Community Action Plan for Life

Burlington Community

WALK & BIKE FOR LIFE walkON Ontario Burlington

Walk and Bike for Life

Walk and Bike for Life is a not for profit organization dedicated to improving awareness of the benefits of walking and cycling as activities, and of urban parks and trails as great places. Walk and Bike for Life is committed to empowering communities through community participation and education. Currently, Walk and Bike for Life is working with 12 communities in the Hamilton, Halton and Peel regions as part of the Community Action Plan for Life project, funded by the Ministry of Health Promotion's Communities In Action Fund. This project provides these 12 communities with the tools to advocate for improved public spaces and pedestrian and bicycling facilities. It engages local citizens through a series of public meetings and workshops, culminating in the creation local Community Action Groups (CAGs) who will take on the implementation of their individualized action plan with Walk and Bike for Life's continuing support.

Biography: Gil Penalosa, Executive Director, Walk & Bike for Life

The Community Action Plan for Life (CAP-for-Life) project is the brainchild of Walk & Bike for Life Executive Director, Gil Penalosa. A leading executive and urban strategist with years of public and private sector senior managerial experience, Gil is celebrated around the world for his ability to create walkable, bikeable cities with healthier, happier residents.

Gil is perhaps most famous for his achievements during his tenure as Commissioner of Parks, Sport and Recreation for the city of Bogotá, Colombia (pop. 7 m). In Bogotá, Gil led his team to design and build over 200 parks, of which the best known is the Simon Bolivar (360 hectares/899 acres).

Under Gil's leadership, Bogotá was revolutionized through the opening of 91 kilometers of car-free city roads on Sundays. These Sundays are now known as the Ciclovia, where over 1.5 million people come out weekly to walk, run, skate and bike. The Ciclovia model has captured imaginations globally and is emulated in cities large and small.

Because of his uniquely effective blend of pragmatism and passion, Gil's leadership has been sought out by many organizations. Gil works as Director of Healthy Places Initiatives with NYC's Project for Public Spaces and as Senior Consultant for the renowned Danish firm Gehl Architects. He serves as a member of the Board of Directors for American Trails, City Parks Alliance, International Sport and Culture Association, as well as on Advisory Committees of America Walks, Green GTA and WalkON.

Gil is a much sought after international speaker and consultant. In his presentations and workshops on creating better communities, Gil demonstrates how walking and bicycling, and parks and trails, can promote economic development, environmental sustainability, public health, efficient transportation, and recreational opportunities for all people, regardless of social status or physical ability. The CAP for Life project makes Gil's expertise and flair for innovation available to communities throughout Southern Ontario as they attempt to build great places and become vibrant cities with happy, healthier residents.

Gil holds a Master in Business Administration degree from UCLA's Management School. He lives in Ontario, Canada and enjoys outdoor activities with his wife and their three children.

WalkON

WalkON is a partnership of a number of Central West Heart Health Networks who work together to create, support, and develop walkable communities throughout Ontario. WalkON aims to develop a network of communities that are built and planned in a way that makes walking into a viable means of transportation and recreation, and to increase the number of residents in Central West communities who choose walking as a way to transport themselves and engage in physical activity. WalkON is committed to mobilizing communities through education and the provision of resources concerning the creation of walkable neighbourhoods.

Ministry of Health Promotion

The Ministry of Health Promotion was created in 2005 with a mandate to support and deliver programs promoting healthy lifestyles and healthy choices in the province of Ontario. The Ministry focuses on a number of key priority areas including active living, healthy eating, injury prevention, Ontario's smoke-free strategy, and mental health. As part of its work the Ministry of Health Promotion has established the Communities in Action Fund, a $5 million fund established to support the projects of over 100 not-for-profit organizations that are dedicated to increasing levels of physical activity and sport participation in Ontario.

Contributors:

Nadia Batara
Cheryl Bradbee
Amanda O'Rourke
Gil Penalosa
Sarah Rotz
Leora Smith
Andrea Smith
Tom Ulecki

Acknowledgments:

Special thanks to Juliana Berrio for your help and to Jennifer Niece for providing GO Transit data.

Table of Contents

Letter from Nadia

When you're my age and you get a job in a particular city or area, you generally consider moving out to that location. So when I accepted a position in Burlington, I looked at its community, the people, the places, what the city had to offer, and I found a myriad of possibilities.

My name is Nadia Batara. I'm not a resident of the city of Burlington, but I do work here. Just over a year ago I had a car accident that forced me to use public transit to reach work. My 30 minute drive quickly became a 2-hour commute to and from the Appleby GO station. Upon arrival at the station, I could see my destination across the street, but could find no quick, clear path to reach it safely. I was frustrated and annoyed, to say the least. Like most others, walking all the way up to Appleby Line and back down was not my ideal choice, nor was it a realistic one.
For me this long commute was a temporary situation but for many others it is a constant daily routine. So I asked them how they did it. What if I didn't enjoy my work? What if I was recovering from an injury, having to come and go to this area and spend most of my days in this place where crossing the street is so daunting, where looking out the window the view is large parking lots and warehouses, where the predominant smell is that of factory chemicals? How do you do it?

It's the people. At work, I've been fortunate to meet some of the amazing people who shape this city. Yet outside of work, I barely saw the community. Even now, I forget there are residential homes, a park, and some small shops on the south side of the GO station. It took two attempts to find the public library hidden behind a large parking lot at Appleby and Fairview. You'd be surprised to see a bus come by or a sign directing you where you are or where to go. You'd be downright lucky to pass someone on the street to help you. The people are friendly yes, but they're all locked up in their cars, in their homes, offices, indoors, stressing about traffic, work, family, friends, economic troubles... And who could blame them?

With these thoughts in mind, I contacted walkON to see how change might happen. WalkON taught me more about our built environment and our health and what they could do. They told me of their work with Walk and Bike for Life, and their support of Walk and Bike for Life's Community Led Action Plan workshops. Together we worked to organize a forum for community involvement here in Burlington, and the response was encouraging.

We often forget just how much our physical surroundings affect our lives. There are many things we can't change or control, but here is an opportunity to affect change. Let's bring the community together with sidewalks and crosswalks. Let's brighten their paths with lights. Let's give them a place to rest with benches and tables. Maybe we can't serve meals or snacks at the station, but let's direct them to great local eateries and shopping centres with signs. Let's get them out of their cars and on the street with community-wide activities and events. Let's take care of our environment with more frequent, convenient public transportation. Let's encourage happy, well and productive employees with a welcoming workplace. Let's give it life with a place for children to play outdoors, parents to relax, individuals to enjoy nature, couples to hold hands, seniors to stroll in the fresh air...

Who knew asking a question could grab the attention of so many?

It's time we listen to our community.

Executive Summary

Figure 1: Map of the Greater Golden Horseshoe area.

The Greater Golden Horseshoe Area of Southern Ontario *(Figure 1)* is one of the most rapidly growing regions in all of North America, set to experience an incredible population growth of 50 per cent over the next 25 years. The province of Ontario's Growth Plan for the Greater Golden Horseshoe *(Places to Grow Act)* identifies the City of Burlington's downtown as an urban growth center for this region, with population projections forecasting 20 per cent growth by 2031.[i]

The city of Burlington is just one of many cities in Ontario, and across Canada, that is faced with the challenge of accommodating rapid population growth and increasing urbanization, while maintaining a high quality of life for its citizens. This juncture in time represents a once-in-a-lifetime opportunity for cities to re-examine and re-define how they want to live.

A city is only a means to a way of life. If we choose to plan and design our cities for people, we must do it in a way that maximizes people's happiness and quality of life. For decades, city planning has been focused on car's mobility. A human-scaled or people-centered approach to planning recognizes the benefits to providing safe and convenient facilities for people to walk and bike as a means of transportation and recreation. This approach also emphasizes the importance of parks, trails, and public spaces as great places for interaction and community cohesion.

Walk & Bike for Life initiated the Community-Led Action Plan *(CAP for Life)* project to address these emerging issues in the Hamilton, Halton and Peel regions of Ontario. The City of Burlington was chosen as one of the 12 pilot communities for the CAP-for-Life project, the goal of which is to engage citizens in local active transportation issues and empower them with the tools and resources to promote walking and bicycling in their community.

On Thursday October 16th, 2008, Walk & Bike for Life held a two-hour Public Meeting in the city of Burlington titled "Walking, Bicycling and Public Spaces: Creating a Great Burlington Community."

The following Saturday, October 18th, Walk & Bike for Life facilitated a four-hour community workshop focused on improving the walk-ability, bike-ability and overall vibrancy of a key public space, the Appleby GO train station.

Participants in the public meeting and workshop included Burlington residents, local community groups, the Burlington Cycling Committee, local councillors, and representatives from GO transit and Burlington transit. Participants provided specific recommendations on how to improve the GO train station for all users including pedestrians, bicyclists and car drivers.

Some of the key recommendations from the community included crosswalks on Harvester Rd and Fairview Street, bike paths with physical separation from cars leading directly into the station, a large pedestrian pathway in the center of both North and South parking lots leading directly into the station, and programming of the parking lot space on weekends with special events.

Snapshot

The city of Burlington and the Appleby GO Station

The city of Burlington is located along the western waterfront of Lake Ontario and is part of the Regional Municipality of Halton *(Figure 2)*.
Burlington's population in the 2006 census was 164,415 people and is expected to grow to 192,000 people by 2031.[ii]

Figure 2: The city of Burlington sits on the western waterfront of Lake Ontario

Three major highways intersect the city *(QEW, 403, 407)* and the city has two major GO train stations: Burlington GO and Appleby GO which transport a large number of commuters heading toward the urban areas of Toronto to the east, and Hamilton to the west. The city is also served by Burlington Transit, which operates approximately 16 bus routes across the city.

Burlington has shown recent progress with regards to recognizing the importance of pedestrian and cycling infrastructure. The city's Official Plan, adopted in 1997, "supports the development of an integrated transportation system consisting of roads, public transit, pedestrian walkways, sidewalks and bikeways." [iii] In addition, the city has created a Cycling Advisory Group, is developing a Cycling Master Plan, and is investing in public space improvements along the waterfront.

While Burlington has taken strides to broaden its view of transportation, the city continues to be car-oriented. Since the 1950's the predominant type of development has been low-density, spreading outward from the downtown.[iv] This land use pattern outside the downtown area has encouraged a dependency on cars. This is supported by Canadian census data from 2006, which reveals that 86 per cent of Burlington residents commute by car.[v]

Despite the city's current limitations, Burlington holds tremendous potential for becoming a world-class city with great public places and facilities for walking and bicycling. The focus of Walk and Bike for Life's CAP-for-Life workshop was the Appleby GO station, a key transportation hub and public space in the city *(Figure 3)*.

According to passenger counts conducted by GO transit in April 2008, close to 3000 people board and disembark from the Appleby GO station per day. The station is an example of a development that puts cars' mobility as a priority over people's mobility. This is supported by *Figure 3* below, which shows Appleby customers mode of travel to the station.

Travel Mode	Appleby Station	Average of all GO Stations in 905 area-code	Average of all GO Stations
Drive Alone	74.5%	67.8%	67.1
Walk	3.6%	7.7%	9.2
Dropped Off	12%	14.3%	14.0
Local Transit	8.8%	8.9%	8.3
Bicycle	1.1%		0.7
Other (can include taxi, GO Bus; for 905 stations only includes bicycle)		1.4% (includes bicycle, taxi, etc.)	0.7

Figure 3: Appleby customers mode of travel to the station

The percentage of people who drive alone to the Appleby station (74%) is higher than the average of all GO stations in the 905 area code.[1] Furthermore, 22 per cent of Appleby customers currently live within walking distance *(less than 2 km)* to the station, while a resounding 80 per cent live within bicycling distance *(less than 5km)*.[2] Given these current trends, there is clearly an untapped opportunity to increase the number of people walking and bicycling to the Appleby GO station.

There are also some exciting opportunities for the City of Burlington. The possibility of holding the 2015 Pan American Games within the GTA will give waterfront cities a sense of urgency to develop active transportation, public space, and trail infrastructure.

[1] The 905 area code is used in Hamilton, Oshawa, and Suburban GTA
[2] Further ridership data for the Appleby GO Station can be found in Appendix A

Chapter 1

Walking and Bicycling: more than just fun and games

Walking and Bicycling

Walking and bicycling: More than just fun and games

It would be easy to write a laundry list of the perfect conditions needed to make the case for active transportation. These could include; increased public concern and awareness about environmental degradation, climate change, a global economic crisis, an obesity epidemic, and worsening traffic congestion. Today, all of these conditions exist, creating a perfect storm of challenges that make investing in safe and convenient walking and bicycling facilities relevant solutions to many of today's problems.

