Saving Money and Time With Active School Travel

green ACTION centre

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Ontario Active and Safe Routes to School Program.

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Executive Summary

With Manitoba's municipal governments showing growing interest in healthy schools, active living and creating more age-friendly communities, Green Action Centre's Active & Safe Routes to School program responded by introducing school travel planning and how it can be used to address these issues. School Travel Planning (STP) aims to get more families walking and wheeling to and/or from school by bringing together community stakeholders to identify barriers to active transportation for each school and develop a written action plan.

A shift toward active school travel is beneficial for the health of our communities and our environment. 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 principals and teachers time, and lead to cost savings for schools and school boards.

As Manitoba struggles with budget challenge, the need for policies that simultaneously reduce costs and support healthy lifestyle choices, such as active transportation, is more important than ever.

Currently, active school travel is not incorporated into student transportation services. Manitoba Education and school division budgets are prioritize motorized transportation (i.e. school buses) and the infrastructure accommodates, and in some cases indirectly encourages, driving children to school. Manitoba budgeted expenditures for 2017-2018 show that, on average, $1,489 is spent on each enrolled student that utilizes school bus services – yet many students do not benefit at all from this expenditure. Conversely, individual schools that wish to encourage active school travel are faced with raising funds for secure bicycle racks and storage facilities for inline skates and skate boards – which is enough of a barrier to lead to the outright discouragement of active school travel.

For a fraction of today's transportation budget, Manitoba Education and school divisions can reduce transportation costs while setting the groundwork for students to lead much healthier lifestyles through active school travel policies and programs. This can be achieved by adopting policies to implement School Travel Planning across the province, with leadership from Manitoba Education. A decisive shift from busing-only to integrated school-based transportation demand management (TDM) policies can control financial burden by persuading stakeholders to share the duty to ensure students get to and from school safely.

Most experts, administrators and citizens agree that it will take a combined effort to produce mass behavioral change toward active travel, but it is clear that schools offer a logical activation point because implemented policies can encourage real action to take place by 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 province's future.

Overview

In 2007, Canada ranked 22nd in preventable childhood injuries and deaths, 27th in childhood obesity and 21st in child well-being, including mental health out of 29 Organisation for Economic Co-operation and Development nations.[1] In the last decade, Canada is still facing serious concerns over the safety and health of our children and youth. More children are living sedentary lifestyles, active school travel is on the decline, and childhood obesity and related health issues are drastically increasing. Only 9% of Canadian children and youth are achieving the recommended level of physical activity. [2] In Manitoba specifically, almost 29% of children are obese or at risk for obesity [3], we have one of the highest rates of Type 2 diabetes in children in the world and the number of children in Manitoba with Type 2 diabetes is 12 times higher than any other province in Canada, and vehicle collisions are the second leading cause of injury death in Manitoban children. [4]

Poor rankings like this have Canadian Institutes of Health Research (CIHR) begging 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 we must find out more about the particulate matter of the air our children breathe."[5] School-based TDM (transportation demand management) 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 and Green Action Centre have worked extensively with the Centre for Sustainable Transportation to create and promote the *Child and Youth Friendly Land use and Transport Planning Guidelines*. 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 model work hand in hand to create opportunities for safe, active travel to and from school.

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 School Travel Planning, principals say they find more time for other duties and worry less about children being hurt in parking lots; superintendents note 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.

Walking to Stevenson School (Winnipeg, MB) for International Walk to School Month

School Travel Planning initiatives bring together school divisions, municipalities, transportation planning professionals, public health nurses, school administrators, police departments and other community

stakeholders to devise school-based TDM plans for 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 School Travel Planning 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, Walking Wednesdays, Bike to School Month and Clean Air Day in June, and the Walking School Bus. When whole communities embrace the active school travel concept and combine it with the School Travel Planning process, regular active transportation to school becomes a feasible choice for a greater number of children. When large numbers of children use active school travel, it will reduce traffic congestion, improve air quality near schools, and reduce childhood obesity rates, including 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* were produced by the Centre for Sustainable Transportation to satisfy interest by municipal / school board planners in developing communities that encourage active transport for everyone. 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."[6] Active school travel helps to satisfy this initiative and School Travel Planning provides a framework to achieve this goal while being sensitive to the needs of the whole community.

