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TOWN OF HALTON HILLS

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CYCLING MASTER PLAN

FINAL REPORT

MMM GROUP

December 2010

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ACKNOWLEDGEMENTS

The Town of Halton Hills Cycling Master Plan Study Team would like to express their appreciation to the following key people that contributed to the development of this Master Plan.

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EXECUTIVE SUMMARY

The Town of Halton Hills has developed a comprehensive Cycling Master Plan to guide the Town in implementing a Town-wide cycling network and cycling supportive programs over the next 10 + years. The study that led to the development of this Plan was initiated in June 2009 and was managed by the Town's Infrastructure Services Department. The Halton Hills Cycling Master Plan (HHCP) documented in this report includes a proposed network of cycling routes that were identified through an iterative process that involved public and stakeholder input at various stages of the study. Key steps in the process included the application of route selection criteria to develop a candidate network concept plan, investigation of the concept in the field, public review of candidate routes, and a second round of consultation with residents, Town staff and local agencies. Central to the development of this plan was the input, review and guidance provided by the Town's Cycling Committee, appointed by Council to guide the development of this Plan. The Plan also includes planning, design and operations guidelines for the cycling network along with supporting policies and programs.

The Town of Halton Hills' Official Plan Consolidation (2008) calls for the consideration of non-motorized movement in existing and new development and promotes connectivity, mobility and pedestrian and transit-oriented development. The Halton Regional Transportation Master Plan Study as well as the Halton Hills Community Action Plan for Life provided an early framework for the Town's cycling network. In addition, similar initiatives and strategies have been developed at the Provincial level, such as the Greenbelt Plan, Places to Grow Plan and the Greater Toronto and Hamilton Area (GTHA) Regional Transportation Plan. Each of these policy documents strongly supports the development of communities that promote cycling and active living.

The Cycling Master Plan has been developed in response to these policies and initiatives as well as to establish for the Town its own vision for the future of cycling in Halton Hills. The recommended cycling network builds upon a vision for cycling developed by the Halton Hills Cycling Committee, which states that cycling should: "be adopted and supported by residents, businesses and community organizations because the plan is developed in consultation with the public and meets the social, economic and physical needs of Halton Hills."

The Town of Halton Hills' Official Plan Consolidation (2008) calls for the consideration of non-motorized movement in existing and new development and promotes connectivity, mobility and pedestrian and transit-oriented development.

The vision also states that it is necessary to

> *"…promote the enjoyment of Halton Hills for its citizens, in a manner consistent with the Town's Green Plan and the principles of environmental sustainability and stewardship".*

The HHCP establishes short, mid and long-term actions and recommendations that support and encourage an improved level of cycling activity for residents and visitors. It confirms that the Town recognizes non-motorized modes of transportation as viable forms of transportation, and will facilitate their use as a feasible means of commuting as well as for leisure and recreational opportunities.

A communication strategy was developed to engage and gather input from interested residents, stakeholders, and municipal staff. The goals of this strategy were to engage interested residents, stakeholders and municipal staff, encourage participation in the study process, promote the benefits of cycling, encourage cycling friendly land development and reduce single occupant motor vehicle use. The Study Team met with the Town's Cycling Committee at key stages of the study to gage their input on the development of the Master Plan. In addition, the web-based survey provided valuable insight regarding the preferred location and types of cycling facilities within the Town. Two Public Information Centres (PICs) were held at key stages of the study to encourage individual interaction between the public and members of the project team and to obtain input from residents and stakeholders. Public input was specifically sought at two phases in the study process. The first round of PICs were held on Sept 12th and Sept 19th 2009 at the Georgetown and Acton fall fairs and the second PIC was held on June 29, 2010 to review the draft Cycling Master Plan.

The goals of this strategy were to engage interested residents, stakeholders and municipal staff to encourage participation in the study process, promote the benefits of cycling, and to encourage cycling friendly land development and reduce single occupant motor vehicle use.

