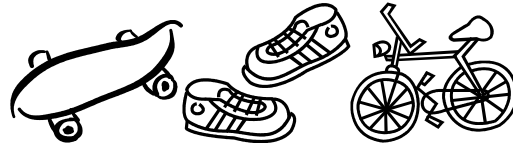


Saving Money and Time with Active School Travel

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Executive Summary

When Ontario's municipal governments began to show interest in creating more walkable / bikeable communities, Green Communities Canada's Active & Safe Routes to School program responded by researching active school travel and how it could work best in Ontario. It quickly became clear that the trip to and from school was going to be an integral piece of this work because it is a daily trip for a large number of people across an actively-passable distance. In essence, a shift toward active *school* travel could affect a significant shift toward active travel for *all ages*.

As Ontario struggles with an increasing deficit, the need for policies that simultaneously reduce costs and support healthy lifestyle choices like active transportation is more important than ever. This paper includes a list of recommendations towards policies that will help make active travel a sustainable practice for school regions and the municipalities that surround them.

Transportation Demand Management (TDM) strategies are being implemented across the province by municipalities that wish to shift the peak-period use of single occupancy vehicles to transit, car pooling and active travel; this shift will save money and encourage healthy lifestyles. Over the past two years, there has been increased interest in incorporating the 'school run' under the TDM umbrella, which has led to great interest in Green Communities Canada's School Travel Planning (STP) model, created over the past four years in partnership with Nova Scotia, Alberta and British Columbia.

Currently, active school travel in Ontario is not considered by the Ministry of Education or many school districts to be a part of overall student transportation services. In fact, there is a clear bias in Ministry and School District budgets towards motorized transportation (including school buses) and the infrastructure to accommodate, and in some cases even encourage, children being driven to school. Our research shows that on average, \$371.74 per enrolled student is currently allocated to school busing – yet many students do not benefit at all from this expenditure. Conversely, schools that wish to encourage active school travel must raise funds on their own for secure bicycle racks and storage facilities for inline skates and skate boards. This poses a significant barrier to active school travel.

For a fraction of today's school transportation budget, the Ministry and school districts can reduce transportation costs, while setting the groundwork for students to lead much healthier lifestyles through active school travel policies and actions. This can be achieved by adopting policies to implement School Travel Planning across Ontario, with leadership from the Ministry of Education. A decisive shift from busing-only to integrated school-based TDM policies lead by the Ministry of Education can control financial burden by efficiently pooling resources of relevant stakeholders.

Most experts, administrators and citizens agree that it will take a combined effort of many agencies to produce mass behavioral change toward active travel, but it is clear that schools offer a logical activation point because policies implemented by school administrators at many levels can encourage real action to take place that will benefit the people who count the most: the children. With supportive active school travel policies, savings can be maximized while creating lasting positive effects on our transportation culture, enhancing children's health and improving our nation's environmental future.

Overview

Among 29 Organisation for Economic Co-operation and Development (OECD) nations, Canada ranks 22nd in preventable childhood injuries and deaths, 27th in childhood obesity and 21st in child well-being, including mental health.¹ Poor rankings like these have Canadian Institutes of Health Research (CIHR) urging Canada to improve. They assert that Canada must, “develop community-wide approaches to improve the safety of roads, parks and playgrounds, find a new approach to combat obesity in children, and . . . find out more about the particulate matter of the air our children breathe.”² School-based TDM provides a comprehensive approach that will lead to broader awareness and to a sustainable future for our children.

As a response to the growing need for a strategy based on these goals, Green Communities Canada (GCC) has worked extensively with the Centre for Sustainable Transportation to create and promote the *Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario* (see www.kidsonthemove.ca). According to these *Guidelines*, the needs of children and youth should receive as much priority as the needs of people of other ages and the requirements of business when it comes to land use and transport planning. The *Guidelines* and the School Travel Planning (STP) model work hand in hand to create opportunities for safe, active travel to and from school.



Children walk to school with their principal on IWALK day

Champions of active school travel assert that children gain a healthier lifestyle and a sense of self-reliance that is sorely lacking in today’s world and with STP, principals say they find more time for other duties and worry less about children being hurt in parking lots; superintendants note that there are significant ties to curriculum and that money can be saved in transportation budgets; police are excited about decreased road dangers; municipal transportation professionals find they need to spend less time dealing with traffic issues; and public health nurses affirm that injuries can be prevented by reducing the number of teachers and children in the parking lot before and after school.

GCC’s School Travel Planning initiatives bring together school district representatives, transportation planning professionals, public health nurses, school administrators, police departments and other community stakeholders to devise school-based TDM plans to benefit regional schools and municipalities. This overview focuses on how active school travel programming can impact children and schools for the betterment of both, and it ends with a list of recommendations so that school communities can get the most from STP by making it a sustainable practice.

What is Active School Travel?

Active school travel refers to any form of transportation that requires physical activity (like walking, biking, in-line skating or skateboarding) to get oneself to and from school. It is encouraged through Active and Safe Routes to School activities such as International Walk to School (IWALK) Month in October, Walk / Wheel On Wednesdays or Walk Once a Week, Winter Walk Day, Spring into Spring, the IWALK Club and the Walking School Bus. When whole communities embrace the active school travel concept and combine it with the STP process of devising a school-based TDM plan, regular active transportation to school becomes a feasible choice for a greater number of children. When large numbers of children use active school travel, there will be a real impact on traffic congestion, air quality near schools, childhood obesity rates and other 'lifestyle diseases' that are partly caused by a growing decline in daily physical activity.

The *Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario* document was produced by the Centre for Sustainable Transportation to support municipal / school board planners in developing communities that encourage active transport for all ages. Guideline #4 states that planners should; "Identify where children and youth want to go or need to go and, to the extent possible, provide ways of getting there by foot."³ Active school travel helps to satisfy this initiative and STP provides a framework to achieve this goal while being sensitive to the needs of the whole community.

Note: The Walking School Bus operates on the premise that there is safety in numbers. It is a group of walkers who pick up other walkers along the route to school so they can travel together. WSBs are routed through residential areas with high concentrations of children and they are headed by parent or upper-level student volunteers. Guideline #17 of the Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario encourages the arrangement of walking school buses and other means of supervision to help younger children reach school safely.

For a comprehensive look at School Travel Planning, see GCC's Review of International School Travel Planning Best Practices at www.saferoutestoschool.ca/downloads/STP-Best-Practice-Final.pdf.

Benefits of Active School Travel

The benefits of active school travel span many separate but interconnected concerns including health, environment, safety and crime, transportation infrastructure and school curriculum support. Most groups working toward greater adoption of active transportation recognize the difficulty of coordinating the efforts of disparate agencies and / or municipal departments to work together, but also recognize the importance of doing so because they all share similar goals. Organizations like GCC that offer active school travel programs provide the tools and the support necessary to get all stakeholders working together. While some stakeholders are specifically interested in one or two of the following benefits, every one of them is important to our school system.

Health

The exercise that becomes part of everyday life when one regularly chooses active transportation is part of a healthy lifestyle that reduces the risk of obesity as well as the health issues related to obesity like heart disease, diabetes and even cancer. Teaching our children to choose active transportation during

their youth can cut obesity rates among children and encourage healthy lifestyle choices for life, promoting long-term health and reducing the current strain on our overburdened healthcare system.

Furthermore, fewer particulates in the air surrounding schools can result in a real impact on school attendance and physical education participation since asthma, some allergies and other lung-related illnesses are easier for children to manage when the air around them is cleaner and easier to breathe. Increased regular activity can also reduce the incidence of some cancers.

Finally, children who partake in regular physical activity may have greater brain functioning than they do without it.⁴ Children who are active before school starts are more alert and ready to learn in the classroom. A California Department of Education study suggests that physically fit students performed better academically.⁵

Children who are active before school starts are more alert and ready to learn in the classroom.

The Ontario Ministry of Education acknowledges schools' part in encouraging daily activity with a mandate of providing 20 minutes of Daily Physical Activity (DPA) outside of recess hours. Many schools that take part in ASRTS activities like the IWALK Club find the programming helps to satisfy this mandate. The Ministry also launched the Healthy Schools Recognition Program in 2007 and made the ASRTS program one of two suggested activities under the "Community Partnerships" heading. Many Ontario schools have qualified for Healthy Schools Recognition by successfully implementing ASRTS programming. To see more about this initiative, visit www.edu.gov.on.ca/eng/healthyschools/challenge.