Benefits of Active School Travel

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

The benefits of active school travel span many separate (and often "siloed") concerns including health, environment, safety and crime, transportation infrastructure, school curriculum support and costs. 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 have the same goal in mind. Organizations like Green Action Centre, which offer active school travel programs, provide the tools and the support necessary to get all stakeholders working together for the good of the whole community. 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 our children to manage when the air around them is cleaner and easier to breathe. Increased regular activity can also reduce the instance of some cancers.

Finally, children who partake in regular physical activity may have greater brain functioning than they do without it. Children who are active before school starts are more alert and ready to learn in the classroom. A California Department of Education study even suggests that physically fit students performed better academically.[7]

Manitoba Education acknowledges the role of schools in encouraging physical activity through the Healthy Schools initiative and related activities, along with the recommendations coming out of the Healthy Kids, Healthy Futures All-Party Task Force launched in 2004. Promoting active transportation among youth is one of the 10 key areas recommended by the Healthy Kids, Healthy Futures task force. Specifically, the task force recommends that:

- The provincial government continue to work with Resource Conservation Manitoba (Green Action Centre) on programs like the Commuter Challenge and Active and Safe Routes to School to support active transportation for youth. (Recommendation #26)

- The provincial government work with Resource Conservation Manitoba (Green Action Centre) and other partners to create a Manitoba Student Transportation Network. The network will support student-led efforts to reduce barriers to active transportation and increase active transportation among youth. (Recommendation #27)

Building on another recommendation of the Healthy Kids, Healthy Futures report, Manitoba Healthy Living introduced a low-cost bike helmet initiative in 2005 “to promote the increased use of helmets and safer bicycle riding skills as well as make affordable helmets more accessible to families in Manitoba.” Over the first four years, Manitoba families have purchased more than 52,000 low-cost children’s bike helmets.

In the 2015-16 Manitoba Children and Youth Opportunities Annual Report, Manitoba Education identified strengthening the delivery system that develops and supports recreation, sport and physical activity opportunities at the community, regional and provincial level. One of the stated responsibilities of the Minister and the Department include developing and delivering recreational opportunities, wellness practices, volunteerism, physical activity, and community development opportunities at the local and regional level.

ENVIRONMENT

We may not be able to tackle the full goal of reversing climate change with active transportation in Manitoba, 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.

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.

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

When all children are either choosing active school travel or riding a school bus to school, school divisions can reconsider the need for paved guest parking and drop-off areas and municipalities can retrofit public space to accommodate active travel over car travel. Doing so will increase green space, allow for more natural water cycle absorption and improve air quality around our schools.

CURRICULUM CONNECTIONS

Manitoba curriculum has responded to growing health and environment concerns, as demonstrated by the mandate for grade 11 and 12 credits that require students to demonstrate they are engaging in at least 30 minutes of moderate to vigorous physical activity at least 5 days a week, the Healthy Schools initiative, including Healthy Schools *in motion*, the Eco-Globe Schools annual recognition program, and new directives in education for sustainable development.

According to the Manitoba Education website, ``Through [Education for Sustainable Development] initiatives in schools and integration of ESD with curriculum, Manitoba students are acquiring knowledge of the interdependency of the three pillars of sustainability: human health and well-being, environment and economy.” Active school travel offers natural and practical support for lessons in environmental impact, carbon emissions, energy consumption, health and physical education.

Rising interest in the Eco-Globe Schools and related programs show that schools are increasingly recognizing their important role in encouraging our children to adopt healthy lifestyles and to make everyday choices that have the least harmful impact on our 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 Active and Safe Routes to School (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 social awareness of the issues with which they wrestle. When ASRTS programs bring agencies together to talk about active school travel, the whole community understands the grave importance of tackling health, safety, environmental and economic issues surrounding transportation culture.