The network development process included inventorying the existing conditions, establishing route selection principles, selecting candidate routes, and recommending an overall cycling network and associated facility types. Building upon information provided by the Town at the outset of the study, an inventory of the existing and previously planned on and off-road routes was recorded along with key destinations, points of interests and potential opportunities and barriers to cycling.

With this information, candidate routes were selected based on the following principles:

- Safety;
- Visibility;
- Direct Connections;
- Destination Oriented;
- Attractiveness and Scenic;

- Diversity;
- Easily Accessible;
- Flexibility and Integration;
- Density-driven;
- Integration with other modes of transportation; and
- Linkages to natural heritage areas.

Based on this approach, the proposed cycling network was developed with a primary system of routes that will serve as the backbone of the cycling network and a secondary system which will feed into the overall network. The primary system will provide direct links between the urban areas of the Town as well as connections to key destinations and surrounding municipalities. The secondary system will service the local neighbourhoods and their key destination points and will also feed cyclists into the primary system. The recommended cycling network developed for the town wide, Halton Hills Cycling Master Plan is illustrated in Figure EX-1; this Figure is complemented by two additional Figures EX-2 and EX-3, which illustrate the recommended cycling network for the urban area of Georgetown and Acton. The hierarchy of cycling routes will use a variety of cycling facility types, which may include: bicycle lanes, paved shoulder bikeways, signed-only bicycle routes, bicycle priority streets, and off-road multi-use trails.

The hierarchy of cycling routes will use a variety of cycling facilities, which may include: bike lanes, paved shoulder bikeways, signed-only bicycle routes, bicycle priority streets, cycle tracks, and off-road multi-use trails.

The success of this Cycling Master Plan is dependent on the initial and on-going support of Halton Hills Town Council and staff in all levels and departments in the Town. The HHCP includes an implementation strategy to guide the Town of Halton Hills in improving its cycling network over the next ten years and beyond. The proposed implementation plan consists of several phases to be coordinated where possible, with the Town's plans for capital projects. These phases include Short, Medium and Long Term projects. The recommended Town-wide network is made up of just over 310 km of designated cycling facilities. In addition to infrastructure investments, the Plan calls for program development and operations (maintenance) funding to support successful implementation and monitoring.

Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE EX-1
Recommended Network

TOWN WIDE

Community Facility
School
Road
Proposed Road
Rail Line
Municipal Park
Municipal Property
Wooded Area / Wetland
Watercourse
Desired Network Connection
Regional Network Connection

