

Influencing the School Trip

Evidence-based Results and Techniques from National and Regional School-based Transportation Demand Management Projects

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Abstract

In Canada's largest metropolitan regions, school travel by children and youth as automobile passengers increased substantially between 1986 and 2001: for 11- to 15-year-olds the per capita increase was 83% [1]. According to a 2009 Metrolinx household study, over sixty percent (64%) of children being driven to or from school in the Greater Toronto and Hamilton Area live within two km of their school, and over half (56%) of these overall automobile trips are being made solely for the purpose of dropping off and picking up a child at school (i.e. not part of a commute to and from work or other destination) [2].

Innovative solutions that encourage the use of active transportation modes beginning in childhood are important in reversing the increasing trend towards traffic congestion and auto-dependency in communities across Canada. Green Communities Canada, Metrolinx, and the Halton District School Board are conducting on-going school travel projects and programs which are nation-wide and region-wide in scope.

School Travel Planning (STP) is a school-based transportation demand management (TDM) approach that engages 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 involves a comprehensive investigation of school travel conditions which takes into account existing school travel-related built environment, perceptions, policies, and programs. Practitioners work 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.

STP project approaches and tools have been tested with a variety of target markets in urban, suburban and rural settings. Through comprehensive monitoring at the school and regional levels, the impacts of school travel planning are measured before and after implementation. Changes in modal split, vehicle trips, vehicle-kilometres travelled, awareness, perceptions, and environmental impacts are assessed.

Project and program results provide important baseline evidence for health practitioners, municipal planners and engineers, law enforcement, school districts and other community stakeholders interested in enhancing active travel and influencing school travel behaviour.

Introduction

Travel to school represents 10-15% of peak-period motor vehicle trips in typical North American communities [3]¹. In Canada's largest metropolitan regions, school travel by children and youth as automobile passengers increased substantially between 1986 and 2001: for 11- to 15-year-olds the per capita increase was 83% [1].

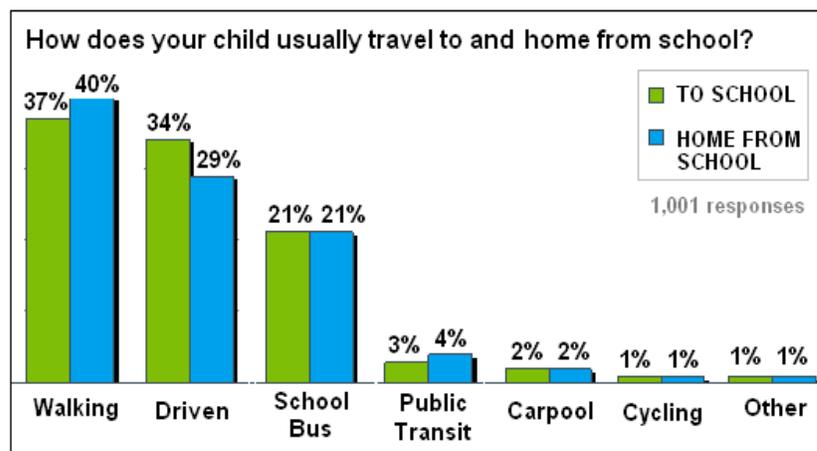
The Greater Toronto and Hamilton Area (GTHA), located in southern Ontario, is Canada's largest urban region and one of its fastest growing areas [see Figure 1]. With a current population of over six million people, the GTHA is forecast to be home to 8.6 million people by 2031. Traffic congestion costs the GTHA economy and commuters \$6 billion annually. Walking and cycling comprise only 9% of GTHA morning rush hour trips and 32% of school trips by children 11 years or older. The average time spent commuting each day per person in the GTHA is 82 minutes. [5]

The Government of Ontario established Metrolinx in 2006 as the regional transportation agency for the GTHA to tackle the area's major transportation challenges. Having recognized the opportunity to influence travel demand and behaviour for workplace commute trips through its coordination of the successful GTHA-wide Smart Commute program since 2008, Metrolinx expanded its transportation demand management role in 2009 to explore the area of school travel through the *Stepping it Up* pilot project. This 2.5-year project will introduce the process of *school travel planning* (STP) at up to 30 GTHA elementary schools by December 2011. Funded by Transport Canada's ecoMOBILITY program, the pilot project is coordinated by Metrolinx, and delivered in partnership with the City of Hamilton and the Regional Municipality of Peel. Project expertise and support are provided by the University of Toronto and Green Communities Canada, the national leader on Active and Safe Routes to School and STP in Canada.