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

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.[8] 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, cost savings are being realized in unexpected areas by various stakeholders. These savings will be explored in more depth in the "Cost Savings" section of this report. The stakeholders who can save money are discussed here.

School Divisions / Boards: Any reduction in the number of buses required to bus children to school can save thousands of dollars for school divisions.

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 will also be called on less often to settle traffic disputes among parents and / or owners of neighbouring homes. Staff

stress and injuries associated with traffic control will 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.

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

Community Agencies: The coordination of work between public health departments, transportation authorities, police, school boards 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 these stakeholders (especially if injuries occur); but an integrated school-based TDM (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 spend 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 Manitoba

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

MANITOBA EDUCATION

Manitoba Education should take a leadership role in the promotion of active school travel through recognition of school-based TDM (transportation demand management) initiatives that include school busing, local transit options and active school travel. By incorporating key active travel strategies into existing transportation policies, Manitoba Education can be a leader in Canada. This policy approach to the issue also will go a long way to helping the department 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. Encourage urban school divisions to establish an **Active School Travel Coordinator (ASTC) position** to incorporate School Travel Planning into safe schools or healthy schools policies. Refer to the International Best Practices document to see how mandatory School Travel Planning works in New Zealand and the U.K.

2. Expand the mandate of the Pupil Transportation Unit to include providing safe transportation to and from school for 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 bused. To this end, Manitoba Education must provide leadership to school divisions through the implementation of active school travel policies, incorporated into existing school transportation policies.

3. Act upon the recommendation of the Healthy Kids, Healthy Futures task force to increase the use of active transportation by youth. Consult the *Child and Youth Friendly Land Use and Transport Planning Guidelines* for Manitoba for guidance.

4. Review existing guidelines for school division transportation policies and expand their mandate to include school-based TDM so that active travel strategies can be considered.

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 department-wide anti-idling policy for school buses, school vehicles and private vehicles stopping at school sites.

7. With school divisions and municipalities, review existing policies for new school siting and construction and encourage expansion that takes active travel into consideration. This could reduce future busing costs by ensuring schools are located in active transportation-friendly neighbourhoods.

8. Endorse municipal adoption of the *Child and Youth Friendly Land Use and Transport Planning Guidelines*.

SCHOOL DIVISIONS

With leadership on active school travel coming from policy creation by key provincial departments, school divisions would be bound to implement some or all of the following recommendations:

1. Implement the following health, safety and environmental policies that encourage active school travel for as many children as possible:

    a. Plan school sites with walkability principles in mind, such as building smaller schools that serve communities within active transportation distance, paving smaller parking lots, eliminating parent drop-off loops and adding new building code requirements that mandate a bike rack and equipment storage locker per number of paved parking spaces.

    b. Encourage schools to participate in the Healthy Schools initiative, and to apply for recognition as an Eco-Globe School.

c. Implement anti-idling policies encouraging all drivers, including school bus drivers, to curb fuel consumption by changing their driving habits.

2. Designate resources to support the needs of students who use active transportation, e.g. add active school travel to school division transportation responsibilities, either by expanding the mandate of the school division's transportation policies and adding an active school travel staff position.

3. Recognize the full cost of supporting vehicular transportation by performing a cost analysis of parking lot creation and maintenance including snow removal, and line painting.

MANITOBA LOCAL GOVERNMENT

Manitoba Local Government has shown initiative in embracing the concept of active transportation in a review of Provincial Land Use Policies, which includes the following requirement of municipalities in their transportation and development plans (Policy Area 7):

> "To foster land use patterns and development design that caters to public transit users, cyclists, pedestrians and the mobility challenged, and reduces reliance on the automobile and its associated greenhouse gas emissions/air pollution/congestion."

This includes policies in development plans that promote "pedestrian, cyclist and public transit user access in developments catering to the public, such as schools, shopping, employment, health and recreation related facilities".

Lending their support and working with Manitoba Education to create active travel policies will help Manitoba Local Government support a societal shift towards active transportation, which bears less stress on infrastructure and creates a safer and more sustainable environment than does our current dependence on vehicular travel. Specific recommendations include:

1. Mandate active transportation planning to be a part of municipal transportation goals, with particular focus on school-based TDM (transportation demand management) initiatives.