On Road Cycling Routes

Existing On Road Route
Proposed On Road Route

Off Road Cycling Routes

Existing Off Road Trails & Potential Cycling Routes*
Proposed Off Road Route

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

0 650 1,300 2,600 3,900 5,200 Metres

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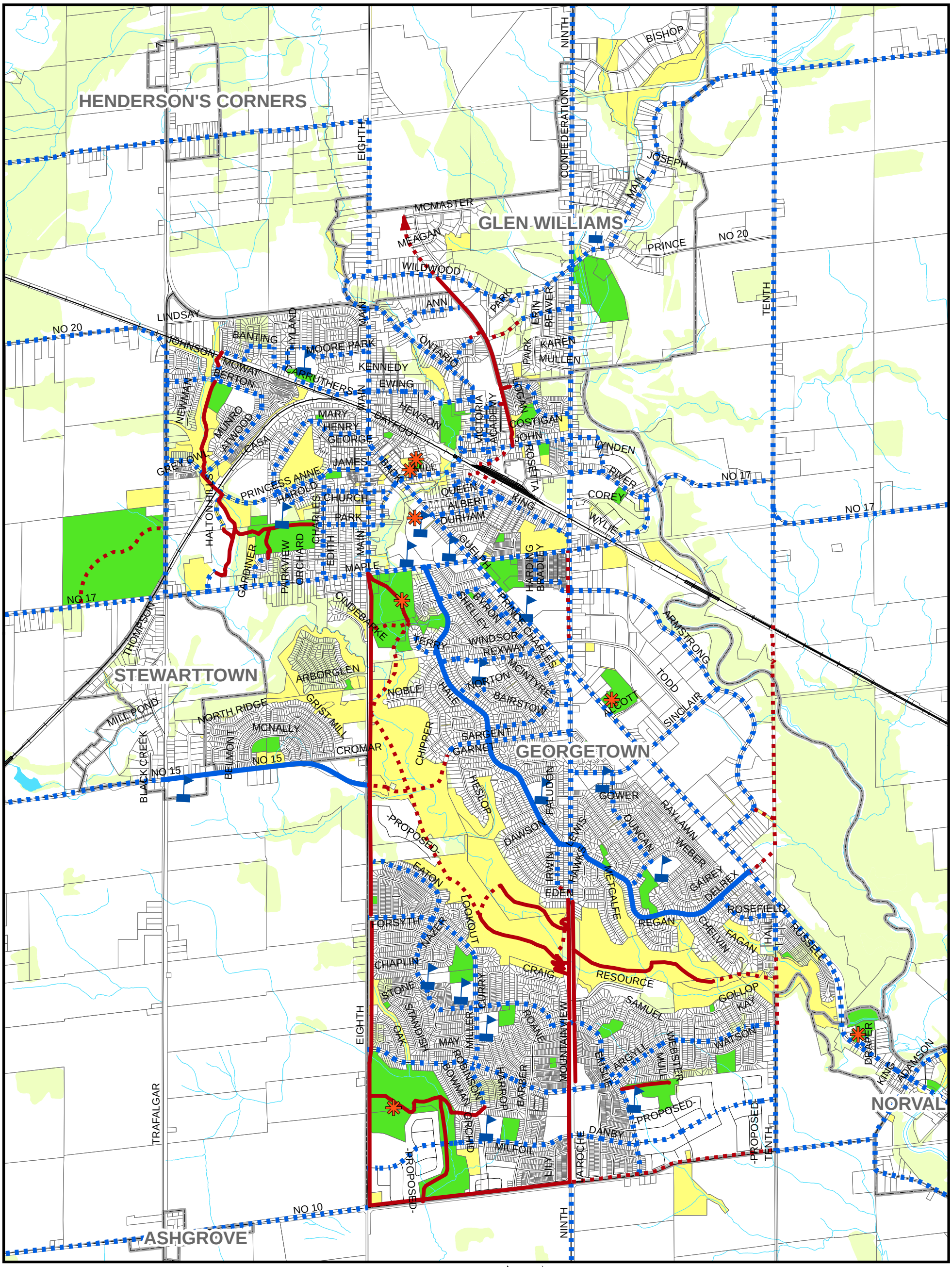

Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE EX-2
Recommended Network

GEORGETOWN

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection

On Road Cycling Routes

- Existing On Road Route
- Proposed On Road Route

Off Road Cycling Routes

- Existing Off Road Trails & Potential Cycling Routes*
- Proposed Off Road Route

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS

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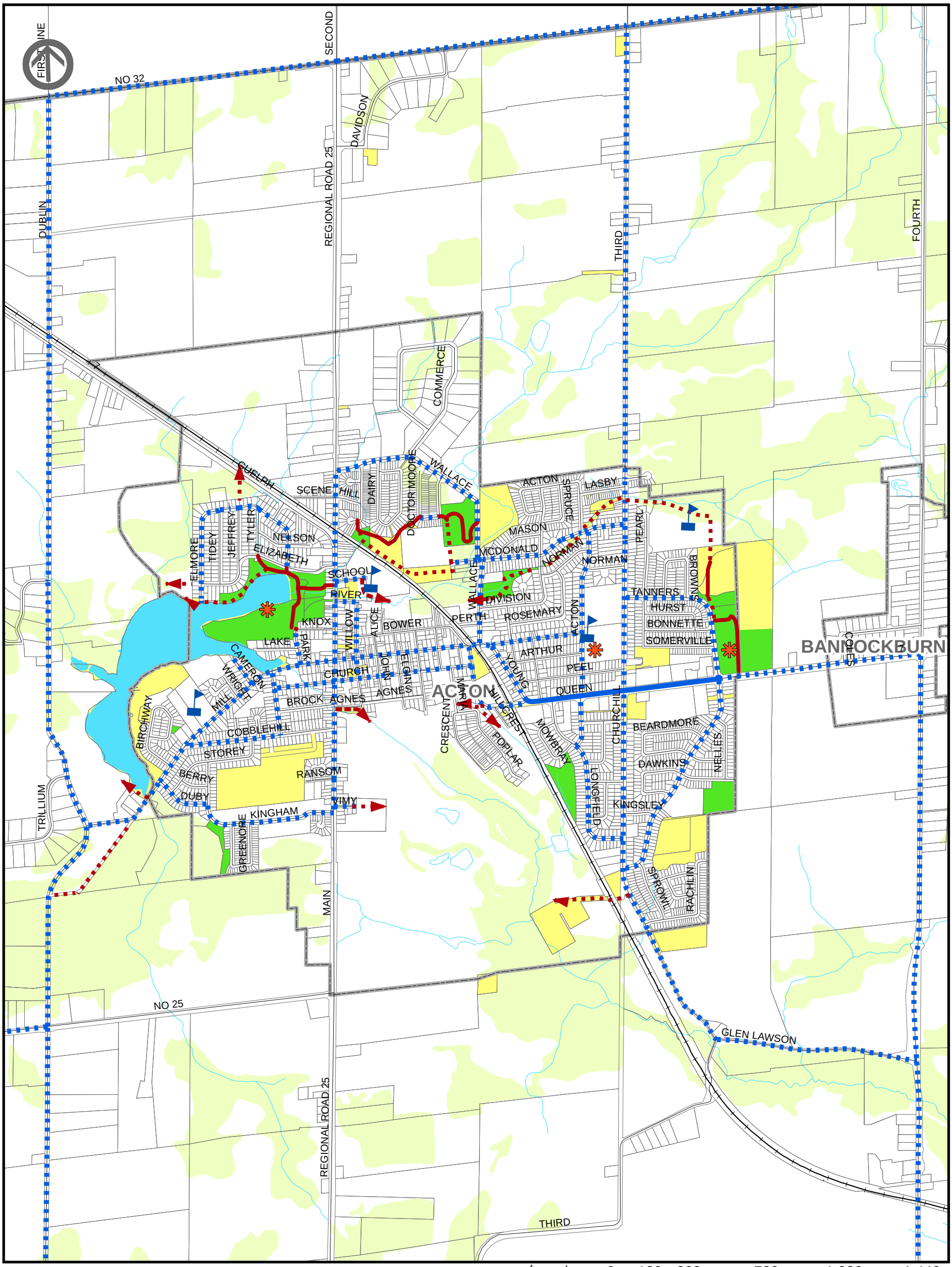

Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE EX-3
Recommended Network

ACTON

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection
- Regional Network Connection

On Road Cycling Routes

- Existing On Road Route
- Proposed On Road Route

Off Road Cycling Routes

- Existing Off Road Trails & Potential Cycling Routes*
- Proposed Off Road Route

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS

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Public outreach will be an important element in the implementation of the Cycling Master Plan. Outreach involves social marketing and raising public awareness for cycling initiatives in the Town and these can be delivered through a number of initiatives, such as education, encouragement and enforcement. The outreach strategy presented in this plan is built on current initiatives in place at the Town and Regional level and may involve partnerships with local community groups and agencies. The successful implementation of the HHCP must involve public outreach, as it will help both cyclists and motorists to better understand their relationship and roles when using the network and will help to communicate and promote the benefits of cycling to residents and visitors of Halton Hills.

The successful implementation of this master plan must involve public outreach, as it will help both cyclists and motorists to better understand their relationship and roles when using the network and will help to communicate and promote the benefits of cycling to residents and visitors of Halton Hills.

Funding the Plan is essential if the benefits are to be realized. The Halton Hills Cycling Master Plan recommends the commitment of funding and staff resources on an annual basis. The Plan summarizes the many benefits to investing in cycling infrastructure and programs and builds a business case why the Town of Halton Hills' commitment to implement the Cycling Master Plan is so important. To assist the Town in funding the recommendations of this Plan, the Town is encouraged to also seek out other sources of revenue from its partners including Metrolinx, Halton Region, plus the Provincial and Federal Governments.