Environment

We may not be able to tackle the full goal of reversing climate change with active transportation in Ontario, but we can certainly do our part and lead other provinces and nations to do the same. There are many easily avoidable hours spent running cars for the short trip to school across North America.

Building and retrofitting more pedestrian infrastructure around schools can help create the best walking routes. When more children have safe, efficient routes to walk, we can potentially increase today's school board-designated walking distances, resulting in a decreased need for school bus and car trips to school. This would help to diminish local carbon output, reducing hydrocarbon pollution to soil and groundwater or waterways nearby.

When all children are either choosing active travel or riding a bus to school, school districts can reconsider the need for paved guest parking and drop-off areas and municipalities can

Just 9 families participating in a Walking School Bus for a full school year can reduce climate change emissions by as much as 1,000 kg.

retrofit public space to accommodate active travel rather than car travel. Doing so will increase green space, allow for more natural water cycle absorption and improve air quality around schools.

Curriculum Connections

Ontario curriculum has responded to growing health and environment concerns, as demonstrated by the mandate for 20 minutes of Daily Physical Activity, the Healthy Schools Recognition initiative, a growing movement towards EcoSchools initiatives, and new directives in environmental education.



Laird Central School – Children pose with IWALK poster

According to the Ontario Ministry of Education website, “Environmental education is being woven into all subjects at all grades, in addition to the obvious links to science, social studies and geography.”⁶ Active school travel offers natural and practical opportunities for lessons in environmental impact, carbon emissions, energy consumption, health and physical education.

Rising interest in the Healthy Schools Recognition program and EcoCertification shows that schools are becoming more aware of the important role they play in encouraging children to adopt healthy lifestyles and to make everyday choices that have the least harmful impact on the environment. Active school travel supports both of these initiatives.

Community

Infrastructure changes and / or additions that contribute to more walkable, safer routes to school benefit the entire community by building the capacity for all residents to use active transportation for short trips. Getting more people on the streets walking and cycling to local destinations contributes to a sense of connectedness and increased quality of life. As ASRTS programs have proven, collaboration among community agencies towards support of active school travel choices also increases the connectivity of communities by showing citizens that agencies can work together toward similar goals. Collaborative work among agencies also raises the profile of important issues that affect



Halton Region’s Maple Grove STP Committee – bringing the community together for School Travel Planning

the community. When ASRTS programs bring agencies together to talk about active school travel, the whole community understands the profound importance of tackling health, safety, environmental and economic issues surrounding transportation culture.

Safety

In Europe, many active school travel programs have been in place for decades, and studies show that children's regular choice to use active school travel has led to an 85 per cent decrease in traffic-related injuries to children over that time.⁷ Building proper infrastructure for walkability will increase the safety of our communities not only for children during the periods before and after school, but for the whole community and for the entire day.

Reduced Costs and Saved Time

As more and more communities adopt active school travel initiatives, the potential for major cost and time savings is being noticed in unexpected areas by various stakeholders. These savings will be explored in more depth in the "Saving Money & Time" section of this report, but it is worth listing those stakeholders and the savings possibilities for each here.

School Districts / Boards: Any reduction in the number of buses required to bus children to school can save thousands of dollars for school boards. Municipal runoff surcharges for excessive drainage from paved areas and snow-clearing expenses can be reduced when renovating existing schools or building new schools with smaller paved areas. Since transportation funds come to schools through boards and from the Ontario Ministry of Education, savings at the individual school level also reflect in district and Ministry savings.

Individual Schools: Reduced traffic congestion means fewer staff or volunteer hours may be required to monitor drop-off and pick-up zones. At schools where two or three monitors are currently required to get children out of cars and into schools safely, there could be as few as 0 personnel required when traffic on school grounds is minimized. Principals could also be called less often to settle traffic disputes among parents and / or owners of neighboring homes. Staff stress and injuries associated with traffic control could likewise be reduced and precious volunteer time can be used on other worthy projects.

Parents: A significant amount of money can be saved on fuel and vehicle maintenance costs when parents no longer drive their children to school. Parents who currently drive their children to and from school also stand to gain hours of time back per week.

Community Agencies: The coordination of work between public health departments, transportation authorities, police, school districts and other community agencies can result in synergies that save time for all. For example, an escalated traffic issue at school may involve time from every one of the stakeholders listed here (especially if injuries occur); but an integrated school-based Transportation Demand Management approach would reduce staff time for all and allow the stakeholders to create efficient policies that fit with existing plans and policies. The implications of savings to our health care system and our transportation

management agencies alone are vast enough for public health agencies and transportation agencies to take action. Both agencies devote a considerable amount of focus on children's programs where life-long habits can be encouraged that will contribute to the long-term sustainability of our health and our road infrastructure.

Recommendations towards Sustainable Active School Travel in Ontario

For the health and safety of Ontario's children, it is essential that a shift back to active transportation as the main way of getting to and from school be embraced at the highest levels of government and that key Ministries and groups take a proactive approach to show leadership in this area.

Ministry of Education

The Ministry of Education is ideally positioned to take a leadership role in the promotion of active school travel through recognition of school-based TDM initiatives that include active school travel and local transit options in addition to school busing. Guideline #16 of the *Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario* urges that we "Act to ensure that school policies and practices favour walking and cycling to and from school and other modes of active transport, or, where appropriate and possible, regular public transport.⁸" By incorporating key active travel strategies into existing transportation policies, the Ministry can be a leader in Canada. This policy approach to the issue also will go a long way to helping the Ministry achieve its targets around reducing budgets to free up financial resources for the classroom, while simultaneously supporting health, safety and environmental objectives. Specific recommendations include:

1. Expand the current mandate to "provide safe transportation to and from school" to include ALL students regardless of where they live, i.e. recognize that students who live within walking distance are equally deserving of safe routes to school as the children who are bussed. To this end, the Ministry can provide leadership to Ontario school districts through the implementation of active school travel policies, incorporated into existing school transportation policies.
2. Review existing guidelines for school transportation consortia and expand their mandate to include school-based TDM so that active travel strategies can be considered. School transportation consortia already utilize software to map students' bus routes – this can be easily adapted to include students' walking and cycling routes and, working with local municipalities, the best routes for walking and cycling can be mapped, marked with signs and promoted.
3. Make School Travel Planning a mandatory requirement for all Ontario schools. Incorporation into safe schools or healthy schools policies is possible. Refer to the International Best Practice document at <http://www.saferoutestoschool.ca/schooltravel.asp> to see how mandatory STP works in New Zealand and the U.K.



London, ON - Clearly marked school routes show due diligence by marking the best routes to school

4. Support the execution of the mandate with dedicated personnel.
5. Provide funding for schools for active travel infrastructure like secure bike racks, signage, secure storage for inline skates, skate boards and helmets.
6. Implement a Ministry-wide anti-idling policy for school buses, school vehicles and private vehicles stopping at school sites.
7. With school districts, review existing policies for new school siting and construction and encourage that any expansion takes active travel into consideration. This could reduce future busing costs by ensuring schools are located in active transportation-friendly neighbourhoods.

School District Responsibilities

With leadership on active school travel coming from policy creation by key Ministries, school districts would be bound to act on some or all of these recommendations.

1. Implement health, safety and environmental policies that encourage active school travel for as many children as possible. For example:
 - a. Review walking distances and make them consistent throughout each school district
 - b. Plan school sites with walkability principles in mind; like building smaller schools that serve communities within active transportation distance, paving smaller parking lots, eliminating kiss 'n ride driveways and adding new building code requirements that mandate a bike rack and equipment storage locker per number of paved parking spaces
 - c. Encourage schools to strive for Healthy Schools Recognition and EcoCertification and to meet the objectives of the Safe Schools initiative
 - d. Implement anti-idling policies encouraging all drivers, including school bus drivers, to curb fuel consumption by changing their driving habits (See fuel savings calculator at www.epa.gov/otaq/schoolbus/idle_fuel_calc.htm to demonstrate the vast savings that could be realized.)
 - e. Review the *Child and Youth Friendly Land Use Transport Planning Guidelines for Ontario* and give specific consideration to Guidelines 16-18 regarding schools.
2. Designate resources to support the needs of students who use active transportation, e.g. add active school travel to school district transportation responsibilities, either by expanding the mandate of school transportation consortia or adding a staff position within the school district.
3. Recognize active travel as an acceptable method of satisfying the mandated 20 minutes of recommended Daily Physical Activity (DPA), which can be achieved for all children through programs like the IWALK club and / or by setting bus stops a distance away from the school.

