



# The Corporation of the Town of Milton

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Report To: Council

From: Doug Sampano, Commissioner, Community Services

Date: June 3, 2024

Report No: COMS-004-24

Subject: School Crossing Guard Policy Update

Recommendation: **THAT the School Crossing Guard Policy Update be received for information by Council;**

## EXECUTIVE SUMMARY

As a result of a Notice of Motion - Resolution 158-23 by Councillor Tesser Derksen at the November 13, 2023 Council Meeting staff were asked to:

- Undertake a review of the Town's Placement of School Crossing Guards Policy and report back to Council in Q2 2024 with recommendations on a new warrant methodology for justifying placement of crossing guards at locations within school zones and in the immediate vicinity of school zones (such radius or vicinity to be included in the recommendations brought forward);
- To explore options for shared funding opportunities with school boards to help offset the costs of hiring additional school guards

The Ontario Traffic Council (OTC) updated the 2017 School Crossing Guard guide in 2023. As a result of this recent update, the Town's Placement of School Crossing Guards Policy now incorporates provisions for school crossing guards at roundabouts and Pedestrian Crossovers (PXO's). Staff is also committed to conducting a review and municipal scan of the School Crossing Guard policy every four (4) years aligning with the term of Council. Staff also continues to work with school boards when new schools are opening to determine appropriate locations for school crossing guards, in line with the Town's policy.

## REPORT

## Background

School crossing guards are used to assign right-of-way for pedestrians, primarily children, at locations with conflicting vehicular traffic. The role of a school crossing guard is to stop traffic for school aged children (JK-6) walking to and from school where sufficient naturally occurring gaps do not exist. Currently, the Town of Milton has 38 school crossing guards at 35 locations. In addition, the Town has a pool of eight standby school crossing guards to cover locations when necessary.

In 2019, Council approved report ENG-023-19 Placement of School Crossing Guards Policy which provided a consistent method of evaluating existing and newly requested locations to determine if a school crossing guard is warranted. Staff have continued to utilize this policy.

The existing Town of Milton Placement of School Crossing Guards Policy has been effective for midblock locations and intersections that have all-way stops and/or traffic control, but it does not include new warrants for roundabouts or pedestrian crossover locations. The updated policy now includes this new warrant system for school crossing guards, and provides staff with a sophisticated approach for analyzing these types of school crossings.

## Discussion

In 2017, the Ontario Traffic Council (OTC) completed the School Crossing Guard Guide, which provides a technical approach to determine whether or not a school crossing guard should be provided at a specific location. It also included a range of the best practices across Ontario. Since 2017, the OTC has provided an updated 2023 School Crossing Guard Guide. Based on this guide, staff have updated the Town of Milton Placement of School Crossing Guards Policy (Appendix I).

The 2023 OTC updated guide now incorporates the warrant process for assessing the need for school crossing guards at roundabouts and pedestrian crossover (PXO) locations. The Town of Milton Placement of School Crossing Guards Policy has been updated as follows: (See Appendix I for policy updates in red text)

- The exposure index, will be employed to evaluate the necessity of a school crossing guard at PXO's located at minor street stop-controlled intersections. As per the policy, the exposure index method examines the level of interactions and conflict between vehicular and student pedestrian volumes. The Exposure Index method generates a graph based on historical trends at existing crossing guard locations. The graph is then used as a threshold for future crossing locations where a school crossing guard may be required.
- The gap study methodology will be utilized to determine the need for school crossing guards at PXO's located at midblock positions as well as at roundabout locations. As per the policy, the gap study method measures the elapsed time naturally occurring

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between vehicles, measured in seconds, as vehicles cross the intended study location. The gaps are recorded in five-minute intervals, and if there are less than four safe gaps present in 50% of the five minute intervals, in either the morning or afternoon study period, a crossing guard is warranted. The safe gap time is dependent on the width of the road, as defined in the policy (i.e. a wider road requires a longer gap time).

- To include a process for evaluating the placement of school crossing guards when new schools open
- To add text to confirm that the Commissioner, Community Services, has delegated authority to update the policy, as per ENG-023-19, and that a review of the policy, and updates as needed, will take place each term of Council.

