



Evaluation of the Pedestrian Skills Program

A Waterloo Region Pilot Project

Summary Report
June 2019



Region of Waterloo
PUBLIC HEALTH AND
EMERGENCY SERVICES

Background

In Waterloo Region, children aged five to nine years are at highest risk of pedestrian-related injuries as compared to 0-4 and 10-14 years age groups.¹ Given this, the **Pedestrian Skills Program** was developed as a behaviourally-based intervention to target elementary school children (grades three and four) to increase knowledge and skills related to being safe pedestrians. Research has suggested that such interventions, which provide individualized/small-group training, have potential to not just improve child pedestrian safety, but also contribute to physical activity and health in children.²

Program goal

To prepare children (in grades three and four) to safely walk independently to school and other destinations in their community.

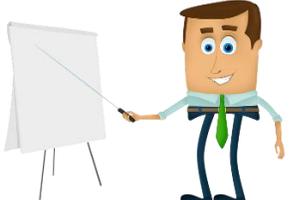
Overall learning objectives for students

Using the Ontario Health and Physical Education Curriculum expectations as a guide,³ learning objectives for the pilot of this program included:

- Identify the benefits of walking
- Identify safety risks associated with being a pedestrian
- Describe how to walk safely to reduce risks for injury
- Demonstrate safe pedestrian behaviours when walking

Program components

The full program is modeled after the modular format of a successful, local cycling education program, *Cycling into the Future*,⁴ and includes the following four components:

Introductory classroom session	Experiential learning	Follow-up classroom learning	Parent engagement
			
<p>Teachers facilitate brief discussions with their students about the benefits of walking to set the tone and start to build a collective mindset about the value of walking.</p>	<p>Trained instructors facilitate hands-on, classroom learning activities followed by outdoor learning at the roadside to teach and practice key pedestrian safety behaviours and skills.</p>	<p>Teachers incorporate cross-curricular and integrated learning with other subjects to reinforce what students have learned about pedestrian safety.</p>	<p>Parents reinforce pedestrian safety learning at home and foster positive attitudes toward walking and independent mobility.</p>

Pilot program implementation

The experiential learning component of the Pedestrian Skills Program was piloted and evaluated in June 2019 to inform feasibility and identify any modifications needed in its design before the program’s full implementation in November 2019. Over a span of three days, the program planning team piloted the program in two elementary schools within the Waterloo Region District School Board: School A and B. At School A, the program was piloted over two separate days—two classroom sessions occurred on the first day and two road-side sessions with the same students occurred two days later. At School B, implementation of both the classroom and roadside sessions occurred on the same day. For both schools, individuals from the program planning team served as the instructors. All instructors followed a written lesson plan to ensure consistent teaching of key pedestrian safety behaviours/skills.

Classroom sessions	Roadside sessions
	
<p>In the classroom learning session, students participated in four learning activities. A 'role-play' activity was completed with the large group and involved students identifying how an instructor could “fix” safety risks before going out for a walk. Following this initial activity, the students were divided into three smaller groups of approximately eight to 15 students that rotated among three 15-minute stations. These stations included the following activities:</p> <ul style="list-style-type: none"> • 'Flashcard' learning activity – with the use of over-sized flashcards showing photos of various street scenes, students learned about where to walk in different situations • 'Tabletop' learning activity – with the use of a large aerial street view tabletop mat (2D) and movable pieces, students learned about how cross the road at intersections and at roundabouts • 'Thinking cubes' learning activity – with the use of pedestrian/road infrastructure photographs and a number of factors that could modify how to cross safely, students learned how to assess risks and make decisions while walking 	<p>As a follow-up to the classroom component, students participated in a roadside learning session. During this session, small groups of students applied the concepts learned in the classroom activities to real-world situations during one of two predetermined 800-1,000 metre walks (45-50 minutes) in the school neighbourhood. Each route allowed instructors to reinforce important concepts for being safe pedestrians at roundabouts, multi-use pathways, mid-block crossings, pedestrian crossovers, driveways, light rail transit crossings, etc. Each of the walking groups contained approximately eight to 11 students, along with one trained instructor and one or two additional adults (i.e., teachers) for supervision purposes.</p>

Evaluation and results

A process evaluation was conducted to:

- Determine if the Pedestrian Skills Program was implemented as planned
- Determine what needs to continue and what needs to change in order to result in a more effective program design
- Determine if the best possible use of program resources was made

A range of evaluation methods was employed in order to capture the complexities of the program. These methods were developed in collaboration with the program planning team. The table below provides an overview of the different methods used and the corresponding results obtained.

	Methods	Results
Natural field experiment 	Field notes were taken by the lead evaluator in order to track, document, and summarize the inputs, activities and outputs of the pilot program, and describe any other relevant characteristics and/or its context during implementation of both the classroom and roadside sessions.	In total, 98 students in Grades 3 and 4 participated. All of the activities in the classroom and roadside sessions were implemented as planned, with minor changes along the way to improve effectiveness. For the most part, the students, teachers and instructors were all engaged and participated actively during the activities in both schools. Although both of the classroom and roadside sessions were planned to be run for 75 minutes each, they were shortened to approximately 60-65 minutes due to getting a late start in both schools. The extra time was used for signing into the schools and setting up, which was not initially accounted for. The timing for the individual station activities and walking routes went according to schedule.
Pre/post hands up assessment 	Questions covering key concepts were asked to students at the beginning of each classroom session and again at the end of each roadside session in order to measure change in their knowledge before/after participation.	While the majority of students appeared to be already knowledgeable in certain key pedestrian safety behaviours/skills (e.g., walk on sidewalks, do not listen to music when walking, be as visible to drivers as possible, ask for help when needed), they also learned several new concepts, or expanded their knowledge on some concepts (e.g., stop-look-listen-think, walk facing traffic when no sidewalks, make eye contact with drivers).
Teacher online feedback 	After implementation, questions were sent through the school principal to the teachers that participated, in order to gather their feedback regarding the effectiveness and quality of the activities that took place.	Only one teacher responded with feedback following the program implementation. A singular response cannot accurately capture the views and opinions of all the teachers that participated in the program. Therefore, due to this low response rate, the findings from the teacher online feedback are not reported.