In conclusion, the HHCP is an important and essential tool to assist the Town of Halton Hills in its goal of becoming more sustainable. It will assist the Town in meeting the objectives of the Provincial Places to Grow legislation and other key pieces of policy on a Provincial, Regional and local level. The Plan provides important guidance for future transportation infrastructure improvements. The implementation of the Plan will contribute towards meeting the Town's strategic goal of fostering a healthy community.

1.0 INTRODUCTION

Georgetown (Source: MMM Group)

The Town of Halton Hills has developed a comprehensive Cycling Master Plan to guide the Town in the implementation of a Town-wide cycling network over the next 10 years and beyond.

1.1 The Need for a Cycling Master Plan

The Town of Halton Hills has developed a comprehensive Cycling Master Plan to guide the Town in the implementation of a Town-wide cycling network over the next 10 years and beyond. The Cycling Master Plan also includes planning, design and operations guidelines as well as suggested supportive policies and programs to encourage cycling throughout the Town. MMM Group was retained by the Town in June 2009 and was guided by a study team, led by the Infrastructure Services Department and a Cycling Committee, which consulted with residents and stakeholders over the course of the study.

The objective of the Cycling Master Plan Study was to formulate a plan consisting of short, mid and long-term actions and recommendations that will establish and support a desired level of cycling activity and facilities for Halton Hills residents.

The Town of Halton Hills' Official Plan Consolidation (2008) and a number of other provincial, regional and local policies support the need for the cycling master plan for the Town of Halton Hills. The Town's Official Plan calls for the consideration of non-motorized movement in existing and new development. The Official Plan also promotes connectivity, mobility and pedestrian and transit-oriented development. The Halton Regional Transportation Master Plan Study as well as the Halton Hills Community Action Plan for Life also provided an existing context to build upon.

The development of a plan is also supported provincially through a number of recent initiatives developed by the Provincial Government. These initiatives include the approved Greenbelt Plan and the passing of enabling legislation for the Places to Grow Plan which is expected to further increase the intensification of existing urban and settlement areas. In addition, the Greater Toronto and Hamilton Area (GTHA) Regional Transportation Plan, prepared by the provincial agency Metrolinx, recommends ten strategies, one of which is to build communities that are pedestrian, cycling and transit-supportive.

The Cycling Master Plan, as presented, supports the Halton Hills policy that recognizes non-motorized transportation as both a feasible and desirable means of transportation for both utilitarian and leisure purposes. The Cycling Master Plan provides short, mid and long-term recommendations that will support the desired level of cycling activity and facilities for the benefit of Halton Hills residents and visitors.

1.2 Vision and Goals

(Source: MMM Group)

A Cycling Master Plan should be guided by goals and objectives but it should also establish a vision that will result from the successful implementation of the Plan. The following "Vision" and goals for the Town of Halton Hills Cycling Master Plan were prepared during the initial stages of the study and confirmed through consultation with both stakeholders as well as members of the public:

Vision

The Town of Halton Hills is a cycling supportive community that embraces the "complete streets" concept and encourages both utilitarian and recreational travel. Residents are encouraged to leave their cars at home and commute to work, school and other destinations by active modes, while visitors come to enjoy the healthy lifestyle and attractions throughout the cycling network.

A Cyclists' Road (Source: League of American Bicyclists)

Goals of the Cycling Master Plan Study

The vision was supported by the following goals:

- Consult with the public, key stakeholder groups, local and Regional municipal staff and other partners to identify the role of the Town and Region in facilitating cycling and to identify the elements of a Cycling Master Plan that is right for Halton Hills;
- Recommend actions to improve conditions for cycling in Halton Hills for people of all ages and abilities by providing a convenient and continuous on and off-road Town-scale cycling network that is integrated with Regional network facilities;

The Town of Halton Hills is a cycling supportive community that embraces the "complete streets" concept by encouraging both utilitarian and recreational travel by walking, cycling and using public transit through a safe and desirable Town-wide network of on-road and off-road cycling facilities.