The warrant process for midblock school crossings and all-way stop warrants in the OTC 2023 School Crossing Guard Guide remain unchanged, therefore no further changes have been made to the Town's policy with respect to these warrants

A jurisdictional review of several municipalities regarding their School Crossing Guard Policy was completed in Q1 2024. The municipalities contacted included: Cities of Brampton, Burlington, Cambridge, Hamilton, Kitchener, Markham, Mississauga, Oshawa, Waterloo and Niagara Falls as well as the Town of Halton Hills.

It was determined that all of the contacted municipalities are presently using the warrant processes provided by the 2023 OTC School Crossing Guard Guide.

This new updated policy, in conjunction with the 2023 OTC Crossing Guard Guide, assists staff with determining placement of school crossing guards. School crossing guards can be placed on all roadways within the urban boundary of Milton, with a posted speed limit of 60km/h or less as per the Ontario Highway Traffic Act Section 176. The OTC School Crossing Guard Guide includes warrants that combines engineering principles, observation and judgement as a basis for data collection. The warrant also takes into consideration vehicle and pedestrian volumes during the key times around school entrance and dismissal. The OTC School Crossing Guard Guide recommends a gap survey for mid block/minor stop controlled locations or pedestrian crossover locations and an Exposure Index for all-way stops, roundabouts and traffic control signal locations.

The Town has 27 school crossing guard locations presently within school zones. A school zone is defined as the frontage of the school property extending to a distance of 150m each side of the school property line. School Zone Flashers are also installed within a school zone for schools from JK- Grade 8. It is important to note that school crossing guards are also

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located within a radius of 500m from the school. Each school is reviewed on an individual basis and often these guards are located within the school board set boundary of the individual school. At some locations outside of school zones, crossing guards may cross students for two different schools based on walking routes.

The Town continues to work with school boards related to new school openings. As per the Town of Milton Placement of School Crossing Guards Policy, school boards must notify the Community Services Department three months in advance of the opening dates of all new schools in Milton. They are to provide the catchment area of the registered children for the subject school and a scatter map showing the potential walking students.

A site visit will occur within three weeks of the school opening to review potential sites for future studies based on student volumes at all significant crossings. School crossing guards will not be placed before school opens as traffic/pedestrian patterns have not been established. Prior to a crossing guard being assigned a location, the construction surrounding schools should be nearing completion, which would include sidewalks and curbs. The safety of pedestrians and the school crossing guard must be taken into consideration. Approximately six to eight weeks after the school opens (pending construction progress) applicable studies would be conducted and warranted guards would be placed based on budget availability.

The Town's yearly operating budget has availability for two new crossing guards on a year by year basis. Staff have consulted with several local municipalities and have found that there is no cost sharing that takes place between the municipality and school boards for the placement of school crossing guards. The municipalities contacted included: Cities of Brampton, Burlington, Hamilton, Mississauga, as well as the Town of Halton Hills. It is important that municipalities ensure that school crossing guards are only placed where warrants are fulfilled, traffic patterns are established and when safe to do so. If a municipality installed school crossing guards without the appropriate studies completed and warrants fulfilled this could lead to a high number of unwarranted crossing guards. Town staff are responsible for the hiring, training, and managing of all school crossing guard locations.

Having said this, staff are committed to continue to work with the school boards in Milton to ensure the public and school staff are aware of the Town's policy, and procedures in determining crossing guard locations, as well as continuing public education regarding the Town's many PXO's and how to navigate these safely. While there currently is no precedent for cost sharing with school boards to fund crossing guards, this is something staff will discuss with the school boards in Milton, however only in the context of funding crossing guards that are warranted, in line with the Town's policy.

An example of the Town working with the school boards on pedestrian safety related initiatives, staff worked with the Halton District School Board (HDSB) on Rattlesnake Point Public School which is located along Kovachik Boulevard. The Town installed a PXO along

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the school frontage prior to the school opening as this would be considered a desired pedestrian path as there will be a neighbourhood park that will be constructed to the north of the school. This PXO provides a protected crossing for pedestrians outside of school hours. This PXO was recently upgraded to roadside mounted signs with rectangular rapid flashing beacons (RRFB) at the school board's cost as the request for the higher level PXO originated from the board.

In addition to staff following the updated School Crossing Guard Policy, it is important to highlight enhancements that will be made at some of the existing school crossing locations.

The following two (2) school crossing guard locations will be upgraded to Level 2 Type C Pedestrian Crossings. The "Type C" PXO consists of roadside mounted signs at the crossing for both directions with an RRFB on top of the roadside mounted signs with a flexible bollard in the middle of the road.