2. Support School Travel Planning 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 the increase in air quality.)

3. Provide funds for schools to complete travel plans and support school divisions and municipalities in the implementation of those plans through infrastructure funds.

COMMUNITY STAKEHOLDERS

As past Active and Safe Routes to School (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, contact Green Action Centre to receive a copy of the Manitoba Active & Safe Routes to School Handbook and Resource Guide. For more information on School Travel Planning, see 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 an "enlightened principal leadership" [9] to see through the work and to appreciate the multiple advantages of promoting active school travel. And principals who have adopted Active and Safe Routes to School programming agree that it is an effective, "low cost way to promote a healthy lifestyle"[10] 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 Active and Safe Routes to School programming agree that it is an effective, 'low cost way to promote a healthy lifestyle' in our children."

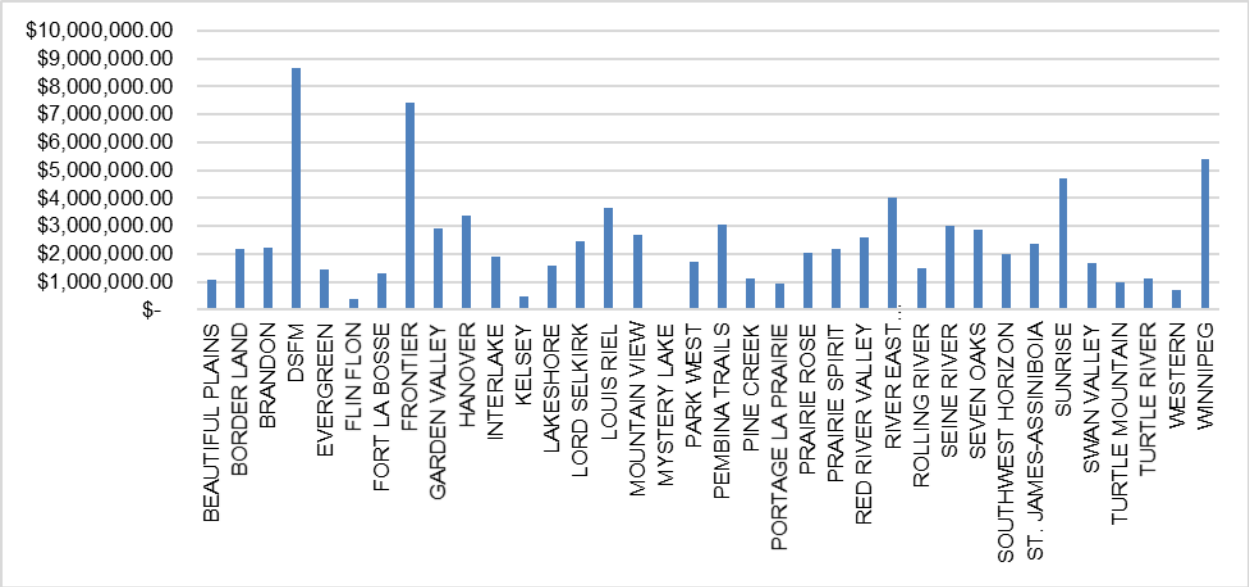
School Travel Planning pilot projects across Canada and affiliated efforts between 2007 and 2009 roused passionate supporters in principals, public health promoters, superintendants, teachers and citizen volunteers. STP project results have also revealed cost savings for many of these stakeholders in busing, fuel consumption, parking lot management and traffic control.

Busing Costs

According to the Manitoba Education website, school divisions are responsible to provide transportation for all resident students eligible for transportation according to provincial requirements and local school board policy. For 2017-18, budgeted expenses for transportation of pupils represented 4.4% of total school division expenditures for the province, representing $87,763,613.[11] A reported provincial enrollment[12] of 204,750 students in 2016 indicates that an average of $430 per enrolled student was spent on transportation services.