School Travel Trends and Opportunities for Behaviour Change

To establish a GTHA-wide benchmark and picture of school travel behaviour, perceptions and awareness, Metrolinx conducted a study of 1,000 households in Fall 2009. Parents and guardians provided information about their eldest child's travel to and from elementary school, as pertains to health and physical fitness, education, personal safety and security, and the environment. The study found that, on average, *one third of students* enrolled in kindergarten to grade 8 are being driven as their usual means of school travel, and just *over one fourth* of students are regularly using active modes of travel to and from school, such as walking and cycling (refer to Figure 2) [2].

Figure 2. Elementary school travel modal-split in the GTHA [2]



¹ School trips represent a smaller portion of total mileage or vehicle kilometers traveled (VKT) since these trips tend to be shorter than other trip categories, such as workplace commuting

The 2009 study results for students in Grades 7 and 8 (approximate age range 12-14) in conjunction with results from the Transportation Tomorrow Survey (TTS) from 1986, 1996 and 2001 and 2006 (refer to [Figure 3a](#) and [Figure 3b](#)) for 11 to 13 year-olds, show that the *percentage of students using active school travel* (e.g. walking, cycling) *has been in steady decline over the last two decades*. This trend has been accompanied by a *steady increase in the percentage of students being driven to and from their elementary school*.

Key results and opportunities presented by the findings of the 2009 Metrolinx study include:

- *There is room for a shift toward active school travel.* Over sixty percent (64%) of children being driven live within two km of their school; over half (56%) of these automobile trips are made solely for the purpose of dropping off and picking up a child at school.
- *Children are capable of walking the distance.* Nearly sixty percent of parents say their child's school is close enough that they could reasonably walk or bike. Nine per cent of students travel differently on their trip to school versus home from school, with the most common combination being driven to school and walking home.
- *Many parents are open to change.* Over half of parents whose child is currently driven see the option of their child walking or biking to school as convenient and appealing.

School Travel Planning: A Primer

“At the core of STP is the ability to enhance the attractiveness of alternatives to driving for school travel. In many instances, options such as walking and cycling, may be viable (i.e. distance from home to school is reasonable for active travel and active travel is appealing to parents and children), but the convenience of driving alone reinforces choosing driving over other ways. By working with school and other community partners, school travel planning practitioners are aiming to improve the desirability of active and more sustainable modes of transportation, by reducing barriers and reinforcing benefits that arise from their use.”[\[8\]](#)

School Travel Planning (STP) is a community-based, comprehensive approach to dealing with travel-related issues at schools. It has been used with success in many areas around the world, including the United Kingdom, New Zealand, Australia, and the United States [\[6\]](#), and a formal, structured STP approach has been tested over the past few years throughout Canada, spearheaded by Green Communities Canada.

STP engages 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 involves 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 work 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.

While there are currently few detailed quantitative studies of the effectiveness of school travel programs in reducing automobile traffic around schools, evidence to date indicates that total reductions in automobile trips in the range of 10% to 20% or more are attainable at an existing school site [\[3\]](#), and much greater impacts are possible when schools are sited and designed pre-construction for good accessibility via active travel modes.

STP can influence travel behaviour and lead to changes in traffic generated by individual car use in the following areas:

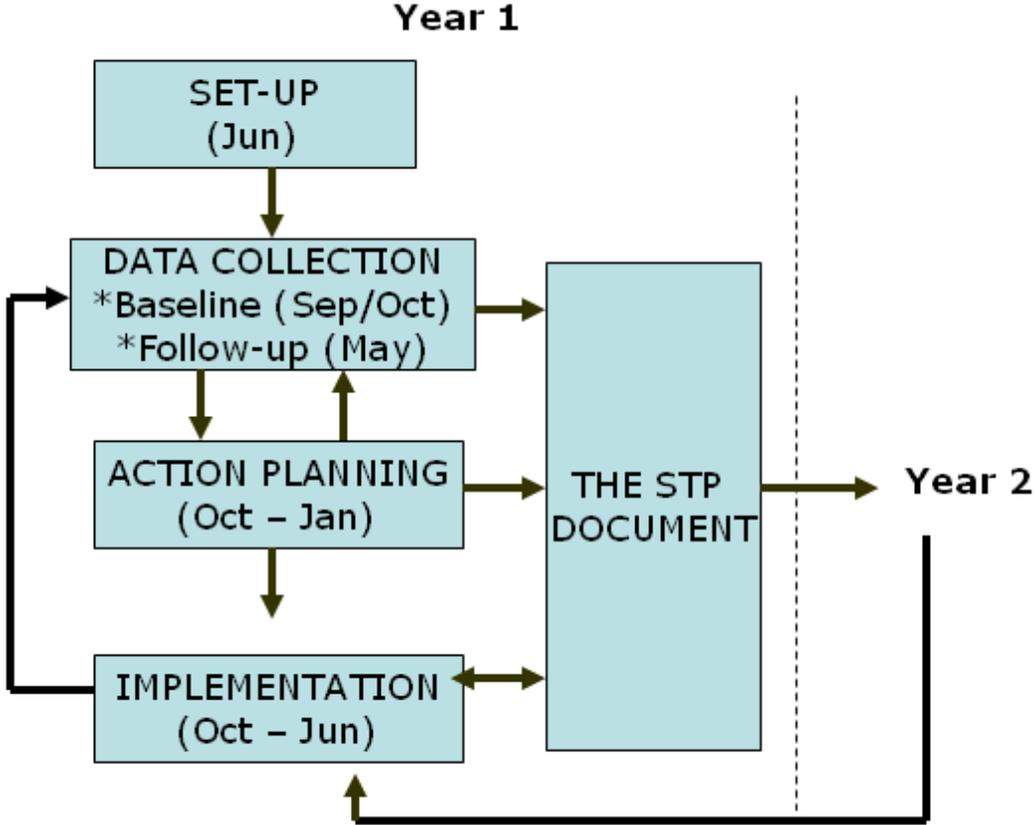
- Reduce total traffic and congestion on local roads (school trips are relatively short, numerous and concentrated);
- Reduce peak period traffic (school trips generally occur during the 6am to 9am and the 2pm to 5pm peak periods); and,
- Shift automobile travel to alternative modes (school trips, especially at the elementary school level have great potential for shifting driving behaviour towards active travel - e.g. walking and cycling - due to the nature of school trips – i.e. short, regular - and potential for linking with others making the same trip to form groups or “pools” of travellers).

