



STAFF REPORT INFORMATION ONLY

School Zone Safety Strategy – Supplementary Report

Date:	May 30, 2014
To:	City Council
From:	General Manager, Transportation Services
Wards:	All Wards
Reference Number:	P:\2014\Cluster B\TRA\TMC\PW14001.tmc.supplementary.doc

SUMMARY

This supplementary report includes a revised version of the Guidelines for Construction Zones in School Areas (Attachment 1) to clarify standards for notification of principals including timing of notifications, standard letters, and on site managerial contact information, as requested by the Public Works and Infrastructure Committee at its meeting of May 14, 2014.

The purpose of this report is to respond to a motion by City Council, dated October 8, 2013, to review pedestrian safety in school zones and develop a strategy for improving and promoting pedestrian safety in those areas. Traffic data suggests that pedestrian safety and overall road safety in the City has stabilized over the last decade. However, opportunities for improvement still exist, especially when considering the safety of children and the current shift towards promoting walking to school as active and healthier alternatives for commuting. The City has programs and tools currently in place for addressing safety concerns around school areas which are discussed in this report, and Transportation Services proposes to pursue additional measures to expand the City's current compliment of measures.

This report discusses a strategy for improving safety around school zones that was developed based on an analysis of school zone related pedestrian collision data, detailed safety reviews conducted at high collision school clusters and current school safety programs and engineering tools. This report also discusses a literature review of school safety practices in other jurisdictions that was conducted, as well as the formation of a School Zone Safety Working Group.

Financial Impact

The costs associated with the implementations scheduled for 2014 are estimated to be \$70,000. Funding is available in the 2014 Operating Budget (\$36,000) and 2014 Capital Budget and 2015-2023 Capital Plan (\$34,000) for Transportation Services.

The Deputy City Manager and Chief Financial Officer have reviewed this report and agree with the financial impact information.

DECISION HISTORY

City Council, at its meeting of October 8, 2013, adopted Member Motion MM 39.7 "School Zone Safety" put forth by Councillor Anthony Perruzza, Ward 8, and seconded by Councillor Gary Crawford, Ward 36, directing the General Manager, Transportation Services, to report to the Public Works and Infrastructure Committee on the development of a strategy for improving and promoting pedestrian safety in school zones and to undertake and report back on the results of pilot programs at Allenby Junior Public School and John Ross Robertson Junior Public School.

<http://www.toronto.ca/legdocs/mmis/2013/mm/bgrd/backgroundfile-62180.pdf>

Subsequent to that meeting, at the City Council meeting of December 16, 2013, the recommendation to report on the results of pilot programs at the two aforementioned schools was rescinded and amended to direct the General Manager, Transportation Services to report on the results in the final submission.

<http://www.toronto.ca/legdocs/mmis/2013/mm/bgrd/backgroundfile-65172.pdf>

ISSUE BACKGROUND

From 2000-2004, the frequency of traffic collisions in the City of Toronto declined steadily and has stabilized in the last 5 years, ranging from 52,000-56,000 events annually. During the last decade, the frequency of pedestrian collisions has been stable, ranging between 2,000-2,400 events annually. Table 1 below shows the total number of collision and fatalities, including pedestrians since 2000.

Table 1: Total and Fatal Collisions (2000-2012)

Year	Fatal Collisions	Total Collisions	Fatal Pedestrian Collision	Total Pedestrian Collisions
2000	61	72,632	26	2,386
2001	51	73,189	32	2,485
2002	91	72,085	50	2,431
2003	72	66,475	43	2,357

2004	60	56,288	27	2,126
2005	52	54,918	29	2,144
2006	57	52,997	30	2,216
2007	48	55,974	23	2,138
2008	51	55,732	27	1,935
2009	45	55,249	31	2,065
2010	43	55,585	20	2,051
2011	35	54,157	18	2,167
2012	44	52,414	24	2,035
2013*	50	44,787	31	1,601

