TAC Sustainable Urban Transportation Award:
Submission for the Stepping It Up Project

Award nominees: Metrolinx (Project Lead) and partner organizations in the Stepping It Up Project Team consisting of: City of Hamilton, Region of Peel, Green Communities Canada, and University of Toronto.

The Stepping It Up Project: In Brief

The Stepping It Up project (project term: Apr’09-Dec’11; final report: Jun’12) tested and refined best practices in influencing how students and staff travel to elementary schools. The project applied the Canadian School Travel Planning model (www.saferoutestoschool.ca) in combination with the Smart Commute workplace model (www.smartcommute.ca). The project team collected data and assessed the transportation conditions at 30 elementary schools in Hamilton, Brampton and Mississauga, including 10 schools in low socio-economic status areas. Facilitators worked with each school community to create and implement a School Travel Plan. Plans included short, medium and long-term actions aimed at reducing car traffic around the school and creating safer, healthier, and more supportive conditions for students, families and staff to use sustainable transportation modes. The project demonstrated and helped advance a formal, replicable approach that addresses built environment and social barriers to using sustainable transportation modes.

The following demonstrates how Stepping It Up succeeds the Sustainable Urban Transportation Award evaluation criteria. Five pages from the Stepping It Up June 2012 report are attached in the Appendix to further illustrate the project.

1) DEVELOPMENT AND ENHANCEMENT OF SUSTAINABLE URBAN TRANSPORTATION:

Stepping It Up engaged students, families, schools, and communities in a process to improve their local travel options and conditions - with the goal of influencing individual behaviour towards greater use of active and sustainable modes for the daily school trip. The process involved a comprehensive investigation of school travel conditions which takes into account existing school travel-related built environment, perceptions, policies, and programs, or lack thereof. Practitioners worked with the school and community to create a living School Travel Plan document with a range of measures to improve school travel conditions and support behaviour change towards greater adoption of active and sustainable travel modes.

Based on the continuum below, the Stepping It Up project measured transportation modal shifts away from driving alone (or being driven alone, in the case of elementary school students), to active and sustainable modes:

- Unsustainable – Inactive ➔ Sustainable – Inactive ➔ Sustainable – Active
  - Single Driver Vehicles (e.g. student driven to school by parent)
  - Single Occupant Vehicles
  - Public Transit
  - School Buses
  - Carpools
  - Walking
  - Cycling
  - Other active transportation modes

Qualitative data from surveys collected from parents, students, school staff and administration demonstrate some of the many social, economic and environmental benefits realized through Stepping It Up. These include:
- 2 -

- **Social:** fostering more liveable communities through safer, calmer streets and neighbourhoods; improved knowledge of and positive connections with the community; greater volunteer engagement and commitment; injury prevention and improved daily physical activity levels; increased independent mobility for children and improved self-esteem; more alert and engaged students due to physical activity on the school trip; more quality time spent between parents and children on the trip to school;

- **Economic:** the use of low cost measures and community support to shift travel behaviour; increased transportation choice and financial savings to families, especially in areas identified as having 'low socio-economic status'; reduced demand for automobile parking and wear and tear on the road system with greater active transportation mode share;

- **Environmental:** less exhaust from motor vehicles due to reduced driving to and from schools and idling around schools - along with this, less noise production and gas consumption by motor vehicles.

Quantitative results from Stepping It Up surveys demonstrated that awareness of active and sustainable transportation was raised among 15,000 students and families and 1,000 school staff. Results from 10 schools with full baseline and follow-up data include:

- An overall average decrease in school car trips of 7% in the morning period and 3% in the afternoon period, with an equivalent increase in pedestrian trips;
- Added 746,700 minutes of walking among students annually and prevented 101,635 vehicle kilometres, equivalent to 16 trips between Vancouver and Halifax;
- Prevented 22 tonnes of greenhouse gas emissions (CO2e) and 884 kg of air pollutants annually.

2) DEGREE OF INNOVATION

The Stepping It Up project demonstrated innovation in a number of areas: partnerships, monitoring, and financial model.