While the need to understand and address motor vehicle traffic issues in the school vicinity is often a catalyst for introducing STP in a particular area or at a particular school, other key motivators, such as the desire to improve children’s health and physical fitness, and improve personal security and safety, are also important factors in spurring action to improve school travel conditions. Some of the additional benefits that STP can realize include the following:

- Reduced demand for automobile parking, and reduced road and parking facility costs over the long term;
- More liveable communities through safer calmer streets and neighbourhoods, and healthy environments with less air pollution and more physically active residents;
- Injury prevention and longer term chronic disease prevention; and,
- Increased transportation choice and financial savings to families (especially in areas identified as having ‘low socio-economic status’), by supporting parents and students in choosing less costly ways of travelling around their locality than by personal automobile.

Through the work of Green Communities Canada, many communities (e.g. the Region of Waterloo, Ontario; Halifax, Nova Scotia; Coquitlam, British Columbia, Calgary, Alberta) have been able to forge ahead on these issues and take concrete action to influence school travel behaviour in select areas. Approaches have traditionally used low cost programming which leverages community support and basic supportive measures and policies. Green Communities Canada reviewed international STP best practices in 2006 and developed recommendations and tools for pilot testing a formal STP process in Canada. This Canadian STP approach consists of a five-stage iterative process (refer to [Figure 3](#)).

Figure 3. The School Travel Planning Process in Canada developed by Green Communities Canada - adapted from [7]



The collection of comprehensive data from a range of sources feeds into the entire STP process, including baseline and follow-up measurements from: student, family and staff² travel surveys; school traffic counts; and school/ neighbourhood walkabout assessments (see [Table 1](#) for further complete description of each measurement tool). Following baseline measurements, all data collected feeds into the School Travel Plan, which is a living document both *describing the existing and historic travel conditions at a school* (i.e. the plan is updated as further data is collected), and outlining key recommendations and timelines for implementation of *actions to improve and enhance school travel conditions* both at the school site and in the surrounding community.

² The Staff Travel Survey instrument is not part of original Green Communities Canada STP toolkit, but was created by Metrolinx for use in the Metrolinx Stepping it Up Project

Table 1: School travel planning data measurement tools - adapted from [8]

<i>Tool</i>	<i>Description</i>
School Profile Form (checklist/ summary)	Captures basic school information: # of students, families, average school trip distance, existing/ planned travel-related policies, programs, infrastructure.
Student Travel Survey (Hands-up classroom tally)	Captures 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.
Family Travel Survey (Take-home survey)	For completion by parent and student. Provides 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.
School site visit & walkabout (On-site fieldwork)	Observes and gathers 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.
Traffic/pedestrian/cyclist count (On-site fieldwork)	Observe and gather 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.
Staff Travel Survey (On-line or paper copy)	Gathers 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 over-arching goal of STP is *to influence individual behaviour towards greater use of active and sustainable modes for the daily school trip*, whether this be for reasons of improving student health through increased physical activity levels, improving air quality and other environmental conditions, increasing the safety of roads and security of students, saving time and money for parents and school staff, or a myriad of other issues that can be addressed through STP approaches.

School Travel Planning (STP): Nationally and Regionally

STP Canadian Context

Twelve schools took part in the national STP pilot project, led by Green Communities Canada from November 2007 to March 2009. Three schools participated from each of the pilot provinces: British Columbia, Alberta, Ontario and Nova Scotia.

