



**Brampton
Bicycle Advisory
Committee**

Brampton Kids on Bikes Project



Review of the Literature Report

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November 24, 2014

Executive Summary

Similar to many communities across Canada, the Region of Peel is facing a youth health crisis fueled significantly by inactivity. Increasing the participation of school-aged children in active transportation to and from school is the most efficient and cost-effective method of combating this crisis. Yet despite efforts by numerous agencies over the past 10 years, the rate of participation in active transportation continues to decline.

The Brampton Kids on Bikes Project aims to discover why, and then develop advocacy messages aimed at key decision-makers who can drive the changes required to begin to reverse these trends.

This document provides a review of the current literature. It documents the scope and magnitude of the health crisis and looks at the research which indicates inactivity as a primary cause. It then looks at the research documenting the benefits of active transportation as a potential solution to this health problem and the best practices for implementing change within the school system.



Figure 1 - Child in Bike Rodeo at Bike the Creek. 2014

- The volume of literature, research and reports on the topic of student active transportation is quite frankly, staggering.
- There are already comprehensive suggestions about how to fix this problem. (*See Opportunities, page 40*)
- There are many ‘moving parts’ – many stakeholders that must coordinate actions to be successful.
- The current board of education focus on mathematics could be enhanced by students arriving at school alert and energized due to active transportation.
- While a good majority of pre-school children are performing well, the levels of physical activity for most children 5 and older are abysmal.
- ‘Waiting for the perfection’ of bicycle infrastructure should not be an excuse to avoid changing the ‘status quo’ culture. Reducing the damage being done to children’s health should be the prime imperative. Lack of demand can be viewed as a reason not to invest in bicycle infrastructure. This should be a case of “build it and they will come”.
- Specific targets should be agreed upon by stakeholders, measured & incentives applied.
- Schools are not all equal in their opportunities for active transportation. Targets for schools could allow for percentage point improvements rather than actual numbers.
- Changing the current situation for active transportation for children travelling to school will likely take a shift in the current cultural norm, which may occur quickly because parents are conflicted!

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Chapter 1 - Project Background

"We walk to school because..."

We can stop and say hello to a kitty or a pup and sing along with the birds." 1

Junior Kindergarten student,
Maurice Cody Public School, Toronto,
Walk to School Day (2000)

Only a small percentage of children in Brampton's primary and secondary schools use active transportation alternatives to travel to and from school. That percentage has been dropping over the past number of years. Inactivity leads to significant health related issues for Brampton's youth. Current programs aimed at encouraging active transportation lack overall coordination, are aimed at a small percentage of the youth population and are focused on a school by school basis.

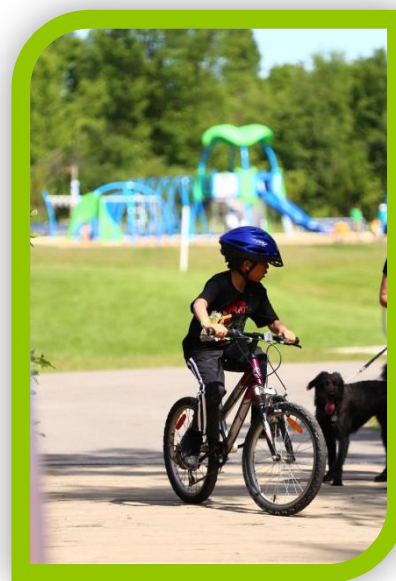


Figure 2 - Child petting dog on Bike the Creek route, 2014

The ultimate goal is to reverse the trend of car usage as the primary transportation option for youth and dramatically increase the use of Active Transportation (AT) options in lieu of travel by car. To accomplish this, we believe, a more holistic approach is warranted than has been tried to date. This project is designed as the first step, to review the literature, to scope the approach and lay the preparatory groundwork that will lead to achievement of the ultimate goal as part of a future implementation plan.

Since the City of Brampton is part of the Region of Peel, and the school board is regional, this report, although called, "Brampton Kids on Bikes", is actually focussed on strategy for the entire region, including Mississauga and Caledon.

Brampton Bicycle Advisory Committee

The Brampton Bicycle Advisory Committee (BBAC) is a voluntary group of citizens who support, encourage, promote and advocate for increased safe recreational and transportational cycling in the City of Brampton. BBAC was started in April 2013, and although it is not yet an official Committee of Council, the committee has had a Council-approved City Councillor member since May 2013.

The tag line is: *Biking in Brampton builds our Community.* <http://bikebrampton.ca/>

As well as the Brampton Kids on Bikes Project, BBAC has also been championing the following initiatives:

- Downtown bicycle revitalization project including updated signage, bicycle parking, downtown signed bike routes, & 8-80 Cities Doable Neighbourhood Pilot Project
- Bike Clinic Pilot Project (with partner Region of Peel)

- Bike the Creek – annual signature family cycling event – next event: June 20, 2015 (partnered with City of Brampton, Toronto and Region Conservation Authority, Region of Peel, Town of Caledon)
- Monthly Brampton Critical Mass bike rides
- Advocacy campaign to change City of Brampton’s “curb-cut” policy to provide accessible pathways for all.
- Advocacy to update City of Brampton’s roads and pathways through a prioritized list of infrastructure projects
- Advocacy for traffic calming (have Heart Lake Road become a Cultural Heritage Landscape listing)
- Advocacy to have Brampton become a “Bicycle Friendly Community” ([Share the Road Cycling Coalition](#))
- Participant in Ontario Cycling Advocacy Network (OntarioCAN)
- Participation in City of Brampton community events to raise the profile of cycling (community picnics, Celeb Brampton BikeFest, Bike to Work Day, FUSE program, EcoBuzz, etc.)
- Awareness presentations at local service organizations, rate payers associations, Environmental Advisory Committees of Ontario symposium, Punjabi Community Health Services Melé, Council for Canadian Urbanism (Tactical Urbanism CanU 6 Summit)
- Planning with Region of Peel Public Health to develop cycling education and safety program



Figure 3 - Children biking along Etobicoke Creek Trail, autumn, 2014

BBAC Brampton Kids on Bikes Project Team

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Project Support

This project has been financially supported with a Spark Advocacy grant by the **Heart and Stroke Foundation**. The Brampton Bicycle Advisory Committee thanks Melissa Yule, Senior Specialist, Heart and Stroke Foundation, for her support and encouragement. BBAC acknowledges special appreciation to Vince D’Elia, Project Manager, Etobicoke & Mimico Creek Watersheds, Toronto and Region Conservation Authority, for his ongoing support and assistance.

Chapter 2 - Region of Peel Public Health Status

The message from the Region of Peel Public Health is: **“EAT and MOVE”**.²

In the most recent report, the Region of Peel Public Health (2012) *“highlighted the increasing prevalence of obesity in children and adults, and committed ourselves to addressing the underlying issues driving physical inactivity, unhealthy eating and sedentary behaviours”*.³

Canadian Family Physicians view obesity as one of the leading public health concerns, especially for Canadian youth, whose *“rates have tripled during the past 25 years”*.⁴

Public health is influenced in a negative manner by our **‘obesogenic’** environment, which is defined as *“a physical and social environment leading to lifestyles that encourage consumption of energy and discourage expenditure of energy”*.⁵

Considering children is not only good public health policy, but bodes well for the future. *“Children who travel sustainably may be more likely to do so when they are adults.”*⁶

Region of Peel Weight Statistics

Statistics Canada (2007/2008) reported that:

- **51%** of Region of Peel adults were classified as either overweight (36%) or obese (15%).⁷
- These adults collectively were *“carrying around an excess of 12 million pounds”*⁸

Overweight / Obese Classification for Region of Peel Students (grades 7-12)

- **37%** of males
- **27%** of females
- Statistics based on a Student Health Survey by Peel Public Health (2011), who measured heights and weights of more than 7,500 Peel students.⁹

Disease Related to Weight

According to the Public Health Agency of Canada: *“Obesity increased the risk of many chronic diseases and conditions, including type 2 diabetes, cardiovascular disease, some types of cancer, respiratory dysfunction and osteoarthritis.”*¹⁰

The World Health Organization (2009) quantified this by listing obesity as being responsible for 44% of global diabetes and 23% of global ischemic heart disease. It further estimated that physical inactivity is responsible for 27% of diabetes and 30% of ischemic heart disease.¹¹

Overweight and obesity in adults further contributes to reduced quality of life and premature death.¹² Obesity ***“also places a significant financial burden on the health-care system”***.¹³ The cost of treating new diabetes patients in the Region of Peel was reported to be \$271 million in the 2004/2005 fiscal year.¹⁴

The Strategic Plan for Peel Public Health (2009-2019) determined that prevention will be the focus, rather than treatment and management.¹⁵



Figure 4 - Parent & Child cycling Etobicoke Creek Trail, Brampton 2014

The Ontario Diabetes Database (2007) recorded that: *“Currently it is estimated that one in 10 adults living in Peel region have been diagnosed with diabetes; and without intervention, this is projected to rise to an estimated one in six by 2025.”*¹⁶

Looking at the Greater Toronto and Hamilton Area (GTHA), the Medical Officers of Health (2014) reported that there are 57,000 new cases of diabetes each year (current rate 11.7%) and 7,006 new cases of heart disease. They describe diabetes as *“an economic tsunami”*.¹⁷

Population Growth

According to the 2011 Census, the Region of Peel had a population of 1,296,814, which was up 11.8% since 2006.¹⁸ Specifically, the City of Brampton had an official population of 523,911 in 2011, up 20.8% since 2006.

The most recent population figure for Brampton is 557,800 from the Annual Report (2013).¹⁹ Now Canada’s 9th largest city, Brampton is forecasted to grow to 843,000 by 2031.²⁰

Traffic Congestion Related to Air Quality in Peel

In The Brampton Guardian, the May 1, 2014 opinion editorial exclaimed: *“No one knows the price being paid to the psyches of commuters caught in long conga lines of traffic each and every day.”*²¹

The Region of Peel’s Long Range Transportation Plan (2012), echoes this as one of 5 key issues: *“loss of economic resources – resulting from lost time and money due to excessive congestion”*.²² The report cites alternative transportation modes as playing a significant role to solving the issue of congestion in Peel, as the construction of new roads will provide only temporary relief, and will not be enough to support the movement of people and goods.²³

The Region of Peel’s Active Transportation Plan (2011) provided the following statistics:

- 72% of Peel daily commuter trips end in Peel Region and only 13% of trips have a Toronto destination.²⁴

- 46% of work and school trips (2006) were shorter than 5 km, yet 72% of those less than 2 km and 90% of the 2-5 km trips were taken by car!²⁵

According to the International Agency for Research on Cancer (2014), air pollution and the particulate matter in air pollution are listed as “*Group 1 carcinogenic to humans*”.²⁶ Young children, the elderly, pregnant women, and those with heart disease, asthma, chronic obstructive pulmonary disease, obesity and diabetes are particularly susceptible to air pollution.²⁷

As of 2013, 50% of residents of the Region of Peel live within 300 metres of high-volume traffic (high volume is >25,000 vehicles / day); which is the proximity for the most health risk.²⁸ In the GTHA, traffic-related emissions are estimated to be responsible for:

- 712 - 997 premature deaths / year
- 2,812 - 3,939 hospitalizations / year²⁹

Chapter 3 – Active Transportation as a Cure...