Walk & Bike for Life has developed the **EARTH** umbrella concept, which represents a shelter from the storm of challenges we are facing today and describes the numerous benefits of walking and bicycling in detail

The **EARTH** concept

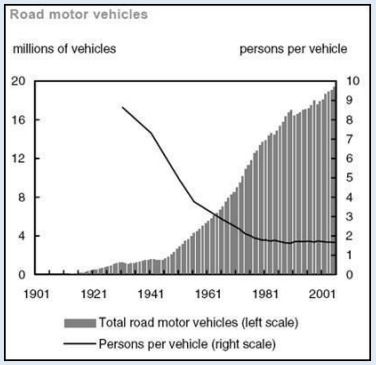
Environment

Only a few years ago scientists questioned the very existence of human-induced climate change. Now there is general agreement within the scientific community that global atmospheric concentrations of greenhouse gases such as carbon dioxide have increased markedly as a result of human activities, particularly through the use of fossil fuels and land use change.[vi]

In 2004, emissions from the transportation sector accounted for 25 per cent of all the greenhouse gases emitted in Canada. Private vehicles alone *(passenger cars and trucks)* account for over 11 per cent of total GHG emissions. With such a significant portion of our emissions released through transportation, moving toward more sustainable transportation options such as public transit, bicycling, and walking hold the ability to drastically reduce Canada's carbon footprint.

Shifting away from private car use and toward non-motorized forms of transportation is less daunting than one might perceive. Research shows that a large percentage of trips made by car are within walking and bicycling distance. Metrolinx, the regional transportation authority in the Greater Toronto and Hamilton Area, reported in 2008 that 40 per cent of the total trips taken across the GTHA were within biking distance *(under 5 km)* and 17 per cent were within walking distance *(under 2km)*.

Using 2006 data from Environment Canada's greenhouse gas inventory, population statistics from Statistics Canada, and Transport Canada's urban transportation emission calculator reveals that if each Burlington driver walked or biked to work one week in a year, the city could reduce its annual emissions by 886 tonnes *(see Appendix E for calculations).*



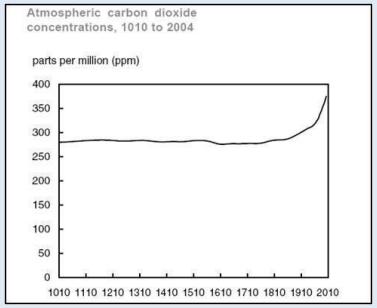


Figure 4: The number of motor vehicles on the road in Canada has increased sharply in the last 30 years, as the number of people per vehicle has decreased. A dramatic rise in Carbon Dioxide, the most prevalent Greenhouse Gas, has accompanied this trend. For each commuter in Burlington who switches from vehicular to active transportation, approximately 685.18 kg less of Carbon dioxide will be released into the atmosphere. If each Burlington driver walked or biked to work one week a year, the city could reduce its emissions by 886 tonnes (see Appendix E for calculations).

The EARTH concept

Economic Activity

In the 19th century, wealth was measured in terms of land, making land the most valuable of any asset. By the 20th century the market's focus had shifted to capital. Today, people are at the heart of the economy. Attracting and retaining highly educated, creative people is the greatest challenge facing cities in the 21st century.

In an ever-more globalized world, the most skilled people – be they carpenters, artists or doctors – can live anywhere they choose. Why live in Burlington and not Vancouver, Paris or Sao Paulo? A walkable, bikeable community is a critical factor in creating lively, attractive neighbourhoods, and quality of life has become a main element of economic competitiveness.

Mercer's Quality of Living survey, used by thousands of companies to decide where to locate their offices, recognizes the importance of active transportation. Pedestrian and bicycling facilities positively influence 5 of the 10 categories used in the survey to determine the best places to set up a business.[3]

Vibrant commercial districts, and the small businesses which populate them, rely heavily on foot traffic. Walkable, bikeable neighborhoods are safer, more attractive, and more pleasant to shop in. Traffic calming is so good for business that business owners in affected areas often go from initial fear over the loss of parking to passionate support for further traffic calming, both in their own neighborhood and others.[vii]

Have you ever heard anyone return from a vacation in Paris and talk about how beautiful the highways were?

Great public spaces, pedestrian plazas, parks and trails attract tourists and generate economic activity. Tourism is a billion dollar industry. In 2007, tourism in Canada generated $19.7 billion in government revenue alone.[viii] The cities making the most of this service industry are inclusive of all types of people. Crucially, these cities recognize that tourists are primarily pedestrians. Increased investment in the unique beauty of Canadian cities through well-placed trails, parks and public spaces will add to the appeal – and bank accounts – of our neighbourhoods.

[3] Categories positively affected by high quality pedestrian and bicycle infrastructure: Medical and Health Considerations (Air Pollution), Natural Environment (Climate), Public Services and Transit, Recreation (Sport and Leisure Activities), Socio-Cultural Environment (Limitation on Personal Freedom)

Local business owners in Copenhagen had a huge boost in economic activity from increased foot traffic after streets were replaced with pedestrian plazas

The EARTH concept

Recreation

In the year 1700, most physical activity took place in the workplace. In North America in 2008, only about five per cent of our physical activity takes place in the work place, while recreational activities account for 30 per cent *(Figure 5)*.

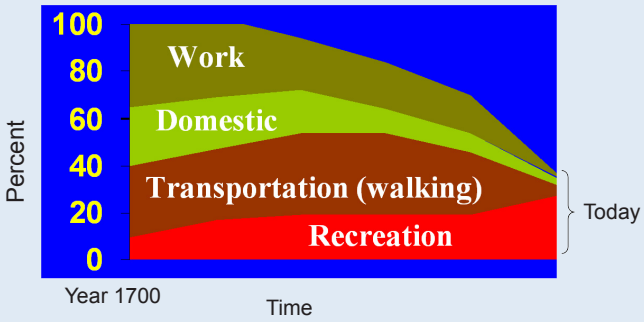


Figure 5: The ways in which we get our physical activity have changed drastically in the past 300 years, as recreation has come to play an increasingly important role in our lives and our physical health

Walking, bicycling, and running are now some of the most popular forms of physical activities in the world.

In addition, current trends show that people are turning increasingly to unscheduled and unorganized activities such as walking and bicycling as a form of daily exercise. According to Statistics Canada's 2005 Community Health Survey walking is by far the most popular form of physical activity in Canada, with bicycling placing in the top five.[ix]

These activities are free of charge, enjoyable in groups or alone, and accessible to all ages.

In order to build communities that facilitate participation in these activities, it is important to provide city dwellers with the facilities that encourage spending time outdoors. Well-maintained and managed trails, urban parks and public spaces allow residents to enjoy, relax and take pride in their city.

In addition, more localized recreational facilities encourage more frequent use by community members because people have both a physical and mental connection to them. That is, these facilities are physically accessible to users through a short walk or bike ride and mentally connected to them as a result of frequent events, festivals and promotions. For example, you are probably more inclined to take your dog for a walk on a Thursday evening if you can walk to the nearby neighbourhood trail or park as opposed to driving to it. You may even be more inclined to take that walk if you can grab a coffee on your way, or if there are interesting things happening in and around the trails or park.

Recreation is something more than what people do on the weekend

by building and improving upon community trails, parks, greenways, and public spaces it can become part of people's daily routine and serve as a way to unwind, connect with nature, and to just have fun.

A functional and inviting public space provides a number of opportunities for different activities to take place; Portland,Oregon

Wading Pool; Portland, Oregon

The EARTH concept

Transportation

Transportation is about moving people, not about moving cars. Yet the way some North American cities are built, it would appear the opposite is true. More than 1/3 of Greater Toronto and Hamilton area residents do not have a driver's license.[x] To live up to the Canadian principles of equity and accessibility, our cities must be built to allow the mobility of those who cannot - or choose not – to drive.

Furthermore, providing safe, extensive infrastructure for cyclists and pedestrians has been proven to alleviate congestion. Such infrastructure paves the way for affordable, convenient transportation, which in turn can have a profound impact on the economy. Traffic congestion contributes to delays in moving goods, lost productivity and higher fuel costs. Congestion costs Ontario over $5 billion in lost GDP every year.[xi]

Transportation infrastructure must be designed for the mobility of all users, not just drivers

Cities like Copenhagen and Amsterdam have invested heavily in bicycling infrastructure and have achieved significant results. In Copenhagen, bike mode share has gone from 10% in 1975 to 36% in 2004, outperforming automobile mode share by 9%.[xii] With 329 km of cycling tracks in place, Copenhagen has continuously been improving its infrastructure.[xiii] Furthermore, the city recognizes that increasing active transportation use is a matter of planning-for-people and creating a cultural shift.

Health

Many Canadians today find themselves driving to the gym to walk on a treadmill. Meanwhile, 23 per cent of Canadians over the age of 18 are obese.[xiv] Obesity is at the root of a myriad of diseases and health problems, and inactivity is one of the major contributing factors to obesity. Sedentary living is creating a huge strain on our healthcare system and our wallets.

Today, health experts agree that 30 minutes of moderate physical exercise can halve vulnerability to heart disease, control blood pressure and reduce cholesterol. Experts say that exercise also increases energy levels and improves moods, sleeping habits and digestion.[xv]

Building convenient and accessible pedestrian and cycling infrastructure makes it easier for physical activity to become a part of our daily routine. A study from the American Journal of Preventative Medicine published in 2004 found that every additional hour spent in a car was linked to a six per cent increase in a person's chances of becoming obese. Conversely, each kilometer walked was linked to a 4.8 per cent decrease in the chance of becoming obese.[xvi]

Furthermore, as illustrated in *Figure 6*, obesity rates for several highly industrialized countries consistently drop when alternative forms of transportation, such as walking, cycling, and public transit are used.

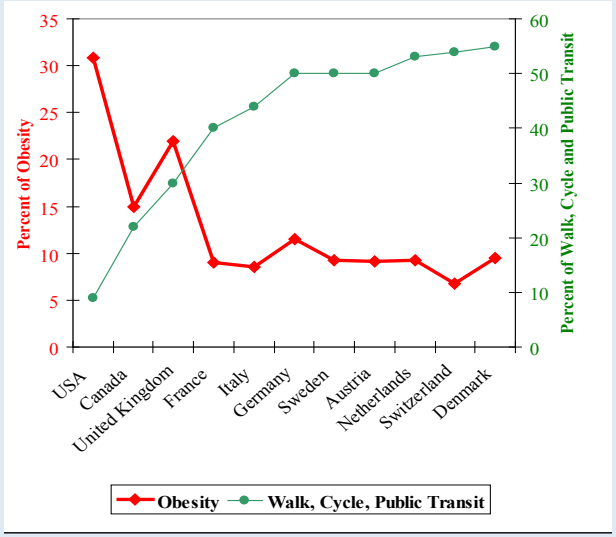


Figure 6: Obesity rates fall sharply with increased walking, bicycling and public transit use

Chapter 2

Community Action Plan: Burlington and Appleby GO

CAP methodology: Burlington

At Walk & Bike for Life we recognize that citizens hold the greatest expertise when it comes to the communities in which they live. Walk & Bike for Life's Community-led Action Plan project uses this idea as the basis for its approach with engaging communities in promoting more walking and bicycling-friendly places. Walk & Bike for Life held two events in Burlington as part of the CAP-For-Life project, a public meeting and community workshop.

Public Meeting

On Thursday October 16th, 2008 Walk & Bike for Life held a two-hour Public Meeting in the city of Burlington titled "Walking, Bicycling and Public Spaces: Creating a Great Burlington Community." This meeting included a one-hour presentation by Gil Penalosa, Executive Director of Walk & Bike for Life. The presentation showcased best practices in creating more walkable, bikeable and vibrant public spaces from cities in Canada and around the world. Penalosa also spoke about how these practices could be applied to Burlington. The presentation was followed by a question and answer period. Attendees also filled out individual surveys about their transportation habits and their opinions on how to improve the walkability and bikeability of the Appleby GO station and its surrounding community.

Community Workshop

The following Saturday October 18th, 2008 Walk & Bike for Life facilitated a four hour workshop to gather ideas from stakeholders on how to improve the overall walkability, bikeability, and vibrancy of Burlington's Appleby GO train station. The workshop began with a presentation by Penalosa about the benefits of creating more walkable and bikeable public spaces, with particular focus on transportation hubs, such as train stations. Penalosa expanded on the "symptoms" of a great public space, based on Project for Public Spaces (PPS) Placemaking approach.[4]

After the presentation participants were split up into three groups of five to six people. Each group was assigned a zone of the Appleby GO station *(Figure 7)* and given Group Activity Sheets *(Appendix B)* to fill out at the station. After the site visit, the groups discussed their findings and presented short-term and longer-term recommendations for improving the station back to the entire group. Participants also filled out individual surveys, if they had not yet done so as part of the Public Meeting. The results of the discussion, surveys, Group Activity Sheets and group presentations are compiled and summarized in this report.