4. Recognize the full cost of supporting vehicular transportation by performing a cost analysis of parking lot creation and maintenance including paving, site preparation, snow removal, runoff surcharges, line painting and loss of green space.

Ministry of Transportation

The Ontario Ministry of Transportation has shown initiative in embracing the concept of active transportation in recent years through Transportation Demand Management (TDM). Lending their support and working with the Ministry of Education to create active travel policies will help the Ministry of Transportation support a societal shift towards active transportation, which bears less stress on infrastructure and creates a safer environment than the current dependence on vehicular travel does. Doing so would also support Guideline #21 of the *Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario* that states “Do what is possible to reduce amounts of motorized road traffic generally and reduce its impacts.”⁹ Specific recommendations include:

1. Mandate active transportation planning to be a part of municipal transportation goals, with particular focus on school-based TDM initiatives.
2. Support STP with staff assigned to assist in the creation of active travel policy statements and TDM for schools, and to educate schools on active transportation (by presenting the benefits of active transportation like reduced wear on city infrastructure, relief of traffic on our roads and improved air quality.)
3. Provide funds for schools to complete travel plans and then support school districts and municipalities in the implementation of those plans through infrastructure funds.
4. Endorse the *Child and Youth Friendly Land Use and Transport Planning Guidelines*.

Community Stakeholders

As past ASRTS activity has proven, communities eager to make improvements for the health and safety of their children can act now. There is no need to wait for a large-scale national or provincial ASRTS thrust before taking action. Communities can do much to encourage their residents, especially children, to choose active transportation. For more detailed ideas, visit www.saferoutestoschool.ca/asrtsrg.asp (to access the ASRTS Resource Guide) or www.saferoutestoschool.ca/schooltraveltools.asp (to access the School Travel Planning Facilitator Guidebook and Toolkit).

Saving Money and Time

Many educators and school principals see the health and environmental benefits of active school travel, but are concerned that extensive programming will be costly or time-consuming for schools. In reality, there are many ways that active school travel can save principal and teacher time and lead to cost savings for schools and school boards. Even without these cost- and time-saving benefits, the effort towards active school travel will support curriculum and gain priceless environmental and health benefits.

In one advocate’s words, it takes “enlightened principal leadership”¹⁰ to appreciate and work towards the multiple advantages of promoting active school travel. And principals who have adopted ASRTS programming agree that it is an effective, “low cost way to promote a healthy lifestyle”¹¹ in our children.

School policy makers and administrators who have not yet built active school travel into relevant policies and mandates may not be aware of the potential cost savings, nor the possible instructional time gained by implementing an active school travel program. Educational administrators have the power to introduce policies that can make long term and widespread economic, health and environmental change much easier to generate. For examples of effective policies at many levels, see Appendix A.

Principals who have adopted ASRTS programming agree that it is an effective, ‘low cost way to promote a healthy lifestyle’ in our children.

STP projects and affiliated efforts across Canada between 2007 and 2009 roused passionate supporters in principals, public health promoters, superintendents, teachers and citizen volunteers. As projects progressed, some stakeholders noticed the possibility of cost savings in busing, fuel consumption, parking lot management and traffic control.

Busing Costs

According to the Ontario Ministry of Education website, school boards are responsible for decisions related to the provision of student transportation and for ensuring efficient, effective, safe transportation services. In turn, the Ministry provides the funding for busing transportation needs, gives boards flexibility to meet their specific needs efficiently, monitors board actions to account for taxpayer dollars and makes it easy for boards to learn best practices from each other.¹²

School boards that reported enrolment and transportation costs in 2008 stated that between 2 and 13 per cent of their budgets are spent on transportation costs. This represents hundreds of millions of taxpayer dollars (see Table 1: Reported DSB Transportation Spending 2008). Data collected from the Ministry of Education website and individual Board of Education websites shown in Appendix B (Transportation Spending at Ontario School Boards) suggests that an average of \$371.74 per enrolled student was spent on transportation during this time period.

It is worth noting that virtually none of the Ontario Ministry of Education’s current transportation spending is allocated towards encouraging active school travel. Those students who currently choose active school travel see no benefit from district school board transportation budgets, while bussed students benefit a great deal. Walkers also do not benefit from the creation of larger parking lots or kiss ‘n ride lanes created to accommodate parents who drive their children to school; in fact, the creation of these extra paved areas actually may pose additional risk. Infrastructure like bike racks, storage lockers and signage for safe traffic control would cost a nominal amount compared to busing transportation costs. The children who choose active transportation to school need and deserve the funding that most school districts do not allocate towards their needs. Currently, the responsibility for signage and bike racks mainly lies upon individual schools that have other various projects that compete for discretionary funds and school fund-raising monies – and it is easier to justify spending that money on projects that affect the entire school. In reality, active school travel programs would cost the Ministry of Education very little while producing many benefits.

Note: A transportation consortium gains efficiencies by blending multi-board (Public, Catholic, French and French Catholic) needs into a single bus system. By providing transportation for all students in a region, a consortium uses a single database of students, a single digitized route map and a single department to field calls about busing issues.

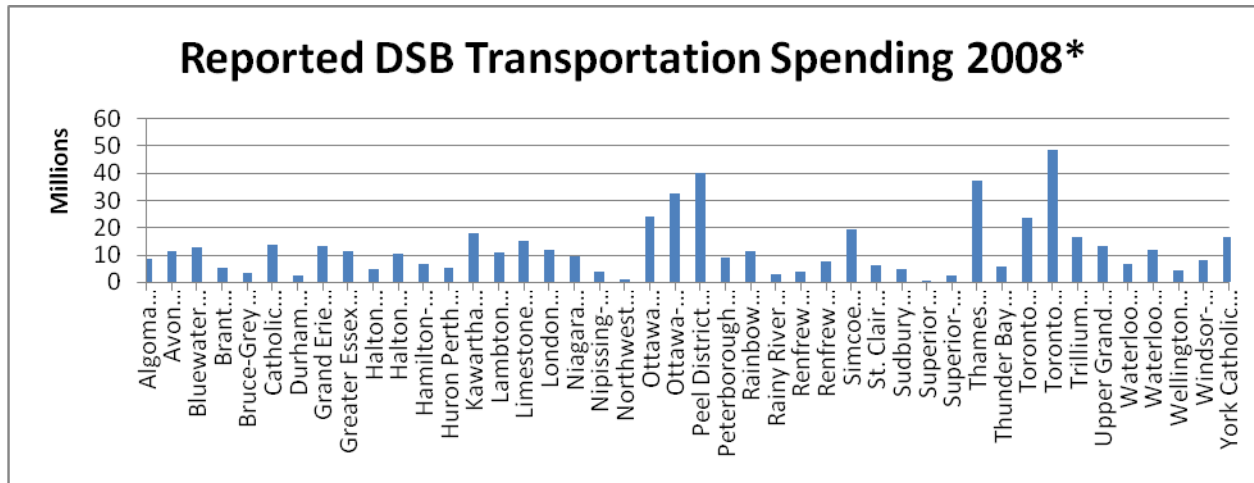
In an effort to curb transportation costs, the Ontario government introduced a mandate in 2004-2005 that required the use of transportation consortia to be in place for Ontario schools by September of 2008 wherever possible. The effort saw the consolidation of transportation needs between schools in the same district and sizable reductions to the overall cost of transportation. The use of consortia resulted in better efficiency in bus scheduling, leading to a decline in the number of buses required and a decline in the need for storage of those vehicles.

School boards across the province saved millions of dollars. For example, Peterborough district schools saw a savings of \$1.3 million in one year after combining their transportation efforts and Halton regional schools were able to save \$1.95 million after three years of using a consortium.¹³ Consortia are reviewed by the Ministry for efficiency and effectiveness and the results have been good. There is no plan to repeal the decision to use consortia; in fact, consortia are urged by Ontario’s Ministry of Education to reduce the costs further where possible. Incorporating school-based TDM strategies into the transportation consortia model would assist schools in understanding how the choice to use active school travel by more students may achieve higher rates of savings and travel efficiencies.