- Develop an effective and practical implementation strategy that will identify priorities, annual costs, best practices for facility design and support an improved cycling network. The implementation strategy will also recommend management tools and approaches to assist Town staff in both implementation and monitoring of the Plan; and
- Identify and recommend strategies and programs that the Town can lead, or partner with others, to encourage more people to cycle more often for utilitarian and recreational purposes.

1.3 The Study Process

A key component of the study process was the development of an integrated cycling network.

In June 2009, MMM Group Limited was retained by the Town to assist municipal staff in the development of a comprehensive Cycling Master Plan for the Town of Halton Hills. A key component of the study process was the development of an integrated cycling network that included on and off-road routes that builds upon and can be integrated with existing facilities, connect neighbourhoods and key destinations, promote utilitarian and commuting trips and support public transit. The Master Plan identifies links and extensions of existing bikeways, sidewalks and trails, as well as safe and convenient cycling connections throughout the Town. The Master Plan Study objectives also included identifying priorities for network implementation and determining appropriate levels of funding for operations and maintenance as part of a practical and comprehensive implementation strategy.

The Study process that led to the development of the Cycling Master Plan included the following four comprehensive phases:

Assemble, Review and Confirm – The first phase in the study was a background assessment that focused on compiling and analyzing information related to cycling, and other relevant studies and initiatives in the Town of Halton Hills. It identified the purpose and approach for the study, as well as a consultation and communication strategy; highlighted some of the benefits to cycling and active transportation; summarized key Municipal, Regional, Provincial and Federal policies regarding cycling and active transportation facilities; and examined innovative and best practices in facility design from across North American and internationally. The Town prepared and provided the study team as well as members of the public maps of the existing and previously proposed cycling facilities, as well as some preliminary locations of both existing barriers and opportunities for an improved cycling system for Halton Hills for their review and comments.

Identification of Potential Cycling Routes – Based on the technical assessments and background information review conducted in Phase 1, a draft cycling network and supporting strategies were developed in Phase 2. The Phase 2 Network Report documented the existing context for the study, the network development approach that was followed, and the alternative cycling facility types that were proposed to make up the cycling network. This phase also included the initial stages of the development of a set of guidelines for the planning, design and the operation of cycling facilities.

Existing Off-Road Cycling Route in Halton Hills (Source: MMM Group)

Review: Develop Planning, Signing and Facility Design Guidelines – A review of existing Town standards with respect to bicycle safety was undertaken in this stage of the study. Recommendations for signage as well as wayfinding were developed. The Draft Cycling Planning and Design Guidelines were established and presented to the Town for review.

Development of Implementation Plan Including Cost Estimates – In the fourth and final phase of the study, the draft cycling network was refined and finalized, and an implementation strategy was developed which outlined recommendations for implementation of the Plan; described a proposed implementation process and funding strategy; identified estimated costs and priorities for implementation; addressed liability and risk management; recommended monitoring implementation and performance measures; detailed recommended policies to support cycling in Halton Hills; and outlined a schedule for implementation of the Plan. The implementation strategy forms part of this report, and will guide the Town in bringing the Plan's recommendations to fruition. The process undertaken when developing this cycling master plan is described in detail throughout this report.

1.4 Organization of this Report

This report is comprised of five sections which are each key to the overall understanding of the Halton Hills Cycling Master Plan and its success.

This Report is comprised of five sections. Chapter 1 outlines the overall purpose for the Plan within the Town as well as the goals and the process followed to successfully create a cycling network throughout Halton Hills.