A total of 28 people attended both the Public Meeting and Community Workshop. Attendees included Mayor Cam Jackson, City Councilors, representatives from Burlington Transit and GO Transit, members of the Burlington Cycling Committee, as well as interested Burlington residents. The opinions and recommendations in the Community Action Plan portion of this report come directly from the attendees of the Public Meeting and Community Workshop

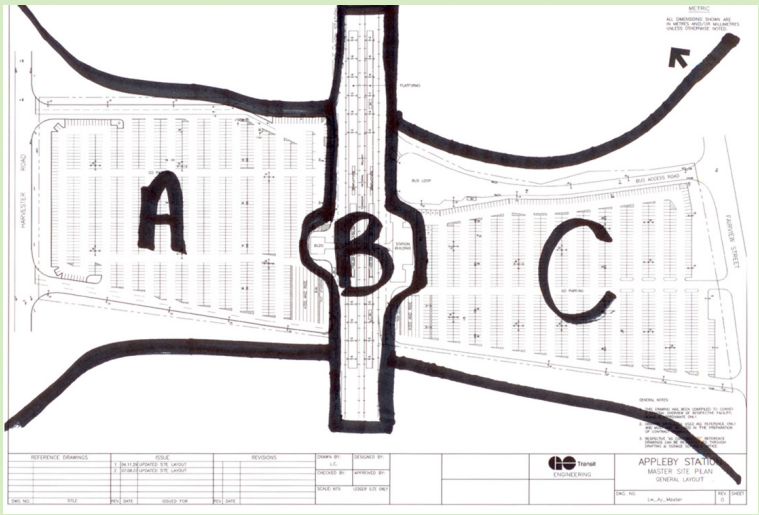


Figure 7: Separation of the Appleby GO Station into zones for the CAP-for-Life workshop

[4] Project for Public Spaces is a not-for-profit group based in New York City that specializes in helping cities to create and sustain great public spaces,

What You Said: Results of the Individual Surveys

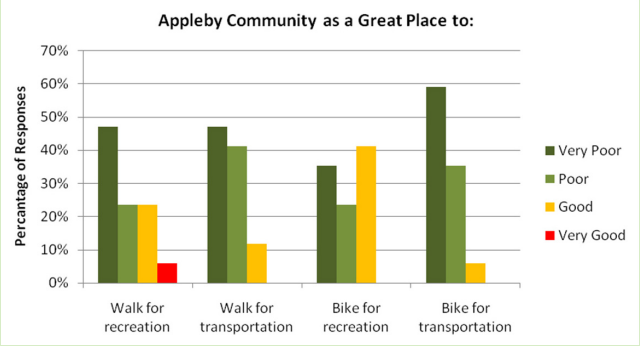
Part I.- Appleby Community

Question 1: How do you rate the Appleby Community as a great place to: walk for recreation; walk for transportation; bicycle for recreation; bicycle for transportation?

Figure 8 shows that 71% of respondents rated the Appleby Community as *poor* or *very poor* for walking for recreation. Furthermore, 88% of respondents rated the area as poor or very poor for walking for transportation. [5]

When it comes to bicycling, 59% of respondents rated the Appleby Community as *poor* or *very poor* for recreation, whereas a resounding 94% of respondents rated the area as poor or very poor for transportation.

Overall walking and bicycling for transportation was rated as worse than walking bicycling for recreation.

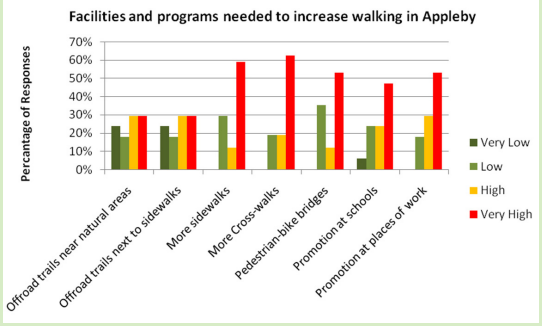


Graph 1: Respondents rate the Appleby GO Station as a great place to walk for recreation; walk for transportation; bicycle for recreation; bicycle for transportation

[5] The Appleby Community is the area in and around the Appleby GO Station

Question 2: How would you rate the need for the following programs and facilities in the Appleby community in order to increase the number of people WALKING on a regular basis?

Graph 2 illustrates that **63%** of respondents rated as *very high* the need for more cross-walks in the Appleby community in order to increase the number of people walking. Similarly, **59%** rated the need for more sidewalks as *very high*. Promotion at schools and places of work were also rated as *very high* from **47%** and **53%** of the respondents respectively. Fewer people rated the need for off-road trails *(near natural areas and sidewalks)* as *high or very high.*

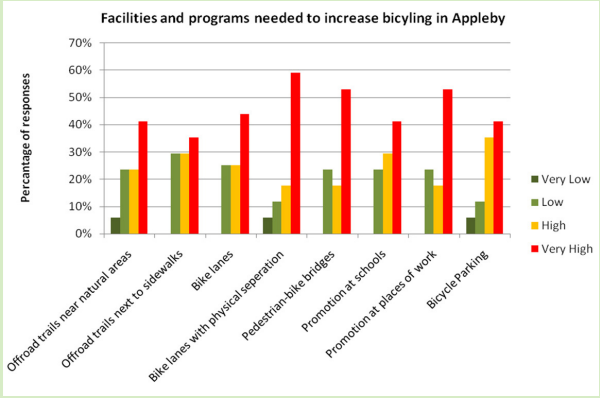


Graph 2: Respondents rate the need for different programs and facilities to increase walking in the Appleby Community

Question 3: How would you rate the need for the following programs and facilities in the Appleby community in order to increase the number of people BICYCLING on a regular basis?

The need for bicycle lanes with physical separation from cars was rated as *very high* by 63% of respondents as a way to increase the number of people bicycling on a regular basis in the Appleby community *(Graph 3)*.

81% of respondents also rated the need for bicycle parking as *high* or *very high* in order to get more people regularly on their bikes in Appleby. Similar to question two about walking, promotion at schools and places of work were widely rated as *high* or *very high (70% each)* in order to increase the number of people bicycling, while fewer people rated the need for off-road trails as *high* or *very high*.

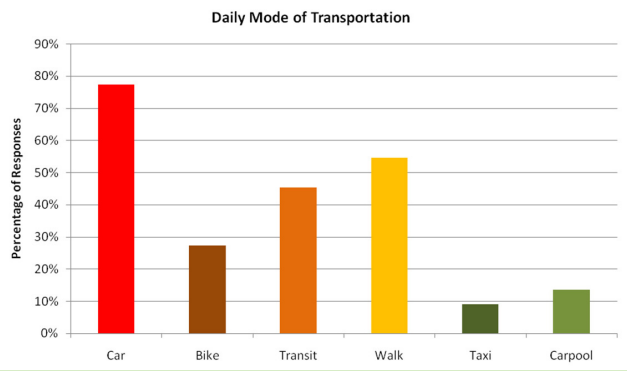


Graph 3: Respondents rate the need for different programs and facilities to increase bicycling in the Appleby Community

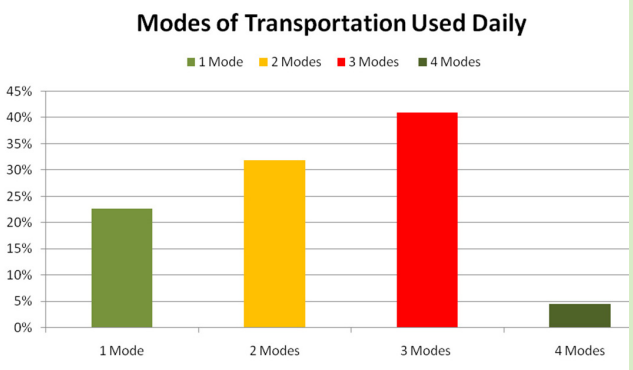
What You Said: Results of the Individual Surveys

Question 4: What are your current methods of daily transportation?

A strong majority of respondents (81%) reported car use as one of their daily modes of transportation. Walking was the second most common form of transportation, with **57%** of respondedents citing it as one of their daily modes.



Graph 4: Percentage of respondents who use different modes of transportation



Graph 5: Percentage of respondents using different numbers of transportation modes

Question 5: What are the current barriers to bicycling and walking as a form of transportation in your community?

Respondents identified many barriers to bicycling and walking as means to getting around in their community. The key barriers were pulled from the responses and are listed below. The full answers are noted in Appendix D.

- The Queen's Elizabeth Way (QEW) and Highway 403, which run through Burlington, are unsafe to cross as a pedestrian and as a bicyclist.
- The lack of sidewalks and/or cross walks makes it dangerous for pedestrians, particularly the elderly and children.
- The lack of bicycle routes or paths.
- Existing bicycle routes or paths often stop abruptly and "don't go anywhere"
- A "car first culture" exists in the community. There is a lack of aware ness of pedestrians and cyclists by motorists.

Question 6: What changes do you propose to overcome these barriers?

Participants proposed a number of actions to overcome the barriers identified in Question 5. The following is a selected list of important changes. The full list of answers can be found in Appendix D.

- Build sidewalks on both sides of all roads in the Appleby Area, and cross walks in places where there are no pedestrian crossings.
- Increase the number and extent of bicycle paths in the Appleby Community. Ensure that both new, and already existing, paths connect to one another and are smooth and well signed.
- Make bicycle parking mandatory for business owners
- Occasionally close roads to cars to hold pedestrian/cycling activities.
- Encourage cycling and walking through marketing campaigns, public awareness campaigns, and incentives for commuters to walk and bike

What You Said: Results of the Individual Surveys

Part II – Appleby GO Station

Question 1: How often do you use the Appleby GO Station?

Use	2+/day	1/day	2-3/week	1/week	1-2/month	Less than 1/month	Non-user
Percentage of responses	32%	11%	0%	0%	16%	26%	16%

Table 1: Frequency of respondents' use of the Appleby GO Stations

Table 1 indicates that respondents generally fit into two categories – commuters *(those using the station 1-2+ times daily)* and occasional riders *(those using the station once per month or less).*

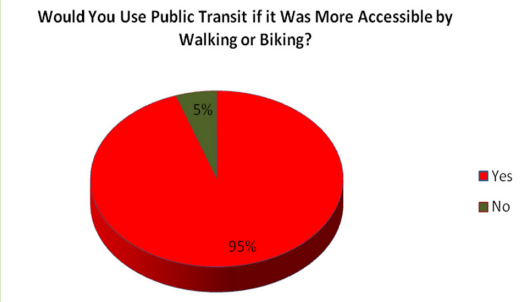
Question 2: How do you usually get to the Appleby GO Station?

Almost half of respondents (45%) reported that they usually travel to the station by car. Walking was the second most popular form of transportation to the Appleby GO Station at 35%, followed by transit users at 20%. Interestingly, zero respondents indicated that they usually ride their bicycle to the station.

Question 3: How would you rate the experience of getting to and from the Appleby GO Station using your usual method of transportation (rate in terms of accessibility, safety, efficiency)?

Car users had the highest satisfaction rate, with 33% rating the station *good* or *very good* in terms of accessibility, and 44% rating it good or very good in terms of efficiency. Pedestrians had the lowest satisfaction rate in terms of accessibility, with 38% rating it poor or very poor. 50% of pedestrians and transit users surveyed rated the station's efficiency as *poor* or *very poor*. Only 9% of total users rated the station as good in terms of safety. For complete data, please see Appendix F.

Question 4: Would you use public transit (rail/light rail/bus) more often if the stops or stations were easier and more convenient to walk and bike to?



Graph 6: Percentage of respondents who would use public transit more frequently if it was more accessible by walking or biking

Ninety five per cent of respondents indicated that they would use public transit more often if it was easier and more convenient to walk and/or bike to.

Question 5 & 6: What changes to Appleby GO would make it more convenient for you to use transit and active transportation / all types of transportation?

The answers to this question were similar to the recommendations included in the coming pages. Respondents also mentioned the need for better schedules, increased frequency of buses, financial incentives to use Appleby GO *(similar to those used by Burlington Transit)*, and a parkette along Harvester Road.

What You Said: Results of the Community Workshop

Great Things Happening at Appleby GO

As part of the site visit and group activity, participants in the workshop were asked to identify the things that they liked about the Appleby GO station. While many people pointed to the potential of the space as its best attribute, other positives included the station's central location, the large number of disabled parking spaces, the lighting, the creek and forest that frame the parking lots, the newly installed sheltered bicycle racks, and the proximity of the Kiss and Ride to the station.

Aerial view of the Appleby GO Station. The station is surrounded by a large parking lot, making it easily accessible to drivers, but difficult to reach for those arriving with non-motorized modes of transportation.

Making it Better

In addition to identifying the things that they liked about the Appleby GO station, participants were asked to provide short-term *(year 1)* and longer-term *(years 2-5)* recommendations on how to make the Appleby GO station more pedestrian-friendly, bicycling-friendly, and an overall great place.

Community Recommendations

Each group was asked to discuss possible ways to make the station more pedestrian-friendly, bicycling-friendly, and a great public place. The following recommendations were of highest importance for the groups. The full list of recommendations can be found in Appendix C.

Year 1- Low cost, high benefit, good visibility and easy to implement actions that could be taken right away to make the Appleby GO Station more:

Pedestrian-friendly:

1. Build crosswalks at **Fairview** and **Harvester** Rd to provide a safe crossing for pedestrians to reach the station *(Figure 8).*
2. Post increased and more visible signage throughout the station. Include speed limit signs in the parking lot, pedestrian right of way signs, and area maps directing patrons around the station and the city.
3. Paint a highly visible, coloured, pedestrian/cyclist pathway that stretches down each side of the station's parking lot and out into the road.
4. Place ticket machines at both entrances (North and South).
5. Provide more seating at bus stops and platforms, including sheltered seating areas *(Figure 9&10).*
6. Improve the sidewalk leading to buses from Fairview Road. The current sidewalk slants when it reaches Fairview Street making it dangerous for vulnerable commuters *(Figure 11).*

Figure 8: Fairview Road without any convenient or safe crosswalk to reach the GO station.