School-based TDM strategies need to be incorporated into the transportation consortia model so that schools can see the ‘big picture’ of how students travel to and from schools and school districts can achieve higher rates of savings and travel efficiencies.

Through their action on consortia, the Ministry of Education has shown concern for taxpayers’ dollars and awareness of the savings possible in transportation. Further savings to taxpayers can be accomplished by implementing active school travel initiatives and funding the school equipment and articles that will increase active transportation to school.

Table 1: Reported DSB Transportation Spending, 2008



*44 of 104 Boards are represented on this graph¹⁴

Bus fleet

While different boards of education have varying safety and age concerns that dictate the walkable distance from the school, it is possible that refinement of the board-approved walking distances can



London – This Walking School Bus can help eliminate the need for school buses

change the size of the bus fleet required to provide safe transportation to all children who fall outside the walking distance. Reduction by just one bus will provide a savings of roughly \$40,000 per year. Though no schools have reported their savings due to an extension of the walking distances, at least one has documented an increase in the size of their bus fleet as a result of decreasing the walking distance. Halton Region realized a great savings when they began using a transportation consortium, and again when they reviewed their walking distances as part of their School Travel Planning project. However, their walking distances proved to be

too ambitious in the minds of some parents and they recently succumbed to severe parental pressure to reduce the walking distance to 1.6 km from 3.2 km for grades 6 – 8. Consequently, the region required forty extra buses to serve the additional riders. Reducing the walking distance by 1.6 km for only three grades added \$1.2 million to Halton transportation costs.¹⁵ Even with the adjustment, the region has realized a net overall savings.

Fuel consumption

In a report prepared for the Ontario Public Health Association entitled *Emission Reduction Options for Ontario School Buses*, the assumed annual per bus fuel consumption is 7,150 litres.¹⁶ As fuel prices continue to fluctuate since a sharp spike in 2008, the cost of that fuel will continue to vacillate a great deal. In the 2008/09 school year, two installments of extra funding equaling close to \$18 million were allocated by the Ontario Ministry of Education to cover extra fuel costs. District school boards could strive to reduce the number of buses on the road by extending the distance they deem walkable, since taking a single bus off the road can result in considerable savings on fuel. An Ontario Ministry of Education discussion paper called *Equitable Allocation Through a New Funding Model for Student Transportation* recognizes that area District School Boards (DSBs) must, “Take into account the fact that many students can and do walk to school and therefore do not require transportation services; and the fact that the logistics in providing transportation become more difficult the further the students live from their schools.”¹⁷

A fuel cost tool has been provided in Appendix C that can be used to configure an estimate of the fuel used by the large school buses in a particular fleet, as well as the fuel consumption of the personal vehicles it would take to replace them. It indicates that a single family driving 2 km each way can save an estimated 1,520 km per year on their vehicle by walking instead. The \$50 - \$75 that the tool claims a family might save in fuel consumption may seem nominal, but when you multiply it by the number of children in the school who currently ride in individual vehicles, it adds up.

In fact, the Hub for Action on School Transportation Emissions (HASTE) BC’s website points out that “The passenger vehicle is the largest source of greenhouse gas emissions and the main cause of poor air quality in Canada.” In an effort to get students thinking about their transportation choices, they offer a tool called “My Travel Calculator” at www.hastebc.org; individual students can use the tool to calculate their own emissions and insert new choices (like walking an extra day or using a compact car) to see how they can affect the tonnage of CO₂ their travel leaves in the air each year. It’s fun and it emphasizes the fact that travel choices have a real impact on the surrounding community.

In a similar effort to curb fuel consumption of a necessary bus fleet, an anti-idling campaign in the United States provides an idling calculator for school bus fuel consumption at http://www.epa.gov/otaq/schoolbus/idle_fuel_calc.htm. Wherever possible, bus drivers could be encouraged to curb their idling times and to drive with environmental caution (i.e. driving slower and using the brakes gently) to save more.

Parking Lot Costs

Pavement

In a response to the lack of safety and increased congestion caused by rising numbers of cars dropping students off at schools over the past decade, many schools have been retro-fitted with paved “kiss ‘n ride” lanes within the parking lot or were built with drive-thrus expressly made for depositing children out of the passenger side of individual cars. Though slightly safer than dropping children off on the

street, these areas remain a safety hazard for child pedestrians / cyclists. The newly required paved areas cost taxpayers vast amounts of money and consume vast amounts of existing green space near schools.

Paving companies typically charge \$3 - \$4 per square foot for the paving costs alone – the costs of tree removal, leveling, drainage, city sewer hookup and site plan approval would be additional and add up to hundreds of thousands of dollars per job.¹⁸ As an example, Park View Education Centre in Nova Scotia received long-awaited funds in the spring of 2009 to build a new parking lot intended to alleviate traffic congestion at the high school that serves 869 students.¹⁹ The estimated cost for the parking lot overhaul is \$250,000.²⁰



Celebrating Earth Day – children drawing and playing safely on a parking lot closed to traffic

With sustainable travel policies in place, the need for a drive thru, additional parking or a kiss ‘n ride lane can be reduced or even negated so paving costs are mitigated.

Maintenance

Snow removal from a school parking lot is covered by District School Boards and so the cost is rarely observed or scrutinized by the schools that need it. It would be interesting to know just how much money is spent clearing snow from lots and lanes built to accommodate children driven to school, but this data is not currently available. If schools had less paved space, this cost could clearly be reduced.



Yukon – reliable clearance of snow from sidewalks ensures safer routes for children choosing active travel in winter

Guideline #7 of the *Child and Youth Friendly Land Use Transport Planning Guidelines for Ontario* suggests that planners ensure that sidewalks are always cleared of ice and snow. A clear and navigable path makes it possible for children to arrive safely to school by active travel. While enforcement of snow removal from area sidewalks is a municipal responsibility, the school is responsible for clearing all sidewalks that touch school properties. The savings a school can realize by reducing the size of paved lots could be used instead to maintain sidewalks around schools, producing clear, safe paths that encourage children to use active school travel even in the winter months. This action would demonstrate to the community that

the school prioritizes children’s health, fitness and safety over the convenience of car culture.

In addition, many municipalities have implemented a surcharge for excessive runoff draining from large non-absorbing areas like parking lots. The surcharge increases with the size of the parking lot (which affects the amount of runoff), so reducing the size of the lot will reduce the amount of the surcharge.

Since these maintenance costs vary from school to school and district to district, a cost-analysis should be completed within each school board to determine the savings that could be realized with paving policies that affect new school building and retro-fitting existing schools.

Traffic Control

Principal time

Principals are the first in line for responsibility when it comes to solving traffic disputes. At many schools, this is a daily activity consuming valuable time principals could use on other duties. Many principals spend twenty minutes at the beginning of each day and twenty minutes at the end of each day in the parking lot supervising traffic activities. Adding this to the time they may spend on the phone or face-to-face solving disputes, daily traffic management activities could easily take an hour per day - or 180 hours per year. With 4,011 elementary schools in Ontario, that would translate to approximately 721,980 principal hours per year. That is a considerable amount of time that principals could be spending on other duties that are more directly in line with their roles as educators. The implementation of active school travel policies at schools means the role of enforcing traffic can be moved to the police and municipality where it belongs and time needed for this activity overall can be reduced.

Staff time

While staff time spent on active school travel programming could be justified as curriculum-connected, active school travel programs are built so that staff time is minimized. Many of the current programs operate with nominal use of school resources (mainly reserved for tracking of students' chosen travel method), often depending on parent and student volunteers with support from ASRTS professionals. Implementing a program should cost the school moderate resources in the first year and little time subsequently. In the meantime, it saves money and supports environmental and health-related curriculum and well-being.

Susan Dickert, principal of St. Nicholas Catholic Elementary School in Waterloo, reduced staff time spent on traffic control by eighty minutes per day, more than six hours per week and 240 hours per year when she closed the school parking lot to non-staff.

Susan Dickert, principal of St. Nicholas Catholic Elementary School in Waterloo, introduced ASRTS programming when she closed the school parking lot to non-staff. She had 44 staff members and 43 parking spots – and parents were vying for those parking spaces as well. Jointly closing the lot to parents and introducing ASRTS programs enabled her to reduce staff time policing traffic from two persons for

twenty minutes twice daily to **none**. She reduced staff time spent on traffic control by eighty minutes per day, more than six hours per week and 240 hours per year.