- Scott Boulevard and Finney Terrace
- Child's Drive and Clements Drive

The following six (6) midblock school crossing locations will be converted to Level 2 Type D Pedestrian Crossings. The "Type D" PXO consists of a roadside mounted sign at the crossing in both directions with a flexible bollard in the middle of the road. Staff recommends converting these midblock school crossing locations to remain consistent with the other school crossing locations along the school frontages and to mitigate driver confusion:

- Farmstead Drive and McFarren Crescent (Anne J. MacArthur Public School)
- Scott Boulevard and Farrington Crossing (Escarpment View Public School)
- Bennett Boulevard and Lee's Gate (Guardian Angels Catholic Elementary School)
- Dixon Drive and Sprucedale Lane (St. Peter Catholic Elementary School)
- Bennett Boulevard and Wickson Way (Hawthorne Village Public School)
- Savoline Boulevard and Merkley Gate (Lumen Christi Catholic Elementary School)

The Town of Milton is dedicated to safeguarding children's welfare by implementing school crossing guards where warrants have been fulfilled.



### Financial Impact

Included in the 2024 operating budget is \$566,536 associated with the provision of crossing guard services at currently warranted locations.

The 2024 capital budget includes an annual Pedestrian Crossover program in the amount of \$295,963 which provides for the installation of pedestrian crossovers and RRFB's in 2024 at the locations referenced within this report.

Respectfully submitted,

Doug Sampano  
Commissioner, Community Services

For questions, please contact: Heide Schlegl, Manger, Traffic 905-878-7252  
Jessica van Ravens, Road Ext.2506 / 2531  
Safety Specialist

### Attachments

Appendix A - Placement of School Crossing Guards Policy

Approved by CAO  
Andrew M. Siltala  
Chief Administrative Officer

### Recognition of Traditional Lands

The Town of Milton resides on the Treaty Lands and Territory of the Mississaugas of the Credit First Nation. We also recognize the traditional territory of the Huron-Wendat and Haudenosaunee people. The Town of Milton shares this land and the responsibility for the water, food and resources. We stand as allies with the First Nations as stewards of these lands.

## Purpose & Scope

This policy, in conjunction with the Ontario Traffic Council (OTC) Crossing Guard Guide, will be used to assist staff with the placement of school crossing guards. School crossing guards can be placed on all roadways within the urban boundary of Milton, with a posted speed limit of 60km/h or less as per the Ontario Highway Traffic Act Section 176.

A school crossing guard is a person 18 years of age or older who is directing the movement of persons across a highway by creating necessary gaps in vehicular traffic to provide a safe passage at a designated school crossing location and is employed and trained by the Town of Milton.

School crossing guards will only be provided to assist students when all of the following criteria are met:

- attend schools operating under the Halton District School Board, Halton District Catholic School Board and the French Language School Board;
- live within the school's walking boundaries;
- are in Grades Junior Kindergarten to Six

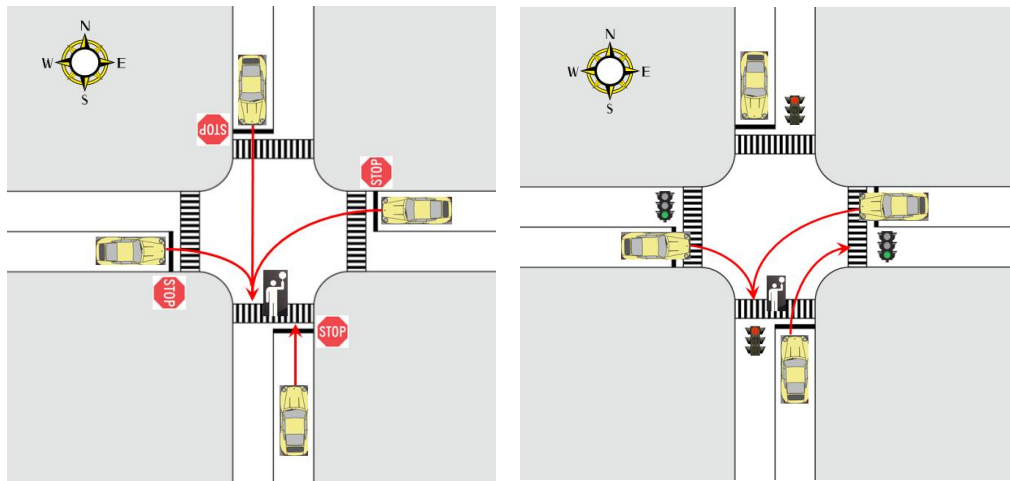
School crossing guards will be placed at warranted locations a minimum of 30 minutes before the morning bell time and 30 minutes after school dismissal. At school crossing locations directly in front of a school, these guards will remain in place an additional 5 minutes should there be late students. The bell times are provided by the appropriate school board.