The Medical Officers of Health for GTHA (2014) concluded that: “*Physical activity is a powerful intervention. It has benefits as large as those provided by drugs in preventing death in the treatment of coronary heart disease, stroke, heart failure and the prevention of diabetes.*”³⁰

The Active Healthy Kids Canada Report Card (2013) specifically focused on Active Transportation for their annual report.³¹ The report cited the following benefits to overall physical health of active transportation:

- Improve fitness and heart health
- Increase academic achievement
- Provide social opportunities
- Reduce stress
- Improve air quality and reduce risk of lung diseases (e.g., asthma)³²

The report concluded that “***Kids who use active transportation to get to and from school can accumulate up to 45 more minutes daily of moderate- to vigorous-intensity physical activity compared to kids who get to school via car, train or bus. These kids tend to be more active across the whole day, not just during the school commute. Driving our kids to and from school may be robbing them of an important source of daily physical activity.***”³³

A teacher in the Greenest City Informa (2001) project reported that kids were instant converts to walking, and received student comments such as: “*We walk because it is good for our lungs, we want the air to be clean; we do not want to put dirt into the air.*”³⁴

The Metrolinx (2013) report cited a **potentially more serious consequence for overprotected children: a negative impact on their environmental knowledge, confidence competence, emotional development, and lessened learned skills in dealing with the real world.**³⁵

The Greenest City Informa (2001) research found that *“parents were generally seen to be extremely protective of their children, compared to bygone days when children were encouraged to be more independent at a young age.”*³⁶

Health Benefits versus Risks of Cycling

Researchers at the University of British Columbia (Teschke et al., 2012) reviewed 64 papers on the risks and benefits of cycling. They concluded that a British Medical Association study (1992) was subsequently supported by 5 other studies that rated benefits to risks as ranging from a low of 9:1 to as much as 96:1. The British study (1992) ratio was 20:1. These ratios took into account the increased risk of injury or fatality due to cycling.³⁷

Teschke et al. (2012) summarized that: *“Data at the individual and population level show that cycling for transportation can increase physical activity and reduce weight. People who cycle or walk to work are more likely to be fit and less likely to be overweight or obese than those who use motorized modes. Data from national surveys of travel behaviour and health indicators show that countries with the highest levels of cycling and walking have the lowest obesity rates. Active transportation is effective because it provides a means for individuals to incorporate moderate intensity activities into their daily routines. This has been shown to be more sustainable over time than structured activity programs (e.g., running or going to the gym), yet has similar health benefits. This is supported by evidence that people who commute by active transport get more physical activity on average than people who use motorized transport. Thus, increasing cycling as a mode of transportation offers a promising way to address widespread levels of inactivity and overweight in the Canadian population.”*³⁸

‘Safety in Numbers’ Health Benefit of Cycling

The health benefits of cycling have been further supported in the literature by finding that *“injury and fatality rates decrease as cycling mode share increases, an effect that has been dubbed “safety in numbers””*.³⁹

Jacobsen (2003) quantified this ‘safety in numbers’ cycling benefit:

- If cycling doubles, the risk per km falls by 34%
- If cycling halves, the risk per km increases by 52%⁴⁰

Studying cycling in Australia, a researcher (Robinson, 2005) concluded that *“the ‘safety in numbers’ principle needs to be taken seriously and used by everyone involved in bicycle planning and road safety issues.”*⁴¹

A study in Boulder Colorado (Marshall et al., 2014), where one of the highest rates of cycling in the United States at 12%, showed that safety increased significantly with more cyclists on the road.⁴² The researchers hypothesized the *“safety in numbers effect”* results may be due to drivers expecting to see more cyclists on the road and changing their behaviour accordingly. This hypothesis will be the focus of their future research.

Support for Healthy Living in the Region of Peel

The overweight / obesity rate for adults in Peel climbed from 45% in 2003 to 51% in 2008.⁴³ After reporting on these rising levels, and also rising levels of inactivity in 2005⁴⁴ and 2008⁴⁵, the Region of Peel Public Health concluded in their 2012 report that the focus should be shifted to *“creating environments that support healthy living”*.⁴⁶ They rightly concluded that the tactic needs to be changed to change the results.

Canadian Physical Activity Guidelines

The Public Health Agency of Canada tasked the Canadian Society of Exercise Physiology (2011) to revise the Canadian guidelines for activity as listed:⁴⁷

- children ages 3-4 – at least 180 minutes of physical activity of any intensity
- children ages 5-11 – at least 60 minutes of moderate to vigorous intensity physical activity daily
 - vigorous intensity activities at least 3 days per week
- youth ages 12-17 – at least 60 minutes moderate to vigorous intensity physical activity daily
 - vigorous intensity activities at least 3 days per week

Simplified, for elementary and secondary school students, the **standard is one hour per day of moderate to vigorous physical activity**.

The 2014 Active Healthy Kids Canada Report Card detailed in their latest of 10 years of reporting, the scores that meet these activity guidelines:⁴⁸

- 84% of children ages 3-4
- 7% of children ages 5-11
- 4% of children ages 12-17

While a good majority of younger children are performing well, the levels of physical activity for most children 5 and older are abysmal.

Cycling for Health Benefits

An international review of research on the health benefits of cycling (2011) reported that: *“Cycling is a form of physical activity that effectively taxes the cardiorespiratory and metabolic functions of the whole body in a wide range of intensities and thus lends itself to many potential health benefits.”* The researchers concluded that *“the existing evidence reinforces the current efforts to promote cycling as an important contributor for better population health”*.⁴⁹

Student Active Transportation Statistics

According to the Public Health Agency of Canada, Active Transportation *“refers to any form of human-powered transportation – walking, cycling, using a wheelchair, in-line skating or skateboarding. There are many ways to engage in active transportation, whether it is walking to the bus stop, or cycling to school/work”*.⁵⁰

The latest 2014 Active Healthy Kids Report Card gives **Active Transportation in Canada** a “**D**” grade (the grade for overall activity was D-minus).⁵¹

62% of Canadian parents reported their kids aged 5-17 years are always driven to and from school (by car, bus, transit, etc.) and this statistic was 51% in 2000.⁵²

The 2001 Ontario Walkability Study for trips to school found that:

- 3.5% of the students surveyed rode their bicycle regularly
- 26.8% would have preferred to cycle.
- When all active transportation modes were considered, 72.2% of students preferred to walk or cycle to school, but only 61.2% did so.⁵³

Project BEAT (2011) noted that “*nearly 20% of the daily moderate-to-vigorous activity (MVPA) is acquired during the hour directly before and the hour directly after school*”.⁵⁴

“*Peel is ranked one of the three municipalities in Canada in which cycling and walking to work is least common. In fact, between 1996 and 2001 in Peel, the proportion of community trips on foot or by bicycle actually decreased.*”⁵⁵ This situation has been studied for some time now and the results are alarming.

The Medical Officers of Health for GTHA (2014)⁵⁶ reported that active transportation to elementary school has declined between 1986 and 2006, citing a Metrolinx (2012)⁵⁷ report. The Metrolinx (2010)⁵⁸ data has been added to create the following chart that shows the trends over 23 years:

Elementary School	1986	2006	2009
Walking	53%	43%	39%
Cycling	3%	2%	1%
Automobile Driven	15%	29%	33%
School Bus or Public Transit	19%	22%	24%
Data Source:	Metrolinx (2012) ⁵⁹	Metrolinx (2012) ⁶⁰	Metrolinx (2010) ⁶¹

Table 1 - Transportation Trends over 23 years (Metrolinx 2010, 2012)

By 2009, GTHA parents told Metrolinx researchers that **only 39% of their children walked to school, yet 71% had themselves walked to school**.⁶²

Health Benefit – Improved Academic Concentration

The Greenest City Informa (2001) project noted that parents and educators reported that “*walking helped prepare the children to focus on learning*”.⁶³ The report further added “*that*

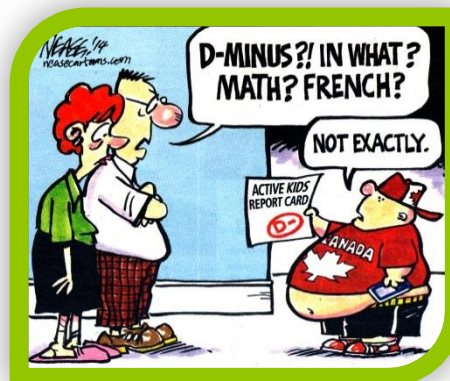


Figure 5 - Credit: Nease, The Brampton Guardian, May 23, 2014

walking and exercise builds character and is one of many ingredients in addressing learning problems".⁶⁴ This finding has since been more extensively documented.

A Danish project Mass Experiment (2012) examined the link between diet, exercise and the power of concentration of 19,527 children aged 5-19.⁶⁵ ***"It is really interesting that the exercise you get from transporting yourself to school reflects on your ability to concentrate for about four hours into the school day,"***⁶⁶ said Professor Niels Egelund, of Aarhus University, Denmark, who was responsible for the research design, in a subsequent interview.

The Danish study also showed that *"children who exercise more than two hours a week outside of school have a concentration advantage during the school day when compared to their more passive schoolmates"*.⁶⁷ Professor Egelund said: *"We learn through our head and by moving. Something happens within the body when we move, and this allows us to be better equipped afterwards to work on the cognitive side."*⁶⁸ He added: ***"as a third-grade pupil, if you exercise and bike to school, your ability to concentrate increases to the equivalent of someone half a year further in their studies"***.⁶⁹

"If you're in the habit of driving your children to school, you're not really doing them much of a favour."⁷⁰

Re-engineering Active Transportation back into daily lives

Dr. David Mowat, Peel Medical Officer of Health, in The Toronto Centre for Active Transport (TCAT) ***"It's your Move"*** video, said that we ***"have engineered physical activity out of our daily lives. Until we engineer it back in, we will continue to have a health problem as a consequence"***.⁷¹

*"17% of all trips in the Greater Toronto and Hamilton area are less than 2 km, and 40% are less than 5 km, which are perfect distances for either walking or riding your bike."*⁷²

Financial Costs

Financial costs are borne by the residents whether they are paid directly or indirectly through municipal property taxes, or federal / provincial income taxes.

Region of Peel Long Range Transportation Plan (2012), cited the (2008) Metrolinx report on Road Congestion in the GTHA as concluding the annual cost of congestion was **\$3.3 billion**.⁷³ This includes travel delays, increased impact on the environment, increased vehicle costs from travel delays, and increased vehicle collisions, but does not include increased physical or mental health care costs.

The report did add an additional \$2.6 billion for lost productivity in the GTHA. The Region of Peel had the largest loss from excess traffic in the entire GTHA.⁷⁴

Managing cost is an ongoing issue with all levels of government, and the Region of Peel is no different in its effort to make the most of scarce resources. In the Strategic Plan (2009-2019), it was reported: *"Over the next 10 years, if we at Peel Public Health are to succeed, we must focus our efforts on those programs where we can be most effective."*⁷⁵

The Public Health Agency of Canada urges active transportation and encourages Canadians to “*dust off your bicycle*”.⁷⁶

The findings in the Active Healthy Kids 2014 Report Card, stated that “*Canadian parents look to structured activities and schools to get their kids moving*”.

- 82% of parents agree that the education system should place more importance on providing quality physical education
- 79% of parents contribute financially to their kids’ physical activities (through equipment, fees, etc.)⁷⁷

Chapter 4 – Perceived Barriers to Active Transportation

Parents may overestimate the value of active time in organized sports and conclude that this replaces the need for active transportation.