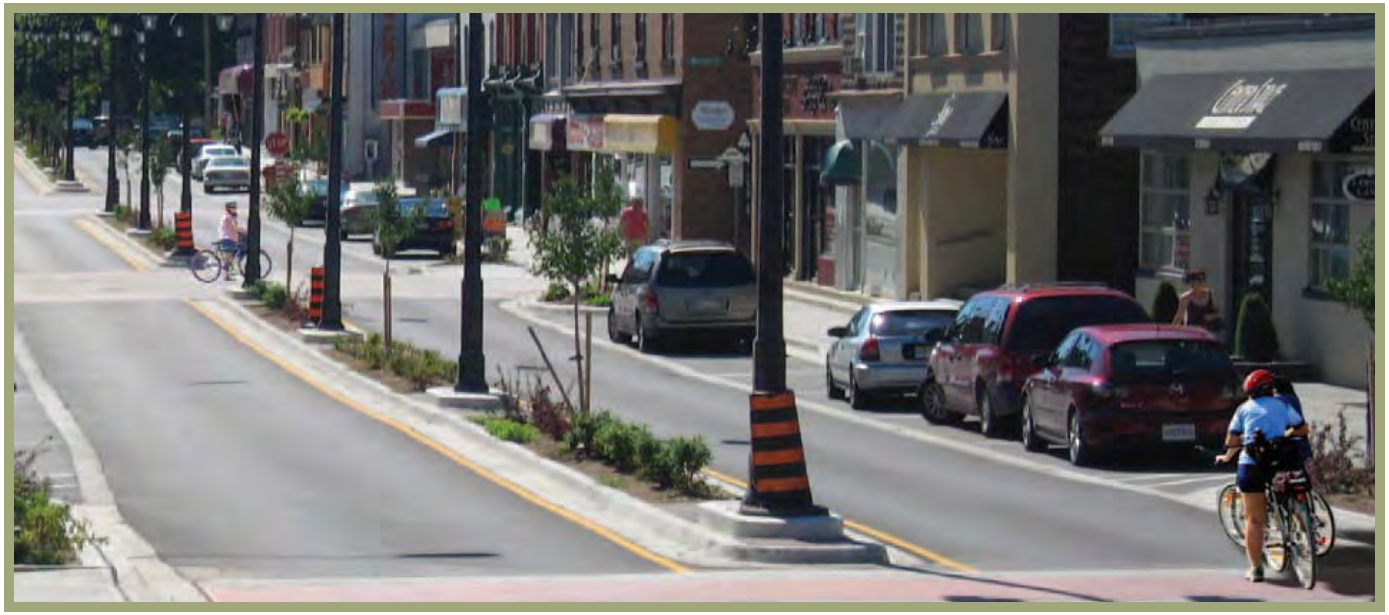
Chapter 2 details the context of this plan as it relates to the Town of Halton Hills as well as the need for a Cycling Master Plan. It outlines the various benefits associated with the implementation of a cycling plan and summarizes existing policies from various levels of government (national, provincial, and regional) that were considered in the development of this plan.

Chapter 3 summarizes the public consultation process which was undertaken for the HHCP study and highlights some of the public input received.

Chapter 4 outlines the Cycling Network selected for the Town of Halton Hills and the process that was undertaken to develop the route network.

Chapter 5 focuses on the implementation of the Plan and the strategies that can be employed to ensure that the Cycling Master Plan is a success. This chapter also examines methods of public outreach and various approaches that can be undertaken to encourage the public to choose cycling as part of a healthy lifestyle. It outlines the estimated cost to implement the Plan as well as funding and partnership strategies that can assist in the overall funding of the Plan. Cycling policy recommendations are presented along with ways in which the success of the Plan can be measured and identifies steps to ensure that the Cycling Master Plan created for Halton Hills is successful.

2.0 CONTEXT



Main Street in Georgetown (Source: MMM Group)

2.1 Benefits of Cycling

Cycling provides significant health, transportation, environmental and economic benefits. Municipalities in Southern Ontario and throughout North America are actively implementing initiatives to promote and encourage cycling as a feasible alternative to the private automobile for short-distance trips and as a method of promoting a more active and healthy lifestyle. This section highlights some of the key benefits in further detail.

Municipalities in Southern Ontario and throughout North America are actively implementing initiatives to promote and encourage cycling as a feasible alternative to the private automobile for short-distance trips and as a method of promoting a more active and healthy lifestyle.