It is worth noting that virtually none of Manitoba Education's current transportation spending is allocated towards encouraging active school travel. Those students who currently choose active school travel see no benefit from school board transportation budgets, while bused students benefit a great deal. Walkers also do not benefit from the creation of larger parking lots or parent drop-off loops 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 Manitoba Education and school divisions very little while producing many benefits.

Table 1: Manitoba School Division Transportation Spending, 2016-2017 Budget (FRAME)[13]



BUS FLEET

Refinement of approved walking distances could 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 would provide a savings of roughly $40,000. Though no schools have reported their savings due to an extension of the walking distances, at least one school in Ontario has documented an increase in the size of their bus fleet as a result of decreasing the walking distance. Halton Region 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 40 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.[14]

FUEL CONSUMPTION

Since taking a single bus off the road can result in considerable savings on fuel, Manitoba Education and school divisions could strive to reduce the number of buses on the road by extending the distance deemed walkable by area children. In Ontario, in the 2008-2009 school year, two installments of extra funding equalling close to $18 million were allocated by the Ontario Ministry of Education to cover extra fuel costs. 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.[15]

Ruth Hooker School (Selkirk) – This Walking School Bus can help eliminate the need for school buses

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. 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.

Wherever possible, bus drivers could be encouraged to curb their idling times and drive with environmental caution, i.e. driving slower and using the brakes gently.

PARKING LOTS | 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 parent drop-off loops 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 children who are walking or cycling. The newly required paved areas cost taxpayers significant amounts of money and consume vast amounts of existing green space near schools.

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

Paving companies typically charge $5 - $6 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.[16] For example, in Spring 2009, Park View Educational Centre in Nova Scotia received long-awaited funds to build a new parking lot intended to alleviate traffic congestion at the school that serves 869 students.[17] The estimated cost for the parking lot overhaul is $250,000.[18]

With sustainable travel policies in place, the need for a drive thru, additional parking or parent drop-off loop can be reduced or even negated so paving costs are mitigated.

MAINTENANCE

Snow removal from a school parking lot is a cost that 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 does not currently exist. Since snow removal of a parent drop-off loop or drive-thru in place for automobile drop-off convenience could be negated with supportive policies, it is clear that this cost can be reduced.

While clearing snow from the sidewalks outside school property (including the highest-traffic routes to schools) is a municipal responsibility, the school is responsible for clearing all sidewalks that align with school properties. Shifting cost savings from clearing parking lots and parent drop-off loops to reliable clearance of sidewalks around schools will encourage children to use active school travel in the winter months and show the community that our schools prioritize children's health, fitness and safety over the convenience of car culture.

Susan Dickert, principal of St. Nicholas Catholic Elementary School in Waterloo, Ontario reduced staff time spent on traffic control by 80 minutes per day, more than six hours per week and 240 hours per year when she closed the school parking lot to non-staff.

Since these maintenance costs vary from school to school and division to division, a cost-analysis should be completed within each school division 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 first in line for responsibility when it comes to solving traffic disputes. At many schools, this is a daily activity consuming valuable time that principals could use on other duties. Many principals spend at least 20 minutes at the beginning and end of each day 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 623 elementary schools in Manitoba, that would translate to approximately 112,140 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 choosing active school travel), often depending on parent and student volunteers with support from Active and Safe Routes to School (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, Ontario, 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 20 minutes twice daily to none. She reduced staff time spent on traffic control by 80 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 hour,[19] 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 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.*[20]

Active school travel programs can make a difference by eliminating short 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.

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. Workers Compensation Board 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 $1,200 for brakes, $3,000 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.[21] This expense is incurred even when the children designated to ride on these buses are being driven to school by their parents.

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

Halton Region: School Travel Planning Case Study

The Halton Region School Travel Planning (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 Green Communities Canada (GCC) to get more children walking and biking to school regularly with Active and Safe Routes to School (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:

Creating a steering committee

Presenting a great case

Gaining DSB support

Maximizing Walkabouts

Following up with lessons learned

Sharing the experience

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 present to the steering committee as it grew. In the end, the committee included representatives from the Regional Health Department, the Halton District School Board (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.