Figure 9: Very little seating at the bus stop or on the train platform.

Figure 10: Current seating at the Appleby GO station.

Figure 11: Sidewalk which slants towards the road and ends abruptly at Fairview.

Community Recommendations

Bicycling-friendly:

1. Paint bicycle lanes on each side of the parking lot leading right to the station entrance *(Figure12).*
2. Increase bicycle parking.
3. Build bicycle accessible entrance to train platforms.
4. Post improved signage for cyclists, such as directions to bicycle lanes and parking. Clarify misleading “no bicycles on tracks” sign in station parking lot.
5. Provide one GO train car devoted to transporting people with bicycles that allows bicycles on the train at any time of the day.

Figure 12: Painting bright coloured bike lanes in this parking lot would make it much safer and more convenient for users to cycle to the station. It would also be easy and inexpensive.

A great place:

1. Paint murals on the underground concrete walls at the Station. This could be done in partnership with local schools, artists, or other community groups *(Figure 13).*
2. Allow daily vendors at each entrance of the station.
3. Place more seating around the Appleby GO Station.
4. Create unique signage for each GO station that fits into the scenery and character of the community in which it is located *(i.e “Welcome to Appleby”, possibly a brief history of the town, a map, etc).*
5. Enhance security by increasing lighting in around the station, playing music through the speakers already present on every platform, and placing safety phones around the parking lot, underground tunnels, platforms and Station area.
6. Improve greenery around the station with more benches and planters.

Figure 13: Murals allow local artists to showcase their work and create and brighter, more inviting public space.

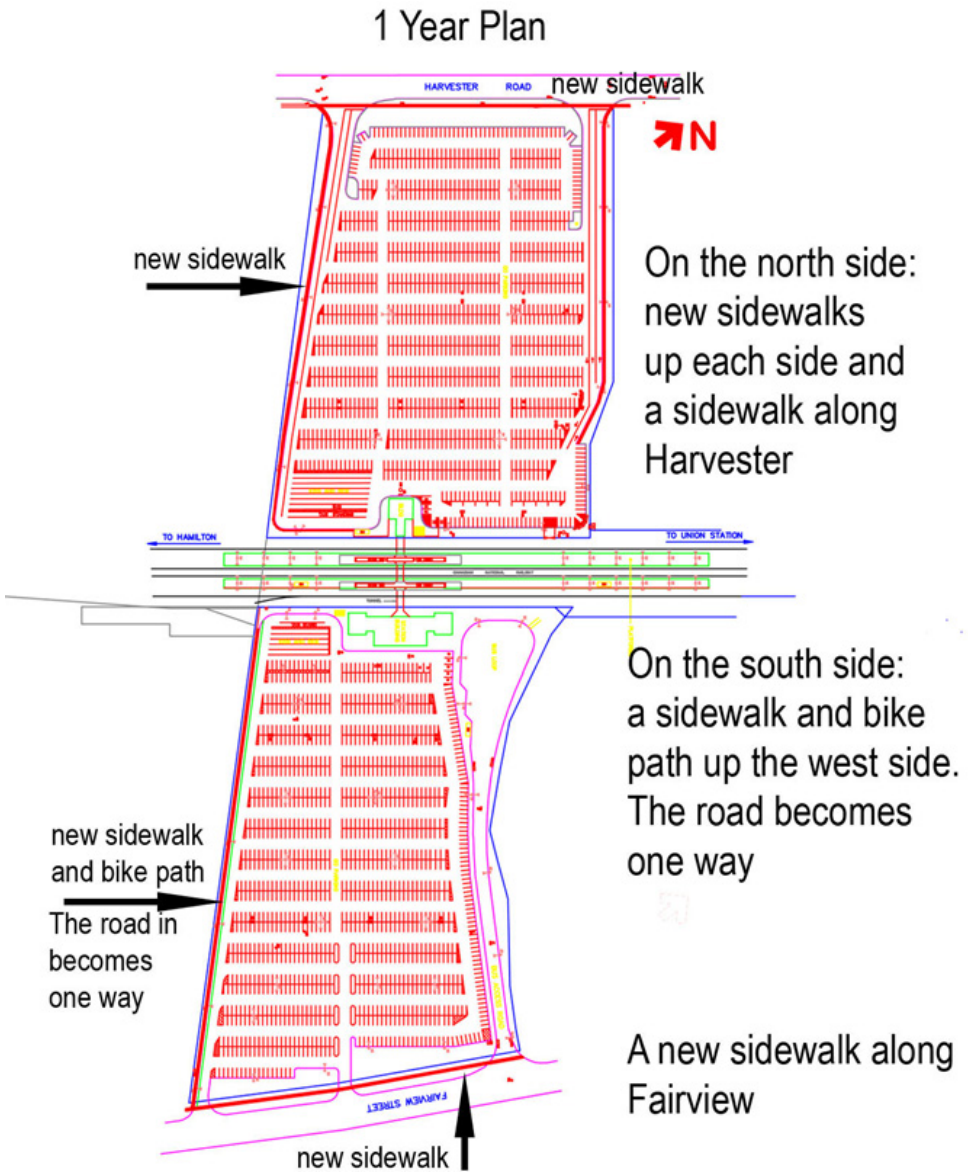


Figure 14: Visual summary of selected short term improvements to the Appleby GO Station

Year 2-5: Higher cost, longer-term actions to make the Appleby Go Station more:

Pedestrian-friendly:

1. Build a Pedestrian/ Cyclist Boulevard stretching directly from the road to the station entrance. The Boulevard should be covered, coloured, and separated for different uses *(pedestrian, cyclist and rollerbladers/skaters) (Figure 15&16).* This Boulevard should be 5-10 metres wide.
2. Create an inviting community space by placing welcome signs and benches along the grassy area in front of the parking lot.
3. Provide a direct indoor connection between ticket booth area and tunnel entrance.
4. Wheelchair access *(elevator at the station).*

Figure 15: Proposed pedestrian/cycling boulevard. The Boulevard would stretch from North and South roads on either side of the station, and should also be 5-10 metres wide.

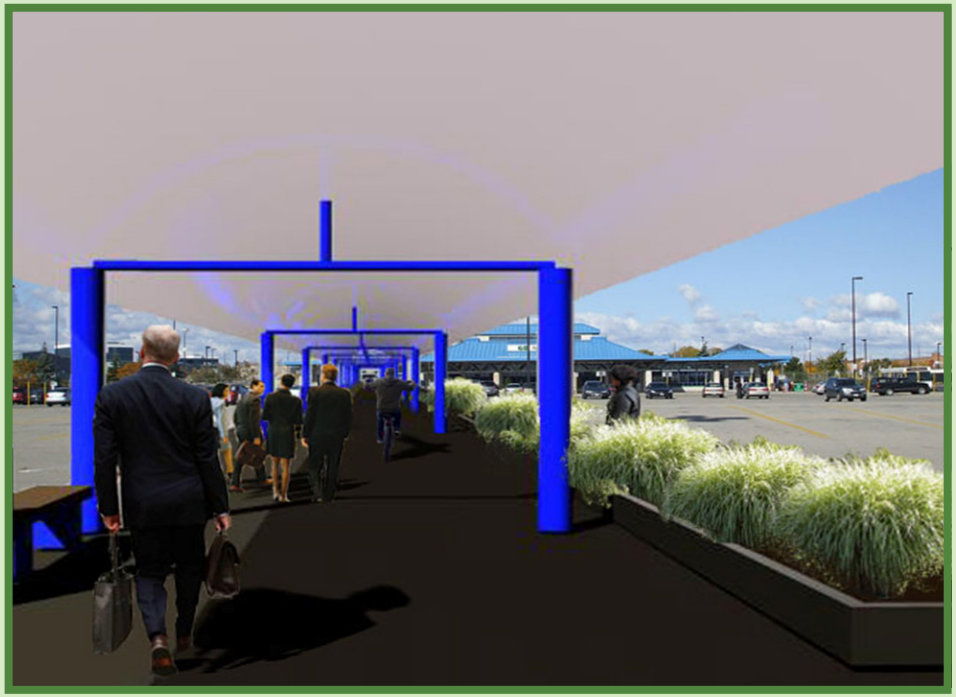


Figure 16: Southern view of proposed pedestrian walkway

Community Recommendations

Bicycling-friendly:

1. Build physically separated bicycle lanes on both sides of Fairview. Fairview is an arterial road and bikes should be fully separated from cars *(Figure 17).*

2. Build a Pedestrian/ Cyclist Boulevard stretching directly from the road to the station entrance. The Boulevard should be covered, coloured, and separated for different uses *(pedestrian, cyclist and rollerbladers/skaters) (Figure 15 & 16).*

3. Provide bicycle lockers with the option of day use, overnight use, and monthly use *(Figure 18).*

Figure 17: Example of an inexpensive separated bikeway with adequate bike parking in Montreal.

Figure 18: Example of a bike locker at a train station.

Creating Great Places:

1. Section off the parking lot to reduce parking area and reserve the rest of the space for events and activities, including community based activities such as markets for local vendors and fundraising events, on evenings and weekends. The lot could also be used for commercial events such as craft shows or concerts. Revenue raised from these events can go toward improving the station, or into the Appleby community.
2. Large, improved bus shelter.
3. Develop shops for food, books, and other amenities.

Figure 19: New bike shelter constructed at Ajax Station.

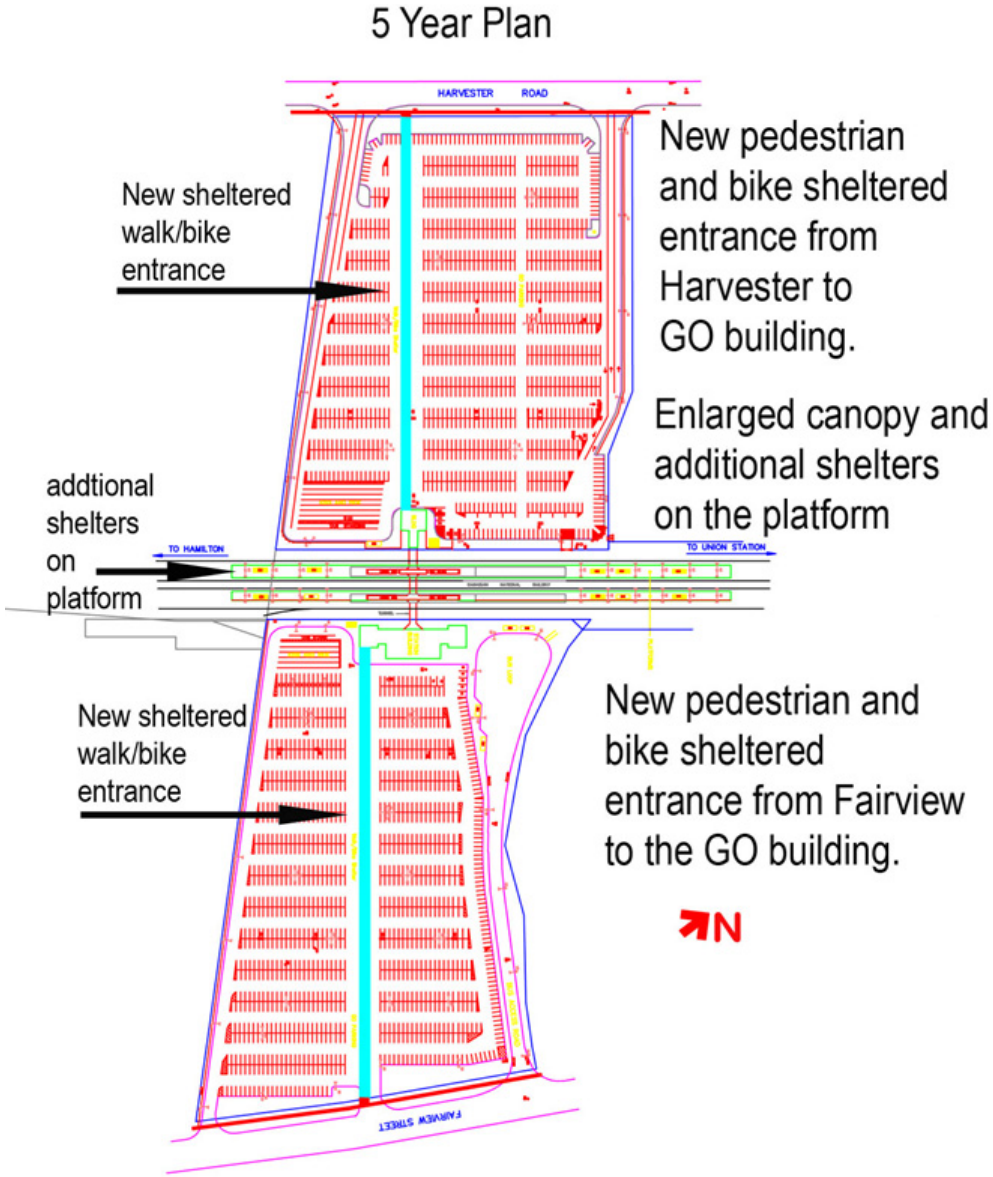


Figure 20: Visual summary of selected long term improvements to the Appleby GO Station

Barriers to implementation

Workshop participants identified potential barriers and obstacles to implementing the above recommendations. The following were identified as the top barriers. The full list is located in Appendix C.