Some findings of the percentage of Canadian children who got 60 minutes of moderate to vigorous physical activity:

- 24% of kids playing one session of soccer
- 2% of kids at softball practice
- Almost 50% of kids at hockey practice
- Almost 33% of kids at hockey game⁷⁸

The Active Healthy Kids Canada 2014 Report Card concluded that “*we need to step back and do less. Developed societies such as Canada must acknowledge that **children need room to move***.”⁷⁹



Figure 6 - Child participating in Bike the Creek, 2014

The report by the Medical Officers of Health of the GTHA (2014) conclude that: “*Recreational activity is an excellent way to improve fitness and gain health benefits, but unfortunately, only a minority of the population engages in it regularly. Although it is beneficial for those who are highly motivated or have the time, on a population-wide basis, it accounts for only about 10% of people’s total energy expenditure*.”⁸⁰

Some reports in the past have unwittingly given permission for an excuse to not to engage in active transportation with their reports citing “*why not*” reasons, as if these reasons are acceptable. They suggest the need for infrastructure changes rather than placing responsibility for change on individuals.

Bicycle infrastructure, according to Professor John Pucher (2010), an renowned expert on cycling includes:

- On-road bicycle lanes
- Two-way travel on one-way streets
- Shared bus/bike lanes
- Bicycle boulevards
- Cycle tracks
- Coloured lanes
- Shared lane markings
- Bike boxes (advanced stop lines)
- Bicycle phases – traffic signals
- Maintenance of facilities (smoothness, hazards)
- ‘Wayfinding’ signage
- ‘Cut-throughs’ to shorten routes
- Traffic calming
- Off-street paths
- Car-free zones
- Bike parking
- Showers at workplaces
- Bicycle stations (full service)
- Integration with public transit (parking, bike racks – on buses)⁸¹

‘Waiting for the perfection’ of bicycle infrastructure becomes a legitimized reason to avoid changing the ‘status quo’ culture.

For example, in the Region of Peel Public Health (2008): *“Peel is committed to encouraging active transportation and has developed many bike paths and trails. However, these routes are not currently well used for utilitarian travel. For many of the region’s residents, getting to work, school or a shopping destination requires a journey that is too long for using active transportation. Also, mixing with heavy traffic creates safety concerns.”*⁸²

This is further reinforced in the same report: *“The amount of walking and cycling that occurs in communities for recreational and utilitarian purposes is influenced by a number of factors, including population density, settlement patterns, location of workplaces compared to residences, cost and service level of transit, climate, lifestyle choices, and availability of convenient pathways and bike lanes. The decision to walk or cycle is influenced by having access to pedestrian- and bike-friendly areas, well-connected streets, small blocks, mixed land uses and access to retail.”*⁸³

Although 16 years dated, a Go Green National Survey on Active Transportation (1998) found that while 9 out of 10 Canadian children owned bicycles, only 5% (current statistic is 1%) cycled to school most of the time. The main barriers mentioned were:

- Distance 30%
- Traffic safety 26%
- Weather 12%⁸⁴

These same barriers have been examined extensively in the intervening years, as participation rates of cycling have been declining. 2014 was the 10th year for **Active Healthy Kids Canada** issuing a report card, and the 2013 report card focused specifically on active transportation.⁸⁵

Metrolinx has been commissioning research and having a series of reports written that also deal with these barrier issues, the more recent of which is the **Active and Sustainable School Transportation in Ontario: Barriers and Enablers (2013)**, where 12 key issues were identified.⁸⁶

1. Mandate, leadership & cooperation
2. Safety and security concerns
3. Family capacity and lifestyle
4. Community planning
5. Neighbourhood and infrastructure
6. Road safety
7. Community resources
8. Geography and climate
9. School planning and siting
10. School facilities, design and operations
11. Curriculum
12. School resources

The findings of this Metrolinx (2013) report will be integrated into sections on Barriers and Opportunities.

Safety and Security Barrier

Children are being supervised by their parents more and for longer, and this is having a negative impact on their environmental knowledge, confidence competence and emotional development.⁸⁷ The Metrolinx (2013) report indicated that parental protection has increased due to increased risk perception driven by media and by parental peer pressure. Child safety and security is a valid concern; however there needs to be an appropriate balance in weighing the actual safety and security risks, (as opposed to the perceived risk), against the risks associated with over-protection, (independence, physical activity, learned skills in dealing with the real world such as traffic, exposure to drugs, pornography or bullying).⁸⁸

Safety may be a greater perceived barrier for girls, due to increased parental concerns, resulting in lower statistics for girls walking to school than boys, according to the Grade 5 and 6 Toronto children studied in Project BEAT (2011).⁸⁹

Some parents responded to safety concerns by having an adult walk or bike with their child. 73% of the GTHA students in the Metrolinx study (2010) who walked or biked to school are **accompanied by an adult**, with the following breakdown:

- kindergarten - grade 4 (96%)
- grades 5-6 (55%)
- grades 7-8 (26%)⁹⁰

Safety was listed as a key barrier to increasing active transportation in the Region of Peel's Active Transportation study (2011).⁹¹ This was cited despite traffic collision statistics to the contrary, which show cyclists accounted for just 2% of the traffic fatalities:

Region of Peel Collision Statistics⁹²

- 14,786 collisions on regional roads over 3 years (2007-2009)
 - 1% (175) involved pedestrians
 - 0.5% (82) involved cyclists
 - 51 fatalities: 44 car, 6 pedestrians, **1 cyclist**
- 56% of pedestrian and cyclist collisions occurred in Brampton, 40% in Mississauga and 4% in Caledon
- approximately 13 cyclist collisions in Brampton/year, compared to 8,000 car collisions

These statistics suggest a larger risk for injury from travelling to and from school by car than by bicycle or walking.

According to the Metrolinx (2010) report, ***“56% of GTHA parents strongly agree that there are too many cars around their child’s school in the morning.”***⁹³

A parent in the Greenest City Informa (2001) project said: *“The traffic is a real catch-22, in that people are worried about the danger of the traffic, yet they are contributing to it.”*⁹⁴

In an Ontario Walkability Study (2001), only less than 25% of elementary students said it was not easy to cross streets and that drivers did not behave well.⁹⁵

56% of the GTHA parents in the Metrolinx study (2010) who said they live close enough for their children to reasonably bike or walk to school agreed with the two statements:

- There are safe bike routes or paths in their neighbourhood.
- People drive safely enough in their neighbourhood.⁹⁶

However, 37% of Region of Peel parents (only 27% for GTHA) indicated that a child needs to be



Figure 7- Child cycling Brampton pathway bridge, 2014

14 years old before the parents were comfortable letting them travel independently to school. The break-down in ages without adult accompaniment for GTHA are:

- Grades 3- 4 (11% for walking and 10% for cycling)
- Grades 7-8 (56% for walking and 49% for cycling)⁹⁷

GTHA parents who are comfortable letting their

children choose active transportation without adult supervision also reported they have had conversations with their children on how to bike or walk safely to school:

- Child in Kindergarten (64%)
- Child in grades 1-6 (79%)
- Child in grades 7-8 (91%)⁹⁸

78% of GTHA parents agreed with the statement *“I worry about strangers or bullies approaching my child if they travel alone”*. Agreement with the statement was 83% for children in grade 3 or lower, but fell to 75% for children in grade 4 or above.⁹⁹ This safety concern has also been referred to as *“stranger danger”*.¹⁰⁰

Distance is “too far” Barrier

Distance is the barrier most frequently mentioned by parents in the Active Healthy Kids Canada 2013 Report Card.¹⁰¹ The results of the National Survey on Active Transportation (1998) showed that while Canadians rated distance as being a major barrier to cycling (not specifically distance to school), this perception was linked really to perceptions of convenience and safety.¹⁰²

Distance is dependent on connectivity of streets and on how direct the routes to school are.¹⁰³ In some cases, the multiuse pathways are a more direct route for walking and biking to school than are the roads. Brampton has 217 kilometres of trails, according to Parks and Trails listed on the City website¹⁰⁴ (366 km of trails was referenced in the 2013 Bicycle Friendly Community application.)¹⁰⁵

Distances to schools in the Region of Peel are fairly evenly balanced amongst:

- Less than 1 kilometre (26%)
- 1-2 kilometres (29%)
- More than 2 kilometres (34%)¹⁰⁶

When surveyed on their attitudes, 57% of parents (53.3% in Region of Peel) responded that they lived close enough for their child to reasonable walk to school; 60% (58% Region of Peel) could reasonably bike to school and their child had access to a bicycle.¹⁰⁷

This disconnect between what parents said was a reasonable distance and what they actually allowed their child to travel was borne out in the Metrolinx study (2010) where the numbers dropped substantially from the stated attitudes:

- 11% of parents comfortable with grade 3-4 child walking
- 10% of parents comfortable with grade 3-4 child cycling
- 56% of parents comfortable with grade 7-8 child walking
- 49% of parents comfortable with grade 7-8 child cycling¹⁰⁸

The Region of Peel’s Active Transportation study (2011) also cited perceived constraints regarding distance and time, as well as lack of infrastructure to support walking and biking, as barriers to active transportation in Peel.¹⁰⁹

The Safe Routes to School Travel Planning Introduction to Parents brochure dismisses this convenience objection: ***“If you think about the hassle and danger of congested traffic near the school, that quick drop off might not be so convenient, after all.”***¹¹⁰

Weather Barrier

"My daughter (11 years old) gets extremely upset with me if I say we have to take the car. She is really all-weather now,"¹¹¹ said a parent in the Greenest City Informa (2001) project.

"Having them walk and bike when they can to school has been excellent for them in terms of getting a little bit more activity every day. I think they're happier when they get to school and even when they get home. I know when they walk it's a great feeling for them", Safe Routes to School, quoting parent Bruce Krentz.¹¹²

Weather is a barrier that could be considered seasonal and the National Survey on Active Transportation (1998) linked weather to convenience.¹¹³

Gil Penalosa, renowned global urban expert and visionary, Executive Director of 8-80 Cities, and proponent of cities being walkable and bikeable for those aged 8 to 80 years, said at his Rose Theatre, Brampton [presentation](#) on April 23, 2014:

"There is no such thing as bad weather; it's bad clothing."¹¹⁴

The Safe Routes to School Travel Planning Introduction for Parents brochure dismisses the weather objection: *"In Canada, we face some unique weather issues. But even in Yukon Territory, where much of the extreme cold, winter day is shrouded in dark, children are expected to go outside for recess down to -30 C, as long as they keep moving. School children all across Canada spend 15-50 minutes outside at a time for recess and should be dressed appropriately to take advantage of that time for fresh air and open spaces. If they are equipped for that outdoor time, they will also be equipped for the walk to school."*¹¹⁵



Figure 8 - winter cycling in Brampton

The Greenest City Informa (2001) research recommended that "snow clearing crews need to remove potentially dangerous snow banks from around school sites to increase the visibility of child pedestrians. The rights of walkers have to be reasserted".¹¹⁶

Cultural Barriers

Cultural Values and Norms

The science of consumer behaviour sets out the role that values and norm play in influencing our cultural behaviour, such as barriers to active transportation.