PRESENTING TO DECISION MAKERS

Jenkins then sought out meetings filled with influential people to whom she could present a case for active school travel. She spoke to HEPA (Halton Elementary Principal's Association); Halton Partners for Clean Air 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.

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. Stephen 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.

LESSONS LEARNED 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 here.

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[1]

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 toward creating a sustainable system that will see more children using active travel for the short trip to school for a long time to come.

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Appendix A: The Role of Policy

Appendix B: Transportation Spending at Manitoba School Divisions

Appendix C: Fuel Cost Spreadsheet for School Bus vs Car Use

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 Manitoba Schools

WALKING DISTANCES

School divisions set the policies for walking distances to school based on guidelines set out by the Province of Manitoba. Students living outside what is deemed the acceptable walking distance are provided with bus transportation to school. As outlined under transportation eligibility in the Administrative Handbook, Section T3: "Urban school divisions/districts, that choose to provide transportation, may receive funding for K to Grade 6 students who meet the distance criteria. Urban school divisions/districts may also receive funding for students in Grades 7 to Senior 4 who reside more than 1.6 kilometres from a public transit stop and their school if transportation is provided to these students. In rural areas, funding is provided for the transportation of students enrolled in K to Senior 4 who meet the distance criteria.… Level II or Level III students and students with learning disabilities or physical handicaps who are unable to walk safely to school are eligible for transportation."

In Ontario, some school boards, like Durham Catholic DSB, are committed to a review of walking distance policies to improve efficiency. Durham's recent review affected 782 students and saved the board $300,000. Active and Safe Routes to School 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. School Travel Planning can go one step further by coordinating the efforts of the community to create safer pathways to school.

HEALTHY SCHOOLS

The Healthy Schools initiative in Manitoba promotes the health and wellness of students, their families, school staff, and school communities. Healthy Schools is a partnership involving Manitoba Health/Healthy Living, Manitoba Education, Citizenship and Youth, and Healthy Child Manitoba. It focuses on six priority health topics within the context of the school community, one of which is physical activity.

EDUCATION FOR SUSTAINABLE DEVELOPMENT AND ECO-GLOBE SCHOOLS

As defined on the website, Education for Sustainable Development (ESD) "involves preparing students to live sustainably and to establish life-long sustainable development practices… Through ESD initiatives in schools and integration of ESD with curriculum, Manitoba students are acquiring knowledge of the interdependency of the three pillars of sustainability: human health and well-being, environment and economy. Students develop values that reflect the importance of continued balance and harmony among the pillars, refine the skills required to make equitable decisions and commit to life practices that show personal responsibility for a sustainable future."

The Eco-Globe Schools recognition program singles out successful efforts to increase awareness, take action and create transformation at the school level. Sample actions taken by schools can include active transportation programs that support cycling, walking and public transit, implementing infrastructure such as bike racks, and daily physical activity campaigns among others.

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. In Winnipeg, as part of their commitment to sustainability, St. James-Assiniboia School Division has committed to "Promote the Safe and Active Routes to School concept" and "Install secure bike cages" in their 5-year divisional strategic plan,[22] with the indicators of success being more students are walking and biking to school.

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

In February 2010, the Canadian Partnership Against Cancer and the Coalitions Linking Action and Science with Prevention (CLASP), with support from the Public Health Agency of Canada and the Heart and Stroke Foundation, announced a $15.5 million investment in chronic disease prevention. *Children's Mobility, Health and Happiness: A Canadian School Travel Planning Model* is one of the seven funded projects. The funding will support the implementation of School Travel Planning in all provinces and territories in Canada and lay the foundation for future local sustainability. The long-term goal is to motivate changes to municipal and school board policies and practices so that active transportation to and from schools is commonplace.

In Manitoba, School Travel Planning is being implemented by Green Action Centre's Active and Safe Routes to School Program. This funding will enable an expansion of the 2009-10 Manitoba School Travel Planning Pilot Project to a dozen more schools and beyond Winnipeg's borders.