School crossing guards can be placed at signalized intersections, all-way stops, roundabouts, minor street stop controlled or at mid-block locations where warrants have been fulfilled.

## Definitions

**85<sup>th</sup> Percentile:** Calculated by plotting the product (conflicting vehicles multiplied by pedestrians) for all existing crossing guard locations. Based on the plotted locations, the 85<sup>th</sup> percentile is calculated and this is the exposure threshold value.

**Conflicting Vehicles:** A conflicting vehicular movement is one that interferes with or compromises the safety of the crossing students. The conflicting vehicular movements vary depending on the type of intersection, crossing or control where students are crossing.



**All Way Stop and Signalized Examples - Conflicting Movements**

**Exposure Index:** The Exposure Index method examines the level of interaction and conflict between vehicular and student pedestrian volumes. The Exposure Index method generates a graph based on historical trends at existing crossing guard locations. The graph is then used as a threshold for future crossing locations where a school crossing guard may be required. (See Appendix I)

**Gap Study:** Measures the elapsed time naturally occurring between vehicles, measured in seconds, as vehicles cross the intended study location. The gaps are recorded in five-minute intervals.

**Safe Gap Time:** A Safe Gap Time is the time required in a break within the traffic that permits students to cross the road safely. (See Appendix II)

**Warrant:** The criteria used to determine if a school crossing guard is warranted.



## **Requests for a School Crossing Guard**

Requests from parents and schools must be submitted in writing addressed to the Community Services Department, Traffic Engineering. The request should indicate the applicable school, daily walking route, preferred intersection (including leg of intersection)/location where they are requesting that a school crossing guard be placed. Upon Traffic Engineering staff's review of the student scatter map provided by the appropriate school board, a more suitable location may be considered and studied.

## **Types of Studies Used to Determine Locations for School Crossing Guards**

Appropriate studies to place a school crossing guard will be conducted at requested locations. All applicable studies will be conducted 30 minutes prior to school entrance times and 30 minutes following school dismissal.

If a school crossing guard is being considered, a site study will be conducted on a typical school day, Tuesday to Thursday with fair weather, to determine if the location is appropriate and if it meets the minimums for the applicable warrant.

The site study would include the following:

- The location's proximity to another traffic control device or existing school crossing guard;
- Number of students utilizing the crossing location;
- Existing sidewalks i.e. is construction complete or nearly complete in the area;
- Driver and pedestrian behaviour - is education or police enforcement required;
- Site lines - would the school crossing guard and children be clearly visible by traffic at this location;
- Parked vehicles - staff may be required to review area for parking/stopping prohibitions

In order for a school crossing guard to be warranted, all parts of the applicable warrants must be met. A three-year collision review will also be completed at all studied locations to determine if there is a collision pattern during school entrance and dismissal times.

## **Gap Study - Minor Street Stop-Controlled Intersections/Mid-Block Locations**

A Gap Study measures the elapsed time naturally occurring between vehicles, measured in seconds, as vehicles cross the intended study location. The gaps are recorded in five-minute intervals.

At all locations where a Gap Study is performed, a Site Inspection Report will be completed (See Appendix III). All components of the warrant must be met.

### **Minimum Warrant Requirements – Gap Study**

- Less than four safe gaps present in 50% of the five minute intervals in either the morning or afternoon study period
- Minimum of 40 students during a study period
- Average daily traffic volumes less than 12,000 vehicles/day on leg of intersection where highest number of students cross

## **Exposure Index Study – All-Way Stops**

An Exposure Index Study quantifies the level of interaction and potential conflict between vehicular and child pedestrian movements at a given crossing. For a crosswalk at an all-way stop, the conflicting movements considered as part of the Exposure Index would be those vehicles turning left, right or going straight through that crosswalk. The Exposure Index is determined by multiplying the number of conflicting vehicular movements by the number of school aged pedestrians at a crossing. It provides an empirically based value, which can be used objectively to determine if a school crossing guard is warranted at a location. When completing a count, a vehicle drives through a crossing or it does not. The subjectivity is removed from the review.