Personnel Barriers: Leadership, Municipal Buy-in, public and private buy-in
Regulatory Barriers: Bylaws, Zoning, GO Transit Regulations, Legal barriers
Resource barriers: Money
Procedural barriers: Mobilizing citizens and decision makers, silo effect, not knowing who to talk to *(Municipal, Provincial)*

Community Partnerships:

Overcoming the aforementioned barriers will require the participation of a diverse array of community partners and stakeholders. A number of potential partnerships were identified by workshop participants. The full list of potential partnerships is located in Appendix C. The following is an abbreviated list of suggested partners.

Government parties: city councillors, Municipal government staff, Special Events Department, local MPPs
Local groups: Local Arts Centre, Memorial program *(to dedicate benches around station)*, local NGOs, media outlets, garden clubs, service clubs, craft shows and vendors, local farmers, potential to create neighbourhood advisory group for different GO Stations, elementary schools, secondary schools, McMaster University
Key Stakeholder: GO Transit

Conclusion

The information gathered from the community workshop and individual responses to Walk and Bike for Life's surveys, demonstrate the great potential that Burlington residents see in the Appleby GO Station as a community hub and great place. In order to reach this potential the Appleby GO Station, and surrounding Appleby community, must become more friendly to those using non-motorized transportation. At the moment, both the station and community pose many risks and challenges to those travelling without a car, and safety is a significant concern for all users, including drivers.

Some of the key recommendations from the community included crosswalks on Harvester Rd and Fairview Street, bike paths with physical separation from cars leading directly into the station, a large pedestrian pathway in the center of both North and South parking lots leading directly into the station, and programming of the parking lot space on weekends with special events. While participants did identify a number of barriers, including perceived lack of funds and confusion about to whom to speak about these issues, they also identified a number of potential partners who could help the community implement their recommendations.

The aforementioned recommendations, barriers, and partnerships were developed as tools for stakeholders to utilize when making any new plans or developments within or around the Appleby GO Station. Many recommendations are specific to this station, but the ideas and principles contained in this report can be used for other stations as well. General ideas and examples for pedestrian-friendly, bicycling-friendly, and public place improvements can be found in the Toolkit located on page 27 of this report.

Chapter 3

Next Steps

Moving from Talking to Doing

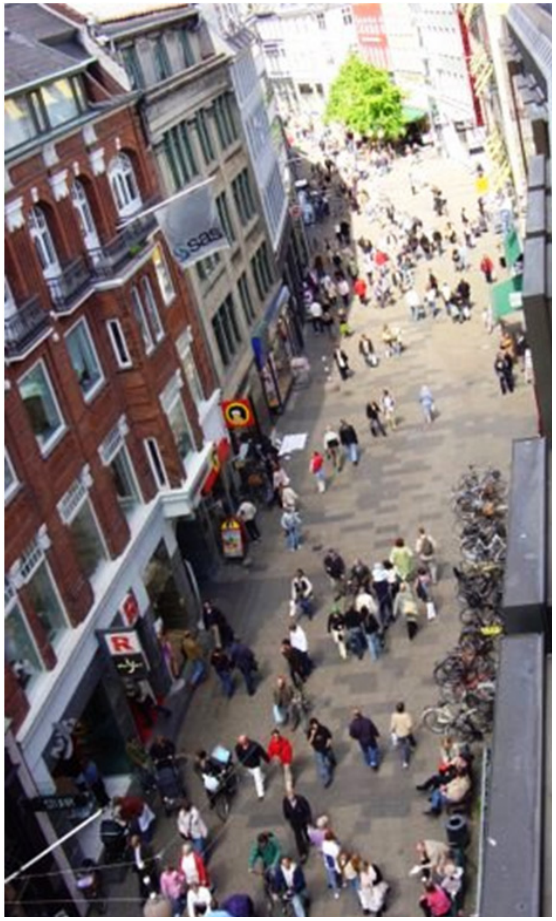
Harnessing this form of holistic planning can help cities become world class destinations. But how do we turn these ideas into action? Gil Penalosa, Executive Director of Walk & Bike for Life, has spent many years working on walking and bicycling in cities. After reflecting on his successes, Gil has identified the following:

five elements which are necessary in order to stop talking and start doing.

Leadership

Every movement needs a leader. Having passionate, committed, and knowledgeable leaders can inspire people to not only understand these issues but act upon them as well. It's not about knowing everything; it's about motivating others and making them understand the importance of your work. It is understood that planning and transportation issues can be incredibly complex and controversial. However, by having leaders who are focused on doing the right things rather than doing things 'right', cities can begin to develop on a human-focused scale. Leaders often occupy positions of power but this is not always necessary. You can become a leader in your community by gathering the knowledge and resources necessary to inspire and create action. Getting involved in relevant community events is a great way to get yourself connected to other actors within your community. Nevertheless, whether it is you who is leading or not, it is imperative that you make your voice heard by those who are. This can be done through emails, letters, petitions, or events.

Although having passionate, progressive leaders in your area makes it much easier to implement change, don't give up if this is not the case. There are still four more factors that can turn talking into doing.



One of Copenhagen's successful pedestrian plazas

Political Will

When it comes to building infrastructure in our city, community members can only do so much. The plans and proposals for new roads, trails, public spaces, and parks need to come from our politicians. It takes guts to take an innovative idea and move forward with it – but the rewards of being that person are considerable and long-lasting.

In Copenhagen, the first steps towards improved public spaces were met with intense backlash on multiple fronts. Not only were business owners worried about the impact upon their profits, but drivers were also worried about decreased car mobility. Despite this reaction, leaders in office had a long term vision which they stuck with– and now residents are grateful for their politicians' foresight. With the improved economic activity and decreased congestion brought on by their plans, Copenhagen's placemakers proved that great politicians with the courage to create real change can build world class cities.

That being said, politicians work for the people, and if there is no visible support for an issue coming from constituents, then politicians will be much less likely to fight for it. With so many matters on their minds, we cannot expect politicians to focus on the issues that are not being brought to their attention. Local groups and citizens must work together to make these topics visible to politicians as well as encouraging them to make the gutsy decisions necessary to create real change.

“Doers” in the public sector

It’s not enough for politicians to talk about their goals and ideas; someone needs to do the work to follow through upon those promises. Janette Sadik Khan, Transportation Commissioner for New York City was inspired by the cycling facilities that she saw around the world. 30 days after she announced New York City’s new bike plan, a physically separated bicycle lane was set up on 9th Avenue. Sadik-Khan is now transforming the meaning of transportation in New York City and being hailed as a visionary for her actions.

It is a common theme within the public sector to find different departments, who often work on similar or neighbouring infrastructure, to lack communication or cohesion. Often you will find work being duplicated because certain departments don’t think to, or prefer not to work together. Local organizations, citizens, and politicians must work to bring these departments together in order to improve co-operation and efficiency. For example, many municipal, regional, and provincial transportation, public works departments etc. build infrastructure without consulting each other. This often leads to different areas of the same road or public space to be worked on at different times or with different characteristics. This is not only a waste of time, but a massive waste of money. Promoting a more cohesive communication system will help to align departments in both principle and practice. This alignment will in turn lead to more efficient and effective action.

New York City’s first physically separated bicycle lane.

New York City continues with impressive improvements on Broadway

Community Engagement

It takes the work of a strong and active community to make change in our cities. Everyone has their own cause, so if you aren’t writing letters and making calls to city officials, then someone else is. If city representatives are not hearing about an issue, they have no way of knowing that it is a priority to their constituents. So citizens need to speak up, speak to their elected officials and make known that transportation is an important issue in this community – politicians are paid to listen.

Sense of Urgency

With the Greater Golden Horseshoe expecting to see a 50% population increase in the next 25 years, carbon emissions pushing the globe’s temperature to rise at record rates, and unpredictable fuel prices making it difficult for households and public agencies alike to budget from one year to the next - transportation is one of the most urgent issues facing us today.[xvii] So why aren’t we feeling the pressure to invest in active transportation? The connections are not being made concerning the important role that transportation will play in meeting the great challenges of this generation. A lack of urgency permits complacency and procrastination – attitudes that cities cannot afford. The importance of this issue must be made clear; its urgency will force all stakeholders to pay attention and to begin taking action now.

Community Action Group

What is a Community Action Group?

The Community Action Plan for Life program aims to transform ideas into action, and to prompt real, tangible change by harnessing the energy and capability that exists within communities. Walk and Bike for Life acknowledges that the members of every community understand their unique challenges and solutions better than any outside organization. Therefore, the key actor in this process will be the **Community Action Group (CAG),** a locally driven coalition of individuals and organizations with the passion and capacity to advance initiatives for walkability, bikeability, and the creation of great public spaces in a given jurisdiction.

CAGs will include representation from any and every interested party: members of the public, government agencies, business leaders, environmental groups, school groups, and any other concerned community members. The Community Action Plan for Life program will generate action within a number of promising communities across southern Ontario through the development of each CAG. Our Walk and Bike for Life Community Action Groups will be given the opportunity and resources to work at a grassroots level to implement unique and localized solutions in their neighbourhoods.

When working with Community Action Groups, Walk and Bike for Life will serve a centrally supporting role, providing assistance with administration, public relations, media and advocacy strategy, and research. As the groups develop, Walk and Bike for Life will facilitate discussion and contact among CAGs throughout Ontario to create a mutually supportive network for information and resource sharing on walkability, bikeability, and quality of life issues in Ontario.

individuals and organizations
with the passion and capacity to advance initiatives for walkability, bikeability, and the creation of great public spaces

Chapter 4

Tool Kit

Myths vs. Facts

When it comes to dedicating time and money to the creation of parks, trails, and people-friendly infrastructure, naysayers tend to raise the same objections time and again. Here we will take some time to put these common misconceptions and misunderstandings to rest. This will allow us to focus our time and energy on finding solutions to the challenges faced by our neighbourhoods and on overcoming real, rather than imagined, obstacles.

Myth: Walking and bicycling are not safe modes of transportation

Fact: Activities become safe when appropriate infrastructure and safety measures are implemented

Statistics in Canada show that more and more people are choosing to use their cars as their main means of transport – and who can blame them?[xviii] An average of 7 pedestrians and 1 cyclist are killed in motor vehicle accidents every week in Canada.[xix] To put that in perspective – each year almost twice as many Canadians are killed by cars while walking and cycling than are killed by firearm violence.[xx]

While there are dangers to walking and cycling in Canadian neighbourhoods, there is no reason to throw out walking and cycling as legitimate modes of transportation. Think about it - when water is contaminated, we don't tell people to start drinking juice, we clean up the water! In the same way, we need to clean up our streets by implementing the infrastructure that makes them safe for cyclists and pedestrians. Only through the construction of such infrastructure will pedestrian and cyclist deaths decrease.

(Figure 21) shows that cyclist and pedestrian fatality rates decline in direct proportion to the quality of infrastructure in a city. The reasons behind this decline are multilayered. As infrastructure improves, more people cycle. As more people use their bicycles, cyclists become a common sight on the road, making drivers much more aware of, and reactive to, their presence. Conversely, drivers who are not used to seeing cyclists tend to be less respectful, aware and comfortable driving alongside them. In fact, *(figures 22 and 23)* show that cyclist and pedestrian fatality rates also decline in direct proportion to the number of pedestrians and cyclists using the sidewalks and roads. In the U.S, cycling and walking levels are only about 1% and 5% respectively, with death rates at about:

7 deaths/ 100 km travelled for cyclists, and 14 deaths/ 100 km travelled for pedestrians.

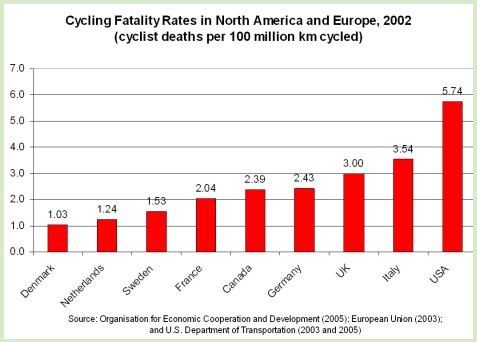


Figure 21: Cyclist fatalities per 100 km of riding. Denmark, famous for their extensive walking and cycling infrastructure, has a fatality rate that is less than half that of Canada's

In the Netherlands, where cycling and walking levels are more than 4 times higher than those in the US, death rates drop dramatically to 2.5 cyclists/ 100 km travel and only 2 pedestrians /100 km travelled.

So, yes, walking and cycling are dangerous without the proper infrastructure in place. Once that infrastructure is in place, more people will use non-motorized transportation, cars will become more used to sharing the roads, and less pedestrians and cyclists will be killed – making our roads safer for all.