The national pilot project data showed the measurable impact of the STP approach on changing travel behaviour and demonstrated the potential for more widespread behaviour change with wider and longer-term application. The national student travel survey results showed that rates of active transportation (walking, walking part-way or biking) increased from the baseline measurement of 43.8% to 45.9% at the follow-up (one year later), following the implementation of school travel programming, events and activities. Further, follow-up surveys sent to households showed “significant changes in driving behaviour from the baseline measurements,

with over 13% of parents reporting they have driven less as a result of the STP project, equating to a reduction in automobile traffic on and around school grounds”.[\[8\]](#)

Opportunities identified during the 2007-2009 national pilot that could be leveraged to encourage a further shift in school travel behaviour include:

- The number of students using active travel modes was significantly lower for the trip to school (37% of students) than for the trip home from school (nearly 44% of students), which indicates that walking as a mode of transportation could be further augmented for the trip to school.
- Parents who drove their children to and/or from school reported they would allow their children to walk if: *they were not alone* (40% of parents) or if *there were reduced traffic dangers* (22% of parents), indicating the potential for further reduced driving by developing neighbourhood walking groups or walking buddies and improving infrastructure for best routes. [\[8\]](#)

STP in the Greater Toronto and Hamilton Area (GTHA)

Organized efforts to influence school travel behaviour towards greater use of more physically active modes have been underway in the GTHA for over a decade now, led mainly as a public health initiative. The City of Toronto was the initial pilot project for the Active and Safe Routes to School (ASRTS) program initiated by Green Communities Canada in 1996, which tested an approach based on a variety of supportive community and classroom activities and events [\[13\]](#). In other areas of the GTHA, including York Region, Peel Region, the City of Hamilton and the City of Toronto, steering committees have been active since the late 1990s or early 2000s to address barriers and promote walking to school. School travel approaches have since shifted gears towards placing greater emphasis on measurement and monitoring of program impacts, as well as affecting policy and school site design in an effort to create longer-term behaviour change and more supportive environments for active and sustainable travel behaviour to thrive.

The Stepping it Up School-Based TDM Pilot Project

The 2.5-year *Stepping it Up* pilot project, April 2009 to December 2011, represents a multi-jurisdictional effort to advance STP in the GTHA through a comprehensive, evidence-based transportation demand management (TDM) approach. Funded by Transport Canada's ecoMOBILITY program, the pilot project is coordinated by Metrolinx, and delivered in partnership with the City of Hamilton and the Regional Municipality of Peel. Project expertise and support are provided by Green Communities Canada and the University of Toronto. Metrolinx and these four partners form the project steering committee.

The *Stepping it Up* project is both testing and refining the STP toolkit developed by Green Communities Canada through its work with up to 30 elementary schools over the project period. The project will also look extensively at the possibilities for sustainability and expansion of this approach throughout the GTHA beyond the project. Since the roll-out of project activities began in Fall 2009, three school boards have become involved, and 10 pilot schools have committed to participating for the project duration. The process at each of these schools has included baseline data collection throughout Fall 2009 and early Winter 2010³ via travel surveys of

³ Baseline data collection occurred in Winter 2010 at a number of Stepping it Up Year One pilot schools as activities were delayed due to the H1N1 pandemic in Fall 2009; however, baseline data collection would ideally be conducted in September-November at further pilot schools.

students, families and school staff, multi-modal school traffic counts, community walkabouts, and school profiling. Data collected has fed into the development of the *School Travel Plan*, which makes recommendations for tailored school travel activities, programs, amenities and infrastructure. Initial implementation of priority recommendations began at each pilot school in Spring 2010 and the first follow-up data was collected just prior to the end of the 2009-10 school year. Data analysis will take place over Summer 2010 and tailored implementation work with current pilot schools will continue anew in Fall 2010. Ten additional pilot schools will join the project in Fall 2010, and a further ten in Fall 2011.

Stepping it Up is taking an innovative approach to STP by integrating experience and tools from Metrolinx’s Smart Commute workplace-based TDM program (www.smartcommute.ca) into the STP process developed by Green Communities Canada. The school staff are viewed as an active part of the school population and individuals’ travel behaviour impacts school traffic and can influence student travel behaviour in turn (e.g. by cycling to work herself, a teacher can share her experiences and motivate her students to try cycling to school).

Based on the continuum below, the project is measuring transportation modal shifts away from driving alone (or being driven alone, in the case of elementary students), to a variety of other modes. While active and sustainable modes remain the primary focus and target of project efforts, shifts to other modes also represent an improvement, including the use of carpools, public transit and school buses.