If that time could be translated into cost savings, at \$40 per hour²¹, it would mean a \$9,600 savings per year for her school alone. Of course, instead of regaining that money, St. Nicholas realizes the savings in time that can be directly reallocated to curriculum or constructive extracurricular activities. Ms. Dickert is happy to report that in addition to the savings of time, she also no longer worries about child safety in the parking lot as she once had.

Health, Safety and Other Indirect Costs

The Ontario Medical Association (OMA) estimated that in 2005, overall economic losses associated with air pollution exposure were expected to be approximately \$7.8 billion in Ontario.²² Furthermore, the Canadian Institute of Child Health asserts that:

The developing body systems of the child, particularly tissues and organs, are more sensitive to environmental toxicants. Tissues that are under development are more susceptible to toxic effects because they rely on chemical messengers for growth. Organ development begins during early foetal life and continues into adolescence.

Children receive greater exposures than adults because they eat more food, drink more water, breathe more air per unit of body weight than adults. Furthermore, depending on their age, children's ability to metabolize, detoxify and excrete many toxicants is different from that of adults.²³

Active school travel programs can make a difference by eliminating short car trips and by demonstrating to the public that active transportation is a viable alternative. By mitigating pollutants near our schools, we can increase air quality where our children spend a great deal of their time and consequently clean the air in the communities we live in. We can bring down healthcare costs associated with exposure and make it easier for children who suffer lung-related illnesses to cope on a daily basis.

Safety

Finally, increased traffic congestion surrounding schools means an increased hazard to the children being driven as well as to the children who choose active school travel. A popular aphorism is that, "the most dangerous space is right in front of a car" or in the case of schools "the most dangerous part of a child's journey is the part right in front of the school." Reason stands that the more cars there are on our school grounds and in the school zone, the more chance there is for a child to be hurt.

The cost to our public health system and school insurance policies could be minimized by reducing the number of cars at school.

No less troubling is the fact that when we place teachers on traffic duty, the risk of injury to the teacher during the workday is greatly increased. In addition, many principals and teachers who monitor traffic take verbal abuse from parents and neighboring homeowners, with some incidents even escalating to physical threat or interactions; all of which add tremendous stress to the school workday and could lead to increased leaves of absence. Workplace Safety & Insurance Board (WSIB) costs could be saved by eliminating the need for teachers to be placed in this harm's way. The cost to our public health system and school insurance policies could be minimized by reducing the number of cars at school.

School Bus Renewal and Maintenance

A considerable amount of money can be saved in renewal and maintenance costs by eliminating the need for even a single bus. In order to ensure the safety of school bus travel, it is common for school boards to retire buses after 10 or 12 years on the road. A smaller fleet will result in lower costs. The high costs of maintenance (approximately \$1200 for brakes, \$3000 for an engine swap and \$300 for a new tire) can be reduced significantly by a reduction in fleet size as well. In total, it is estimated that a school bus costs roughly \$40,000 per year to keep on the road.²⁴ This expense is incurred even when the children designated to ride on these buses are being driven to school by their parents instead.

Halton Region: an STP Case Study

The Halton Region STP pilot project started with a public health employee who had watched active school travel programming at work in various regions for over 12 years. Jennifer Jenkins, working as a Health Promoter for physical activity in youth for the Halton Region Health Department, was keenly aware that while society became more dependent on cars, they relied less on active transport and that children may have suffered more than any other age group.

Jenkins admired the efforts of GCC to get more children walking and biking to school regularly with ASRTS programs and so consulted GCC as her concerns deepened. Jenkins was struck by the fact that most of the ASRTS programming took place at the school level by one or two advocates who lacked the power to make it a long-standing practice. Jenkins' insight and coaching by GCC led her to a new objective – to make active travel programming a sustainable practice for all the schools in the Halton Region; and that meant acquiring school administration commitment.

Halton's Steps to Success:

- Presenting** a great case
- Creating** a steering committee
- Gaining** DSB support
- Maximizing** Walkabouts
- Following up** with lessons learned
- Sharing** the experience

Presenting to Decision Makers

Jenkins sought out meetings filled with influential people to whom she could present a case for active school travel using materials from GCC. She spoke to Halton Partners for Clean Air; HEPA (Halton Elementary Principal's Association) and eventually to the Halton Public Works traffic engineers. At these engagements, she made great impressions on decision makers who in turn wanted to help her reach her goals.

Creating a Steering Committee

Jenkins rallied for the support of the community by pulling together a strategic steering committee. GCC was happy to consult with Jenkins and physically present the case to the steering committee as it grew. In the end, the committee included representatives from the Regional Health Department, the Halton District School Board (Chair of the Board of Trustees, Superintendents and the Communications Manager), the Regional Community and Social Services Department (Public Health Nurses), the Regional Police Service (Community Officer), the Halton Transportation Consortia (General Manager) and Municipal Traffic Engineers as well as other various interested community groups. She brought together people who were equally enthusiastic about the project and people who had the particular skills this project required.

Gaining District School Board Support

As interest grew at upper administration levels, transportation problems grew at the school level. Principals became frustrated with the time traffic concerns routinely took from their school day – and they wanted solutions. Steven Parfeniuk, Superintendant (and steering committee member), saw this trend, and understood his promise to ensure the safe transportation of children to and

from schools to include both bus travel and active travel. He wanted to correct car traffic at the schools in his district by encouraging more children to choose active transportation so parents could leave the cars at home.

Using the Walkabout Effectively

Thanks in part to Jenkins' groundwork and to Parfeniuk's position on the matter, the Halton DSB accepted STP as part of the solution and so decided to run a pilot project from January 2008 to December 2008. By the time Walkabouts were scheduled for the eight schools that agreed to take part in the pilot project, Jenkins had full community interest. Outstanding attendance at the Walkabouts allowed immediate recognition of ground level concerns and some agreement upon solutions for those issues.

A Walkabout is a physical scan/walk through of school surroundings performed by a group of stakeholders to determine the state and needs of the routes to school for area children. The Walkabout occurs early in the process to help determine solutions and items for a School Travel Planning Action Plan.

Learning Lessons and Sharing Results

After programming ran, student surveys collected data on the change in active transport behaviour and parent surveys collected data on the enablers and barriers parents faced that affected the decision to allow their children to use active school travel. A focus group comprised of participating school principals discussed the results and the experience, and the Halton Health Department prepared and released their "Report on the Active and Safe Routes to School Pilot Project" detailing the triumphs and pitfalls of their experience with the pilot project. Find the full report at www.halton.ca/Health/documents/ASRTS-final-report.pdf.

Halton's Report on the Active and Safe Routes to School Pilot Project findings:

Parents need to be encouraged to not drive their children to school

The more intense the program delivery, the better the results

Sustained program activity results in sustained behaviour

A school champion is a key ingredient for success

Programming needs to address a variety of weather conditions

Residual effects can be anticipated; students exposed to this program went on to be active in middle school

Jenkins was invited to a Board of Trustees meeting to report on the findings. After hearing the report, the Halton District School Board dedicated \$125,000 to extend and expand the project to 25 new schools in 2009 / 2010 and the Halton Catholic DSB has been invited to join the new project. The Halton pilot project was presented at a US National Safe Routes to School Conference as a model example of ASRTS indoctrination.

Thanks to the drive of one exuberant public health promoter and a committee filled with motivated, influential individuals, the region is one step closer to creating a sustainable system that will see more children using active travel for the short trip to school for a long time to come.

List of Appendices

Appendix A: The Role of Policy

Appendix B: Transportation Spending at Ontario School Boards

Appendix C: Fuel cost spreadsheet

Appendix D: School Board Walking Distances

Appendix A: The Role of Policy

Policies at many levels and in many agencies can support the choice by individuals to use active transportation. Making active transportation an easy choice with understood benefits is the only way that a lasting change can be made to the environment and our health. Because schools are inherently community-based structures that are usually within walking distance of the majority of people they serve, and because elementary-aged children are already the group that uses active transportation most often, it is most cost-effective to focus on transportation for the short trip to school when we build active transportation infrastructure.

A collective behavioural change toward active school travel will allow for reallocation of education budgets; reduce built transportation needs and maintenance; shrink healthcare spending; increase citizen health and reduce global warming over time. While policies concerning environment, health, transportation and education all play valuable roles in the implementation of sustainable behavioural change as it pertains to active school travel, the change can start with the commitment of any one.