* Period between 2013/01/01 and 2013/10/31

In terms of pedestrian fatalities, Toronto's fatality rate is 1.2 per 100,000 people and continues to be one of the lowest in North America. For example, other major cities, such as New York (1.82), Chicago (1.77), Los Angeles (2.35) and Dallas (2.69) all have higher rates. However, after a decade of general decline in the number of pedestrian fatalities, Toronto experienced 40 pedestrian fatalities in 2013 indicating there is still a need to improve pedestrian safety. Of the 40 pedestrian fatalities that occurred in 2013, two involved children and occurred at locations and during times and dates consistent with daily travel to and from school. The 2 fatalities in school areas involved collisions with heavy trucks.

Ensuring the safety of all road users is a primary objective for Transportation Services, however, children are among the most vulnerable of all road users and ensuring their safety as they commute daily to and from school is of paramount importance.

COMMENTS

School Zone Improvement Strategy

Improving pedestrian and road safety particularly around schools is a primary objective for Transportation Services which requires a comprehensive, multi-faceted strategy that combines a variety of components and the joint efforts and cooperation of multiple stakeholders. In the following discussion, Transportation Services outlines its proposed strategy for improving pedestrian safety in school areas, in terms of 6 major components:

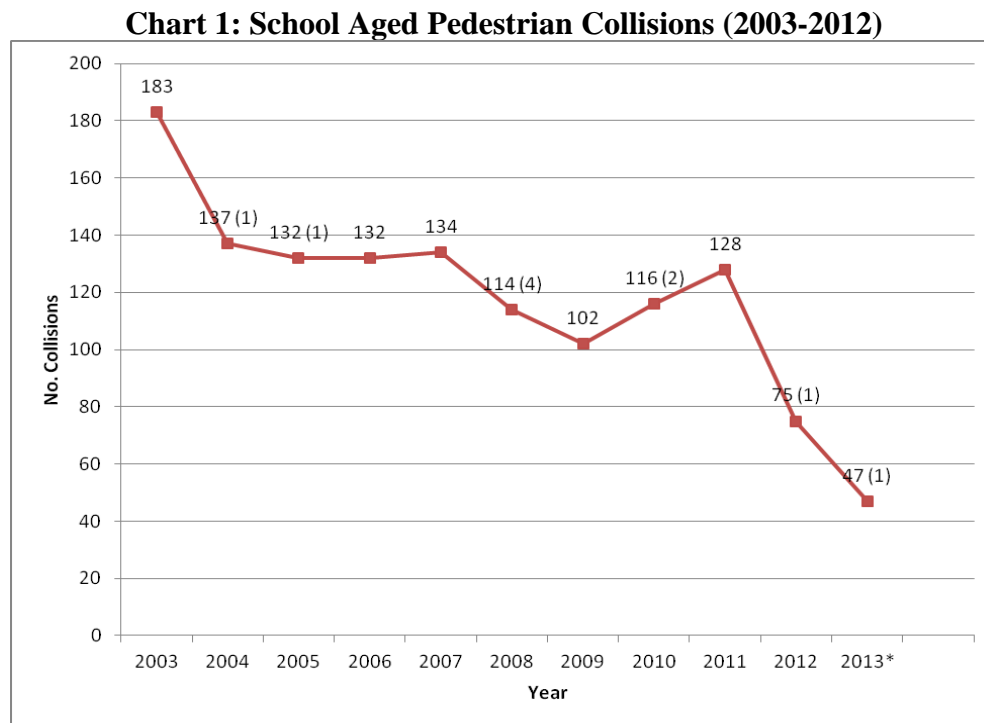
- 1) Data Analysis
- 2) Engineering
 - Safety Audit of High Collision Clusters
 - Current Traffic Measures for Addressing School Safety Concerns
 - School Speed Zones
 - Sidewalks
 - Pavement Markings
 - Construction Zone Guidelines
- 3) Programs and Advocacy

- Current School Safety Programs and Initiatives
 - School Travel Plans
 - Charter for Active, Safe and Sustainable Transportation
 - School Zone Safety Working Group
- 4) Education
 - 5) Enforcement
 - 6) Research

Data Analysis

An analysis was conducted on pedestrian collisions that occurred around school areas over the last 10 years (2003-2012) to identify trends and patterns. In order to identify school aged pedestrian collisions, the data was filtered to include only events that involved pedestrians between 4 and 19 years of age, occurred between Monday and Friday; from September to June, and between the hours of 7:00 and 9:00 a.m. and 2:00 and 5:00 p.m. These parameters typically represent when a school would be in session.