	Methods	Results
<p>Focus group</p> 	<p>After implementation, an in-person discussion with the program planning team, facilitated by the lead evaluator, was conducted in order to debrief about what went well and did not go well, as well as discuss next steps for moving forward in regards to the full program.</p>	<p>This discussion allowed the planning team to consider making several small, but important changes to the program to result in a more effective program design that could successfully meet all of the learning objectives. Changes were recommended for:</p> <ul style="list-style-type: none"> • the number of people involved (e.g., having a minimum number of instructors and additional adults present; having a maximum threshold for number of student participants in subgroups); • replace the pre/post hands up assessment with a written assessment; • redesign the tabletop mat; and • revise the Thinking Cubes Station in the classroom session. <p>New ideas for the program were also recommended:</p> <ul style="list-style-type: none"> • provide a giveaway for students; • collect testimonials from parents as a form of qualitative evaluation; and • have pedestrian skills related games incorporated within the program. <p>Several things were recommended to be kept the same, such as:</p> <ul style="list-style-type: none"> • the key pedestrian safety messages that were being taught; • structure of the program; and • length and type of walking routes.
<p>Administrative data collection</p> 	<p>The program leads were consulted both during and after implementation of the pilot program to gather data on what resources were used for planning and implementation.</p>	<p>Finance: The total cost of implementing the pilot program was approximately \$300. This money was used to purchase learning materials for the different classroom station activities, maps for the roadside sessions, and instructor attire. Additional administrative resources included clipboards, instructor booklets, and pens (for the observers).</p> <p>Time: Planning for the program occurred over a period of 12 months while implementation took 12 hours over a span of three days.</p> <p>People: A team of seven instructors was needed to implement the pilot program, which included a total of three classroom and three roadside sessions for approximately 26 to 41 students per session.</p>

Moving forward

Overall the Pedestrian Skills Program appears to have stimulated energy and momentum in the area of pedestrian safety in Waterloo Region. Through the different data collection methods, the evaluation results suggest that along with continued practice on the part of the students, this program is capable of helping elementary school students become safer, more confident pedestrians on residential streets in the school neighbourhood. The following three recommendations have been developed to help guide future implementation of this program:

1. Continue to provide experiential learning by trained instructors through both classroom and roadside sessions that emphasize on key pedestrian safety behaviours/skills.
 - Instructors should place greater emphasis on teaching students about identifying where to walk and the concept of “stop-look-listen-think.”
 - Classroom station activities should use resources that ensure consistent student engagement.
 - Sufficient time should be allotted for signing in at the school office and setting up the learning activities prior to starting the classroom session.
 - An alternative to the roadside session should be developed for those students who cannot participate in the 800 to 1000-metre walk due to accessibility, a lack of weather-appropriate clothing (i.e., jackets in the winter), and/or absence of signed permission forms.
 - Rather than being implemented in isolation of other activities/initiatives, this program should be prioritized for schools who are addressing school traffic safety through school travel planning or another comprehensive approach.
2. Encourage students to actively and regularly practice pedestrian safety outside of the experiential learning sessions, through both teacher and parent engagement.
 - Teacher engagement in pedestrian safety education should be enhanced by creating resources and learning activities that they can use in other subject areas.
 - Parent engagement in practicing pedestrian safety should be enhanced by developing an action-oriented pedestrian skills guide for students to take home.
3. Ensure continued evaluation efforts as new components are added or as the program evolves.
 - Feedback from teachers and parents should be gathered regarding the resources used after the teacher and parent engagement components are incorporated into the full program.
 - The hands up assessment should be replaced with a written quiz to ensure that pre/post knowledge data among students is collected with limited bias.
 - The data obtained from this program should be incorporated into a larger, more comprehensive evaluation for all school travel planning pedestrian safety initiatives.

References

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5. Rothman L, Macarthur C, Wilton A, Howard AW, Macpherson AK. Recent trends in child and youth emergency department visits because of pedestrian motor vehicle collisions by socioeconomic status in Ontario, Canada. *Injury Prevention*. April 2019;injuryprev-2018-043090. doi:10.1136/injuryprev-2018-043090
6. Hawksley R, Fylan F. Evaluation of the Stepping Out pedestrian training scheme for 7-9 year olds. 2010. <https://www.roadsafetyobservatory.com/Evidence/Details/10671>.
7. Whelan K, Towner EML, Great Britain, Department for Transport. *Evaluation of the National Child Pedestrian Training Pilot Projects*. London: Department For Transport; 2008.

For more information about the Pedestrian Skills Program Pilot Project, please refer to the **full evaluation report**.

The Pedestrian Skills Program is an initiative developed by representatives from a number of children's safety and road education organizations/programs in Waterloo Region: Waterloo Region Walking School Bus Program, Cycling Into the Future, Region of Waterloo Public Health and Emergency Services, Region of Waterloo Transportation Division, Student Transportation Services of Waterloo Region - School Travel Planning, Waterloo Regional Block Parent Program, Waterloo Region Children's Safety Village.