This is a critical and timely investment in light of how 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 health[23]

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."[24]

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."[25]

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 percent by 2015.[26] 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.[27] 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." [28] 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,[29] 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 percent.[30]

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."[31]

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."[32]

WORLD CANCER RESEARCH FUND

Likewise, the World Cancer Research Fund / American Institute for Cancer Research (WCRF-AICR) specifies recommendations centred 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"[33] 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."[34]

NEW ZEALAND

In New Zealand, a 2006 evaluation revealed that after active school-based transportation programs were introduced, walking increased by 3.6%. 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."[35] 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. However, because active transport contributes to the reduction of congestion and increased health benefits, this choice may be eligible for subsidies. [36]

"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."

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."[37] 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.

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."[38] 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*.

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."[39]

UNITED STATES OF AMERICA

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 the President 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."[40] 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.[41]

*I*mage from *Safe Routes to School National Partnership*.

Appendix B: Transportation Spending at Manitoba School Divisions[42]

DIVISION / DISTRICT	AMOUNT	TRANSPORTED PUPILS	PER PUPIL
BEAUTIFUL PLAINS	$ 1,087,950.00	771	$ 1,411.00
BORDER LAND	$ 2,175,998.00	1538	$ 1,415.00
BRANDON	$ 2,221,600.00	3474	$ 639.00
DSFM	$ 8,672,562.00	4561	$ 1,901.00
EVERGREEN	$ 1,438,600.00	926	$ 1,554.00
FLIN FLON	$ 386,937.00	296	$ 1,307.00
FORT LA BOSSE	$ 1,320,740.00	675	$ 1,957.00
FRONTIER	$ 7,428,750.00	4950	$ 1,501.00
GARDEN VALLEY	$ 2,925,266.00	2534	$ 1,154.00
HANOVER	$ 3,385,000.00	5147	$ 658.00
INTERLAKE	$ 1,906,000.00	1584	$ 1,203.00
KELSEY	$ 471,035.00	400	$ 1,178.00
LAKESHORE	$ 1,564,890.00	778	$ 2,011.00
LORD SELKIRK	$ 2,444,525.00	2853	$ 857.00
LOUIS RIEL	$ 3,658,087.00	2631	$ 1,390.00
MOUNTAIN VIEW	$ 2,702,863.00	1432	$ 1,887.00
MYSTERY LAKE			
PARK WEST	$ 1,740,645.00	799	$ 2,179.00
PEMBINA TRAILS	$ 3,054,957.00	2625	$ 1,164.00
PINE CREEK	$ 1,141,463.00	548	$ 2,083.00
PORTAGE LA PRAIRIE	$ 949,850.00	1070	$ 888.00
PRAIRIE ROSE	$ 2,038,482.00	1476	$ 1,381.00
PRAIRIE SPIRIT	$ 2,182,700.00	1110	$ 1,966.00
RED RIVER VALLEY	$ 2,586,889.00	1231	$ 2,101.00
RIVER EAST TRANSCONA	$ 4,016,500.00	3500	$ 1,148.00
ROLLING RIVER	$ 1,467,350.00	890	$ 1,649.00
SEINE RIVER	$ 3,004,500.00	2950	$ 1,018.00
SEVEN OAKS	$ 2,849,780.00	2825	$ 1,009.00
SOUTHWEST HORIZON	$ 1,980,100.00	816	$ 2,427.00
ST. JAMES-ASSINIBOIA	$ 2,356,943.00	2140	$ 1,101.00
SUNRISE	$ 4,710,498.00	3738	$ 1,260.00
SWAN VALLEY	$ 1,673,797.00	1272	$ 1,316.00
TURTLE MOUNTAIN	$ 1,002,619.00	532	$ 1,885.00
TURTLE RIVER	$ 1,135,394.00	422	$ 2,691.00
WESTERN	$ 702,643.00	950	$ 740.00
WINNIPEG	$ 5,377,700.00	2592	$ 2,075.00
PROVINCE	**$ 87,763,613.00**	**66036**	**$ 1,329.00**

Appendix C: Fuel Cost Spreadsheet for Bus vs. Car Use (in miles)[43]

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 (ASBC 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**

Glossary of Terms

Active & Safe Routes to School (ASRTS): Active and Safe Routes to School 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 / inline skate / 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.