In order to define a school zone, a 1 kilometre radius around each school was used, which is based on the current eligibility distance for school bus transportation adopted by both school boards in Toronto and the reasonable assumption that most students would be driven to school if they live beyond this distance. Chart 1 below summarizes school aged pedestrian collisions in school zones over the last 10 years.



() Denotes collisions involving trucks

* Period between 2013/01/01 and 2013/10/31

As shown in the above chart, school aged pedestrian collisions have declined noticeably over the last decade, from a peak of 183 in 2003, to a low of 75 in 2012. During the last decade, the total number of school aged pedestrian collisions was 1,253, which represents 6% of the total 21,234 pedestrian collisions which occurred in that period. Elementary school aged pedestrians (ages 4-14) were involved in 62% of these collisions, compared to 38% which involved high school aged pedestrians (ages 15-19). In addition, 10 of those events involved a truck, which represents less than 1% of the total. Although collisions involving school-aged pedestrians have generally declined in the past 10 years, the increase in total traffic and pedestrian fatalities in 2013 demonstrates that opportunities for improvements still exist.

A review of school aged pedestrian collisions over the last 5 years (2008-2012) by pedestrian collision type was also conducted. The 5 most common types are summarized in Table 2 below. Based on this data, greater attention should be given to pedestrian safety at intersections.

Table 2: Most Common School Aged Pedestrian Collision Types (2008-2012)

Pedestrian Collision Type	Number of School Aged Pedestrian Collisions
Pedestrian hit at mid-block	107 (2)
Vehicle goes straight while pedestrian crosses without right-of-way	100
Vehicle turns left while pedestrian crosses with right-of-way at intersection	81
Vehicle turns right while pedestrian crosses with right-of-way at intersection	62 (1)
Vehicle goes straight while pedestrian crosses with right-of-way at intersection	45 (1)

() Denotes collisions involving trucks

A geographical analysis of the collision data was also conducted to determine if there were any locations where school aged pedestrian collisions were more prevalent. A geographical plot of school aged pedestrian collisions for the last 5 years (2008-2012) shows concentrations of these collision events often occur in areas with a high density of schools. These concentrations of collision events were grouped into clusters of 1 kilometre radius

Carrying forward, as part of the overall school zone safety strategy, Transportation Services will continue to review pedestrian collision trends related to school zones and identify high collision frequency clusters, in order to provide insight into areas which require attention.

Engineering

Safety Audit of High Collision Clusters

For each of the 9 high collision clusters, Transportation Services staff conducted detailed in-service road safety audits to identify any safety concerns and deficiencies which could be immediately addressed, as well as other improvements which may require further discussion and planning. The safety reviews included an examination of the roadways along school frontages and of each collision event in the last 5 years. Detailed audit reports can be found in Attachment 2. Table 3 below summarizes the findings and immediate actions.