Relevant Policies at Ontario School Boards

Walking Distances

School boards set the policies for walking distances to school based on guidelines set out by the Ontario Ministry of Education. Students living outside what is deemed the acceptable walking distance are provided with bus transportation to school. Acceptable walking distances vary from board to board across the province for many reasons including available infrastructure, perceived safety, age of students, parental pressures and administration buy-in. A look at school board policies shows some walking distances remain at 0 while others are as great as 4.8 km (see Appendix D, Board Walking Distances).

Some school boards like Durham Catholic DSB are committed to a review of walking distance policies to find inconsistencies and to improve efficiency. Durham's recent review affected 782 students and saved the board \$300,000. ASRTS programming can encourage the students who are affected by loss of bus service by giving them strategies and guidelines that make active school travel safer and more desirable. STP can go one step further by coordinating the efforts of the community to create safer pathways to school.

Daily Physical Activity (DPA)

Daily Physical Activity is recommended by the Ontario Ministry of Education under Policy / Program Memorandum No. 138, "Daily Physical Activity in Elementary Schools, Grades 1–8"²⁵. This policy requires that all students in Grades 1 to 8, including students with special needs, be provided with opportunities to participate in a minimum of twenty minutes of sustained moderate to vigorous physical activity each school day during instructional time. If the Ministry could mandate walking distances and create bus drop-off zones certain distances from schools, children's daily walks to school could possibly be used to satisfy this policy while allowing teachers to concentrate on instruction during instructional time.

Healthy Schools

The Ministry of Education’s Healthy Schools Recognition Program supports curriculum and programming that promote good food, daily physical activity and a healthy environment because all three “support learning and growth and are vital to helping students reach their full potential.” (See www.edu.gov.on.ca/eng/parents/healthyschools/.)

There are numerous examples of policies and philosophies that support the Healthy Schools Recognition Program. Some boards, like the Avon Maitland DSB, have created committees made up of employees from across the board that ensure and maintain an environmentally safe and healthy working environment. Others, like The Catholic District School Board of Eastern Ontario, choose to create or enhance Health and Safety Policies with language like; “promotion of healthy lifestyles – spiritually, physically, mentally and emotionally, is essential for the ongoing proper growth and development of students.”

When a board chooses to show its support of the Healthy Schools Recognition Program, it demonstrates to principals, teachers, staff, parents and children that an active and healthy lifestyle is vital.

EcoCertification

Ontario EcoSchools (an initiative created by a consortium of education stakeholders to address environmental issues in the formal education system) created EcoCertification in 2002. The initiative provides support for environmental education in the areas of environmental literacy, waste minimization, energy conservation and school ground greening.²⁶ As schools strive for EcoCertification, they build more environmentally favorable initiatives into their policies.

As environmental damage to our world becomes more obvious, more and more people are becoming aware that measures need to be taken. Children hear and see signs in their neighbourhoods, in the media, on television shows, and from their friends and family that encourage them to take action. School boards like the DSB of Niagara are responding to pressure from students to take action now. According to their website, “Powered by student enthusiasm, many schools across the District School Board of Niagara participate in a number of initiatives to help preserve our planet.”

The right policies can get large numbers of people working towards the same goals – and when everyone is working toward the same goals, significant improvement can be made to the impact our activities have on the earth.

Federal Policies Relevant to School-based Transportation

Health

Canada's children and youth are suffering from lack of health and environmental well-being. Among 29 OECD nations, Canada ranks:

- * 22nd when it comes to preventable childhood injuries and deaths
- * 27th in childhood obesity

* 21st in child well-being, including mental health²⁷

A report delivered by Dr. K. Kellie Leitch to the Minister of Health in 2008 provides recommendations to the Minister of Health to increase Canada's international standing. According to Leitch, "Canada needs to take a long-term view. By planning carefully and using evidence-based best practice methods to create strong foundations, we pave the way now for our 'human' infrastructure to last longer and be more productive. That human infrastructure will then require fewer 'repair' costs in the future, and will pay out financially when compared to other government investments."²⁸

Canadian Institutes of Health Research (CIHR) espouses similar wisdom when it recognizes on its website that Canada must "develop community-wide approaches to improve the safety of roads, parks and playgrounds, find a new approach to combat obesity in children, and we must find out more about the particulate matter of the air our children breathe."²⁹

The Healthy Living Strategy announced in 2005—and endorsed by the Federal, Provincial and Territorial Ministers of Health—has a goal of increasing the proportion of Canadians who participate in regular physical activity by 20 per cent by 2015.³⁰ Our public health, city planning, policing and education policies must support this initiative so that we can ensure that every possible child gets the message from a source they respect in order to make the greatest change.

Environment

In 2000, the Canadian Council of Ministers of the Environment endorsed Canada-wide standards for ground-level ozone and fine particulate matter (PM2.5) to be achieved by 2010.³¹ This policy must also be accepted and endorsed by provincial and local governing bodies to make a greater impact on our environment.

In March 2009, Transport Canada announced its commitment to green transportation in a program called ecoMOBILITY. The program, "seeks to cut urban passenger transportation emissions by helping Canadians choose public transit or other sustainable transportation options like walking, cycling and carpooling."³² Through this program, Transport Canada will encourage policies, programs, services and products that support or complement their efforts to reduce air emissions and address congestion in all transportation sectors. This program is part of their ecoTRANSPORT Strategy that seeks to work with municipalities to make transportation in Canada sustainable both economically and environmentally.

Safety

Canada's Safety Council,³³ a national non-governmental charitable organization, has identified improving safety for "vulnerable road users" as one of their priorities. Its vision sets a goal to reduce the percentage of pedestrians, cyclists and motorcyclists injured and killed on the roads by 30 per cent.³⁴

There are currently no federal goals concerning children's safety as related to active transportation. Transport Canada's concern for child safety on the streets pertains only to activities while in private vehicles or on school buses. Canada still lags behind European countries where much attention is given to child pedestrian and cycling safety.

Active Transportation Policies around the World

World Health Organization

The World Health Organization (WHO) urges that governing bodies across the globe put policies in place that support active transportation. This leading body submits that, “National and local governments should frame policies and provide incentives to ensure that walking, cycling and other forms of physical activity are accessible and safe; transport policies include non-motorized modes of transportation . . . Strategies should be geared to changing social norms and improving community understanding and acceptance of the need to integrate physical activity into everyday life. Environments should be promoted that facilitate physical activity, and supportive infrastructure should be set up to increase access to, and use of, suitable facilities.”³⁵

A supportive environment would include the existence of national, provincial and local policies that promote active transportation, such as walking or cycling to schools and workplaces. The WHO acknowledges that, “Policy changes at the local level may be particularly effective at encouraging increased physical activity over the long term by making physical activity an easier choice.”³⁶

World Cancer Research Fund

Likewise, the World Cancer Research Fund/American Institute for Cancer Research (WCRF-AICR) specifies recommendations centered on physical activity for policies and actions that will reduce the burden of cancer and other chronic diseases. Specifically, the Institute asks that governments “ensure that built and external environments are designed and maintained in ways that facilitate physical activity and other healthy behaviour”³⁷ and that the physical activity industry “promote goods and services that encourage participation in physical activity by people of all ages, rather than in competitive or elite sporting performance.”³⁸

New Zealand

In New Zealand, a 2006 evaluation revealed that after active school-based transportation programs were introduced, walking increased by 3.6 per cent. This was enough for the country to adopt policies that would continue to encourage the growth of the programs. The New Zealand Transport Authority is charged with the task of allocating resources to contribute “to an integrated, safe, responsive and sustainable land transport system.”³⁹ It should be noted that along with funding projects, part of their responsibility is to provide ongoing research into progressive development of sustainable transportation.

The New Zealand Transport Strategy works to integrate public health goals with transport funding, acknowledging the health benefits of active transportation. Through this program, the New Zealand government sets targets for increased active transportation, citing the health benefits as one of the key objectives in the strategy. The strategy states that by the year 2040, road users will be held fiscally responsible for the full costs of transport choices, including carbon charges.⁴⁰ However, because active transport contributes to the reduction of congestion and increased health benefits, this choice may be eligible for subsidies.