*"The boundaries that culture sets on behavior are called **norms**, which are simply rules that specify or prohibit certain behaviors in specific situations. Norms are derived from **cultural***

values, or widely held beliefs that affirm what is desirable. Violation of cultural norms result in **sanctions**, or penalties ranging from mild social disapproval to banishment from the group.”¹¹⁷

The value that parents hold about safety is understandably firmly held. Values are more firmly held and more difficult to change than norms. If the norm for parents is to not permit their child to travel to school alone, then there is likely a very strong sanction by the community of other parents, if a parent chooses to go outside this norm.

The Toronto Think & Do Tank (Toolkit, 2014) describes the social norm that is pervasive in our culture and requires behavioural change intervention to facilitate more cycling: “‘streets are for cars’ rhetoric, cycling as a ‘fringe’ mode of transport in North American cities vs. cycling as a mainstream activity in many European, particularly Scandinavian cities”.¹¹⁸

Goodyear (2013) describes the norm of driving children to school: “parents drive their kids because it’s easier, or seems to be easier. They often frame it as a kindness to the child to spare them ‘trudging’ all the way to school, even if that trek is only half a mile long. As these short

driving trips become the societal norm, it gets more and more difficult for families to deviate from them.”¹¹⁹



Figure 9 - Child and parent cycling in Brampton, 2014

The Greenest City Informa (2001) research noted that: “A few parents that had encouraged their children to walk to school noted disapproval from other parents; they were seen to be acting in an irresponsible manner.”¹²⁰

There appears to be a strong association between the safety value and driving one’s children to school.

Therefore, parents choosing to not drive their kids to school elicits a sanction of **‘being a bad parent’**.

“Cultures are not static. They typically evolve and change slowly over time.”¹²¹ This likely explains how in the last generation, the norm has changed from **71% of parents walking or biking to school themselves, to the current rate (2010)¹²² of only 39% walking and 1% biking.**

Multicultural Aspect

The Region of Peel has a largest immigrant population in the GTA at 50.5% officially as of 2011.¹²³

The immigrant population is particularly susceptible to obesity, according to the Region of Peel Public Health (2009): *“while they may arrive in Canada with a healthy weight, after growing accustomed to our obesogenic environment, sedentary lifestyles and unhealthy eating, they tend to become overweight and obese at similar rates to those born in Canada.”*¹²⁴

The Greenest City Informa (2001) research noted that the *“participants in the high-density, multi-cultural, focus group indicated that children's ethnic background and parents' length of time living in Canada can have an impact on whether or not they are permitted to walk.”*¹²⁵



Figure 10 - Everyone smiles in the same language

Dissonance of Perceived Barriers – an Opportunity

On one hand we have parents who do not allow their children to travel actively to school alone until they are on average 14 years old. This discomfort is significantly higher in Region of Peel parents (37%) compared to overall GTHA parents (27%).¹²⁶

However, on the other hand, we have some apparent **dissonance with parents' attitudes and behaviours**, which may be an opening for opportunity to increase active transportation.

GTHA parents in the Metrolinx study (2010) displayed some of this conflict with their responses:

- 68% of parents agreed that is important that their child gets exercise during travel to school.
- 88% of parents agreed that it is important that their child travel to school in an environment-friendly way (93% in the Region of Peel).
- Yet 56% of parents make a special trip to drive their child to school and 57% make a special trip to drive their child home from school.
- 27% of parents who drive their child to school indicate that school bus service is available to them.
- Only 5% of parents who drive, drop their child off some distance from school.
- 42% of parents, whose child is usually driven to or home from school, say they would be interested in considering alternatives to their usual mode of travel.
- 57% of parents were aware that bicycle parking was available at school.

- 39% of children walked and 1% biked to school, yet 71% of their parents had walked to school themselves.
- Despite the low numbers for walking or biking to school, 79% of parents agreed that they had discussed how to walk or bike to school safely with their child.¹²⁷

There is a very tangible opportunity to overcome some of this dissonance with education.

The Metrolinx GTHA study (2010) asked questions in a variety of different manners and found that amongst parents whose child is currently being driven in a dedicated trip to and from school, 45% said that walking or biking with their child would be convenient and appealing. 71% of parents who drive a dedicated trip to school said that having their child walk or bike in an organized group would be convenient and appealing.¹²⁸ The highest (62%) rate of dedicated school trips occurred when the distance was 1-2 km and the one-way trip took 6 minutes to school and 7 minutes home from school.¹²⁹

Metrolinx (2010) researchers concluded that *“parents like the idea of their child walking to school, but **their participation** in this walk poses a barrier to the use of active travel. In effect, it is inconvenient for the parent to walk their child to school, though it would be both **convenient** and **appealing** for them to have **somebody else** walk their child to school”*.¹³⁰

Chapter 5 – Support at the Municipal Level

Region of Peel Support

Peel Strategic and Official Plans

Statement 4.3 under Goal 4 of the **Region of Peel’s Strategic Plan** (2011-2014) *“to support and influence sustainable transportation systems”* states that the Region will: *“Support improved and integrated active transportation, transit and land use systems to effectively move people and goods throughout Peel.”*¹³¹



Figure 11 - BBAC booth CeleBrampton 2014

The **Region’s Official Plan** (2013) contains objectives to support and promote and to encourage increased use of active transportation within the student population:

- 5.9.10.1.2 *“To encourage and support the development of a safe, attractive, accessible and integrated network of bicycle and pedestrian facilities.”*¹³²

- 5.0.9.2.4 *“Work with the area municipalities, local Transportation Management Associations and school boards to evaluate and measure the progress of Traffic Demand Management Programs (TDM) and to develop new innovative strategies and initiatives.”*¹³³
- 5.9.10.2.6 *“Work with school boards and the private sector to promote the use of active transportation by students and to support the Peel Safe and Active Routes to Schools program and other new initiatives.”*¹³⁴
- 5.9.10.2.7 *“Encourage school boards to select school site locations, define catchment areas and design school campuses to maximize walking and bicycling as the primary means of travel to school.”*¹³⁵

Region of Peel Active Transportation Study (Plan)

Driven by the Term of Council Priorities identified within the Strategic Plan, the Region of Peel developed an **Active Transportation Plan** (2011).¹³⁶ The plan’s stated purpose is to clearly outline the short, medium and long-term goals for:

- increased active transportation mode share
- integration of active transportation options with other forms of transit
- the creation of an attractive safe, accessible and integrated walking and bicycle friendly environment in the region.¹³⁷

The stated vision for active transportation in the plan is: *“to create a place where walking , cycling and rolling are safe, convenient, appealing and accessible options for all citizens, especially children, youth, older adults, persons with disabilities, and other priority populations.”*¹³⁸ Further, the vision aims to set out policies directing Regional practices to support more walking and cycling and to **establish partnerships with key stakeholders** such as Peel Health, Smart Commute, Peel District School Board and Dufferin-Peel Catholic District School Board to develop programs that will encourage increased active transportation participation in target audiences.

Despite the aims to set out policies for active transportation with the two school boards, it was announced in May 2014 that the Peel District School Board agreed to lower the busing distance for Grade 1 students from **1.6 km to 1 km**, and for high school students lowered from **4.8 km to 3.8 km**. This is in line with the 2010 lowered distances by the Dufferin-Peel Catholic School Board. The reason given was to achieve efficiencies since the boards share bus routes. However the change for the 1,742 additionally bussed secondary school students will cost an additional \$664,000, on top of the extra \$537,000 for Grade 1 children, for a total of **\$1.2 million extra**.¹³⁹

The Peel Active Transportation Plan (2011) aims to increase active transportation from the 5% of work and school trips as measured in 2006, to 7% by the end of 2016, and then double it to 10% for *“the longer term”*.¹⁴⁰ Region of Peel’s **Long-Range Transportation Plan** (2012) indicates that daily trips in Peel grew at an average rate of 2.9% between 2001 and 2006, (the latest data available).¹⁴¹ Assuming that growth trend continues to 2016 then the active transportation daily trips will need to increase by nearly 100,000 in order to meet the stated target.

Implementation Plan re: Student Active Transportation Participation¹⁴²

The AT plan makes a number of recommendations for plan implementation, including grant programs for schools and local groups to apply for funds for the implementation of educational programs that will help create safe and appealing environments for walking and biking to school.¹⁴³ While a number of them, if implemented, will encourage more cycling generally in the region, there is nothing specific to student AT transportation programs or initiatives or working directly with the school boards. In addition, no monitoring or measurement programs have been implemented to determine the number and impact of fulfilled recommendations.

Walk + Roll Peel

[Walk and Roll Peel](#), launched May 27, 2010¹⁴⁴, “promotes Peel's bicycle and pedestrian initiatives and infrastructure as well as the benefits of active transportation”. They are committed to getting more people walking and cycling, (instead of driving) for everyday trips. Walk + Roll has posted a [School Trip Planner Tool](#), that “allows children and their parents to find their school and home on the map and estimate how long it would take for them to walk or bike to school”.¹⁴⁵

Bike Parking Pilot Program

The Region of Peel Transportation

[Planning](#) supports participating schools, who receive at least one bike rack to encourage students to cycle to school and provide safe secure bicycle parking. They are also supported by a comprehensive cycling education and outreach strategy, receive cycling promotions and educational opportunities tailored specifically to that school.¹⁴⁶



Figure 12 - extensive bike parking at David Suzuki Secondary School, Brampton

Peel Safe and Active Routes to Schools (PSARTS)

This initiative is led by the Region of Peel's Transportation Planning and Peel Health department.¹⁴⁷ PSARTS is a community committee of stakeholders, who supports education and outreach strategies, policies and programs that encourage students, families and school staff to choose active, healthy and sustainable options when traveling to and from school.

Committee members include those from Brampton School Traffic Safety Council, Mississauga Traffic Safety Council, Peel Children's Safety Village, TRCA (Toronto and Region Conservation Authority Peel EcoSchools Project), Town of Caledon (Bicycle Friendly Community working group), Brampton Bicycle Advisory Committee volunteer group, Peel Environmental Youth Alliance (Ecosource PEYA), Peel District School Board (EcoSchools), Dufferin-Peel Catholic District School Board (EcoSchools), Peel Region Police (Bike Rodeo Working Group), Peel Public Health, Peel Public Works, and Metrolinx.

This group has enormous potential and talent, and could benefit from a clear mandate and direction from the highest levels of the school boards and municipal governments, along with the appropriate level of funding, resources and targets.