Table 3: Actions From Road Safety Audits of High Collision Clusters

Cluster ID	Schools*	Ward(s)	Immediate Actions
A	Fairbank M.S. St. Thomas Aquinas C.S.	15	<ul style="list-style-type: none"> Replace damaged, faded or missing signs (school area, parking restriction, all-way stop tabs, etc.)
B	Blessed John XXIII C.S. Gateway P.S. Grenoble P.S. Marc Garneau C.I. Valley Park M.S. Thorncliffe Park P.S.	26	<ul style="list-style-type: none"> Install zebra markings at pedestrian crossovers and signalized intersections
C	St. Augustine C.S. Shoreham P.S. Gosford P.S. Brookview M.S. Driftwood P.S. St. Charles Garnier C.S. Topcliffe P.S. St. Francis De Sales C.S.	7 & 8	<ul style="list-style-type: none"> Remove school crossing guard sign at location where guard does not exist
D	Carlton Village North P.S. Pope Paul VI C.S. Beatrice House/Hughes P.S. F. H. Miller Junior P.S. St. Nicholas of Bari C.S. General Mercer Junior P.S.	17	<ul style="list-style-type: none"> Replace damaged, faded or missing signs (school area, parking restriction, all-way stop tabs, etc.) Refresh faded pavement markings at intersections (stop bars, crosswalks, zebra markings)
E	St. Maurice C.S. Kingsview Village P.S. Don Bosco C.S. School of Experimental Education	2 & 4	<ul style="list-style-type: none"> Replace damaged, faded or missing signs (school area, parking restriction, all-way stop tabs, etc.) Refresh faded pavement markings at intersections (stop bars, crosswalks,

Cluster ID	Schools*	Ward(s)	Immediate Actions
	Westway Junior P.S.		zebra markings)
F	King George P.S. James Culnan C. S.	13	<ul style="list-style-type: none"> Replace damaged, faded or missing signs (school area, parking restriction, all-way stop tabs, etc.)
G	Warden Jr. P.S. Samuel Hearne Sr. P.S. Oakridge Jr. P.S. St. Dunstan C.S.	35	<ul style="list-style-type: none"> Review the feasibility of installing barriers or streetscaping to redirect pedestrians to designated crossing locations Review traffic signal timing and implement any necessary changes
H	York Mills C.I. Etienne Brule S.S. Winfields Jr. H.S. Harrison P.S. Dunlace P.S.	25	<ul style="list-style-type: none"> Install zebra markings at pedestrian crossovers and signalized intersections
I	Roywood P.S. St. Isaac Jogues C.S. Fenside P.S. St. Madeleine C.S. Brookbanks P.S. Donview M.S.	34	<ul style="list-style-type: none"> Review need for additional street lighting in front of school

* Schools located within a cluster but not shown are assigned to a neighbouring, overlapping cluster.

The estimated cost of the signage and pavement markings identified in Table 3 above is \$36,000 and the funding is available within the approved Transportation Services 2014 Operating Budget.

In addition to conducting safety audits at the high collision clusters, Transportation Services staff also reviewed the two locations where the two school aged traffic fatalities occurred in 2013. The results of the audits didn't reveal any concerns that need immediate attention.

As part of the overall improvement strategy, Transportation Services will conduct bi-annual road safety audits of the clusters with the highest collision frequency and implement the appropriate improvements that can be addressed immediately. Any medium or long-term interventions requiring additional budget, planning and discussions with other units will also be identified.

Current Traffic Measures for Addressing School Safety Concerns

Transportation Services investigates and responds to school traffic and road safety concerns and complaints on an on-going basis, often working in partnership with schools,

local communities, Toronto Police Service and other community and special interest groups. Transportation Services currently employs a number of measures as identified in Table 4 below to address typical school traffic safety concerns.

Table 4: Traffic Measures

Measures	Description
Parking regulations	<ul style="list-style-type: none"> • Time of day "No parking" or restricted short-term parking on school side • Time of day "No stopping" on opposite side of school • "No stopping" within 9m of school crossing • Time of day "No stopping" School Bus Loading Zone
Warning signs	<ul style="list-style-type: none"> • School zone • School crossing • Playground • School crossing guard
Regulatory signs	<ul style="list-style-type: none"> • 40 km/h reduced speed limit • 40 km/h school zone maximum speed when flashing • 30 km/h speed limits on traffic calmed streets
Pavement markings	<ul style="list-style-type: none"> • Stop bars • Pedestrian crosswalk • Zebra markings
Traffic calming	<ul style="list-style-type: none"> • Speed humps • Chicanes • Corner bump-outs