Unsustainable – Inactive →	Sustainable – Inactive →	Sustainable – Active
<ul style="list-style-type: none"> ▪ Single Driver Vehicles (e.g. student driven to school by parent) ▪ Single Occupant Vehicles 	<ul style="list-style-type: none"> ▪ Public Transit ▪ School Buses ▪ Carpools 	<ul style="list-style-type: none"> ▪ Walking ▪ Cycling ▪ Other active transportation modes

In terms of the student population, Metrolinx’s 2009 GTHA benchmark school travel study highlighted two main target groups for behaviour change: [\[2\]](#)

- Parents whose child does not usually use a physically active mode of travel (i.e. they are driven, carpool, use the school bus, or use public transit), yet consider active travel to be convenient and appealing, and live close enough that their child could reasonably walk or bike to school (*15% of all parents surveyed*)
- Parents whose child is driven to school, yet who indicated that having their child ride the *school bus* or *public transit* would be convenient and appealing, and have indicated that such a service is available to their child (*5% of parents surveyed*⁴);
- Parents whose child is driven to school, yet who indicated that *carpooling* is appealing and convenient, and who are comfortable with allowing their child travel to school in a carpool (*24% of all parents surveyed*)

Baseline data collection at the *Stepping it Up* project’s participating pilot schools in 2009-10 have helped to identify:

- commonly used routes to school (including all modes of travel, and both formal and informal walking/cycling paths)

⁴ This is a subset of the group of parents who child is driven in which 28% of parents say school bus service is available to their child, and 36% say that reasonably convenient public transit service is available to their child.

- 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 need 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)

Staff travel surveys have captured behaviour and identified interest in trying modes other than driving alone, as well as programs and other supports that may encourage such behaviour (e.g. carpooling program, discounted transit passes, more secure/sheltered bicycle locking area). The baseline data shows that while the majority of school staff are commuting from longer distances than are comfortable for walking or cycling (i.e. greater than 15km), a number of factors indicate the potential for greater carpooling mode-share, including:

- Most school staff arrive at and depart from work at regular times, five days per week
- A range of carpooling mode-shares are currently being seen at schools (between 3% and 33% of staff are already involved in some form of carpooling for their commute)
- When given a range of travel options, staff consistently chose carpooling as the travel mode they would be most willing to try at least occasionally (between 15% and 40%+ chose this mode).

As the pilot project continues to unfold, partners will be identifying a range of opportunities to target the different groups with individualized travel information, connect families for walking and cycling, and potentially carpooling and other supportive programs. Tailored approaches will be used at each school based on identified needs, and further follow-up measurements will capture changes in percentage mode-share of single driver vehicles and single occupant vehicles in the AM and PM periods, and the associated one-way trips, vehicle kilometres travelled, and emissions of greenhouse gases and air pollutants. The data from the 2009 GTHA-wide school travel study will be used as point of reference for STP activities unfolding through the Stepping it Up pilot project, and in other GTHA regions and municipalities.

Focus on Halton Region: Innovative STP Practices

Halton Region, one of six regions of the GTHA, established a multi-sector steering committee in summer of 2007 to move forward with a one-year pilot project (January 2008-December 2009) that delivered the Active and Safe Routes to School (ASRTS) program to Halton Region schools. A strong collaborative relationship with the Halton District School Board from the beginning of the project, led to successful implementation at eight pilot schools.

The project objectives were to:

- Assess change in walking behaviour among students in the eligible walk boundary (children who live within 1.6 km walking distance of the school)
- Assess the relationship between walking behaviour and the ASRTS program
- Assess parental perceptions of barriers to allowing their children to walk to school

Project data was gathered through:

- Student travel surveys (in classroom, grades 3,5 and 6 only)

- Family travel surveys (sent only to parents of children in grades 3, 5 and 6 and only those identified as eligible to walk – i.e. living within 1.6 km of the school),
- School/ neighbourhood walkabouts to identify enablers and barriers (infrastructure and safety issues)
- Focus group with pilot project school principals
- Sector surveys (sent to police, traffic engineers and public health nurses who participated in the project)

A variety of tailored programming was implemented at each school and an overall communications campaign was used to promote the project region-wide. Implementation activities occurred following baseline measurements [see [Table 2](#) for program details]. The project determined that older students were more likely to walk, that intense and sustained programming would result in greater success to influence travel behaviour (greater adoption of walking as a usual mode of school travel), and that a dedicated program manager and school champion were key ingredients for success. An interesting finding of the pilot project was that programming positively impacted a cohort of students who began the project in elementary school and carried on active transportation behaviours when they transferred to middle school the next fall. This result supported the theory that exposure of students to active transportation education and programming in earlier years can help develop lasting sustainable travel practices [\[4\]](#).