**Partnerships**

The full school population (student and their families, staff, administration) and community partners (e.g., traffic engineers, public health practitioners, policy-makers) were engaged to implement the project and sustain it; hence, addressing barriers to sustainable transportation by bringing together all stakeholders and leveraging their skills, knowledge and authority to support desired behaviour changes. The key process steps in developing these partnerships included:

- Securing municipal staff time to lead and facilitate the project in each area (i.e. 1 FTE), and involvement from staff in public health, public works, traffic, police, risk management and communications to assist in their areas of responsibility/ expertise
- Ensuring that the work was overseen by a municipal Active and Safe Routes to School Committee in each area (such committees include municipal staff, school board staff, community groups, parents, students, local politicians and others)
- Approaching and securing formal approval by participating school boards (this was done through school board research and ethics processes)
- Selecting and recruiting schools based on specific criteria and phasing in new schools on a yearly basis (five schools from each project area were introduced to the project in each school year)
- Establishing project committees at each school (this was often piggy-backed on an existing related committee and included the principal, parents, teachers, and students)
Monitoring

The project gathered information from various users of the transportation system (i.e., students, parents and staff) regarding different types of trips (i.e., school, work, extra-curricular activities). This approach connected the relationships involved (e.g. parent to child) in trip origin and destination, and considered daily transportation in a mobility management context rather than a single trip or single user context. The project heavily focused on monitoring and data analysis through a partnership with University of Toronto. The following common data collection tools were utilized with the 30 Stepping It Up schools:

1) School Profile Form (checklist/ summary) - Captured basic school information: # of students, families, average school trip distance, existing/ planned travel-related policies, programs, infrastructure.

2) Student Travel Survey (Hands-up classroom tally) - Captured student travel mode-split to/from school via a student hands-up tally over a one-week period. Combined with school profile data, enables calculation of VKT, # trips, GHGs and air pollution as a result of student school travel.

3) Family Travel Survey (Take-home survey) - For completion by parent and student. Provided point of comparison on mode-split data from student survey, and gathers data on trip time, distance and school travel attitudes/ barriers to active travel. Also captures mode-split of parent workplace travel. Includes mapping component which gathers detailed data on school routes and areas of concern/ opportunities for improvement. Enables calculation of VKT, # trips, GHGs/ air pollution for student travel.

4) School site visit & walkabout (On-site fieldwork) - Observed and gathered data on school and local neighbourhood travel conditions and areas of concern. Conducted by a diverse team: e.g. traffic/safety and planning/engineering staff, local counsellor, school transportation staff, parent council representative.

5) Traffic/ pedestrian/ cyclist count (On-site fieldwork) - Observed and gathered data on patterns and behaviour of traffic entering and exiting the school site at peak periods (AM/PM school bell times) over a 2 to 5-day period. Traffic count teams are supervised by traffic/safety staff. Captures mode-split data.

6) Staff Travel Survey (On-line or paper copy) - Gathered data from school staff on usual commute mode, distance and time, as well as willingness to try alternative commute modes and incentives that would encourage such behaviour change. Enables calculation of # of trips, VKT, GHG, and air pollution from staff travel.

The data identified:

- commonly used routes to school (including all modes of travel, and both formal and informal walking/cycling paths)
- community-specific barriers/concerns related to allowing children to walk and/or bike (e.g. traffic issues, strangers/bullies, lighting issues, lack of safe road crossings, not enough 'eyes on the street', concern with child walking alone)
policies and practices that either support or discourage active and sustainable modes of transportation (e.g. no cycling or skateboarding to school, bicycle locking area placed far away from school entrances)

- groups and individuals who needed to be engaged in school travel planning at a particular school and on a regular basis (e.g. from police, crossing guards, traffic engineers to the local bike shop)

**Financial Model**

Innovative project financing included a master contribution agreement between the main funding agency, Transport Canada, and the project lead, Metrolinx, with funding agreements between Metrolinx and the project partners, who contributed at least 50% matching funds, such as in-kind staff time and space. As noted above, low cost interventions were targeted by communities – the following is a summary of a few intervention highlights, which demonstrate the emphasis on low cost, tailored interventions, which leveraged partnerships and existing resources:

- Eight Peel schools had walking route signage installed on frequently used routes to school. This was a part of the on-going partnership with Brampton and Mississauga Traffic Safety Councils. In Hamilton, speed limit signage was installed at three schools.
- A Hamilton school hosted two bike maintenance workshops for families in partnership with a local bike co-op.
- One Peel school and two Hamilton schools implemented Walking School Buses (i.e. community walking groups to/from school led by parents and/or mature students).
- Ten pilot schools in Hamilton participated in dedicated walk to school events, which included Hamilton-wide photo contests.
- A Hamilton school started a Walking Wednesday program, and partnered with the national association “Think First” to host a workshop to promote safety while using active transportation modes to school.
- Five Peel pilot schools promoted Walking/Wheeling Wednesday (or Friday) programs, which included activities such as traffic counts by members of the school’s environment club, incentives for classrooms that have 100% participation on a Walking Wednesday, and a Walking Wednesday Hall of Fame.
- One Hamilton school hosted a cycle to school week and four Hamilton schools had bike racks installed, assisted by funding provided by Hamilton Public Works.
- At a Peel school a student drop off area underwent minor modifications and less congestion was observed on adjacent school streets during the follow up period; at another Peel school more students and adults were reported to be walking after a staircase on a route leading to the school was replaced with a more accessible ramp.

3) **TRANSFERABILITY TO OTHER CANADIAN COMMUNITIES AND ORGANIZATIONS**

The project included an Advisory Committee comprised of municipalities in the Greater Toronto and Hamilton Area who are actively implementing transportation demand management initiatives; members of this committee observed and supported Stepping It Up, and, as a result, the project has catalyzed interest and enthusiasm outside of the pilot areas. The project approach is also largely transferable to other Canadian communities as it built upon and combined pre-existing transportation demand management models and toolkits (i.e. Canadian School Travel Planning model and Smart Commute program), which have since been tested in many types of communities - suburban, urban, rural, and small, medium and large throughout Ontario and Canada. For example, the Canadian School Travel Planning Toolkit has been tested in more than 50 additional Ontario schools, and schools in each other Canadian province and territory.
The final Stepping It Up report and other resources available online describe the project approach and methods (www.metrolinx.com/schooltravel). As outlined above, the project set up partnerships with stakeholders in each community, and demonstrated that with the assistance of a dedicated facilitator and key point people in the community, low cost tailored actions can be implemented at and around schools to support behavior change. This provides flexibility for a variety of community types, and leverages existing community resources to the fullest extent possible.

4) ADDED VALUE

Beyond its focus on sustainable transportation, the project provided a number of additional value-added components, including: regional benchmark surveys; communications tools and techniques; broader partnerships and sustainability initiatives.

Regional Benchmark Surveys

As part of the project, Metrolinx commissioned the Greater Toronto and Hamilton Area School Travel Household Attitudinal Study (2009 and 2011). This study of 1,000 GTHA parents gathered information about the barriers and opportunities regarding active and sustainable school transportation. The study also presents supportive measures that parents said would promote walking, cycling, and carpooling for elementary school travel. The data has been used to explore topics including children's independent mobility and active school travel, and carpooling to school. The studies are accessed regularly by municipalities to examine regional school travel issues.

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Published papers:
1) http://www.biomedcentral.com/content/pdf/1471-2458-12-862.pdf
2) http://physical.utoronto.ca/docs/project-beat-documents/The_school_run-_carpooling_as_an_intervention.pdf?sfvrsn=0

Communications Tools and Techniques

1. Stepping It Up Videos and Teacher's Guide: The project created a professional two-part Stepping It Up video. The first video segment features students from an unidentified Stepping It Up pilot school. The second segment features adult perspectives on school travel, including a parent and a teacher from the same school, and expert opinions from Green Communities Canada, a Halton area school architect, and an international walkability expert. All footage was edited to be as transferable as possible for other communities to benefit from. A Teacher's Guide was completed to accompany the student Stepping It Up video segment in classrooms, providing ready-to-use discussion questions and activities, directly linked to the Ontario curriculum. These materials were made available in various formats/media, distributed widely to pilot schools, and shared with stakeholders throughout Ontario, Canada and the United States via list serve communities.