School Speed Zones

Transportation Services also reviewed the City's two existing 40 km/h School Speed Zones on Avenue Road, between 10 metres north of Willowbank Boulevard and 10 metres north of Briar Hill Avenue, and on Keele Street, between 245 metres south of Glenlake Avenue and 122 metres north of Glenlake Avenue. During the hours of 8:00a.m.-5:00 p.m., from Monday to Friday, the speed limits on these sections of roads in front of schools are reduced from 50 km/h to 40 km/h and motorists are alerted by flashing beacons placed upstream in both directions. An analysis of vehicle speeds at these two locations, when the reduced speed limit was in effect, showed that vehicles were travelling 12-14 km/h above the 40km/h speed limit. It is believed that motorists are ignoring the reduced speed zones due to the age of the installations and the absence of regular speed enforcement. To evaluate this notion, it is recommended that the school zone safety strategy include the installation of a new flashing 40 km/h School Speed Zone on Bloor Street West, in front of St. Clement Catholic School, to assess the effectiveness of new installations with and without police enforcement. The estimated cost of this installation is \$34,000 and the funding is available in the approved Transportation Services 2014 Capital Budget. Transportation Services will submit a report to Etobicoke York Community Council recommending this new installation.

Transportation Services has also received requests for 30 km/h speed limits. Normally, 30 km/h speed limits are implemented on streets that have traffic calming in place or in conjunction with the installation of traffic calming devices. A policy and warrant for a 30 km/h speed limit without traffic calming measures is currently being considered by Transportation Services and will be reported to the Public Works and Infrastructure Committee in early 2015.

Sidewalks

Toronto Public Health's analysis of current data indicates that driving has increasingly become the preferred mode of travel for parents transporting students to and from school. One possible reason for parents driving their children to school is the lack of sidewalks. Sidewalks are one means of providing safe access and are associated with increased safety for pedestrians. Sidewalks and walkways are proven pedestrian safety measures according to the Federal Highway Administration (FHWA).

In order to better facilitate the installation of missing sidewalks on local roads in school zones, City staff will review the Essential Links program (annual sidewalk capital program) and consider potential changes to the program to help improve school zone safety and sidewalk connectivity. Transportation Services also endorses the installation of sidewalks on both sides of the road, depending on road class and site conditions. Transportation Services will work with Engineering and Construction Services Division to identify locations in school areas in upcoming Capital Works Program years for opportunities to install missing sidewalks and sidewalk links.

Pavement Markings

One of the results of the road safety audits conducted on the high collision clusters was the recommendation from staff to study the effectiveness of painted yellow centrelines on all roadways within school zones for improving safety. Yellow centrelines would provide visual delineation between opposing traffic flows and guidance on horizontal curves. Transportation Services is also currently reviewing the potential safety benefits of school zone pavement marking stencils. The stencil could supplement the school zone sign in alerting motorists to the presence of a nearby school and additional pedestrian activity downstream. As part of the school zone safety strategy, both treatments will be explored and, should they be deemed feasible and beneficial for improving safety in school zones, Transportation Services will develop criteria for their use.

Construction Zone Guidelines

Staff have also reviewed and revised our current City guidelines regarding the installation and maintenance of construction zones for road work in school areas, which can be found in Attachment 1. The revisions include additional conditions that Transportation Service staff may apply when issuing a road occupancy permit. The conditions will be based on site specific requirements and may include the requirement for Toronto Police to assist with pedestrian and vehicular movement in the area of the work zone. Also, when conducting work zone meetings, Transportation Services staff will emphasize to contractors the importance of school zone safety and discuss alternate methods of construction to reduce the potential risk to students. For example, the hours of work will

be reviewed and adjusted when possible, truck routes are to avoid school zones where possible and delivery schedules will be established to occur when students are not travelling to or from school when feasible. Transportation Services will be implementing these guidelines immediately and will be advising both internal and external agencies, accordingly.