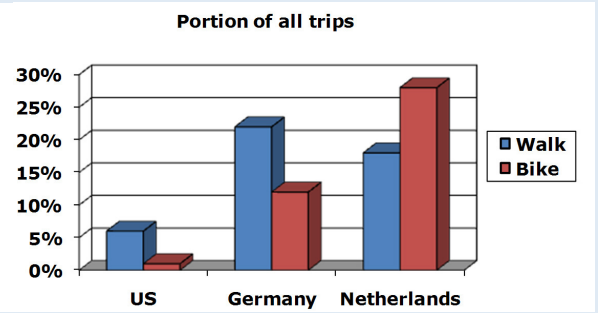


Figure 22: Percentage of trips made by foot and bicycle in the United States, Germany and the Netherlands

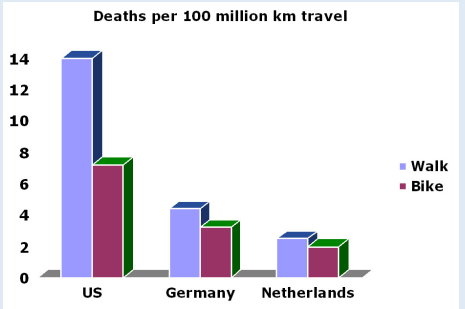


Figure 23: Cyclist and pedestrian deaths per 100 km travelled. Fatality rates are dramatically lowered in countries where there are more pedestrians and cyclists on the roads and sidewalks.

Myths vs. Facts

Myth: Creating walkable, bikeable communities, trails and parks is too expensive

Fact: Building healthier communities is a matter of priorities

From 1995 – 2001 Bogota Colombia, a city with approximately one eighth the per capita income of Burlington, built over 850 parks, including 5 parks located in city centers. In 3 years, an 899 acre park with a 280 km separated bicycle path network was built in the heart of the city. Furthermore, the city's bike share program increased to 300 000 users from 28 000. The point is - changing our cities is a matter of doers, not dollars. With a cohesive long term plan, short term attainable goals and most importantly, a serious desire to make change, our cities' wealth can be used to reflect our priorities. Of course, cities cannot fund everything proposed, but to say that this infrastructure is too expensive is simply not the case.

Pedestrian and cycling infrastructure is much cheaper and serves many more people per dollar than does infrastructure for motorized vehicles.

Funding is dependent on how high these issues are on decision makers' list of priorities. Therefore, if they choose to make it a priority, they will always have the funding.

Myth: The people in this city love their cars, this will not transform into a city of cyclists

Fact: Bicycle infrastructure increases bicycle commuting

In 1990 Portland, Oregon had a disjointed and minimal trail network made up of bikeways which were often disconnected from one another. The city's residents were not interested in biking, and the majority of trips made to the city centre were by car, with only 2-7% made by bicycle in most places.[xxi] All that changed when in 2000 a Transportation Master Plan was implemented that included an extensive, accessible and cohesive cycling network *(Figure 24)*. A large part of the city now boasts ridership of over 10% with most of the surrounding areas at 8-10%.[xxii]
In other words, Portland officials *doubled* their city's ridership just by increasing the extent and integration of their bike trails.

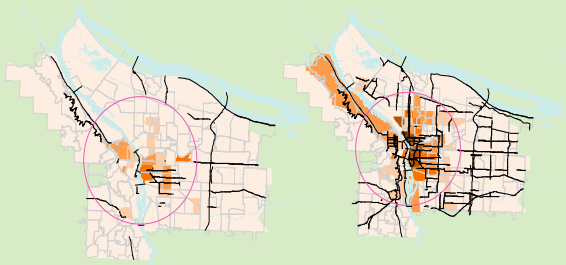


Figure 24: Portland's cycling trails moved from disconnected in 1990 (left) to cohesive and extensive in 2000 (right). Ridership doubled as a result of the change

Myth: Winter makes walking and biking impossible in Burlington

Fact: Burlington's winters are perceived to be much worse than they really are

The average annual snowfall in Burlington measures 115 cm.[xxiii] That is lower than levels in nearby Hamilton *(144 cm)*, and less than half the average in Ottawa *(235 cm)* or Barrie *(238 cm)*.[xxiv] Yet often we imagine our winters to be much harsher than they really are. With proper year-round maintenance, including ploughing and salting of sidewalks and bike lanes, walking and biking can easily become viable year-round options.
It is true that on some days it will be too cold, or too snowy to ride a bike. However, it is also true that out of the 365 days in a year it is unlikely that more than 20 will fall into this category. Instead of building our cities around those 20 deep-freeze days, let's work to make a world class city for the other 345.

Myths vs. Facts

Myth: Canadian people want more cars and more highways

Fact: When citizens become engaged, cities focus on people

In the Economist's 2007 ranking of the world's cities, Vancouver was rated the number 1 most liveable city in the world. When asked, the Economist Intelligence Unit cited low crime rates, little threat from terrorism, and advanced communications and transportation infrastructure as the reasoning behind Vancouver's rank.[xxv] The city's award winning transportation isn't car focused. In fact, city staff, politicians and citizens haven't allowed new highways into Vancouver's city centres in 30 years! No one group is dictating these decisions – Vancouver prides itself on extensive citizen engagement and has actively chosen a people-centred way of life.

City planners in Vancouver, with extensive citizen input, coordinate their planning of Land Use and Transportation

Myth: European cities can't be used as a guide to make this city more walkable and bikeable. They were built to be people-centred hundreds of years ago.

Fact: Many European cities have seen drastic turnarounds in the last 20 years by taking risks and making the tough decisions during their urban planning development

In the 1970´s many European cities were just as car oriented as modern North American cities, f ifteen years ago citizens of Copenhagen, Denmark thought that a vibrant public life based around walking and bicycling was impossible – residents were too dependent on cars, the city's weather was too harsh, and extensive walking and biking was not part of Danish culture. Today, residents know better.

Figure 25 shows that in 25 years the number of people using bicycles as their primary vehicle in Copenhagen has doubled. In those 25 years the number of bicycles entering Copenhagen during the morning rush hour has increased from 8 000 to over
20 000, while the number of cars entering the city has decreased from 23 000 to only 18 000.

Copenhagen's planners made a choice and took the necessary measures to create a walkable, bikeable city. The result has been citizens who are proud, happy and comfortable in their community- no wonder outsiders think that life

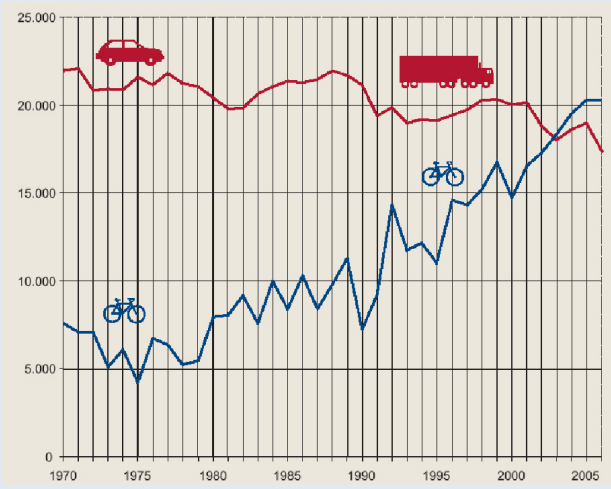


Figure 25: Morning rush hour commuters into Copenhagen. From 1990-2005 bicycle use increased dramatically and now surpasses car use in the downtown core.

Myths vs. Facts

Myth: Walking and cycling infrastructure is about painting lines on the pavement

Fact: Designing proper infrastructure is about re-evaluating our priorities.

A survey in Portland showed 65% of cyclists to be male and 70% of cyclists aged between 25 and 50.[xxvi] This gender and age imbalance in the cycling community is a direct result of the design of our streets. A prevalent attitude among decision makers seems to be that if there is enough money left over, a bike lane might be painted onto the road. The result is roadways that are great for cars, but intimidating and unusable for most cyclists, and dangerous for those who do cycle.

Transportation, just like all other government matters, must be inclusive, and must reflect the needs of all citizens, especially the most vulnerable. Riding a bike beside a large transport truck when separated by only a painted line makes even experienced cyclists feel threatened. So, if you wouldn't feel comfortable putting your 80 year old grandparents out on a bike in your city, consider it a sign that you've still got work to do.

Building better infrastructure requires the recognition that all means of transportation are equally important and, therefore, need to be given equal consideration in planning. That means investing money in physically separated bike lanes, wider sidewalks, clearly marked intersections, and coherent trail systems. It means making the transportation of people, rather than cars, into the primary consideration of road design.

Physically separated facilities are safe and comfortable for all users: drivers, cyclists, and pedestrians

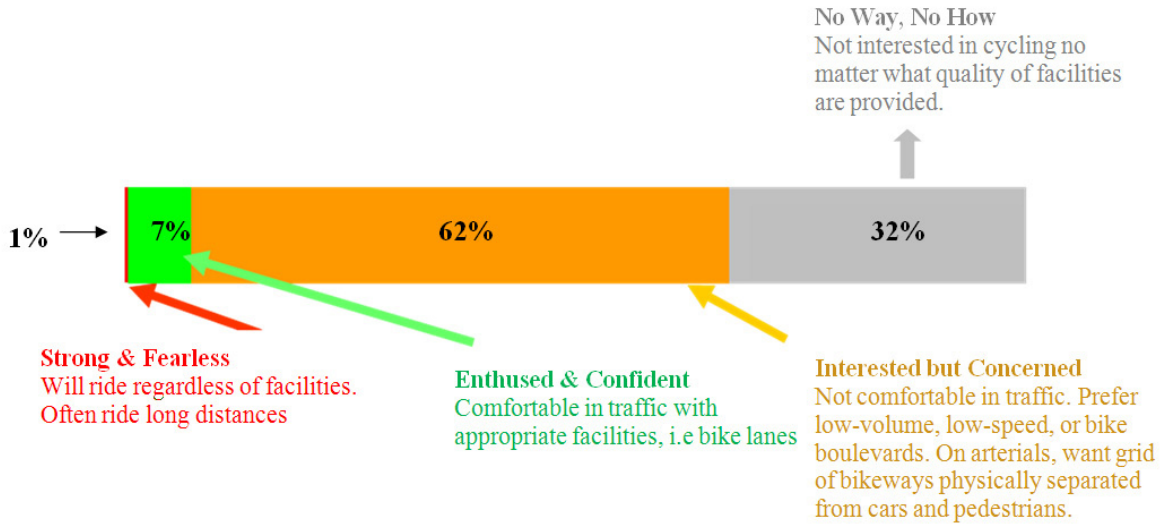


Figure 26: A study of cyclists in Portland shows that 62% of riders fall into the ``interested but concerned`` category. To make a real difference in the habits of residents, planners must satisfy the concerns of this group. A bikeway should not be considered finished until it is safe enough for the most vulnerable commuters – namely children and the elderly

Case Studies

People Are Doing It! Case Studies in Walkable, Bikeable Communities

Sometimes you need to see it to believe it. Each of the following cities had hurdles to overcome similar to those faced in Burlington. Taking inspiration from their innovation and experiences can help us to work toward building our cities into unique, healthy, and happy communities.

Chain of Lakes – Minneapolis

Putting their beautiful waterfront scenery to good use, Minneapolis created their famous "Chain of Lakes." With parks and trails located along the lakeshore and 21.4 kilometres of walking/jogging/biking friendly pathways the Chain of Lakes provides a safe and accessible opportunity for residents to actively transport and enjoy themselves.[xxvii] It also draws over 14 million visitors a year. With the purchase of food, services and accommodations that those visitors make, the trails are generating millions of dollars in revenue for the city.

Minneapolis residents and visitors making the most of their waterfront location

Winter Cycling- Copenhagen, Denmark

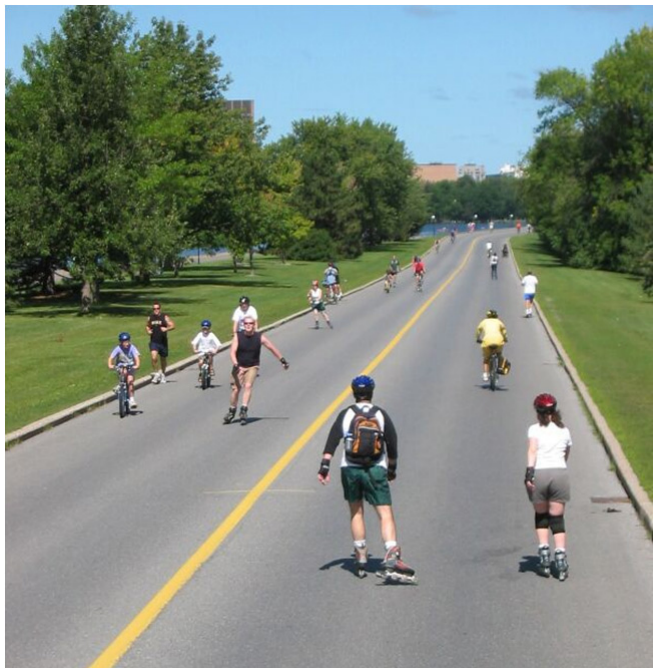
In light of Burlington's winters, some might say that cycling infrastructure is a waste of time and money, claiming that even if bikeways were cleared and salted, no person would want to leave the comfort of their car for the cold of winter. In fact, a number of cities with cold, snowy winters have looked past this perceived impediment and found such perceptions to be unfounded. In Copenhagen, Denmark 30% of residents cycle to work and 70% of those cyclists continue to bike even during Copenhagen's cold, snowy winters.[xxviii]

Commuters make their way to work during a Copenhagen winter. 70% of cyclists continue to ride during Copenhagen's winters

Case Studies

Car Free Sunday – Ottawa, Canada

Every Sunday from Victoria Day to Labour Day, Ottawa closes its streets to cars and opens them to people. Over 50 km of roadways are shut down each week allowing citizens and tourists to actively enjoy the city's streets. Car free Sundays are a great way to foster a community atmosphere – not only do they keep people active, but they change our perceptions by presenting our well paved, wide and comfortable roads as public places for all citizens.