A Site Inspection Report will be completed. All components of the warrant must be met.

### **Minimum Warrant Requirements – Exposure Index Study**

- Minimum number of students during the school peak period either am or pm must be 40
- Minimum Exposure Threshold must be 8,102
- Average daily traffic volumes less than 12,000 vehicles/day on leg of intersection where highest number of students cross

## Signalized Intersections

Very few municipalities are using the Exposure Index at signalized intersections and many municipalities do not place crossing guards at signalized intersections. The municipalities that do use the Exposure Index all have different thresholds based on their existing locations. The Town of Milton only has crossing guards at one signalized intersections, which is not a large enough sample to create an Exposure Index. Therefore, at this time the Exposure Index will not be used at signalized intersections and the existing procedure will continue, which was outlined in the previous OTC Crossing Guard Guides from 2017.

Logic would dictate that school crossing guards should not be necessary at signalized intersections since traffic control signals are in place and provide for the orderly flow of traffic and pedestrians. Pedestrians have right of way when crossing on a green signal, which should minimize vehicle/pedestrian conflict. The use of a school crossing guard at a signalized intersection could adversely affect traffic flow, causing undue delay for motorists and should therefore be considered only as a last resort if several of the following are observed:

- A large number of conflicting movements through the intersection both right and left on the green signal and right turning traffic on the red signal.
- A large number of students, particularly young students crossing.
- The intersection leads to a main arterial or collector road and therefore there is a significant volume of trucks or other large vehicles using the intersection, potentially affecting visibility for both pedestrians and drivers.
- Poor driver behaviour, not yielding right of way to pedestrians, not coming to a complete stop prior to turning on a red signal, drivers inching forward, thus intimidating pedestrians in or about to cross the roadway and/or drivers weaving through pedestrians as they cross the roadway.
- The students appear timid in crossing the road or do not seem to be properly trained on how to cross the road safely, e.g. forgetting to push the pedestrian button or entering the roadway after the red flashing hand is showing.

When a school is located adjacent to a signalized intersection, additional measures may be taken. These measures will include but are not limited to:

- Implementing Leading Pedestrian Intervals (LPI) - The LPI provides an advanced walk signal so that pedestrians begin to cross the road before vehicles get a green light and it provides pedestrians an advantage over turning vehicles.
- Prohibiting right turns on red during the LPI time
- Extending the pedestrian walk time
- Ensuring pedestrian countdown and information signs are installed at the intersection

- Provide training to students on how to properly use pedestrian signals

Signal monitoring equipment at these intersections will allow traffic engineering staff to monitor the intersections more frequently and make signal timing adjustments if necessary.

### **Pedestrian Crossovers (PXOs)**

*The warrant method at a PXO is dependent on whether the PXO is located at a midblock location or in the vicinity of an intersection. This differentiation is crucial as a midblock PXO faces no conflicting vehicular movements since all through traffic must yield, prioritizing pedestrian safety, including students. Conversely, a PXO at an intersection would be susceptible to conflicting vehicular movements from the side streets. With respect to this difference, the school crossing guard warrant methods for PXOs located at both locations are outlined below:*

#### **Minimum Warrant Requirements –Exposure Index Study (Intersection)**

- *Minimum number of students during the school peak period either am or pm must be 40*
- *Minimum Exposure Threshold must be 8,102*
- *Average daily traffic volumes less than 12,000 vehicles/day on leg of intersection where highest number of students cross*

#### **Minimum Warrant Requirements –Midblock PXO**

- *Less than four safe gaps present in 50% of the five minute intervals in either the morning or afternoon study period*
- *Minimum of 40 students during a study period*
- *Average daily traffic volumes less than 12,000 vehicles/day on leg of intersection where highest number of students cross*

### **Roundabout Intersections**

*Some municipalities employ the Exposure Index method and the Gap Study method to assess the necessity of school crossing guards at roundabouts. When determining the most appropriate warrant approach, the municipality should take into account the following considerations:*

*If the sample size is inadequate and roundabouts are not anticipated to be frequently constructed in the municipality, the Exposure Index method may not be applicable. In such cases, a Gap Study conducted at the roundabout could be considered, especially if historical data or existing roundabouts are unavailable.*