Mississauga Support

The City of Mississauga has included key statements in its **Official Plan** (2010)¹⁴⁸ referencing the building of active transportation networks as a priority. Mississauga also has a **Cycling Master Plan** (2010)¹⁴⁹, a 20-year strategy which aims to:

- Foster a culture where cycling becomes a daily activity through promotion in schools and cycling events
- Build an integrated on and off road cycling network at an average rate of 30 km of new infrastructure per year over 20 years and 95% of the population to be within 1 km of a primary cycling route
- provide cycling routes within 500 m of all residents and publicly funded schools, where feasible
- Adopt a “*safety first*” approach for cycling in Mississauga through education of cyclists and motorists and by providing safe cycling conditions¹⁵⁰

Brampton Support

The City of Brampton’s **Strategic Plan** (2013), looks to expand and promote opportunities for active transportation as part of its “*Manage Traffic Congestion*” strategy. Success will be determined by the increased use of transit and active transportation (measurement not specified) as well as the public satisfaction with cycling and walking paths, and community lifestyle. The City also has a strategic initiative to build “*Complete Communities*” including: mixed use, walkable, transit-accessible places for living, working, shopping, playing and praying.¹⁵¹



Figure 13 - Cyclists on Main Street, downtown Brampton

The Brampton **Official Plan** (2006), opens with a vision that includes active transportation: “*In the heart of the City is a thriving and vibrant Central Area which represents the centre for business, retail, entertainment, tourism, cultural and institutional activities as well as a range of housing, truly a place for people to live, play and work. In addition to the Central Area, other mixed-use centres are located near major transit and transportation infrastructure, where people can easily access, in many case[s] without the need to drive. Other more local facilities*

*and amenities such as schools, libraries, parks and shopping are planned to be within close proximity to home where residents can walk or cycle to.*¹⁵²

The Official Plan (2006) vision proceeds to speak of reducing the city's reliance on the automobile, with a *"shorter commute coupled with more modal choices, [which] will contribute to a cleaner environment, better air quality and an overall sustainable lifestyle for Brampton residents"*.¹⁵³

One of the 3 objectives of Brampton's **Official Plan** (2006) Modern Transportation Systems is to: *"Build a pathway system that is accessible to all including persons with disabilities through a series of walking, cycling and multi-use trails that connects Brampton's major destinations and links with other trails systems outside Brampton."*¹⁵⁴

Furthermore, the policy stated is to: *"encourage the use of cycling and walking and to develop a detailed pathway network in conjunction with the 'Pathways Master Plan', in order to accommodate work, recreational and other trips, while addressing issues of accessibility*

including accessibility for persons of disabilities, safety, aesthetics, community involvement and public awareness".¹⁵⁵ The Official Plan adds: *"The cycling policies in this Plan are concerned with **increasing bicycle ridership for both recreational and journey-to-work, shopping and school purposes.**"*¹⁵⁶



Figure 14 - Etobicoke Creek Trail signage, Brampton

Brampton's Official Plan (2006) references the Brampton **PathWays Master Plan** (2002). The

PathWays Master Plan includes the results of a public survey which indicates strong support for the pathways system. Over 90% of respondents were in favour of expenditures that would maintain, expand and improve the City's pathways.¹⁵⁷

The PathWays Master Plan (2002) focuses on 17 strategic actions across 3 campaigns that are designed to expand and revitalize the pathway network.¹⁵⁸ Its aim is to help the City achieve its vision of: *"developing a high quality of community life, a prosperous and diversified economy, excellence in local government and an efficient transportation network"*.¹⁵⁹

The PathWays Master Plan (2002) also asserts that: *"The bicycle is formally recognized as a vehicle under Ontario's Highway Traffic Act. Bicycles, therefore have the right to share all classes of roadways, including arterials, collectors and local streets, with the exception of controlled access and 400 series highways."*¹⁶⁰

As any City road therefore is a cycling road, the PathWays Master Plan (2002) calls for the City to ***“adopt bicycle friendly design guidelines for all roads, whether or not that road is specifically designated part of a pathway network. Bicycle friendly roadway features typically include, among other things, wider curb lanes plus drainage grates that are bicycle friendly and ideally located out of the desired path of cyclists”***.¹⁶¹

Three types of pathway facilities are defined:

- Class I – off-road multi-use pathway designed for pedestrians, in-line skaters and non-motorized vehicles, i.e. bicycles
 - Class II – dedicated portions of the road surface exclusively for bicycle use as designated by pavement markings to separate areas for use by bicycles from areas for use by motor vehicles.
 - Class III – roads specifically signed to encourage bicycle use.¹⁶²
- For both Class II and Class III facilities, pedestrians and in-line skaters are expected to use the sidewalks¹⁶³

According to the City of Brampton (2014) website, *“The City of Brampton continues to implement the PathWays Master Plan to create a continuous network of pathways, trails and cycling facilities throughout the City”*¹⁶⁴. Despite this description, apparently the plan was never officially approved by Brampton City Council, only “received”. Hence, according to Committee of Council (May 15, 2013) Minutes, the PathWays Master Plan (2002) was only used by the city *“in its on-going development of a predominantly recreational-focused trail network”*¹⁶⁵ The focus of implementation has therefore been recreational, as opposed to the stated objectives of the PathWays Master Plan (2002) which addresses both recreational and utilitarian cycling requirements including school travel.

The plan was designed to span two decades from 2002-2021 in 3 phases: short-term 2002-2003, medium term 2004-2008, and long term 2009+. Under the plan, the pathway system in Brampton has grown from 89 km of off-road trails in 2002¹⁶⁶ to 366 km of shared use paths at the end of 2012¹⁶⁷. In addition, the City has added: 3.4 km of bike lanes, 4.6 km of shared lane markings, and 3 km of signed bike routes.¹⁶⁸

While much progress has been made in adding trail segments, (particularly in new subdivisions), much of the *“Community Network”* referred to in the Plan which is identified to function as: *“the spine of the PathWays network to provide connections across Brampton and to neighbouring municipalities”*¹⁶⁹, has yet to be built.

For instance, of the 15 Recommended PathWays Network connections to neighbouring municipalities identified in the plan¹⁷⁰, only 1 has been built to date. Environics Research Group was commissioned to conduct a survey (2002) of Brampton residents for the PathWays Master Plan (2002), identifying priorities such as:

- safe ways to cross busy roadways
- good way finding signage – communication
- reserved bike lanes
- accessibility by all members of the community
- better trail maintenance
- better east-west connections.¹⁷¹

The City of Brampton has installed signage along the Etobicoke Creek Trail, however, most of the identified 2002 issues above, continue to be ongoing issues.

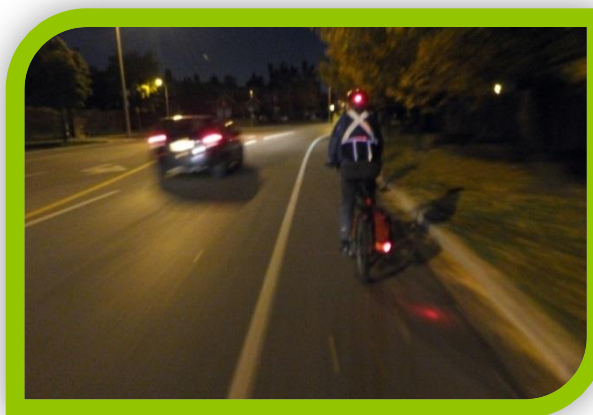


Figure 15- Bicycle lane, Rutherford Road, Brampton

“Implementation of Bicycle Facilities within the Road Allowance” was approved by Brampton City Council on April 6, 2011 with the implementation strategy defined May 15, 2013.¹⁷² This is referred to as: **Bicycle Facilities Implementation Plan** or (BFIP).

BFIP (2013) looks to, “complement the City’s PathWays Master Plan” to address the following 4 drivers:

- *“Provide a network that meets the needs of both recreational and utilitarian users (e.g., journey to work, school, shopping/discretionary trips);*
- *Provide links to the City's current parks and open space related trails;*
- *Ensure adequate, accessible and consistent bicycle links between Brampton and adjacent municipalities;*
- *Liaise with the Region of Peel to ensure consistency with the Region's Active Transportation Plan.”¹⁷³*

The implementation of BFIP (2013) would take place primarily through the following 4 road construction opportunities:

- New bicycle facilities on major reconstruction projects within the 10 year capital works plan
- Where feasible through development applications, apply relevant design standards to future roadways as identified in the PathWays Master Plan
- Where feasible and supported by City Council and public consultation, implement bicycle facilities as part of annual road resurfacing
- Where feasible and supported by public consultation, apply funding and resources on an annual basis to retrofit sections of the bicycle network not covered by the items mentioned above.¹⁷⁴

Using the \$100,000/km construction cost estimate included in the Master PathWay Plan (2002)¹⁷⁵, and based on the number of kilometres of pathway and other bicycle facilities constructed between 2002 and 2012, it would appear that an average of over \$2,000,000/year

was spent on bicycle facilities during that time. Current estimates for pathway construction costs range from \$300,000 to over \$500,000, depending on facilities such as lighting, according to city staff. The BFIP implementation strategy plan (2013) has budgeted for \$10,000 for year one of the program.

Brampton **Sustainable Community Development Guidelines** (2013)¹⁷⁶, complement the vision for Brampton's active transportation, acting as *encouragement guidelines* that provide planning design direction.

One of the goals of the guidelines is to:

"Provide a variety of economical, safe, and accessible mobility options through the provision of a connected network of streets, sidewalks, bicycle lanes, trails, and a public transit system to ensure all members of society have transportation options while reducing automobile dependence."¹⁷⁷

Amongst Guidelines that are relevant to active transportation particularly for students are:

- *"Support community health and improve air quality by promoting walking, cycling, and transit as the primary means of transportation thereby reducing dependency on the private automobile for daily activities."*¹⁷⁸
- *"Encourage safe routes to schools by providing a network of connected local streets with inherent traffic calming measures (such as reduced lane widths, raised intersections, slower vehicle speeds, on-street parking, crosswalks) to ensure safe use by young pedestrians and cyclists. Secondary schools benefit from public transportation access and safe pedestrian routes between transit stops and school."*¹⁷⁹
- *"Design shared off-street pedestrian and bicycle paths for the requirements of the route. Provide for a continuous, linked, legible, and clearly marked system of trails throughout the community, as part of the open space network with the separation of cyclists and pedestrians."*¹⁸⁰
- *"Require through development approvals, that each school is connected with adjacent neighbourhoods by a network of sidewalks, bicycle, and pedestrian paths to promote safe and convenient access for school children. Locate bicycle racks close to the building entrance."*¹⁸¹
- *"Encourage cyclist movement through a safe, convenient, and legible system that provides bicycle parking facilities, slower vehicle speeds, lower traffic volumes on local streets, appropriate lane widths to accommodate shared travel lanes, and designated bicycle lanes on collectors."*¹⁸²

It is most likely that a good deal more money and commitment will need to be made to realize the defined objectives and enhance active transportation facilities for safe routes to schools and other active transportation in Brampton.

Bicycle Friendly Communities

Started by [Share the Road Coalition](#) in 1998, a “*Bicycle Friendly Community*” encompasses the five “E’s”:

Engineering: Creating operational and physical improvements to infrastructure in and around schools that reduce speeds and potential conflicts with motor vehicle traffic and establish more accessible crossings, walkways, trails and bikeways

Education: Teaching children and parents about a broad range of transportation choices; building walking and cycling safety skills; holding safety campaigns around schools

Enforcement: Ensuring traffic laws in school zones are obeyed; initiating crossing guard programs

Encouragement: Promoting walking and cycling through activities and events

Evaluation: Monitoring and documenting outcomes and trends through data collection before and after interventions¹⁸³

In the Region of Peel, Mississauga received Bronze status in 2012 and Brampton applied and received Honourable Mention in 2013.¹⁸⁴



Figure 16 – Cycling Encouragement at Bike the Creek, 2014

Chapter 6 – Bucking the Trends: Best in Class Approaches

A search of the literature reveals that it is possible to achieve change in transportation habits of primary and secondary school aged children without having to make huge investments in improving infrastructure. There has been much preparatory work done on active transportation. Kids on the Move in Halton and Peel (2003),¹⁸⁵ was followed by Child and Youth Friendly Land Use Transportation Planning Guidelines for Ontario (2009)¹⁸⁶. Many of the prominent researchers in this field continue to contribute to this field. Metrolinx was charged by the provincial government to coordinate a series of research and reports that have expanded and focussed the recommendations. Here are some of the studies that could be considered ‘best in class’.