Taking back the streets – enjoying Ottawa's wide open road space on the city's summertime car-free Sundays

Multi-Modal Transportation Centre – Meridian Mississippi

In 1997 Meridian Mississippi, a city of only 38 314 people transformed their central railway station into a community hub and money maker. After consulting with architects, engineers, specialists and, most importantly, the local community, Meridian made a decision to capitalize on the potential of their transit station. Today the Station hosts a railway museum and conference room and is surrounded by a farmer's market, public park, restaurants and a designated festival and events area – all largely supported by the local Business Development Corporation. Local citizens love the station's integration into the community and have shown their financial support. The station offers a patron's program which allows citizens to donate anywhere between $40 and $2500 to dedicate plaques around the station. These plaques have been placed on anything from bricks to lampposts. Tourists are also showing their support for the transformation as the local industry has been stimulated and the station now regularly hosts events such as weddings, conferences and private parties.

Meridian Station, Mississippi

The 8/80 Rule

Step 1:

Think of a child that you love and care for who is approxi mately 8 years of age. This could be a child, grandchild, sister, brother, cousin etc.

Step 2:

Think of an older adult, approximately 80 years of age who you love and care for. This could be a parent, grand parent, friend etc.

Step 3:

Ask yourself: Would you send that 8 year old along with the 80 year old on a walk, or a bike ride on that infrstructure? If you would, then it is safe enough, if you would not, then it is not safe enough.

This rule may seem simple but it holds many implications. Interestingly, when you are forced to think of the ability of most cycling and pedestrian infrastructure to safely serve all citizens, they often fail.

Helpful Groups and Websites

Helpful Groups and Websites:

Walk and Bike for Life: www.walkandbikeforlife.org

WalkON: http://www.walkon.ca/

Ministry of Health Promotion: http://www.mhp.gov.on.ca/english/default.asp

Complete the Streets: http://www.completestreets.org/

Project for Public Spaces: http://www.pps.org/

Transportation Alternatives: http://www.transalt.org/

Gehl Architects: http://www.gehlarchitects.com

Footnotes

[i] "Places to Grow", page 11
[ii] "Making it happen", page 3
[iii] Burlington Official Plan, page 7
[iv] Burlington Official Plan, Section 2.6
[v] "2006 Community Profiles"
[vi] IPCC, page 2
[vii] "Effects of Traffic Calming on Urban Small Businesses"
[viii] "Government revenue attributable to tourism"
[ix] "Physically Active Canadians"
[x] Metrolinx, page 62
[xi] "Cost of Border Delays", page 8
[xii] "Liveable Copenhagen", page 9
[xiii] "Transportation Without Pollution"
[xiv] "Obesity Among Children and Adults"
[xv] "Basic Principles of Physical Activity"
[xvi] "Obesity relationships"
[xvii] "Places to Grow", page 3
[xviii] "Human Activity and the Environment", page 72
[xix] "Fatalities by Road User Class"
[xx] "Firearms and Violent Crime"
[xxi] "Bicycle Mode Splits"
[xxii] "Bicycle Mode Splits"
[xxiii] "Quick Facts"
[xxiv] "Canadian Climate Normals"
[xxv] "Most Liveable Cities"
[xxvi] Department of Transportation. Portland, Oregon
[xxvii] "Chain of Lakes"
[xxviii] "Transportation Case Studies"

Works Cited

1. "Basic principles of physical activity." Heart and Stroke Foundation of Ontario. 2008. 12 October 2008. <http://www.heartandstroke.on.ca/site/c.pvI3IeNWJwE/b.3581705/k.7D1A/Basic_principles_of_physical_activity.htm>

2. Burlington. Burlington Cycling Committee. Burlington Cycling Committee Workshop. 14 June 2008. 21 Novemeber 2008. <http://cms.burlington.ca/AssetFactory.aspx?did=10164>

3. Burlington. Official Plan. 5 March 1997. 21 November 2008. <http://cms.burlington.ca/AssetFactory.aspx?did=10255>

4. Burlington. Budget 2008: Making it Happen.2008. 1 December 2008. <http://cms.burlington.ca/AssetFactory.aspx?did=8472>

5. "Basic principles of physical activity." Heart and Stroke Foundation of Ontario. 2008. 12 October 2008. <http://www.heartandstroke.on.ca/site/c.pvI3IeNWJwE/b.3581705/k.7D1A/Basic_principles_of_physical_activity.htm>

6. Canada. Environment Canada. Canadian Climate Normals or Averages 1971-2000. 18 April 2006. 17 October2008. <http://www.climate.weatheroffice.ec.gc.ca/climate_normals/index_e.html?Province=ALL&StationName=barrie&SearchType=BeginsWith&LocateBy=Province&Proximity=25&ProximityFrom=City&StationNumber=&IDType=MSC&CityName=&ParkName=&LatitudeDegrees=&LatitudeMinutes=&LongitudeDegrees=&LongitudeMinutes=&NormalsClass=A&SelNormals=&StnId=&>

7. Canada. Environment Canada. Canada's 2006 Greenhouse Gas Inventory. 2008

8. Canada. Statistics Canada. Canadian Community Health Survey: Obesity among children and adults. The Daily, 2005. 15 November 2008. <http://www.statcan.ca/Daily/English/050706/d050706a.htm>

9. Canada. Statistics Canada. Government revenue attributable to tourism. The Daily, 2008. 15 November 2008. < http://www.statcan.gc.ca/daily-quotidien/081112/dq081112a-eng.htm>

10. Canada. Statistics Canada. Human Activity and the Environment: Annual Statistics 2007 and 2008. 15 Novemeber 2008. < http://www.statcan.ca/english/freepub/16-201-XIE/16-201-XIE2007000.pdf>

11. Canada. Statistics Canada. Human Activity and the Environment: Transportation. The Daily, 2008. 15 Novemeber 2008. <http://www.statcan.ca/english/freepub/16-201-XIE/16-201-XIE2007000.pdf>

12. Canada. Statistics Canada. Physically Active Canadians. The Daily, 22 August 2008. 1 December 2008. < http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=82-003-X200600810307>

Works Cited

13. Canada. Statistics Canada. Study: Firearms and violent crime. The Daily, 2008. 20 October 2008. <http://www.statcan.ca/Daily/English/080220/d080220b.htm>

14. Canada. Statistics Canada. 2006 Community Profiles. 24 July 2008. 21 October 2008. <http://www12.statcan.ca/english/census06/data/profiles/community/Details/Page.cfm?Lang=E&Geo1=CSD&Code1=3521005&Geo2=PR&Code2=35&Data=Count&SearchText=Mississauga&SearchType=Begins&SearchPR=01&B1=All&Custom=

15. Canada. Transport Canada. Fatalities by Road User Class 2002-2006. Canadian Motor Vehicle Traffic Collision Statistics: 2006. 30 January 2008. 15 November 2008. <http://www.tc.gc.ca/roadsafety/tp/tp3322/2006/page3.htm>

16. Canada. Transport Canada. Transport Canada Releases First, Systematic Analysis of Cost of Urban Traffic Congestion in Canada. 22 March 2006

17. "Chain of Lakes byway district." Grand Rounds National Scenic Byways. 19 October 2008. <http://www.minneapolisparks.org/grandrounds/dist_CL.htm>

18. "Cities in Australia and Canada remain the most liveable in the world." Economist.com. 28 November 2007. 11 October 2008. <http://www.economist.com/markets/rankings/displaystory.cfm?story_id=9706431>

19. Copnehagen Cycling Facilities and Design Approaches. Transportation without pollution. 3 December 2008.

20. "Copenhagen, Denmark - Transportation Case Studies." C40 Large Cities Summit. 2007. 15 October 2008. <http://www.nycclimatesummit.com/>

21. Cost of Border Delays to Ontario. Ontario Chamber of Commerce, 2004. 14 November 2008. <http://occ.on.ca/Policy/Reports/121>

22. Dijkstra, Lewis, and John Pucher. "Promoting Safe Walking and Cycling to Improve Public Health: Lessons from The Netherlands and Germany." American Journal of Public Health. 93.9. (2003) 1509 – 1516

23. Drennen, E. "Economic Effects of Traffic Calming on Urban Small Businesses." Masters Thesis. San Francisco University. (2003).

24. Frank, L. Andresen, M. and T. Schmid. "Obesity relationships with community design, physical activity, and time spent in cars." American Journal of Pre ventative Medecine. 27 (2): 87-96

25. Gehl,Jan, Lars Gemzoe, Sia Kirknaes, and Britt Sternhagen Soondergaard. 2006. New City Life.Trans. Karen Steenhard. Copenhagen: The Danish Archi tectural Press.

Works Cited

26. IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

27. Meridian. Transportation. Union Station. 2008. 21 November 2008. <http://www.meridianms.org/transportunionstation.html>

28. Nelson, Alyse, Scholar, Valle. “Liveable Copenhagen: The Design of a Bicycle City.” Centre for Public Space Research, Copenhagen. University of Washing ton. (2007). 1 December 2008. <http://www.sightline.org/research/sprawl/res_pubs/Livable_Copenhagen_reduced.pdf>

29. Ontario. Ministry of Public Infrastructure Renewal. Places to Grow: A Guide to the Growth Plan for the Greater Golden Horseshoe. 2006. 13 October 2008. <http://www.pir.gov.on.ca/English/aboutpir/publications/GrowthPlan_Guide.pdf>

30. Ontario. MetroLinx. The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area. 2008. 21 November 2008. < http://www.metrolinx.com/Docs/DraftRTPandIS/Metrolinx%20Draft%20RTP%20- %20Low%20Res.pdf>

31. Niece, Jennifer. GO Transit Transportation Planner. Personal email. October 2008

32. Portland. Office of Transportation. Bicycle Modes Splits by Census Tract (Census Data 1990-2000). 2008. 21 October 2008. <http://www.portlandonline.com/transportation/index.cfm?c=34816&a=72450>

33. Portland. Office of Transportation. Why People Aren’t Cycling (And How to Help Them Start). 2007. 19 November 2008. <http://www.portlandonline.com/transportation/index.cfm?c=34816&a=159994>

34. “Quick Facts.” City of Mississauga Economic Development Office. Jan 2007. 15 October 2008. < http://www.mississauga.ca/file/COM/Quick_Facts.pdf>

35. “2015 Pan American Games Bid.” Canadian Olympic Committee. 2008. 27 November 2008. < http://www.olympic.ca/EN/organization/news/2008/1103.shtml>

Image Credits

1. Figure 1: “Places to Grow,” page 2
2. Figure 2: Google Maps
3. Figure 3: Photo provided by GO Transit
4. Figure 4: “Human Activity and the Environment: Annual Statistics 2007 and 2008”
5. Figure 5: Pan-American Health Organization
6. Figure 6: John Pucher, Rutgers University
7. Figure 7: Photo provided by GO Transit, modified by Walk and Bike for Life
8. Figure 8-12: Photos by Gil Penalosa
9. Figure 13-16: Design and graphic by Cheryl Bradbee
10. Figure 17-19: Photos by Gil Penalosa
11. Figure 20: Design and graphic by Cheryl Bradbee
12. Figure 21: Organization for Economic Cooperation and Development (2005); European Union (2003); and US Department of Transportation (2003 and 2005)
13. Figure 22: Complete the streets
14. Figure 23: Complete the Streets
15. Figure 24: Portland, Oregon. Department of Transportation.
16. Figure 25: Gehl Architects
17. Figure 26: “Why People Aren’t Cycling”
18. Graphs 1-6 and Table 1: Data from individual survey answers analyzed and compiled by Walk and Bike for Life
19. Multi- Modal Transportation Centre: “Union Station”
20. All images not cited here taken by Gil Penalosa

Appendix A Appleby Station Background Data

Mode of travel from station:

Travel Mode	Appleby Station	Average of all GO Stations in 905 area-code	Average of all GO Stations
Drive Alone	74.5%	67.8%	67.1
Walk	3.6%	7.7%	9.2
Dropped Off	12%	14.3%	14.0
Local Transit	8.8%	8.9%	8.3
Bicycle	1.1%		0.7
Other (can include taxi, GO Bus; for 905 stations only includes bicycle)		1.4% (includes bicycle, taxi, etc.)	0.7

Distance from Home to Station (km)	Proportion of Appleby Customers
0-0.9	7.6%
1-1.9	14.7%
2-2.9	24.8%
3-3.9	19.3%
4-4.9	13.9%
5-9.9	14.7%
10-14.9	0.5%
>15	4.4%

Passenger Counts: April 2008

Time Period/Direction	Number Boarding	Number Disembarking
Eastbound (to Union)		
Morning peak	2170	36
Mid-day Off-peak	493	11
Afternoon peak	137	7
Evening Off-peak	52	7
Westbound (to Hamilton)		
Morning Peak	8	147
Mid-Day Off-peak	4	170
Afternoon Peak	38	2297
Evening Off-peak	3	285
TOTAL	2905	2960

Appendix B

Group Activity Sheets

1. **What do you like best about this place? (your zone of the Appleby station)**

2. **YEAR 1- low cost, high benefit, good visibility and easy to implement**
   List at least two actions that could be taken right away and that wouldn't cost a lot to make your zone of the Appleby GO station:

   a. Pedestrian-friendly
   b. Bicycling-friendly
   c. A Great Place

3. **YEARS 2-5-higher cost, longer-term**
   List at least two actions that could be taken in the long term that would have the biggest impact to make your zone of the Appleby GO station more:

   a. Pedestrian-friendly
   b. Bicycling-friendly
   c. A great place and vibrant public space

4. **List any barriers or obstacles that must be overcome in order to implement your suggested actions.**

5. **What local partnerships or local talent can you identify that could help implement some of your proposed improvements? Please be as specific as possible.**

Appendix C

Group Activity Sheet Answers

Question 1: What do you like about this place?