The Land Transport NZ Programme funding manual (PFM) “lays out the policy, rules and procedures that road controlling authorities and regional councils must satisfy to be eligible for financial assistance from the National Land Transport Programme (NLTP) administered by Land Transport NZ.”⁴¹ The dedicated funds and accountabilities associated with active transportation in New Zealand are testament to their acceptance of active transportation as a solution that benefits the entire nation.

The [New Zealand Transport Strategy] states that by the year 2040, road users will be held fiscally responsible for the full costs of transport choices, including carbon charges. However, because active transport contributes to the reduction of congestion and increased health benefits, this choice may be eligible for subsidies.

United Kingdom

The UK government gained Royal Assent for the Education and Inspections Bill on November 8, 2006. This bill establishes a statutory responsibility for local education authorities to “assess the school travel needs of their area, and to promote the use of sustainable modes of transportation.”⁴² The nation’s commitment to active transportation to school is the tip of the iceberg in a movement toward creating a healthier nation.

In support of this bill, The UK Department for Transport provides a wide range of guidance, toolkits and training packages including **Walking and Cycling: an action plan**, **Encouraging Walking and Cycling: success stories**, **Walking and cycling: ‘Links to Schools’ extending the National Cycle Network to schools** and the **Local Authority Cycling Grant Toolkit**. All are available from www.dft.gov.uk.

This forward-thinking nation has created transportation planning policy guidelines that support the use of active travel. In particular, Planning Policy Guidance Note 13 on Transport states “travel plans should be submitted alongside planning applications which are likely to have significant transport implications, including those for... new and expanded school facilities which should be accompanied by a travel plan which promotes safe cycling and walking routes, restricts parking and car access at and around schools, and includes on-site changing and storage facilities.”⁴³

United States

In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) was established, promoting active transportation for all citizens. The Act included a provision for Safe Routes to Schools (Section 1404) that dictated the dissemination of funds that would support infrastructure and organization projects that encouraged children to walk or bike to school. The provision allowed funds for this program from 2005 until 2009, in increasing amounts.

On June 16, 2009, the current U.S. administration made a key address showing support of active transportation ideals as noted in a statement by the Honorable Ray LaHood during a senate hearing titled "Greener Communities, Greater Opportunities: New Ideas for Sustainable Development and Economic Growth." In the address, LaHood noted that President Obama has made livable communities a key aspect of his agenda recognizing that how a community is designed has a great impact on its residents and that reducing the need for motor vehicle trips can address the growing cost of living and lower household spending on transportation.

He said; "All segments of the population must have access to safe and convenient transportation options to get to work, housing, medical services, schools, shopping and other essential activities including recreation. Just as important, our transportation investment decisions need to be consistent with policies concerning greenhouse gas emissions. And efforts must be renewed to rescue other adverse effects of transportation on all aspects of the natural and human environment."

In short, the address confirms the current US administration's commitment to valuing communities and neighborhoods and it vows to continue to invest "in healthy, safe and walkable neighborhoods, rural, urban or suburban."⁴⁴ The American Recover and Reinvestment Act (ARRA) has a discretionary fund totaling \$1.5 billion that will be made available through September 30, 2011, for investment in projects that promote greater mobility, a cleaner environment and more livable communities.⁴⁵

Appendix B: Transportation Spending at Ontario School Boards⁴⁶

District	Student Enrolment	Transport \$ 2008
Algoma District School Board	11,581	8,364,739
Avon Maitland District School Board	17,000	11,406,003
Bluewater District School Board	18,000	12,946,358
Brant Haldimand Norfolk Catholic District School Board	10,653	5,220,763
Bruce-Grey Catholic District School Board	3,528	3,495,201
Catholic District School Board of Eastern Ontario	13,747	13,569,841
Durham Catholic District School Board	25,000	2,272,000
Grand Erie District School Board	27,364.00	13,044,780
Greater Essex County District School Board	35,035	11,509,638
Halton Catholic District School Board	28,497	4,834,000
Halton District School Board	47,550	10,377,327
Hamilton-Wentworth Catholic District School Board	29,766	6,728,881
Huron Perth Catholic District School Board	4,500	5,260,596
Kawartha Pine Ridge District School Board	35,491	17,686,972
Lambton Kent District School Board	23,844	11,044,500
Limestone District School Board	22,000	15,251,000
London District Catholic School Board	22,459	11,617,000
Niagara Catholic District School Board	22,743	9,335,496
Nipissing-Parry Sound Catholic District School Authority	3364	3,513,118
Northwest Catholic District School Board	1200	1,111,670
Ottawa Catholic District School Board	37,500	24,162,000
Ottawa-Carleton District School Board	72,565	32,428,069
Peel District School Board	144,488	40,041,000
Peterborough Victoria Northumberland and Clarington Catholic District School Board	14,370	9,149,702
Rainbow District School Board	15,150	11,355,000
Rainy River District School Board	2,879	2,825,274
Renfrew County Catholic District School Board	5,125	3,637,829
Renfrew County District School Board	9,821	7,362,382
Simcoe County District School Board	52,201	19,462,118
St. Clair Catholic District School Board	10,017	5,923,100
Sudbury Catholic District School Board	6,764	4,681,237
Superior North Catholic District School Board	766	421,640
Superior-Greenstone District School Board	2,041	2,156,315
Thames Valley District School Board	74,493	37,077,580
Thunder Bay Catholic District School Board	8,606	5,559,336
Toronto Catholic District School Board	91,351	23,620,000
Toronto District School Board	264,828	48,688,000
Trillium Lakelands District School Board	19,637	16,456,000
Upper Grand District School Board	32,804	13,259,604

Waterloo Catholic District School Board	23,619	6,708,661
Waterloo Region District School Board	56,697	11,954,497
Wellington Catholic District School Board	8,189	4,286,218
Windsor-Essex Catholic District School Board	25,330	7,935,255
York Catholic District School Board	55,056	16,681,356
averages	32,673	12,145,956
average spending per student = \$371.74		

Appendix C: Fuel Cost Spreadsheet for Bus vs. Car Use (in miles)⁴⁷

Directions: Replace estimated figures in the yellow boxes with your community's information to calculate the cost savings to your community when a child rides the school bus.

Number of school buses in your community	100
Average miles traveled per year per bus (Estimate)	12,000
Total mileage for all buses.	1,200,000
Total number of students in your community	7,500
The number of students transported by each school bus	75
Average number of students transported per car if a school bus is not available (ASBC estimate)	1.5
The number of cars needed to transport students currently riding on one school bus	50
The number of cars needed to transport students currently riding on all school buses in the your community	5,000
Average fuel consumption (mpg) for community's school buses (7 is the ASBC estimate for large diesel engine powered buses.)	7
Average fuel consumption (mpg) for private vehicles (gasoline engines) (ASBC Estimate)	20
Average fuel use per school bus per year (gallons)	1,714
Total fuel used by all school buses per year (gallons)	171,429
Cost of diesel fuel per gallon for your fleet	\$4.145
Cost of gasoline per gallon in your area	\$3.685
Cost of diesel fuel per bus per year	\$7,106
Total cost of diesel fuel for all buses per year	\$710,571
Annual cost of fuel per child transported by school bus	\$95
Average distance from home to school for bus riders (ASBC estimate, 5 miles)	5
Assuming 2 round trips per day for parents to transport students in private vehicle, distance per day per student	20
Length of school year (days)	180
Average annual mileage to transport students from home to school and back in private vehicle	3,600
Cost of fuel for transporting one private vehicle making two round trips to school	\$663
Total daily car mileage saved by students riding school buses	100,000
Total annual car mileage saved by students riding school buses	18,000,000
Total annual car fuel savings by students riding school buses (gallons)	900,000
Total annual car fuel COST savings by students riding school buses	\$3,316,500
Total community savings in fuel by students riding school buses (gallons)	728,571
Total community savings in fuel cost per year by students riding school buses	\$2,605,929