Active & Safe Routes to Schools Program

The American version of the program, called [Safe Routes to School](#) was modelled on the Denmark initiative of the late 1970's. Started in the Bronx, New York in 1997, the program recorded a "44% decrease in road injury among children and youth"¹⁸⁷ in New York City.

*"The Canadian Active and Safe Routes to School (ASRTS) program was developed by Green Communities Canada. First introduced at a Toronto school in 1996, the program was developed in response to growing requests from principals, teachers and parents for help to address worsening car traffic around schools. ASRTS provides activities and resources that encourage and support active ways of school travel, such as walking and cycling, amongst students and families. The ASRTS movement has since spread across Canada, with approximately 40 communities now participating in Ontario. The Canadian School Travel Planning Model is a collaborative, measurement-based approach developed by GCC and modelled on successful international programs. As of 2011 the model had been introduced in all provinces and territories."*¹⁸⁸

Ottawa School Travel Planning High School Pilot Project

The School Travel Planning process for elementary schools was adapted for secondary schools in this pilot project for 3 schools in Ottawa, initiated by Green Communities Canada over 2010-2012.¹⁸⁹

Elementary schools planning safe routes are concerned primarily with safety, whereas in secondary school, the issues are the "perception that active travel is hard, inconvenient and uncool".¹⁹⁰ (The Greenest City Informa (2001) research showed that in some schools, walking had become "cool" and a sign of "freedom from parental authority, independence and maturity".¹⁹¹)

The Ottawa STP project (2012) demonstrated that a "supportive principal or lead teacher was necessary, but the students must also be keen to participate" and parents need to also be considered since 51% of the time they are involved in active transportation decisions even at high school.¹⁹² Unlike elementary schools where 4-5 actions should be worked simultaneously, in secondary schools, the approach should be to focus on one action at a time.

Once there is a success, the next action can be built upon this. Students who join the committee need to be encouraged to walk or bike themselves and need to get outside to experience firsthand the benefits and barriers.¹⁹³

This 'best in class' project has some excellent advice and tips for organizing school travel planning for high school.

Halton District School Board Leadership Case Study

Halton District School Board's (HDSB) Active and Safe Routes to School program was started in 2009, when a health promoter was 'seconded' from Halton Region to the position of HDSB Project Manager of ASRTS for two years.¹⁹⁴ 23 schools, with 940 students participating in Walking School Buses produced a reduction in car traffic of 25-30% at targeted schools after four weeks of the program. The key lessons included:

- ***“a school board position dedicated to ASRTS is paramount to establishing student active transport behaviour***
- *Not only does the ASRTS program increase student health, decrease the Board’s carbon footprint, assist with student performance and increase safety, it also puts HDSB on the map locally, provincially, nationally and internationally.*
- *During the project, the ASRTS Project Manager also coordinated the development of school site design guidelines to support active transportation to schools, in consultation with Halton schools boards, the Region and municipalities.”¹⁹⁵*

‘Wheeling to School’ Case Study

‘Wheeling to School’ was collaboration between Green Communities Canada and Share the Road Cycling Coalition which ran a pilot project in 4 Ontario primary schools located in Kitchener, Woodstock, Hamilton and St. Thomas between September 2011 and June 2012.¹⁹⁶

Surveys were sent out to the parents of each of the schools to understand existing cycling barriers and to identify interventions that would be the most effective in eliciting behavioural changes. The parents were given the question: *“I would allow my child to cycle if...”*. The barriers identified were similar from school to school but differed substantially in the frequency of reporting. Barriers mentioned in order of declining frequency are shown Figure 2 below:

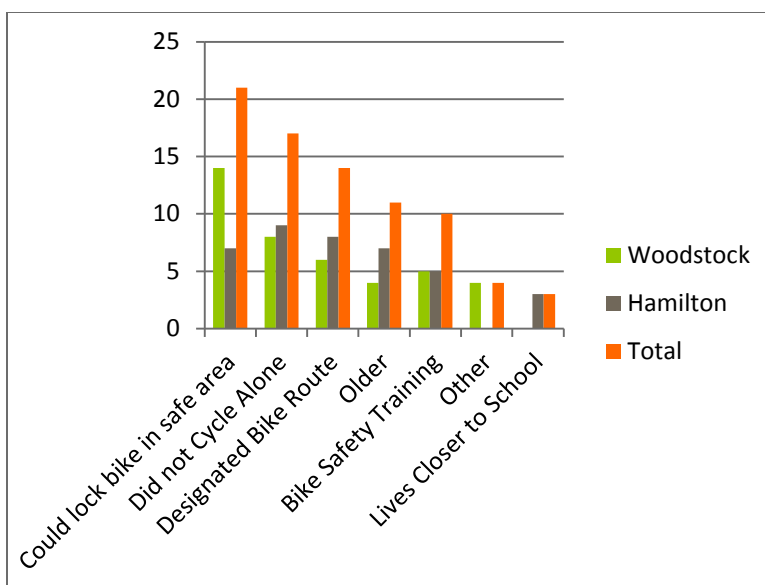


Table 2- Barriers to Cycling (Wheeling to School Case Study, 2012)¹⁹⁷

Route maps were then created in consultation with parents, students and the community committee. Community stakeholders including: parents, teachers, school administrators, school board dignitaries, municipal planning staff, police and City Councillors were invited to participate in “cycle-about” rides to assess the on and off road environments for each school. From that, each school collaboratively identified three to four “best” travel routes to school by bicycle. Students provided feedback on the usability of each route and some schools produced a postcard map of the “approved routes” as part of a welcome package for new attendees. Cycling education was provided and the schools experimented with implementing a Bike Train

program with adult supervision and leadership along each of the routes. Students were also provided incentives such as bells, helmets, locks and lights and other prizes for participating in cycling education and “frequent cyclist” programs.¹⁹⁸

The results of the Wheeling to School case study (2012) were impressive:

- The rate of cycling increased in all 4 of the pilot schools.
- One school saw ridership increase from 3-4 riders / day to between 30 and 50 riders / day.
- In the two schools where base line data were available, one school saw cycling participation rates increase from 4.3% to 12.4% and the other went from 1% to 10%.¹⁹⁹

While the short-term results were impressive, the long term change in active transportation participation in the pilot schools was not measured. The ‘Wheeling to School’ authors expressed concern that behavioural shifts would not be sustainable without a commitment to on-going bike education and programs aimed at parental engagement.²⁰⁰

‘Stepping It Up’ Pilot Project

The ‘Stepping It Up’ Pilot Project was led by Metrolinx in partnership with the Region of Peel, City of Hamilton, Green Communities Canada and the University of Toronto (Final Report, 2012). It used the Canadian School Travel Planning (STP) Model to promote active and sustainable modes of school travel for students, families and staff. It was delivered at 30 elementary schools in the cities of Hamilton, Brampton, and Mississauga from the fall 2009 until December 2011. Eleven of the pilot schools were located in Brampton. Community partners in Region of Peel were: Peel Safe and Active Routes to School Committee, Peel District School Board, City of Mississauga, Mississauga Traffic Safety Council, City of Brampton, Brampton Traffic Safety Council, Peel Police Services, and EcoSource.²⁰¹

School Travel Planning facilitators worked with administrators to “implement low cost actions, such as dedicated walk to school days; organized walking groups; additional crossing guard services; crosswalk markings and bicycle racks; and walking route maps and signage.”²⁰²

The results achieved of the Stepping It Up pilot schools were estimated:

- “an overall average decrease in school car trips of 7% in the morning period and 3% in the afternoon period, with an equivalent increase in pedestrian trips;
- added 746,700 minutes of walking among students annually;
- and, prevented 101,635 vehicle kilometres travelled, 22 tonnes of greenhouse gas emissions (i.e. CO₂ equivalent) and 884 kg of air pollutants annually.”²⁰³

Observations made by principals, teachers and parents were:

- “Conditions during the morning school run became safer and more orderly,
- Students were excited about walking to school,
- Children were getting more physical activity on the trip to/from school,
- Walking or cycling to school had become more convenient,

- *People driving around the school were more aware of children walking and cycling.*²⁰⁴

Teachers and staff lived on average 15-20 Km away from their school making active transportation role modelling difficult, so that finding a key champion may be a challenge at some schools more than others.

Of the 30 schools participating, 1 of the 14 Peel schools completed the entire baseline and follow up change report, indicating the importance of setting targets and incentives for teachers and schools by the administration to ensure success. It should be noted that *“school administrators and staff spend an average of 30 minutes each school day managing car traffic at their school”*.²⁰⁵ Limiting this time could be an encouragement piece to the incentive.

*“Overall, administrators recognized the importance of school travel planning, but acknowledged that it still faces many ‘roadblocks’ such as: a lack of active transportation infrastructure in the community like sidewalks and bicycle lanes, and the need to ensure sufficient ‘buy-in’ to active travel and integration into the culture of a school, so that efforts will continue even if a key champion leaves the school.”*²⁰⁶

Metrolinx recommended that to leverage the success of *“Stepping It Up”* stakeholders need to *“move forward strategically and in a coordinated fashion. They must deliver supportive measures and consistent programming and messaging on matters relating to active and sustainable school travel.”*²⁰⁷

The stakeholders agreed that the Province through Metrolinx and the school boards need to play a more significant role where Active Transportation modes are formally supported as part of school transportation. Active Transportation needs to be integrated into business operations rather than the current state of leaving it up to individual schools and municipalities to lead efforts in Active and Sustainable School Transportation.

CURRENT MODEL	TRANSITION MODEL (2012-2014)	LONGER TERM MODEL (2014+)
Limited to no coordination; no common goals	Coordinated program; develop common goals	Long Term goals and targets
Lead: NGOs and municipalities Coordination: Metrolinx	Lead: Municipalities with school board support Coordination: Metrolinx	Lead and Coordination: School boards with provincial and municipal support
No integration into business operations	Strategize on integration into business operations	Full integration into business operations
No sustainable funding	Identify sustainable funding options	Sustainably funded

Table 3 - Metrolinx Stepping It Up Final Report Model Timetable (2012)²⁰⁸

*“The Big Move, the regional transportation plan for the GTHA, envisions that **60% of children will walk or cycle to school by 2033**. The plan includes a priority action to develop a transportation demand management policy and strategy for provincial ministries and agencies such as school boards.”*²⁰⁹

School Travel Planning – Ontario Successes & Lessons

Metrolinx engaged Stephanie Hahn of Green Communities Canada to collate all the experience of School Travel Planning in Ontario in this (2013) report.²¹⁰ Interviews were conducted with STP experts from communities across the province to summarize what factors are critical for success and sustainability.²¹¹ The one school in Peel that had completed the baseline and follow-up Stepping It Up report was Ridgewood Public School in Mississauga, where walking increased from 3% to 10% during the project.²¹²

The Metrolinx information gathered has been rolled into the Roadmap below.

