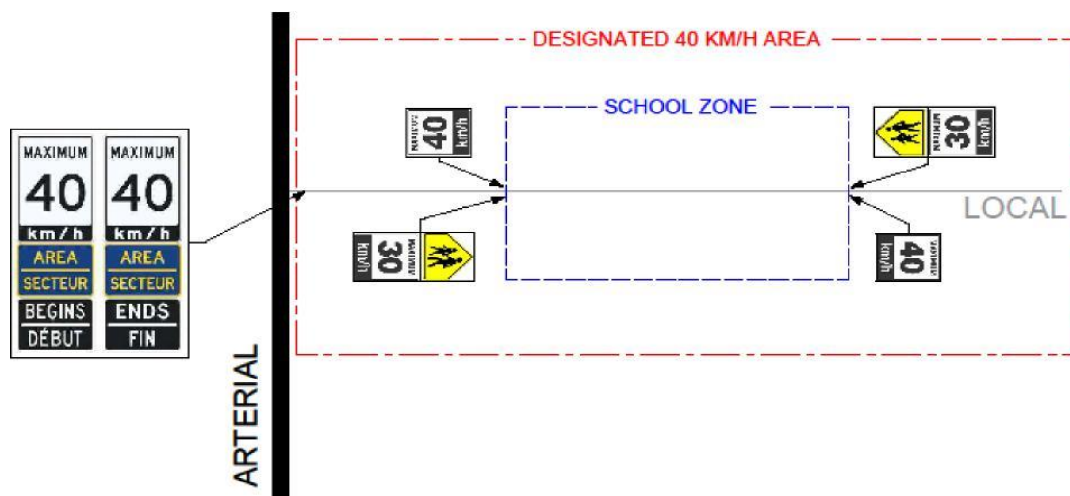


Figure 4 – Gateway Speed Limit Area with School Zone Example

Staff estimate to reduce the speed limit to 40 km/h on all residential roads would require approximately 850 Gateway Speed Limit signs. To complete the manufacturing and installation of the required signs utilizing current staff resources would cost approximately \$320,000 and take approximately 4 to 5 years to complete. Additionally, it will require an increase of \$8,170 to the annual sign maintenance budget.

Impact of the Speed Limit on Vehicle Operating Speeds

The City of Greater Sudbury has collected vehicle operating speed data on many roads with various speed limits throughout the city. A summary of the data is presented in the table below:

Speed Limit (km/h)	Number of Studies	Number of Vehicles Recorded	Weighted Average Speed (km/h)	Weighted 85th Percentile Speed* (km/h)
40	37	121,660	47	55
50	424	1,095,799	48	56
60	18	96,974	67	76
70	4	6,627	73	85
80	22	214,981	83	93

** The 85th percentile speed is the speed at or below which 85 percent of drivers are travelling and is generally accepted as a good indicator of an appropriate speed limit.*

As can be seen from the data, the posted speed limit of a roadway does not limit the speed of drivers. For each speed limit where data was collected, the 85th percentile speed exceeds the speed limit and for roads with a posted 40 km/h speed limit, the average and 85th percentile speeds are only 1 km/h lower than roads with a 50 km/h speed limit.

School zone speed limits of 40 km/h have been implemented in the area of all schools in the City of Greater Sudbury. On many of the roads, speed studies had been previously conducted. This presented an opportunity to conduct follow up studies to measure the effect of lowering the speed limit on these roads.

It is important to note that school zone speed limits are typically limited to approximately 150 meters before and after a school. It is within this area that school buses and parents drop off and pick up students. The purpose to limiting the speed reduction to this area is to emphasize to motorists that a school is nearby and extra caution is required. Fluorescent yellow/green school area signs are also installed in advance of schools to alert motorists of an upcoming school. This colour of sign is exclusively used for school area and school crossing signs. Also, the pentagonal shape of the school area sign is not used for any other sign.

The following table provides a summary of the 11 school zone speed studies.

Speed Limit (km/h)	Number of Vehicles Recorded	Weighted Average Speed (km/h)	Weighted 85th Percentile Speed (km/h)
50	12,414	42	52
40	14,141	44	52

As shown in the table above, a 10 km/h reduction in the speed limit has yielded no reduction in overall operating speeds. Also, while the majority of drivers were obeying the 50 km/h speed limits, only a small minority are obeying the 40 km/h speed limits.

As the studies have shown, simply lowering the speed limit alone is not enough to lower operating speeds. Police enforcement is an effective measure to have drivers reduce their operating speed to the posted speed limit. It not only affects the drivers who violate the speed limit but also those who hear about or see others get caught. The challenge with enforcement is the effects are both limited in time and place. Without constant and

rigorous enforcement of the speed limit, drivers tend to return to operating their vehicle at the speed they feel most comfortable, regardless of the posted speed limit. Also, police enforcement in one area of the city will not affect the operating speeds in other areas. Without implementing engineering measures to force motorists to slow down, staff have concerns with the burden that will be imposed on the Greater Sudbury Police Service to appropriately enforce a reduced speed limit on all residential roads.

In discussions with the Greater Sudbury Police Services they note that enforcement is but one component of their Traffic Safety Plan along with education. In addition, their list of traffic related concerns continues to rise while current enforcement efforts are focused on high speed arterial roads where the most serious collisions are occurring.

The City of Greater Sudbury uses engineering and education programs to proactively manage speeds in residential areas. Through the traffic calming program, the City will install physical measures on a road to reduce operating speeds. The advantage to traffic calming measures is they are self-enforcing. By physically altering the road a reasonable driver will reduce their operating speed without the need for police enforcement. Recently, [City Council approved a pilot project](#) to test the effectiveness of flexible bollards as a temporary traffic calming device. If proven effective, the flexible bollards will provide a lower cost measure which can be implemented on area roads more quickly. Staff will be reporting back to the Operations Committee during the summer of 2020 on the effectiveness of the pilot project.

The City also has two programs to help educate the public on the impact of speed on residential roads. The first program is Speed Watch. Through this program, the City lends portable radar equipment to residents to help raise awareness about speeding on neighbourhood streets. Additional information on the City's Speed Watch program can be found on the City's website at <https://www.greatersudbury.ca/live/transportation-parking-and-roads/traffic-management-and-road-safety/speed-watch-program/>

Also, through the Sudbury Road Safety Committee, the City helped develop a program where residents are given lawn signs with messages encouraging motorists to drive slower. More information on the Watch For Us! Community Sign Program can be found on the City's website at <https://www.greatersudbury.ca/live/transportation-parking-and-roads/traffic-management-and-road-safety/watch-for-us-community-sign-program/>

In addition to the existing programs described above, the framework for the Automated Speed Enforcement program continues to be developed and is expected to be in place by the end of 2019. Staff continue to participate in the provincial working group and anticipate bringing forward a report on the program in the first quarter of 2020.

Recommendations

At this time, staff recommend the decision to implement a 40 km/h speed limit on residential roads be delayed until consideration is given to additional measures which will impact the operating speeds of vehicles. These measures could include the Automated Speed Enforcement program or an expanded flexible bollard traffic calming program based on the pilot project that is currently underway.

Should Council choose to advance the 40 km/h residential speed limit through the Gateway Speed Limit program prior to the consideration of additional measures to impact vehicle operating speeds, staff recommend the program be implemented evenly across all 12 wards over a 5 year period and that staff work with each Ward Councilor to prioritize areas within each ward.

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