The Canadian Active & Safe Route to School Partnership: The Canadian Active & Safe Routes to School Partnership is a national group working to increase the number of school-aged children who travel to school using active, sustainable and safe modes of transportation.

Green Action Centre: Green Action Centre is a non-profit, non-governmental centre for environmental education and applied sustainability. Households, workplaces, schools, and communities look to Green Action Centre for practical information on active transportation, composting, waste reduction and resource conservation. The Centre delivers the Active and Safe Routes to School (ASRTS) program in Manitoba, which is part of the Canadian Active and Safe Routes to School Partnership.

Green Communities Canada (GCC): 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.

Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU): SAFETEA-LU 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.

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

Transportation Consortia: Used in Ontario, 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 the Action Plan.

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. Walking School Buses are routed through residential areas with high concentrations of children and they are headed by parent or upper-level student volunteers.

URLs for Hyperlinked Websites

Active and Safe Routes to School Manitoba - http://greenactioncentre.ca/program/asrts/

Active and Safe Routes to School Program - http://www.saferoutestoschool.ca/

Canada's Safety Council - http://safety-council.org

Canadian Council of Ministers of the Environment - www.ccme.ca

Canadian Partnership Against Cancer - www.partnershipagainstcancer.ca

Centre for Sustainable Transportation - www.centreforsustainabletransportation.org

Coalitions Linking Action and Science with Prevention (CLASP) - www.partnershipagainstcancer.ca/coalitions

ecoDriver Manitoba - www.livinggreenlivingwell.ca/ecodriver/home

ecoMobility - www.ecoaction.gc.ca/ecotransport/ecomobility-ecomobilite-eng.cfm

Fuel Savings Calculator - www.epa.gov/otaq/schoolbus/idle_fuel_calc.htm

Green Action Centre - www.greenactioncentre.ca

Green Communities Canada - www.greencommunitiescanada.org

Halton, ON School Travel Planning Case Study - www.halton.ca/common/pages/UserFile.aspx?fileId=16104

International Walk to School (IWALK) Month - www.iwalktoschool.org

Land Transport New Zealand Programme Funding Manual - www.transfund.govt.nz/funding/programme-and-funding-manual/index.html

Manitoba Eco-Globe Schools - www.edu.gov.mb.ca/k12/esd/eco_globe/criteria.html

Manitoba Education Administrative Handbook - www.edu.gov.mb.ca/k12/docs/policy/admin/school_administrator_handbook_english.pdf

Manitoba Education Annual Report 2008-2009 - www.edu.gov.mb.ca/ar_ecy_0809/index.html

Manitoba Education for Sustainable Development - www.edu.gov.mb.ca/k12/esd/index.html

Manitoba Healthy Kids, Healthy Futures Report - www.gov.mb.ca/healthykids

Manitoba Healthy Living Low-Cost Bike Helmet Initiative - www.gov.mb.ca/healthyliving/bikesafety/helmets.html

Manitoba Healthy Schools Initiative - www.gov.mb.ca/healthyschools

Manitoba Provincial Land Use Policies Review - www.gov.mb.ca/ia/plups/draft.html#def_development

Manitoba Pupil Transportation Unit http://www.edu.gov.mb.ca/k12/ptu/index.html

New Zealand Transport Authority - www.wcrf.org

New Zealand Transport Strategy - www.transport.govt.nz/ourwork/KeyStrategies/new-zealand-transport-strategy

Review of International School Travel Planning Best Practices (Green Communities Canada) - www.saferoutestoschool.ca/downloads/STP-Best-Practice-Final.pdf

Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) - www.fhwa.dot.gov/safetealu

UK Department for Transport - www.dft.gov.uk

World Cancer Research Fund - www.wcrf.org

World Health Organization - www.who.int/en

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[4] Government of Manitoba, Office of the Chief Provincial Public Health Officer. Manitoba Health, Healthy Living and Seniors. 2015 Health Status of Manitobans Report.

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