Active & Sustainable School Transportation Strategy Roadmap

Starting in the mid-1990s, a broad spectrum of stakeholders in Ontario have been working on active and sustainable school transportation (ASST) initiatives, initially as grassroots initiatives but growing gradually in scope and resource coordination. Wishing to accelerate these initiatives, Metrolinx and the Ontario Ministry of Transportation enlisted Global Vision Consulting to put together an ASST Strategy Roadmap (2013). The Roadmap is a management tool for implementation and an integrated framework for priority setting, project chartering and assignment of accountability for actions and outcomes and performance measurement.²¹³

The project involved a significant review of available documentation and a number of individual interviews from a wide spectrum of stakeholders including representation from the following organizations:

Active and Sustainable School Transportation Strategy Roadmap Stakeholders	
Active and Healthy Kids Canada	Ontario Ministry of Tourism Culture and Sport
CAA	Ontario Ministry of Transportation
Children's Hospital of Eastern Ontario (CHEO)	Ontario Professional Planners Institute
City of Hamilton	Ontario Secondary School Teacher's Federation
City of Toronto	Ottawa Carleton District School Board
Green Communities Canada	People for Education
Halton Region Public Health	Region of Peel
Hamilton-Wentworth Catholic Separate School Board	Share the Road
Healthy Communities Partnership Lanark, Leeds Grenville	Student Transportation Services of Waterloo Region
Heart and Stroke Foundation	TCAT (Clean Air Partnership)
Metrolinx	TDSB
Ontario Ministry of Children and Youth Services	Toronto Student Transportation Group
Ontario Ministry of Education	University of Toronto
Ontario Ministry of the Environment	Waterloo Catholic District School Board
Ontario Ministry of Long-term Care	Waterloo Region District School Board
Ontario Ministry of Infrastructure	York Catholic District School Board
Ontario Ministry of Municipal Affairs and Housing	York Region

Table 4 - Active and Sustainable School Transportation Strategy Roadmap Stakeholders (2013)

The strategic goal agreed to by all stakeholders is that more children walk, bike or roll to school. This will require families to **shift behaviour lifestyle** and that shift must be facilitated by appropriate infrastructure, programs, resources and regulations. That means encouraging public and political support for ASST and identifying financial models for ASST initiatives.²¹⁴

The Active and Sustainable School Transportation (ASST) Roadmap (2013)²¹⁵ lays out very clearly the action plans for the Region of Peel Public Health and Public Works in the following 2 charts:

Peel Public Health, Chronic Disease and Injury Prevention		
Capability Area	Action Item Ref #	Action
Public / Political Support	ST02	Develop messaging that is targeted at decision makers using appropriate media
Awareness / Confidence	AC01	Develop and coordinate communication strategies and campaigns to communicate benefits
	AC03	Promote street-proofing and anti-bullying training programs
	AC05	Communicate research and program results in a clear and simple way
	AC07	Promote events where parents and children can experience ASST
Community Capacity	CC04	Make a pathfinder directory available
	CC09	Appoint facilitators at the local and regional level
	CC15	Provide incentives to school boards and municipalities to facilitate ASST
	CC20	Mandate active transportation projects at the regional level
Coordination	CN04	Measure performance baselines
	CN07	Establish partnerships with school administrator associations
	CN09	Establish partnerships with other formal school programs
Motivation	MN04	Promote the implementation of encouragement events and activities
	MN05	Promote reward programs for ASST
	MN09	Promote engagement by administrators and principals in ASST
Plans, etc.	PL04	Promote relevant design and other standards

	PL07	Promote an assessment process that identifies Infrastructure gaps in a neighbourhood's ability to support ASST
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Table 5 - Active and Sustainable School Transportation Strategy Roadmap - Peel Public Health²¹⁶

Peel Region, Public Works		
Capability Area	Action Item Ref #	Action
Public / Political Support	ST01	Communicate the benefits of ASST to political leaders
	ST04	Recruit champions and leaders at all levels
Awareness / Confidence	AC01	Develop and coordinate communication strategies and campaigns to communicate benefits
	AC02	Promote pedestrian bicycling and public transit training programs
	AC03	Promote street-proofing and anti-bullying training programs
	AC07	Promote events where parents and children can experience ASST
Community Capacity	CC10	Develop and implement training programs at the local and regional level
	CC11	Define opportunities for children parents and other stakeholders to participate in ASST initiatives
	CC13	Measure progress against expected outcomes
	CC15	Provide incentives to school boards and municipalities to facilitate ASST
Financial Models	FM01	Develop a business case for ASST funding
Motivation	MN04	Promote the implementation of encouragement events and activities
	MN06	Develop and use behavioural change models to design and deliver incentives and disincentives
	MN09	Promote engagement by administrators and principals

		in ASST
Plans, etc.	PL01	Identify existing relevant policies that enable ASST implementation
	PL04	Promote relevant design and other standards
	PL05	Promote the development and enforcement of relevant regulations
	PL06	Promote a municipal and school division planning process that encourages ASST at school sites
	PL07	Promote an assessment process that identifies Infrastructure gaps in a neighbourhood's ability to support ASST

Table 6 - Active and Sustainable School Transportation Strategy Roadmap - Peel Public Works²¹⁷

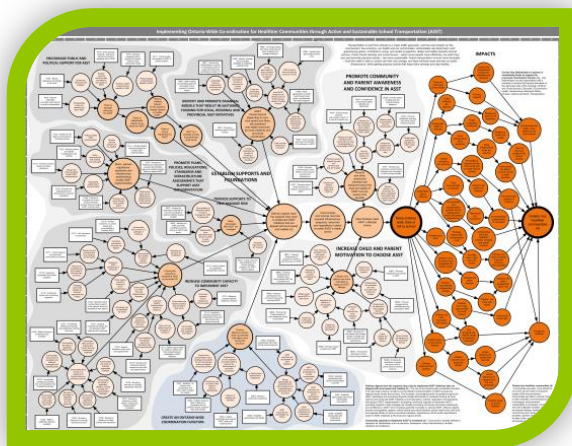


Figure 17 - ASST Strategy Roadmap schematic

The stakeholders identified the following three priority areas for action:

- “Establish an Ontario-wide coordination hub with a clear mandate and charter,
- Recruit champions and leaders at all levels,
- Communicate the benefits of ASST to political leaders”²¹⁸
-

There are clearly **many moving parts to this roadmap, which will require significant public and political will to successfully implement.**

Costs and Benefits of School Travel Planning Projects

Building on projects such as ‘Stepping It Up’, the three partners Metrolinx, Green Communities Canada and the University of Toronto collaborated to produce costs and benefits (2014).²¹⁹

The following stakeholders provided information:

- Hamilton Active and Safe Routes to School Steering Committee
- Peel Safe and Active Routes to School Committee
- York Region Active and Safe Routes to School Steering Committee
- Region of Waterloo Active and Safe Routes to School Committee
- Ottawa School Travel Planning Steering Committee

- Haldimand & Norfolk School Travel Planning Steering Committee
- Elgin London Middlesex Oxford Active and Safe Routes to School Steering Committee
- Active and Safe Routes to School Peterborough

This report provides a benefit cost analysis of the 19 School Travel Planning projects conducted in Ontario between 2009 and 2012. The values used to estimate the benefits of increases in walking and decreases in car travel were derived from the Victoria Transport Benefits and Costs report and are conservative compared to those used by other jurisdictions.

The following results were obtained from the 19 STP projects:

- overall decrease of 2.8% in car trips in the morning and 1.4% decrease in the afternoon
- corresponding increase in walking and cycling to school of 1.3% and .6% respectively
- average benefits (\$221) and costs (\$124) per student
- If STP programming were delivered across Ontario to 640,000 elementary school students not eligible for busing, **benefits of \$142,000,000 vs a cost of \$80,000,000** would be achieved.

Bike to School Project –Toronto High School Case Study

Katie Wittmann, Research Fellow, Policy, Planning & Innovation at Metrolinx (2014), under Supervisor Professor Beth Savan and Second Reader Professor Ron Buliung, University of Toronto, conducted research on cycling at Central Commerce Collegiate, in downtown Toronto in 2013.²²⁰

25% of students at least sometimes bike to school. Research consisted of student surveys and focus group sessions plus teacher and staff interviews and an overall review of the literature. The output was a behaviour change toolkit for increasing school cycling rates. Distance was the most commonly listed barrier, yet 78% of the students live within 5km of the school.

The culture of cycling at the school is fostered by:

- *“A school bike maintenance and repair course*
- *A school bike club*
- *In school mentors who foster the perception that cycling is normal behaviour*
- *Programs that tie fun social experiences with cycling”²²¹*

Cycling is often chosen because it is considered “fast, easy, affordable” and may also be driven by socio-economics (lack of car availability).²²² ***“The contrasts between cyclist and non-cyclist beliefs concerning speed, convenience, and comfort suggest that individuals need to experience cycling before they recognize its advantages.”²²³*** Generally females are less likely to feel comfortable riding in traffic or to claim excuses like “no bike”, or “it’s too far”.²²⁴ Physical distance to school is fixed but perceived distance can be changed by experiencing the ride.²²⁵

Wittmann (2014) concluded that a **bicycle friendly school has bike racks out front, indoor facilities for winter storage, visits from special guests to talk about cycling topics, and where principals and teachers either ride to school or show their support for cycling in other ways.**²²⁶

The **bicycle mechanics course** allows students to gain practical skills and is the cycling initiative at the school most favoured by the students. School field trips using cycling for transportation help students visualize utilitarian cycling and empower students to overcome their fears about cycling.²²⁷ Parental support is particularly important for girls who cycle.²²⁸

Wittmann (2014) made the following recommendations:

- The Ministry of Education should work with stakeholders to develop a module on active transportation for Grade 9 Physical Education curriculum.
- School boards should explore the option of dedicating a portion of school transportation budgets to school travel planning that specifically includes cycling (and other active transportation) activities and programming, and hiring a full-time staff member to assist coordination of such initiatives.
- Schools should partner with community organizations and other schools to organize Bike Clubs, facilitate cycling buddy programs, and incorporate cycling events into school calendars.
- More research is required to understand how the facilitators of cycling may differ in suburban environments, the role culture plays in transportation choices, and how school cycling champions can be created or recruited.²²⁹

School Travel Planning in Canada

The Mammen et al. (2014)²³⁰ study was just published in October, and has some interesting findings which occurred as a result of an STP ‘intervention’:

- *“17% of parents reported that their child was being driven less to and from school as a result of the intervention.”* (at a one year follow-up)
- *“Students in higher elementary grades, living less than 3 km from school, attending urban and suburban schools and attending schools situated in a medium income neighborhood were more likely to change mode from driving to active school travel.”*
- *Approximately 35% of parents reported that infrastructure improvements and safety education were the most effective STP strategies.”*

These findings appear to confirm the appropriate use of targets that will be different for different schools.

Chapter 7 – Opportunities in the Region of Peel

Active Transportation Convenience – Opportunity

Convenience falls into the Metrolinx report (2013) identified enabler of family capacity and lifestyle.²³¹ Parents will be more likely to allow active transportation choices for their children if it is perceived as convenient. Shared parental responsibility and tools to help choose the best walking or cycling routes will make active transportation options more convenient. Children frequently prefer active transportation choices, but need **role models** to act as knowledgeable advisors. Parents seem open to options other than car travel if they know about them.

Educating parents on various active transportation options as well as providing support services such as shared walking or biking programs and afterschool supervision can turn the barrier into an opportunity.²³²

*"Yes, it is easier to hop in your car and go. I do have three small children that I drag with me, but there are benefits. We enjoy the walk."*²³³ This attitude expressed by a parent interviewed for the Greenest City Informa (2001) report is an opportunity for replication.