Table 2. School Travel Programming as developed by Green Communities Canada and implemented across Canada, in particular the Halton Region program – adapted from [\[9\]](#)

<i>Program/Activity</i>	<i>Description</i>
Walking School Bus/ Bicycle Trains (see Photo 1)	Parent volunteers walk or bike a school route, picking up children along the way (much like how a school bus or a train operates)
Walking Wednesdays/ Wheeling Wednesdays	One day a week is set aside as a designated walk and/or to school day. Friendly competitions between classes can promote participation, year-round
iWalk (International Walk to School Day, Week, or Month)	International event held annually in October where a school and the surrounding community learn about issues around child and youth transportation to and from school and hold dialogues on opportunities for improvements
Walk a Block	Creation of a drop-off zone for parents and school buses a block (or more) from a school to encourage walking and decrease traffic congestion at the school grounds
Neighbourhood Walkabout	In addition to being a data collection instrument, the walkabout can serve as an educational and community-building tool/activity for discussion of issues/concerns and recommendations for improving school travel conditions
Walking/ Cycling Buddies	Older students are linked with younger students for the walk or cycle to school
No Idling at School	Initiatives are adopted to promote parents to turn off engines while waiting for children on school grounds
Classroom Mapping	Program to assist teachers in having children map their neighbourhood to discover enablers and barriers to active and safe transportation

Photo 1. Walking School Bus, Sam Sherratt Public School in Milton, Ontario [\[16\]](#)



Based on the success of the one-year pilot and through the work of strong champions at the school-board level and within the community, the Halton Region ASRTS project was adopted by the Halton District School Board (HDSB) in June 2009, and the pilot project coordinator was hired as a dedicated ASRTS Project Manager. The Halton Catholic District School Board (HCDSB) joined the project in January 2010. The project's 2009/2010 goal was to expand to 25 schools (20 HDSB schools, and 5 HCDSB schools). Participating schools fell into the following categories: 1) returning schools (from 2008 pilot project), 1) new schools which are already operational, 3) new schools which will be opening. [\[11\]](#)

At the new schools, yet to be opened, *a culture of walking will be fostered from day one*, and the following case study (see [Box 1](#)) of the much acclaimed Milton area elementary school, PL Robertson, demonstrates the potential success of this approach.

Box 1. PL Robertson P.S., Halton District School Board, Milton, Ontario [\[12\]](#)

PL Robertson (PLR) joined the Halton ASRTS project prior to opening its doors to the community, with the intent of creating a school philosophy and culture that favoured the use of active transportation. The newly built subdivision in Milton was planned to encourage walking and biking to school and the PLR students eagerly awaited the new school's opening. Having been bussed to another area for several years the students were anxious to get to school by foot or bike.

A very determined Vice Principal, supportive Principal, and engaged Parent Council worked closely with the Halton District School Board's ASRTS Project Manager to set-up walking routes, Walking School Bus (WSB) drivers and promotional communiques to open PLR as a "walk-to only" school.

During the designing stage of the school building, sidewalks were added along both sides of the school to allow students direct access to the back of the school from the road-side walkway. This sidewalk design separated walking students and parents from car traffic. Twenty-six bike racks were added to one side of the school to accommodate one third of the school population for cycling to school. Disincentives to car traffic to and from the school were put in place, including: 1) no formal 'Kiss n Ride' system was developed on the school property, 2) staff and visitor parking lots were placed on separate sides of the school, with the staff parking area closed off to other drivers before the school day began, 3) 'no stopping zones' were placed at the front of the school property. Police presence during the opening week helped to encourage continuous car movement and discourage pull-overs and drop-offs.

A media release was sent out declaring the school as a "walk-to only" school. The local paper and other media outlets picked up the release and the school's philosophy has received positive press across Canada.

Another innovative effort underway in Halton Region is a movement to guide the practice of school site plan development/approvals, and neighbourhood development/plan approvals so that active transport best practices are in place. It is the aim of those involved (i.e. the Region municipalities, school boards, and the lead architect) to create a memorandum of understanding where guidelines will be used by Halton Region municipalities that will establish uniformity in all new designs, plans, operations and development reviews. The hope is to affect practice and sustainable active transportation design (see [Box 2](#)).

Box 2. Halton Region – Creation of Guidelines for Sustainable School Site and Neighbourhood Design [14]

Due to the use of Walkabouts to assess the infrastructure for Walking School Bus routes, the ASRTS project manager began to notice deficiencies in both neighbourhood and school site design which created barriers to the use of active modes of transportation. To help create environments more conducive to active travel, the Halton District School Board approached community stakeholders to look at how these issues could be mitigated. Halton Region, its four municipalities, and the architectural firm, which works with both school boards, were invited to take part in discussions. The topic of discussion: working together to create a memorandum of understanding with guidelines for use by all when designing, planning and reviewing school sites and the neighbourhood around the school site (focus on the 1.6 km walking distance). The goal: joint understanding and practice of application of the best walkable and bikable scenarios for students and other neighbourhood residents; and all new designs, plans, operations and development reviews would establish uniformity in practice and sustainability in design.