Programs and Advocacy

Current School Safety Programs and Initiatives

There are currently a number of programs and initiatives within the City aimed at improving or ensuring the safety of young students commuting to and from school provided by the school boards, Toronto Public Health, Transportation Services and special interest groups, often in conjunction with each other. These are summarized below in Table 5.

Table 5: Current School Safety Programs

Agency	Program	Description
Toronto Public Health Transportation Services Toronto School Boards	Active and Safe Routes to Schools (ASRTS)	Volunteer based project which encourages walking to school on designated, safe routes
Toronto Public Health	Pedestrian & Bike Safety	School walking program which includes presentation, lesson plan and training resources for teachers
Toronto Public Health	Active City Principles & Audit Tool	Report and audit tool outlining infrastructure design principles which encourages physically active lifestyles. Audit tool has been piloted in 10 schools.
Toronto Public Health	Active Transportation Demonstration Project	Pilot program to test feasibility, sustainability and impacts of active transportation interventions, to be conducted in various neighbourhoods
Toronto School Boards	TDSB Charter for Active, Safe and Sustainable Transportation	TDSB passed Charter and is working on implementation plan
Toronto Public Health Green Communities Canada	School Travel Planning	Pilot program to implement Active and Safe Routes to School at schools using a comprehensive and collaborative planning model which involves travel surveys and risk assessments
Toronto Transportation Toronto School Boards	Parent Safety Program	Volunteer based Kiss 'n Ride program aimed at alleviating traffic and safety

		concerns around schools during arrival and departure periods
Toronto Police Service	Back-To-School Campaign	Annual traffic and parking enforcement initiative conducted at beginning of school year around school zones
Toronto Police Service	School Crossing Guard Program	Provision of adult school crossing guard service at designated locations throughout the City
Toronto Police Service	Elmer the Safety Elephant	In-school demonstration of basic rules of the road, aimed at Kindergarten to Grade 2 students
Toronto Police Service	Bus/Foot Safety Patroller Program	Volunteer-based program to encourage safe behaviour and provide direction or assistance to students on school buses or crossing streets
Toronto Police Service	Safe Traffic and Walking Distracted Presentations	In-school presentation about pedestrian safety aimed at Grades 4-8 students

Transportation Services will continue to be involved with and provide support for the various school safety programs and initiatives within the City.

School Travel Plan

One program of particular interest is School Travel Planning which has been evaluated in various jurisdictions throughout Ontario in recent years. The objective of a School Travel Plan is to develop a comprehensive plan and strategy that provide students with safe routes and active transportation options through collaboration between schools and their student bussing services, public health agencies and City Transportation and Planning Divisions. The plan includes conducting student travel surveys and risk assessments at each school. Efforts to promote the movement in Toronto, lead by Toronto Public Health and Green Communities Canada, has resulted in two pilot projects currently under development for Our Lady of Lourdes Catholic School and King Edward Public School. School Travel Planning could prove to be a valuable tool and Transportation Services will provide support and contribute to the current pilot projects as required and will monitor the effectiveness and results as part of the school zone safety strategy.

Charter for Active, Safe and Sustainable Transportation

The involvement of both Toronto school boards is a key component of the school safety improvement strategy. The Toronto District School Board (TDSB) has recently adopted a Charter for Active, Safe and Sustainable Transportation and the Toronto District Catholic School Board is preparing to follow. The Charter commits the Board and their schools to promoting, supporting and investing in safe, active and sustainable transportation to and from school. The Charter also discusses collaborative efforts with external stakeholders to identify and remove barriers to active modes of transportation

and implement school travel plans and road safety education. The next step for the TDSB is to develop implementation plans.

As part of the improvement strategy, Transportation Services will provide any support necessary to assist the school boards in developing plans and recommends that City Council request the school boards to prioritizing schools in the 9 clusters with the highest school aged pedestrian collisions. Furthermore, in order to ensure that school facilitators work co-operatively and share responsibility with the City in addressing day-to-day traffic and safety concerns at schools, Transportation Services recommends that every school be directed to endorse the Charter in writing.