Potentially active transportation children targets were identified in the Metrolinx (2010) study.²³⁴

- *"Parents whose child does not use a physically active mode of travel (i.e. they are driven, carpool, use school bus, or use public transit), yet consider active travel to be convenient and appealing, and live close enough that their child could reasonably walk or bike to school."*
- *Nearly nine-tenths of these parents agreed that environment-friendly travel is important, and two-thirds felt that exercise during school travel is important."*²³⁵

36% of parents whose child is driven, rides the school bus or public transit; lives close enough to reasonably walk or bike to school; and the parent feels walking or biking would be convenient and appealing indicated they somewhat or strongly agree that they are interested in considering travel alternatives. At the same time 35% of this group strongly disagreed and cited perceived barriers to safe walking and cycling. The negative group was significantly less likely to agree there are safe routes or paths for cycling, and significantly more worried about strangers or bullies than parents whose child usually walks or bikes to school.²³⁶

These results might indicate there is a polarized attitude where one-third of the parents with the above criteria could be persuaded while another third could be quite vocally opposed.

Child Safety and Security Education - Opportunity

While media reports and peer pressure to protect children and prevent them from using active transportation to and from school has become the norm, there exists an opportunity to educate parents to break down this barrier. The Metrolinx (2013) report in the safety and security concern issue, speaks to applying an appropriate balance of the perceived safety risk to the risks of over-protection, lack of physical activity, learned skills to handle traffic.²³⁷ Information, education and practical training will help turn walking or cycling to school back into an *"everyday activity"*. **The more children cycling or walking, the safer it will be for all children by adding "eyes on the street" and motivating drivers to be more attentive and respectful.**²³⁸

School Travel Planner – Opportunity

The Metrolinx (2013) report recommended that the School Travel Planner model (developed by Green Communities Canada), is an effective framework for supporting an active transportation within 3 of the 12 identified barriers and enablers: mandate, leadership and cooperation; community planning; and neighbourhood infrastructure.²³⁹

The School Travel Planner is an enabler opportunity because it increases local engagement and ownership.²⁴⁰ Further, its effectiveness could be increased with school boards being required by the province to create school travel plans in partnership with municipalities and integrating Active Transportation programs into school curriculum and greening efforts.²⁴¹ School Travel Planning in all schools can have a positive impact even in those areas not well suited to active transportation.²⁴²

School Travel Planning and active transportation programs can help identify existing safe routes as well as prioritize required infrastructure improvements as part of the neighbourhood infrastructure.²⁴³

There are several programs to promote active transportation in the Greater Toronto and Hamilton Area, but the Metrolinx study (2010) revealed that only 11% of parents surveyed were aware of these programs:

- Walking School Bus or Bicycling School Bus 21%
- International Walk to School Day or Month 17%
- Terry Fox Walk 2%
- CAN-BIKE 1%
- Carpool Zone 1%²⁴⁴

When given a list of 4 programs, recognition by GTHA parents improved:

- International Walk to School Day or Month 31%
- Carpool Zone 22%
- Walking School Bus or Bicycling School Bus 11%
- CAN-BIKE 11%²⁴⁵

15% of GTHA parents surveyed were aware of maps of the best or safest routes to school.²⁴⁶

This survey was published in February 2010, before Walk+Roll Peel published an online map of [Trails in Peel](#), and their School Trip Planner.²⁴⁷ Recognition and knowledge of these programs may be more widespread recently.

This STP model appears to have the greatest opportunity, as shown by ongoing and recent research (Mammen et al., 2014²⁴⁸).

Community Planning - Opportunity

The Metrolinx (2013) report outlines the enabling opportunity of building compact walkable communities being the most effective way of increasing the attractiveness of active travel options. New developments should be planned with active transportation in mind and opportunities should be evaluated for increasing density of existing suburban neighbourhoods.²⁴⁹ The Metrolinx Stepping It Up Final Report (2012) also suggested that traffic impact studies be conducted that include pedestrians, cyclists, and motor vehicles and ensure a school travel plan is in place to promote active transportation from the outset.²⁵⁰

Road Safety – Opportunity

The Metrolinx (2013) report lists several enablers for active transportation using improved road safety:

- Road safety education for drivers and children
- Reduced speed limits along Active and Safe Routes to Schools
- More visible signage and speed display boards
- More frequent enforcement and tougher penalties
- Traffic calming installation, signals, crosswalks
- Crossing guards
- **Increasing the numbers of walkers and cyclists**²⁵¹

"We have three crossing guards who are hawks, who know every child --they are fabulous" commented a parent to researchers in the Greenest City Informa (2001) report.²⁵² There is an opportunity to engage the community with a positive message on road safety.

There is also an opportunity to clarify the issue of road safety enforcement, since participants reported to Greenest City (2001) researchers that parents exhibited verbal abuse to parking enforcement officers, causing them to avoid illegal parent parking in school zones, and to only respond to calls.²⁵³

The opportunity to enhance safety could potentially benefit girls who are more restricted in their independent mobility, as reported in Project Beat (2011).²⁵⁴

Community Resources – Opportunity

The Metrolinx (2013) report identified the challenge of funding to enable active transportation for retrofit areas where development charges or integration into other roadworks is not possible. The following funding sources were suggested: provincial grants, lottery grants, and funds reallocated from within road safety budgets.²⁵⁵

Weather – Opportunity

While it is a matter of geography and climate, the Metrolinx (2013) report suggests that proper education plus appropriate clothing and safety equipment can enable safe and comfortable active transportation.²⁵⁶

School Planning and Siting – Opportunity

The Metrolinx (2013) report recommends that school planning should give higher priority to active transportation requirements, and the best schools for active transportation options are centrally located within a smaller catchment area and have closed enrollments.²⁵⁷

Targets for schools could allow for these advantages by providing for percentage point improvements rather than actual numbers, since schools are not all equal in their opportunities for active transportation.

Project BEAT (2011) pointed out the necessity for engaging key local partners to develop and implement travel plans for each school, taking into consideration specific travel issues.²⁵⁸

School Facilities, Design & Operations – Opportunity

The Metrolinx (2013) report recommends that schools can encourage active travel by diminishing or eliminating car drop-off zones and by working with local agencies on enforcement against stopping, parking and idling on adjacent streets.²⁵⁹ It is further recommended that better and more central bike parking can raise the profile of cycling and discourage theft and vandalism.

The Metrolinx Stepping It Up Final Report (2012)²⁶⁰ also suggested formalizing the walking or cycling school bus option as part of transportation services, and a school walking route **snow clearing policy**.

Curriculum – Opportunity

The Metrolinx (2013) report identified that most Canadian children do not receive cycling or walking safety skills training in schools, despite this being mandatory in many European countries and some U.S. states.²⁶¹ Mandatory training in schools has led to significant decreases in pedestrian and cycling collisions with vehicles. The report recommended that incorporating cycling and walking skills training into the school curriculum will increase student awareness of the importance of active transportation and will increase the student skill levels to address parental safety concerns.²⁶²

A couple of enthusiastic parents in the Greenest City (2001) project reported that they collected active transportation data for their school, which was incorporated by the teacher into math learning activities.²⁶³ This provides a good example of a cross-learning opportunity for the curriculum.

The Metrolinx Stepping It Up Final Report (2012) also suggested including an active transportation education component be included in driver education.²⁶⁴

Active & Safe Routes to School has an extensive program with resources to promote active transportation to schools, with information for teachers, students and parents.²⁶⁵ There are editable posters, a School Travel Planning Toolkit, YouTube videos, and Ontario school curriculum expectations. The teacher's guide covers lesson plans for pre-kindergarten to grade 6 and could be adapted for older grades (which has been done in Ottawa high schools).

School Resources – Opportunity

Recognizing that active transportation is just one area of endeavour within a school community that may receive greater or lesser priority depending on the local context, and that active transportation programs take time and energy to deliver sustainable results, the Metrolinx (2013) report had the following recommendations:

- Centralized active transportation resources could help minimize in-school resource demands

- Opportunities for information sharing could help those schools just starting out with School Trip Planning
- The province needs to allow funds from school transportation budgets to be allocated to active transportation programs²⁶⁶

Cultural Norm Shift - Opportunity

Social science literature views norms as typically constraining behaviour where sanctions play a part and the norm fulfills an important function in society.²⁶⁷ The belief that there is a reason to fear for the safety of children leads to the expectation that driving children to school will lead to protection, and over time, this belief has likely become common knowledge.

Dissonance occurs when information about declining children's health is compared to the strong safety value, creating an opportunity for cultural shift based on the fear motivator.

Support for changing this norm will need to come from: respected community leaders: school board administrators, trustees, school administrators, teachers, leaders in the community, faith-based leaders, and community planners. The challenge will be to identify champions in each area, then give them ongoing support. Incentives and disincentives will likely be part of this program to change behaviour, ie. shift the cultural norm. Toronto Think & Do Tank (Toolkit, 2014) cites the need for *"cycling ambassadors and "champions", parents and teachers as important models of behaviour"*.²⁶⁸

Incentives as simple as *"it's cool to walk to school"* stickers on a passport (Greenest City Informa 2001)²⁶⁹ can potentially be effective as changing the norm amongst the children and their perceptions. They recommended that media coverage could also give profile to this recognition.²⁷⁰

Focussing on the social benefits for parents who walk / bike with their children to school might help to change the cultural norm. The Greenest City Informa (2001) report recommends informal 'meet and greet' drop-ins after school, and walking tours organized in cooperation with community, ethnic, seniors and heritage organizations.²⁷¹

The positive part of this opportunity is that although a shift in culture may be difficult, there is evidence that the perceptions that people hold can change very rapidly.²⁷² An interesting parallel, where the norm has shifted fairly rapidly is the example of social acceptance of smoking.

It is expected that most parents will ultimately prefer to be perceived as being "good parents".

Chapter 8 – Conclusions

This literature review report points in certain directions, which will facilitate the focus group sessions with parents and students and discussions with local stakeholders.

It is not likely that further parent interviews will yield additional information. However, they may yet be very valuable as a community outreach and engagement opportunity, which will be required to access the various groups within the population of the Region of Peel.

There has been already so much excellent data gathered and tools developed to indicate a clear path forward. The first step will be to convince the key stakeholders that this active transportation issue receives the appropriate priority, attention and resources that are necessary and warranted.

Reference End Notes

¹ O'Brien C., Gilbert R. The Centre for Sustainable Transportation. Kids on the Move in Halton and Peel, October 1, 2003, p.4
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² Region of Peel Public Health. Changing Course: Creating Supportive Environments for Healthy Living in Peel 2012, October 20, 2012 <http://www.peelregion.ca/health/resources/changing-courses.htm>

³ Region of Peel Public Health. Changing Course: Creating Supportive Environments for Healthy Living in Peel 2012, October 20, 2012 <http://www.peelregion.ca/health/resources/changing-courses.htm>

⁴ Pradinuk M., Chanoine J-P., Goldman R. Obesity and Physical Activity in Children, Canadian Family Physician, July 2011 Vol.57 no.7 779-782 <http://www.cfp.ca/content/57/7/779.full.pdf+html>

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⁶ O'Brien C., Gilbert R. The Centre for Sustainable Transportation. Kids on the Move in Halton and Peel, , October 1, 2003
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