A lot of potential
Natural area along east side of parking lot
Lots of disabled parking
Lots of space
Open
A lot of lighting
Kiss and ride close to station
Transit Connections
Bike shelters
Newspapers
Bike racks
Trees surrounding area
Adequate lighting
Some benches: wide and sheltered. But not enough.
Good location
Good potential
Adequate lighting
Open
Plenty of car spaces

Question 2: YEAR 1- low cost, high benefit, good visibility and easy to implement

Pedestrian-friendly:

Paving sidewalks around parking lot
Signage and lines at all entrances
Thicker, brighter lines
Stop signs
Visible pedestrian right of way
Cross walks on Harvester
Bike lockers
Multi-purpose (bike and pedestrian), coloured pathway along west side of parking lot from the road to the station.
Paint concrete walls, hang murals
Signage: Maps, Information (where to buy tickets, times etc). Must be large and visible.
Ticket machines at both entrances (North and South)
More seats at bus stops and platforms
Recycling
No idling of buses
Refuge island on road for pedestrians
Sidewalk: driveway entrance should be a coloured path for pedestrians
One way entrance

Bicycling-friendly:

Bike lockers
Bollards to separate cyclists from cars and pedestrians.
Bike lanes on both sides
Path for bicycles leading right to entrance with increased bike parking along east side of station.
Correct signage: take out the no bikes sign.
Bikeway to station
Bicycle lockers at station: Day use, overnight, monthly
Bike accessible entrance to platforms
One entrance designated for cyclists and one-way cars.
Improved bike racks and shelters

Appendix C

Group Activity Sheet Answers

A Great Place:

Remove fence along east side of parking lot
More outside garbage and recycling
More seating along station
Weekend markets with a variety of local venders
Open parking lot to community groups to use for fund-raising events
More washrooms
Higher management presence
Security. Ensure that people feel safe at all hours
Improved signage to and from places ex. Buses.
Murals
Floors in station re-tiled
Music throughout station. Daily theme?
Greenery: Benches and Planters
Maps of station and surrounding areas
Store at the station: books, flowers, retail, improved coffee, snacks, and sandwich stand.
Farmers market
Free space partnership with GO and the municipality for events
Themed station and bike racks (sports).
Great signage for GO Station: 'Welcome to Appleby Station' along with a unique slogan for that particular station

Question 3: YEARS 2-5-higher cost, longer-term

Pedestrian-friendly:

Pedestrian Boulevard directly from the road to the station. Should be separated, covered, and coloured.
Benches along front of parking lot (grassy area) with beautiful signage and community space
Crosswalks on Harvester Road at both entrances
Walkway: Grade separated
Crosswalks
Direst indoor connection between ticket booth area and tunnel
Wheelchair access
Pedestrian boulevard in middle
Sidewalk on north side of Fairview from Appleby Rd to Sherwood Park.
Crosswalk across Fairview St.
Walkway separated for people to walk from road to station

Bicycling-friendly:

Cycling boulevard from the road directly to the station
Full set of bike lockers
Improved signage for cyclists
Bikeway to station
Bike accessible access to platforms
Separated bike lanes on both sides of Fairview. Fairview is an arterial road and therefore must be fully separated.
Marked and signed
Bike Rental services

Appendix C

Group Activity Sheet Answers

A Great Place and Vibrant Public Space:

Increased management presence with a focus on customer service and satisfaction
Section off parking lot to reduce parking area and reserve rest of parking lot for events and activities.
Improve lighting throughout parking lot and along path
Safety phone
Develop shops for food, books, and other amenities.
Integrate station with the community
Make it a sport themed station
Create community based activities on the evenings and weekends
Large, improved bus shelter
Retail spaces
Develop creek, hydro right of way
Make bike and pedestrian path along creek

Question 4: List any barriers or obstacles that must be overcome in order to implement your suggested actions.

Go Transit regulations
Bylaws
Zoning
Municipal buy-in
Money
Leadership
Money
Public and Private buy-in
Money (perceived and real)
Mobilizing people and decision makers
Zoning
GO Regulations
Legal Barriers
Silo effect
Not knowing who to talk to (Provincial, Municipal)

Question 5: What local partnerships or local talent can you identify that could help implement some of your proposed improvements? Please be as specific as possible

Local arts center
Special events department
Local NGO's, community groups
Local farmers
Create an advisory committee for every GO Station
Memorial Program (benches)
GO Transit
Municipality
Media
Local Councillors, MPP
Community buy-in
Schools
Neighbourhood Advisory Committee for every GO Station
Garden, Clubs, Service Clubs, Craft shows and venders
McMaster

Appendix D

Individual Survey Answers

Part I – Appleby Community

Question 3: How would you rate the experience of getting to and from the Appleby GO Station using your usual method of transportation (rate in terms of accessibility, efficiency, safety)?

Accessibility

	Very poor	Poor	Average	Good	Very Good
Car users	22%	0%	44%	22%	11%
Transit Users	25%	0%	50%	25%	0%
Pedestrians	25%	12.5%	37.5%	25%	0%

Efficiency

	Very Poor	Poor	Average	Good	Very Good
Car Users	22%	11%	22%	22%	22%
Transit Users	25%	25%	25%	25%	0%
Pedestrians	37.5%	12.5%	12.5%	37.5%	0%

Safety

	Very Poor	Poor	Average	Good	Very Good
Car Users	44%		33%	11%	11%
Transit Users	50%		50%		
Pedestrians	37.5%		37.5%	25%	

Question 5: What are the current barriers to bicycling and walking as a form of transportation in your community?

QEW is impossible to cross with safety
In Burlington, the utilization of biking/walking as transportation is limited to proximity.
People should not necessarily be expected to bike far distances to work, etc.
Not enough connected paths and routes
GO Transit/City of Burlington has not developed a strategy to walk or bike out of the GO station
Path to GO station via Sherwood forest park does not exist
Crossing 403/QEW extremely dangerous
Over passes not designated for cycling
Not enough bike paths and sidewalks
Bicycle lanes that go nowhere and just stop
Traffic lights that do not change for ages
Bike lane maintenance/sidewalk maintenance
Guelph line was redone, but now it is less safe than ever, too dangerous even in ideal weather
Speed limits too high (60km/h in Appleby, New, Fairview roads)
Stores, banks, etc. too far apart and spread out. No one stop shopping, have to drive all over Burlington
Lack of sidewalks and crosswalks that are available and safe
Zoning - residential areas too far from amenities
“Car First Culture” - Drivers rude to cyclists and pedestrians
Dangerous
Cultural barriers - coincides with Burlington being a suburban city
Driver attitude, lack of motorist awareness
Too car centric
Some bikes are really expensive and no secure places to park them

Appendix D

Individual Survey Answers

Question 6: What changes do you propose to overcome these barriers?

Dedicated cycle/walking overpasses beside all major lanes over the highway
Using switchback ramps to rise and lower you can minimize the needed land. Good example by Burlington GO over the tracks
Build stores close to the road - include a broad mix of services within a 3km radius
Enforce bicycle parking, Bylaws - make retailers/restaurants install bicycle parking
Put sidewalks on both sides of the road, crosswalks at intersections, and lights
Continous pathways
Encourage the use of biking and walking in sub communities (ie. downtown, community recreational areas, etc.)
Marketing, public awareness campaigns and incentives to bike/walk commuters
Societal change in attitude
More bike paths, make bike paths connect
Make it safe, easy, comfortable
Politicians need to change city infrastructure
Young people made to walk/bike
Road closures - “Build it and they will come”
More garbage cans, shelters on sidewalks
Build multiple bike/pedestrian bridges over highway (ie. Drury Lane)
High priority given to bike lane/sidewalk maintenance: ongoing repairs, clear debris, clear snow before ice develops
New zoning laws to bring residential areas closer to businesses
Remove responsibility from City of Burlington, Remove responsibility from GO Transit
Set concrete dates
Smooth bicycle paths, signs

Part II – Appleby GO Station

Question 5: What changes to Appleby GO would make it more convenient for you to use transit and active transportation?

Elevator at the station for increased accessibility
Create overpasses that are safe for cyclists (especially over QEW/403)
Create a pedestrian friendly walkway - separate from parking lot, covered, flower pots to protect pedestrians from cars
Post speed limit signs, slow the traffic in the lot - cars go too fast to the pick up area, this is not a highway
Separate bikelanes
Consistent schedules
Feasibility of getting to/from location
Safety
More people participating - safety in numbers
Better linkages, routes
Bike parking - covered bike parking, secure, eliminate theft
Increase Burlington buses, increase times they run
Create a path through Sherwood forest park to get to path
Connect Burlington transit to GO, look to Oakville as a success point in focusing transit on the GO

Question 6: What changes to Appleby GO would make it more convenient for you to use transit and active transportation?

Safer sidewalk up to the station from Fairview St. (It currently slants when it reaches Fairview St.)
More cyclist parking (all GO stations also), bicycle lockers, covered bike racks
Financial incentives like ones that Burlington Transit offers
Transit schedules
More crosswalks and sidewalks (there are none at all)
Maps of Area
Make it easy for all users to use and cater to different transportation methods
Better cycling access
A parkette along Harvester Rd.
GO train car devoted to carrying bikes
Go platforms with ramps for bicycles
Bicycles allowed on train at any time and day
Get people who are designing this to bike, walk, and take local transit in the winter and when it rains from day to day

Appendix E

Calculations

Canadian GHG Emissions 2006	Absolute (in Megatons)	% Share
Total	721000	100.00
Transport	190000	26.35
Light Duty Gas Vehicles	38900	5.40
(LDGV)		0.00
Light Duty Gas Trucks	44800	6.21
(LDGT)		0.00
Passenger Total	83700	11.61

Environment Canada (2006)
Canada's 2006 Greenhouse Gas Inventory - A Summary of Trends.
Accessed online 11/16/08
www.ec.gc.ca/pdb/ghg/inventory_report/2006_report/td

Canada GHG Emission Baselines	
GHG Factors (carbon equivalent kg/L)	
LDPV	2.479
LDPT	2.556
Fuel Efficiency (L/100km)	
LDPV	9.8
LDPT	12.6

Transport Canada. Urban Transportation Emission Calculator.
Accessed online 11/16/08
www.tc.gc.ca/programs/environment/UTEC/menu-eng.htm

GHG Emission Factors for Burlington	
Assumptions:	
Fleet Split	
LDPV	60%
LDPT	40%
Annual Workdays (50 weeks x 5 days)	250
Annual Worktrips (250 x There N Back)	500
Therefore:	
Fleet Fuel Efficiency	
L/100km	10.92
L/km	0.1092
Fleet Emmissions	
Carbon equivalent (CO2e)	
kg/L	2.5098
Burlington GHG Emission Factor	
Carbon equivalent (CO2e)	
kg/km	**0.274**

Burlington Background Information		
Population	150836	
Labour Force Participants	105284	
Journey to Work by Mode		
	Number	%
Total Commuting Population	81095	100.00
1% of Commuting Population	810.95	1.00
Car, truck van as driver	64645	79.72
Car, truck, van as passenger	5820	7.18
Public transit	6455	7.96
Walked or biked	3630	4.48
Other	545	0.67
Burlington Trip Statistics		
Median Trip Length by Mode (km)		
C, t, v, as driver	5	
C, t, v, as passenger	3.3	

Appendix E

Calculations

Potential GHG Emissions Reductions in Burlington (CO2e)		
Annually, for each driver that switches to active modes kg/km x km/trip x Annual worktrips	Kg	685.18
Annually, for each 1% of trips shifted from driving to active modes	Kg	555642.99
kg/km x km/trip x worktrips x 1% of commuting population	Tonnes	555.64
Annually, if each driver biked or walked to work one week a year	Kg	885863.27
kg/km x km/trip x 10 trips x total drivers	Tonnes	885.86

Statistics Canada (2006) 2006 Census: Community Highlights for Burlington.
Accessed online 11/16/2008
http://www12.statcan.ca/english/census06/data/profiles/community/Details/Page.cfm?Lang=E&Geo1=CSD&Code1=3524002&Geo2=PR&Code2=35&Data=Count&SearchText=burlington&SearchType=Begins&SearchPR=01&B1=All&Custom=

Transportation Tomorrow Survey: Regional Municipality of Halton
Accessed online 11/16/08
http://www.dmg.utoronto.ca/transportationtomorrowsurvey/2001/halton.html