### ***Minimum Warrant Requirements – Gap Study***

- *Less than four safe gaps present in 50% of the five minute intervals in either the morning or afternoon study period*
- *Minimum of 40 students during a study period*
- *Average daily traffic volumes less than 12,000 vehicles/day on leg of intersection where highest number of students cross*

*As roundabouts become more prevalent in Ontario, it is recommended that the effectiveness of implementing school crossing guards directly at roundabouts be compared to other safety measures, such as implementing PXOs at roundabouts or shifting the guard to a midblock location. A better understanding of the impact of various aspects of the roundabout on the operation of a school crossing guard should also be monitored.*

### **New School Opening**

School boards must notify the Community Services Department three months in advance of the opening dates of all new schools in Milton. They are to provide the catchment area of the registered children for the subject school and a scatter map showing the potential walking students.

*A site visit will occur within three weeks of the school opening to review potential sites for future studies based on student volumes at all significant crossings. School crossing guards will not be placed before school opens, as traffic/pedestrian patterns have not been established. Construction surrounding schools should be nearing completion, which would include sidewalks and curbs. The safety of pedestrians and the school crossing guard must be taken into consideration. Approximately six to eight weeks after the school opens (pending construction progress) applicable studies would be conducted and warranted guards would be placed.*

### **Removal of a School Crossing Guard**

The Commissioner, Community Services, is authorized to remove school crossing guard locations without further study due to school closure, a school boundary change or if the students are now eligible for bussing. Additionally, locations can be removed following the completion of three gap/exposure studies where any of the three studies fall short of meeting warrants within a school year. Staff will advise Council as well as affected schools of the locations where school crossing guards are being removed. The affected school(s) will be responsible for advising parents/caregivers of the removal of the school crossing guard. Removals should be effective after the end of school year.

## **Updating of Policy**

*The Placement of School Crossing Guards Policy will be reviewed and updated, as necessary, each term of Council. This will include updating the Exposure Threshold to ensure existing conditions are being captured and reflected.*

*As per Council Report ENG-023-19, the Commissioner is delegated the authority to update the policy. Updates to the policy will be communicated to Council via an information report to Council.*

Appendix I – Exposure Index Graph

*Appendix II – Safe Gap Time definition from OTC Crossing Guard Guide 2023*

Appendix III – Site Survey Form and Gap Study

**Appendix I**  
**Exposure Index Graph**





**Appendix II**  
**Safe Gap Time definition from OTC Crossing Guard Guide 2023**

## Sample Calculation of Safe Gap Time

The following sample midblock location has been chosen to demonstrate how the Safe Gap Time is calculated based on the equation:

*Safe Gap Time (G) = Perception & Reaction Time (P) + Crossing Time + Group Factor Time*

$$G = P + (W / S) + T (N - 1)$$



**Perception time (P):** Because there were not enough students crossing at this midblock location, the default value of 4.0 seconds is adopted.

**Width of roadway (W):** The pavement width plus the boulevard width on the side with the crossing sign was measured. This is the more conservative approach that assumes students would not wait on the edge of the road and curb, but rather the boulevard area while waiting for a gap. The distance was measured to be 15.6 m with a measuring wheel.

**Average walking speed of students (S):** The default value was 1.0 m/s was used because there were insufficient sample size.

**Group factor (T):** Information for this was not available at the time of the survey so the default 2.0 seconds is adopted.

**Predominant group size (N):** From an upstream all-way stop-controlled intersection, students were observed to be crossing in groups of typically two to three students. It was conservatively assumed that this trend would continue if a crossing guard was assigned to this midblock location. Thus, N equals to one since the average group size does not exceed one increment of three.

Based on the above parameters, the Safe gap Time is calculated as:

$$G = 4 + (15.6 / 1) + 2 (1 - 1) = \mathbf{19.6 \text{ seconds}}$$

**Appendix III**  
**Site Survey Form and Gap Study**



# Site Inspection Report

<b>Observers</b>	Observed By	_____ and _____		
	Date of Inspection	_____		
	Times:	AM: _____	PM: _____	
	Requested by	_____		
	Weather Conditions	<input type="checkbox"/> Dry <input type="checkbox"/> Sunny <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Other: _____		
<b>Site</b>	Location	_____ <small>Please include map of intersection showing portion studied</small>		
	Leg	<input type="checkbox"/> North <input type="checkbox"/> East <input type="checkbox"/> South <input type="checkbox"/> West		
	Name of School(s)	_____		
	Type of Crossing/ Intersection	<input type="checkbox"/> 4 Way <input type="checkbox"/> 3 Way <input type="checkbox"/> Mid-block		
	Type of Control	<input type="checkbox"/> No Control <input type="checkbox"/> Traffic signals <input type="checkbox"/> PXO <input type="checkbox"/> Stop Signs (Traffic Stopped on one Street only) <input type="checkbox"/> All Way Stop (Traffic Stopped in all directions)		
<b>Observations</b>	School Signs	<input type="checkbox"/> School Crossing <input type="checkbox"/> School Warning <input type="checkbox"/> None		
	Posted Speed	<input type="checkbox"/> 40 km/hr-when flashing <input type="checkbox"/> 50 km/hr-when flashing <input type="checkbox"/> 40 km/hr no flash <input type="checkbox"/> 50 km/hr no flash <input type="checkbox"/> 60 km/hr no flash		
	Pedestrian Site Distance	<input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good		
	Sight Obstructions	<input type="checkbox"/> Trees <input type="checkbox"/> Hedges <input type="checkbox"/> Fences <input type="checkbox"/> Bus Shelter <input type="checkbox"/> News Paper Boxes <input type="checkbox"/> None <input type="checkbox"/> Other: _____		
	Road Grade	<input type="checkbox"/> Flat <input type="checkbox"/> Incline <input type="checkbox"/> Decline		
	Road Geometrics	<input type="checkbox"/> Straight <input type="checkbox"/> Curved		
	Road Width (m)	Curb to Curb: _____		Curb to Median: _____
	Road Conditions	<input type="checkbox"/> Dry <input type="checkbox"/> Wet <input type="checkbox"/> Ice <input type="checkbox"/> Snow covered		
	Sidewalks	<input type="checkbox"/> North <input type="checkbox"/> East <input type="checkbox"/> South <input type="checkbox"/> West <input type="checkbox"/> Not Present		
	Proximity to School(s)	School: _____		<input type="checkbox"/> In front of <input type="checkbox"/> Within _____ (m)
		School: _____		<input type="checkbox"/> In front of <input type="checkbox"/> Within _____ (m)
	Route Survey	<input type="checkbox"/> Shopping Area <input type="checkbox"/> Construction <input type="checkbox"/> Driveway <input type="checkbox"/> Bus Stop <input type="checkbox"/> Parked Vehicle(s) <input type="checkbox"/> Other: _____		
	Comments	_____		
	_____			
	_____			

## Pre-Calculated Safe Gap Times

Intersection Width		Safe Gap (seconds)
Feet	Metres	
24	7.30	11
25	7.60	11
26	7.90	11
27	8.25	12
28	8.50	12
29	9.00	12
30	9.10	13
31	9.50	13
32	9.75	13
33	10.00	13
34	10.35	14
35	10.67	14
36	11.00	14
37	11.25	15
38	11.60	15
39	11.90	15
40	12.20	15
41	12.50	16
42	12.80	16
43	13.10	16
44	13.40	17
45	13.70	17
46	14.00	17
47	14.30	17
48	14.60	18
49	15.00	18
50	15.25	18

Intersection Width		Safe Gap (seconds)
Feet	Metres	
51	15.50	19
52	15.90	19
53	16.20	19
54	16.50	19
55	16.75	20
56	17.00	20
57	17.40	20
58	17.70	21
59	18.00	21
60	18.30	21
61	18.60	21
62	18.90	22
63	19.20	22
64	19.50	22
65	19.80	23
66	20.10	23
67	20.40	23
68	20.70	23
69	21.00	24
70	21.30	24
71	21.60	24
72	22.00	25
73	22.25	25
74	22.50	25
75	22.90	25
76	23.20	26
77	23.50	26
78	23.80	26
79	24.00	27
80	24.40	27

Appendix III

\* Note: school aged children only, no adults or bussed students. Circle = conflict, / = vehicle, numbers = seconds elapsed

No. of children	#	Time in 5 minute increments	Gap = _____	Seconds Totalled	Total ÷ Gap	Total # Cars
e.g. 1,5,3,1	9	8:05-8:10	Gap = 15 // 23 <del>///</del> <del>///</del> // (19) 23 18 //	83	5.53	20

Notes:

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