   Video Segment 1: www.youtube.com/watch?v=r59_rzKuAMA
   Video Segment 2: www.youtube.com/watch?v=7XUyslpUCb4

2. Student Photovoice Video and Webinar: Three Stepping It Up schools took part in a photovoice activity, facilitated by Metrolinx. While the mode share of students walking to school was already at a good level, administrators identified social, economic and environmental issues that needed to be addressed to improve the safety and enjoyment of the students’ walking experience. With the guidance of adult
facilitators, 46 students in Grades 4 to 8 took photos documenting what they saw, heard, and smelled on their walk to school. The students’ photos helped raise issues such as garbage, graffiti, speeding traffic, and neglected buildings. Students further expressed their concerns about these issues through poems, skits and drawings. Participants from the three schools were brought together in a seminar to share experiences and brainstorm solutions to the issues raised. The photovoice process and results were documented in a video, webinar and report and shared widely. Photovoice findings continue to inform and be linked into broader community revitalization initiatives in Hamilton.

Video: www.youtube.com/watch?v=KG4e5txF1r8
Webinar: gcclive.wimba.com/launcher.cgi?room=stp_2011_1115_1204_46

3. Incorporating Staff Commutes into School Travel Planning Webinar and Video: As part of the project a webinar that profiled data and trends in staff travel to schools, what school staff were saying about their workplace commute and perspectives and opportunities for encouraging staff to try other modes. A short video profiles teachers at a Peel school who carpool regularly to work. The webinar was attended by 65 practitioners from Canada and abroad.

Video: www.youtube.com/watch?v=FLbg2sl2EB0

Broader Partnerships and Sustainability Initiatives

1. School Travel Planning Facilitator Training: Training, coordinated by Metrolinx and Green Communities Canada, provided facilitators with techniques for engaging youth in school travel planning. Twenty-five participants attended from nine Ontario regions.

2. Stakeholder Workshops: Metrolinx coordinated two large workshops which brought together a variety of school travel stakeholders to learn about and identify opportunities for supporting and expanding active and sustainable school transportation initiatives in the Greater Toronto and Hamilton Area (GTHA) and Ontario. Each workshop hosted 65-75 participants representing 65+ organizations, including school boards and student transportation services, municipal, provincial and federal level governments, universities, associations and not-for-profit organizations. The workshops were the first of their kind in the province, and made significant strides to bring school transportation issues to light, engage a broader range of stakeholders in the work, and spark new collaboration and on-going discussions.

Workshop Reports:

3. Sustainability and Next Steps: Active and sustainable school travel initiatives continue in Peel and Hamilton through the leadership of facilitators and coordination of the stakeholder committees. The work is also being integrated into broader policies and initiatives in public health, education, transportation and environmental services. Metrolinx is leading the development of an Ontario roadmap for active and sustainable school transportation in consultation with provincial ministries, municipalities, school boards and other key stakeholders. Metrolinx’s work over 2013-2014 is focusing on:

- Capacity building and transitioning the project into an initiative with long term goals and targets
- Developing strong leadership locally and provincially,
- Moving toward integration of school travel planning into policy and business operations, and
- Securing sustainable funding for coordination of school travel planning in the region.
Appendix: Pages from the Stepping It Up Report June 2012
THANK YOU TO OUR PROJECT PARTNERS, COMMUNITY PARTNERS & PILOT SCHOOLS

The Stepping It Up Project Steering Committee
(All members during the project period)

Metrolinx:
Jennifer Lay, Antoine Belaieff, Ryan Lanyon, Mark Singh
Green Communities Canada:
Jacky Kennedy, Beth Jones
University of Toronto:
Guy Faulkner, Kelly Arbour-Nicitopoulos, Ron Buliung
Region of Peel:
Wayne Chan, Keri Hyde, Virginia Oprea, Cathy Granger, Pat Bromby, Joan Webster, Sherry Baidwan
City of Hamilton:
Kelly Scott, Peter Topalovic, Zsuzsi Trim, Erin Fuller, Sharon Mackinnon
Halton District School Board & Halton Region:
Jennifer Jenkins-Scott

The GTHA TDM Coordinating Committee
(Advisory Committee):
The Municipalities of the Greater Toronto & Hamilton Area
Ministry of Transportation

Community Partners:

Peel
Peel Safe and Active Routes to School Committee
Peel District School Board
City of Mississauga
Mississauga Traffic Safety Council
City of Brampton
Brampton Safety Council
Peel Police Services
EcoSource

Hamilton
Hamilton Active and Safe Routes to School Steering Committee
Hamilton-Wentworth District School Board
Hamilton-Wentworth Catholic District School Board
Green Venture
Hamilton Police Services
McMaster University
Settlement and Integration Services
Elizabeth Fry Society – Hamilton Chapter
Heart and Stroke Foundation
Crown Point Community Planning Team
North End Neighbours
New Hope Bicycle Co-op

Pilot Schools in Hamilton:
St. Patrick CES
Holy Name of Jesus CES
Blessed Kateri Tekakwitha CES
St. Lawrence CES
St. Ann (Hamilton) CES
Mountview ES
Earl Kitchener ES
St. Ann (Ancaster) CES
St. Thérèse of Lisieux CES
St. Martin of Tours CES
St. Margaret Mary CES
St. Marguerite D’Youville CES
Our Lady of Lourdes CES
St. Mark CES
St. Francis Xavier CES
St. John the Baptist CES

Pilot Schools in Peel:
Ridgewood PS
Eagle Plains PS
Corliss PS
Dunrankin Dr. PS
Treeline PS
Red Willow PS
Larkspur PS
Jefferson PS
Grenoble PS
James Potter PS
Hanover PS
Worthington PS
Hewson PS
Homestead PS

Report Reviewers and Contributors:
The Stepping It Up Project Steering Committee
Stepping It Up Pilot Schools
People For Education
Region of Waterloo
Green Communities Canada (Ottawa)
Introduction

The Stepping It Up pilot project used the Canadian School Travel Planning (STP) Model (Figure 3) to promote active and sustainable modes of school travel for students, families and staff. It was delivered at 30 elementary schools in the cities of Hamilton, Brampton and Mississauga, all located in the GTHA (see Figure 3 and Project Structure). Stepping It Up was led by Metrolinx, in partnership with the Region of Peel, the City of Hamilton, Green Communities Canada and the University of Toronto. The project received funding from Transport Canada’s ecoMOBILITY program and ran from April 2009 to December 2011. In addition to its school-based programming, the project also brought together a wide range of stakeholders from the education, health and transportation sectors in the GTHA and Ontario. Together, stakeholders identified key opportunities to support active and sustainable school transportation.

PROJECT STRUCTURE

STP Facilitators from Peel and Hamilton worked directly with pilot schools from the Peel District School Board, the Hamilton-Wentworth Catholic District School Board, and the Hamilton-Wentworth District School Board. Facilitators were supported with expertise and resources through their local Active and Safe Routes to School committees and by the Stepping It Up Steering and Advisory Committees. The Steering and Advisory Committees also coordinated school travel workshops and studies at the GTHA-wide level.

FIGURE 3: School Travel Planning Model

- **Setup**: Identify school champion and confirm school participation
- **Assess Conditions**: Complete school travel profile, walkabout, surveys, traffic counts
- **Ongoing Monitoring & Improvement**: Education, Encouragement, Enforcement, Engineering, Evaluation
- **Implementation**: Create School Travel Plan
- **Action Planning**
School Activities

BASELINE ASSESSMENTS
The baseline assessment for each of the 30 Stepping It Up pilot schools included:

- Student, family and staff surveys
- Baseline traffic counts (pedestrians-cyclists-cars)
- School profile
- Site walkabout

Data for each school was used to create a comprehensive school travel plan, including actions for the short, medium and long term. See Figure 4 for key project targets and results.

IMPLEMENTATION
By the end of the project in December 2011, 95 actions had been implemented across 20 of the pilot schools. As depicted in Figure 5, schools chose to implement a range of actions to support walking and cycling, drawing from the 5 Es: education, encouragement, enforcement, engineering and evaluation. These activities engaged many community partners, including police and crossing guards, municipal transportation and public health staff, local neighbourhood groups and bicycle shops. Schools also connected their work on school travel into broader school policy and programming such as Healthy Schools frameworks and EcoSchools initiatives. Beyond the project timeframe, further actions may be implemented over the medium and long term, such as sidewalk improvements, and existing actions may also be repeated from year to year to engage new populations of students and staff.