Next Steps and Conclusions

In March 2010, Green Communities Canada announced an expansion of the national pilot project to include all Canadian provinces and territories, providing an opportunity to demonstrate the viability of the STP approach in a greater diversity of settings and applications [10]. The *Stepping it Up* pilot project will run until December 2011 and plans for GTHA expansion and sustainability are underway. The Halton District School Board is continuing with its activities for this year and looking ahead to further opportunities to grow its influence on school travel behaviour in Halton Region.

The success in the area of influencing school travel behaviour to date lies in the ability of the school travel planning approach to reach beyond the traditional boundaries of disciplines and jurisdictions through multiple partnerships, and using a common toolkit that allows for economies of scale while enabling local customization.

Careful monitoring is leading to evidence-based results showing that the STP process is achieving a shift in school travel behaviour, and associated changes in vehicle traffic and emissions around schools. Tools and programs used to encourage behaviour shift are proving effective in realizing meaningful results and helping schools and communities to improve the liveability of their neighbourhoods on a number of levels. However, more work needs to be done to quantify and support behaviour change and the sustainability of STP on a larger scale over the longer term. The latest work in the areas of school travel policy, school site design, and on-going piloting of STP through school boards are promising advancements in the field.

Figure 1. Map of the Greater Toronto and Hamilton Area [15]

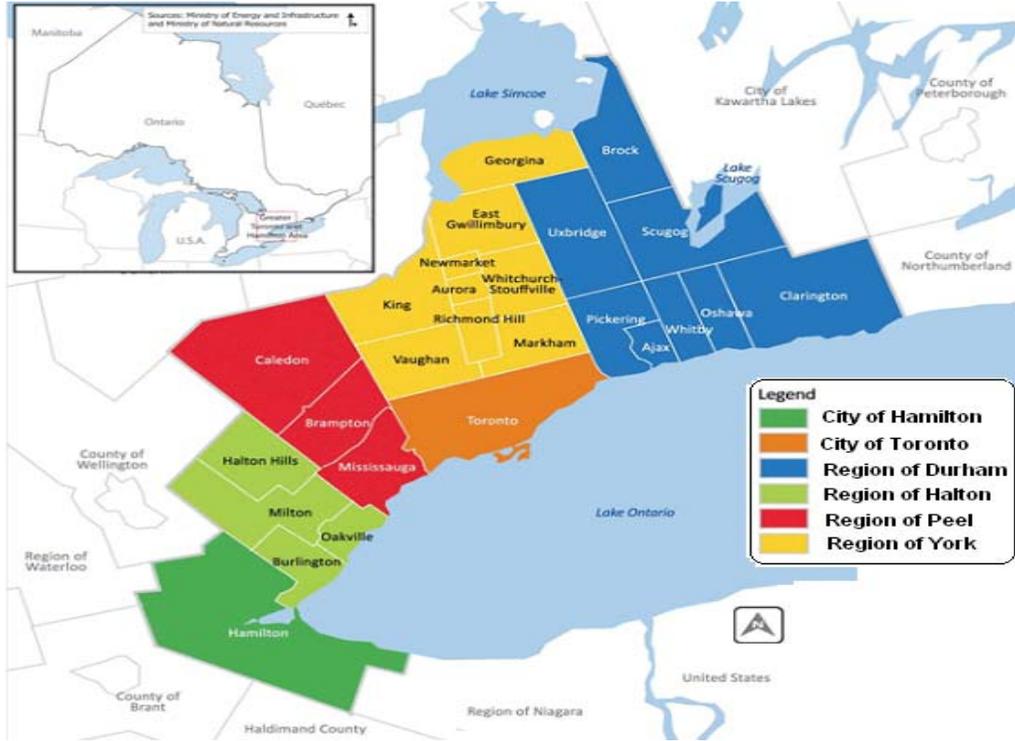


Figure 3a: School travel mode-split, travel to school, Greater Toronto Area TTS, 1986 – 2006 – adapted from [4] - and Metrolinx 2009 study [2]