Appendix D: School Board Walking Distances⁴⁸

Walking Distances in Kilometres

School District	JK - SK	Gr.1-3	Gr. 4	Gr. 5	Gr. 6	Gr. 7-8	Gr. 9-12
Dufferin-Peel Catholic DSB	1	1.6	1.6	2	2	3.2	4.8
Durham Catholic DSB	1.6	1.6	1.6	1.6	1.6	1.6	3.2
Durham DSB	1.6	1.6	1.6	1.6	1.6	1.6	3.2
Greater Essex County DSB	1	1.6	1.6	1.6	1.6	1.6	3.2
Halton DSB	1.6	1.6	1.6	1.6	1.6	1.6	4.8
Hamilton-Wentworth DSB	1	1.6	1.6	1.6	2.4	2.4	3.2
Hastings & Prince Edward DSB	1.6	1.6	1.6	1.6	1.6	3.2	3.2
Huron Perth Catholic DSB	1.2	1.2	1.2	1.2	1.2	1.2	not reported
Keewatin-Patricia DSB	1	1	2	2	2	2	3.2
Kenora Catholic DSB	0	1	1.6	1.6	1.6	2	3.2
Lakehead DSB	0.4	0.8	1.6	1.6	1.6	1.6	not reported
Limestone DSB	1.6	1.6	1.6	1.6	1.6	3.2	3.2
Niagara Catholic DSB	0.8	1.6	1.6	1.6	1.6	1.6	2.5
Northwest Catholic DSB	1	1	1.5	1.5	1.5	1.5	not reported
Ottawa Catholic DSB	0.8	1.6	1.6	1.6	1.6	1.6	3.2
Peel DSB	1	1.6	1.6	2	2	3.2	4.8
Rainbow DSB	0	1	1.6	1.6	1.6	1.6	2.5
Rainy River DSB	not reported	1	1.6	1.6	1.6	1.6	3.2
Renfrew County Catholic DSB	0.5	1.6	1.6	1.6	1.6	urban 2.5, rural 1.6	urban 2.5, rural 1.6
Renfrew County DSB	0.5	1.6	1.6	1.6	1.6	urban 2.5, rural 1.6	urban 2.5, rural 1.6
Simcoe County DSB	1.6	1.6	1.6	1.6	1.6	1.6	3.2

Glossary of Terms

ASRTS (Active & Safe Routes to School): ASRTS programming addresses health and traffic safety issues while taking action on air pollution and climate change. School travel work in Canada has largely fallen under the ASRTS banner. ASRTS programs help to make it safe for children to walk / bike / rollerblade / skateboard to and from school, and encourage them to do so. When implemented fully, these programs take into consideration the barriers to active school travel and use a collaborative community-based approach to deal with infrastructure challenges and apply proven social marketing techniques to encourage positive behavior change.

DPA (Daily Physical Activity): “Policy on daily physical activity outlined in the Ontario Ministry of Education’s Policy/Program Memorandum No. 138, “Daily Physical Activity in Elementary Schools, Grades 1–8”, October 6, 2005. This policy requires that all students in Grades 1 to 8, including students with special needs, be provided with opportunities to participate in a minimum of twenty minutes of sustained moderate to vigorous physical activity each school day during instructional time. The goal of daily physical activity is to enable all elementary students to improve or maintain their physical fitness and their overall health and wellness, and to enhance their learning opportunities. The electronic versions of The Ontario Curriculum, Grades 1–8: Health and Physical Education, 1998, which are posted on the Ministry of Education website at <http://www.edu.gov.on.ca>, have been revised to reflect this requirement.” (Definition found in the Daily Physical Activity Resource Guide for grades 1-3 on the Ontario Ministry of Education Website at <http://www.edu.gov.on.ca/eng/teachers/dpa1-3.pdf> page 4.)

GCC (Green Communities Canada): Green Communities Canada is a national association of non-profit organizations that deliver innovative, practical environmental solutions to Canadian households and communities. The association works towards building capacity, sharing information, and building visibility of its 30+ member organizations. GCC started the Active and Safe Routes to School (ASRTS) initiative in 1996. It is a comprehensive community-based initiative that taps into the increasingly urgent demand for safe, walkable neighbourhoods that facilitate the use of active and efficient transportation for the daily trip to school.

SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users): is a US transportation bill designating funds for highway and safety programs through 2009, including significant funds specifically for Safe Routes to School (SRTS) programs across the country.

STP (School Travel Plan): a School Travel Plan is both a document and a process to deliver ASRTS; addressing the issues of sustainability, safety and health associated with ‘the school run’ using a collaborative community-based approach.

Transportation Consortia: gain efficiencies by blending multi-board (Public, Catholic, French and French Catholic) needs into a single bus system. By providing transportation for all students in a region, a consortium uses a single database of students, a single digitized route map and a single department to field calls about busing issues.

Walkabout: a physical scan/walk through of school surroundings performed by a group of stakeholders to determine the state and needs of the routes to school for area children. The Walkabout occurs early in the process to help determine solutions and items for a School Travel Planning Action Plan. This step in the process is endorsed by Guideline #5 of the *Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario*⁴⁹.

WSB (Walking School Bus): operates on the premise that there is safety in numbers. It is a group of walkers who pick up other walkers along the route to school so they can travel together. WSBs are routed through residential areas with high concentrations of children and they are headed by parent or upper-level student volunteers. Guideline #17 of the *Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario* encourages the arrangement of walking school buses and other means of supervision to help younger children reach school safely.

Endnotes

- ¹ The Association of Canadian Academic Healthcare Organizations. "Presentation to the House of Commons Standing Committee on Finance", October 6, 2005.
- ² Letter by Dr. Michael S. Kramer, Scientific Director, Canadian Institutes of Health Research, Institute of Human Development, Child and Youth Health, April 4, 2008. <http://www.cihr-irsc.gc.ca/e/36150.html> Accessed June 18, 2009.
- ³ Gilbert, R, and O'Brien, C. *Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario, Version 2*. The Centre for Sustainable Transportation, University of Winnipeg. 2009.
- ⁴ See Ratey, John with Hagerman, Eric. *Spark: the revolutionary new science of exercise and the brain*. New York: Little, Brown, 2008.
- ⁵ The report is discussed in a California Department of Education press release entitled State Study Proves Physically Fit Children Perform Better Academically (December 10, 2002), available at the URL below. See also, Chomitz VR, Slining MM, McGowan RJ, Mitchell SE, Dawson GF, Hacker KA. *Is There a Relationship Between Physical Fitness and Academic Achievement? Positive Results From Public School Children in the Northeastern United States*. *Journal of School Health* 2009; 79(1):30-36. 1. www.icsspe.org/members/bulletin/freebulletin.php?html=archiv/Bulletin37/texte/2-0-california.htm&wahl=10&No=Bulletin37&l=2&PHPSESSID=36af06b6e82540baea386535f6cf583. Accessed October 1, 2009.
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- ⁹ Gilbert, R, and O'Brien, C. *Child and Youth Friendly Land Use and Transport Planning Guidelines for Ontario, Version 2*. The Centre for Sustainable Transportation, University of Winnipeg. 2009. Guideline #21, page 51.
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- ¹¹ Dickert, Susan, in conversation May 12, 2009.
- ¹² "Equitable Allocation Through a New Funding Model for Student Transportation in Ontario." Ministry of Education Discussion Paper. Ontario.
- ¹³ Faulkner, Rob. "Two Solitudes on the School Buses: City boards wrestle over joint system." *The Hamilton Spectator*. June 14, 2008.
- ¹⁴ Information gleaned from Director's Annual Reports found at <http://www.edu.gov.on.ca/eng/policyfunding/annual/index.html> and from individual board websites.

- ¹⁵ As reported by Steven Parfeniuk, Superintendent of Business Services, Halton DSB.
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- ¹⁷ “Equitable Allocation Through a New Funding Model for Student Transportation in Ontario.” An Ontario Ministry of Education discussion paper. pp 8; Ontario.
- ¹⁸ Quote given by Cornerstone Paving, Kitchener, Ontario, May 5, 2009. kwpaving@kwcornerstone.com.
- ¹⁹ As recorded on the South Shore Regional School Board website at <http://ssrsb.ca/ssrsb/root/schools/index.html>.
- ²⁰ As reported at southshorenw.ca news, found at <http://southshorenw.ca/archives/2009/042109/news/index023.php>. Accessed May 5, 2009.
- ²¹ Average salary taken from <http://resource.educationcanada.com/salaries.html/>. Accessed June 30, 2009.
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- ²³ *The Health of Canada’s Children*, 3rd edition, Ottawa: Canadian Institute of Child Health (2000), pg. 284. Available at http://www.cich.ca/Publications_monitoring.html. Accessed October 3, 2009. Page 25.
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