**FIGURE 4:** Stepping It Up Project Overall Targets and Results

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**FIGURE 5:** Stepping It Up Schools. Top 6 Actions:

1. Walking to school announcements and newsletters
2. Dedicated weekly walk days and student reward programs
3. A Walking School Bus
4. Add or relocate bicycle racks
5. Crossing guards and police enforcement
6. Pedestrian, cycling and traffic safety education and signage

Students using bicycle racks sponsored by the City of Hamilton
RESULTS

The project resulted in an average decrease of 7% in car travel at schools in the morning period and 3% in the afternoon period. These results were calculated based on two sets of follow-up survey measurements, conducted at 10 of the pilot schools in spring 2010 and 2011. The decreases in car travel were accompanied by equivalent increases in pedestrian travel (see Figure 6 for a breakdown by region).

When this modal shift is extrapolated to the population of the 10 pilot schools for a full school year, the project also:
- Added 746,700 minutes of walking among students,
- Reduced 101,635 vehicle kilometres travelled, equivalent to 16 trips between Vancouver and Halifax
- Reduced 22 tonnes of greenhouse gas (GHG) emissions,
- Prevented 884 kilograms of air pollutants (i.e. Sulphur Oxides, Nitrogen Oxides, Carbon Monoxide).

Principals, teachers and parents also observed that:
- Conditions during the morning school run became safer and more orderly,
- Students were excited about walking to school,
- Children were getting more physical activity on the trip to/from school,
- Walking or cycling to school had become more convenient,
- People driving around the school were more aware of children walking and cycling.

See the Stepping It Up Case Studies for further project highlights and Appendix B for a school-by-school breakdown of survey results and actions in Peel and Hamilton.

FIGURE 6: Stepping It Up Car & Pedestrian Travel Mode Shifts, 10 Pilot Schools
Ridgewood Public School, Peel Region

One of the most successful pilot schools in terms of increasing walking to school and decreasing driving was Ridgewood PS in Mississauga. This school joined the project in 2009 to help fulfill its environment and health mandate, address school parking problems and safety issues around the school, and improve the transportation options available to students and staff.

Over the course of two school years, a number of priority actions from Ridgewood’s School Travel Plan were implemented, including:

- the installation of walking route signage along commonly used routes to school (see sign example)
- a dedicated walk to school day every Wednesday (“Walking Wednesdays”) promoted through announcements and phone calls to parents, and
- relocation of a school bike rack to increase visibility.

Follow-up family travel surveys conducted in spring 2011 indicated an overall decrease in car trips to the school of 22% in the morning and 18% in the afternoon, and a corresponding increase in pedestrian trips of 18% in the morning and 16% in the afternoon.

Ridgewood’s success in shifting behaviour comes from the combination of initiatives it has put in place and promotes regularly in the areas of engineering, education, encouragement and evaluation. Ridgewood’s weekly Walking Wednesday program has created healthy competition between classrooms and strong student involvement. With the relocation of bike racks and the overall movement to promote greener forms of school travel, Ridgewood PS has gone from discouraging cycling to promoting it as a healthy transportation option.

School Administrators’ Experience

When asked about their school’s experience with the Stepping It Up project, 100% of school administrators indicated they were satisfied with the project overall and would recommend it to other schools, and 88% said they had actually discussed the project or school transportation more generally with other schools in their area. Administrators’ top three reasons for participating in the project were:

- to fulfill the school’s environment and health mandate
- to address safety issues with school travel
- to improve the transportation options available to students and staff

Administrators strongly agreed that the project has improved their understanding of ways in which they can change the school environment to encourage active school travel, and who they can work with to make positive changes related to school travel.

Overall, administrators recognized the importance of school travel planning, but acknowledged that it still faces many ‘roadblocks’ such as: a lack of active transportation infrastructure in the community like sidewalks and bicycle lanes, and the need to ensure sufficient ‘buy-in’ to active travel and integration into the culture of a school, so that efforts will continue even if a key champion leaves the school.

“The project has improved the students’ awareness and their efforts to walk to school.”

– Principal, Ridgewood PS, Peel