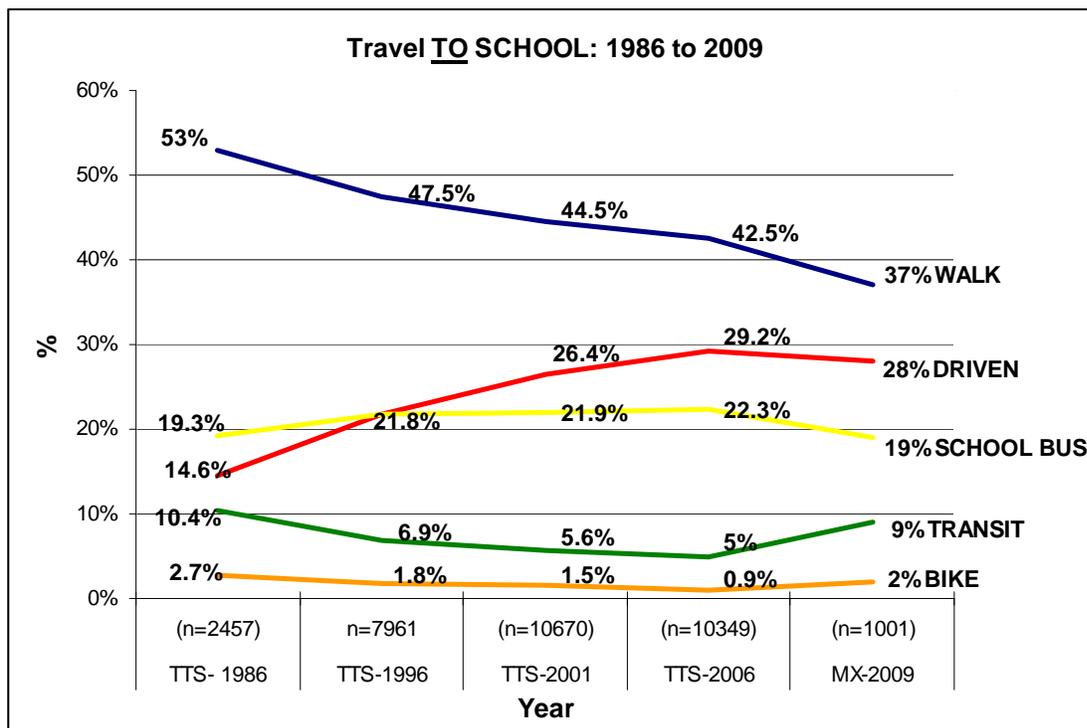
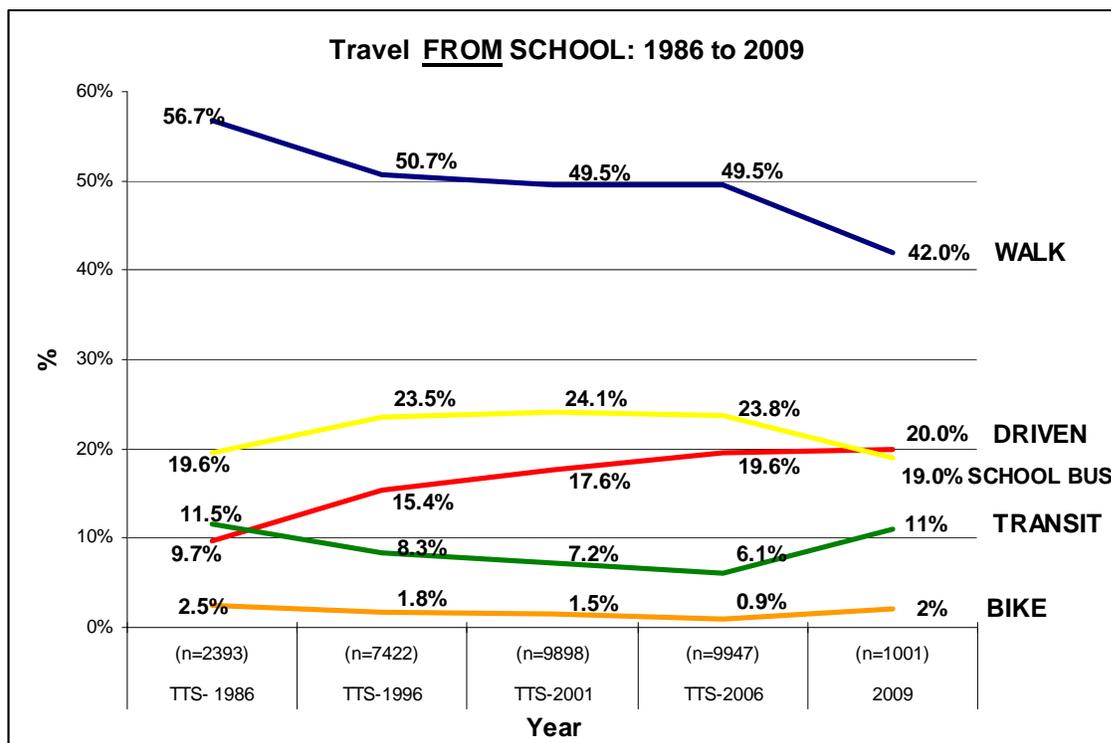


Figure 3b: School travel mode-split, travel from school, Greater Toronto Area TTS, 1986 – 2006 – adapted from [4] - and Metrolinx 2009 study [2]



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