School Zone Safety Working Group

The safety of students commuting to school is a common interest to many stakeholders in addition to Transportation Services. Any improvement strategy to address safety concerns around schools will be more effective when planned and implemented in consultation and collaboration with these other stakeholders and can benefit from the sharing and pooling of resources, knowledge bases, experience and funding towards achieving a common goal. To facilitate discussions and the planning of collaborative efforts, a School Zone Safety Working Group was formed which is comprised of representatives from Transportation Services, Toronto Public Health, Toronto Police Service, Toronto District School Board, Toronto Police Service – Parking Enforcement Unit and Green Communities Canada (Active and Safe Routes to School). The primary goals of this group is to review and discuss concerns related to school zones, such as heavy truck traffic, school drop-off zones, parking regulations, school bus routes, crossing guards and enforcement of traffic laws, and to plan co-operative initiatives or programs. The School Zone Safety Working Group will continue to meet quarterly to review and develop strategies to improve safety for all road users in school zones.

Education

Road safety is a shared responsibility that extends beyond government agencies and police authorities. Drivers, cyclists and pedestrians alike must share in the responsibility of making our roads safer. Recent attention given to collisions related to road user error, such as distracted driving and pedestrian crossing behaviour, indicates the need for:

- 1) Additional public education of safe road practices for motorists, cyclists and pedestrians;
- 2) Increase awareness of safety hazards and risks;
- 3) Building and promoting mutual respect between drivers and vulnerable road users.

The School Zone Safety Working Group will develop enhanced education and awareness initiatives to address these topics and aimed at both parents and students which will be available to schools and the general public. Consideration will be given to using modern mediums of delivering the messages that are more effective at targeting the intended audience, such as sharing information through social media to school boards and young

teenagers and the production of animated YouTube videos for children. In addition to promoting and educating audiences about road safety practices and behaviour, the messaging should also encourage and promote active transportation options, such as walking and cycling. By doing so, these initiatives would also support and align with the City's mandate and efforts to promote and facilitate a healthier and active lifestyle.

Enforcement

Toronto Police Service routinely collaborates with Transportation Services in resolving school traffic concerns which often entails enforcement of the traffic and parking regulations in front of schools. Ensuring road user safety and the safe and efficient flow of traffic are among their highest priorities and modifying road user behaviour through enforcement and education is a key strategy to meeting that goal.

Toronto Police Service will provide speed enforcement support for this strategy at the proposed flashing 40 km/h school speed zone pilot study on Bloor Street. In addition, Toronto Police Service will provide traffic and parking enforcement in the vicinity of schools within the 9 clusters with the highest frequency of school aged pedestrian collisions, during school arrival and departure periods. Toronto Police Service is also an active participant in the School Zone Safety Working Group and is committed to providing support and assistance to any of the programs and initiatives that are developed.

Research

Staff conducted a literature review of improvements and initiatives directed at improving safety around schools from other jurisdictions in North America and around the world. The review highlighted a variety of solutions ranging from education and awareness oriented initiatives to physical and traffic calming type improvements. However, despite the differences in presentation and design, the basic underlying principles and messages are reflected in the inventory of programs and engineering interventions currently available in Toronto, such as Active and Safe Routes to School, Walking School Bus, school zone kiss and ride, flashing 40 km/h school speed zones, pedestrian crosswalks, etc. Furthermore, many aspects of these programs and interventions are contained within this school zone safety strategy. Staff will continue to keep abreast of current research and best practices related to school traffic concerns and road safety.

Evaluation

Transportation Services staff will review the school zone safety strategy and its various individual components on an annual basis through the School Zone Safety Working Group.

Action Plan

This report identifies a series of measures to be acted upon to improve safety within school zones. A summary of these actions and proposed schedule are outlined in the table in Attachment 3.

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SIGNATURE

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ATTACHMENTS

Attachment 1 – Guidelines for Work on Streets in the Areas of Schools
Attachment 2 – Detailed In-Service Road Safety Audits of School Collision Clusters
Attachment 3 – School Zone Safety Strategy Next Actions