2.1.1 Health and Fitness

Cycling provides an enjoyable, convenient and affordable means of exercise and recreation.

Cycling provides an enjoyable, convenient and affordable means of exercise and recreation. Evidence also suggests that the most effective fitness routines are moderate in intensity, individualized and incorporated into our daily activities. Extensive research has been conducted to identify the relationship and emphasize the importance of physical activity as part of one's daily routine.

Cyclists in Newmarket Preparing for the Annual Greenbelt Ride (Source: MMM Group)

The Canadian Medical Association Journal estimates that the annual cost of physical inactivity is $5.3 billion. The Ontario Chief Medical Officer of Health's 2004 report found that the cost of obesity on the provincial health care system was roughly $4.3 billion annually ($1.6 billion in hospital care costs and $2.7 billion in indirect costs such as lost earning). In 2004, the Canadian Community Health Survey determined that half of all Canadian adults were overweight and, of those, 23% are considered to be

obese. Cycling for utilitarian and recreational purposes can help to reduce these values and create a more healthy, active community where cycling becomes integrated into daily routines.

Sedentary lifestyles have serious consequences for public health. The most visible is the sharp rise in obesity across Canada in recent years. Almost half of Canadians, ages 12 and over, report being physically inactive and 26% of youth between the age of 2 and 17 years old are overweight or obese (Statistics Canada 2005). In Canada, the prevalence of obesity has more than doubled in the last 20 years (Katzmarzyk & Mason, 2006).

In 2004, the Canadian Community Health Survey determined that half of all Canadian adults were overweight and, of those, 23% are considered to be obese.

The number of Canadian deaths related to obesity has nearly doubled since the mid 1980's according to the Heart and Stroke Foundation of Canada. A significant factor in these changes relates to the reliance on automobile transportation and a lack of physical activity for both leisure and utilitarian purposes. There are studies that have proven a direct correlation between community design and obesity levels. One of the leading studies in this area was published in the August 2004 issue of the American Journal of Preventative Medicine. The study followed 11,000 individuals and discovered a link between suburban living and obesity levels. Residents who live in more walkable communities were 33% more likely to meet the 30-minute daily requirement for exercise (about 2 kilometres). The study also found that for every additional walked kilometre the likelihood of being obese decreased a further 5%. Those who spent at least 30 minutes each day driving their cars were 3% more likely to be obese.

Similar to this study, the 2005 Heart and Stroke Foundation's Report Card found that those who live in suburban areas rely more on cars to travel than those who live in urban settings and are therefore less likely to get the proper recommended amount of physical activity. Those who lived in neighbourhoods with community and commercial services within walking or cycling distance of their homes were 2.4 times more likely to meet the daily requirement.

Air pollution can be incredibly harmful and the quality of the air we breathe is significantly decreasing due to the amount of emissions released by cars.

Obesity is not the only health risk associated with automobile dependency. Air pollution can be incredibly harmful and the quality of the air we breathe is significantly degrading due to automobile emissions released by cars. These emissions contribute to the amount of smog that is experienced in the province and Ontario has seen a considerable increase in smog alerts in recent years. 2005 was a particularly bad year for smog in Ontario. Fifteen smog advisories were issued that covered a total of

(Source: Halton Region Cycling Committee)

53 days, one of which was during the first week of February—the first winter smog advisory ever recorded in Canada.

Studies have shown that people who use active and sustainable modes of transportation are at a lower risk of exposure to air pollution. In fact, pedestrians, cyclists and transit users are exposed to 10 times less pollution than drivers and car passengers (Climate Change Connection Manitoba).

There are also other health benefits in addition to the physical fitness and air quality gains. Cycling, as a form of exercise, can enhance one's mental outlook and well-being, improve self-image, social relationships and increase self-reliance by instilling a sense of independence and freedom. These can contribute to healthier and happier personal relationships, and improvements to work and school productivity.

2.1.2 Transportation

Cycling is both a popular recreational activity and a means of transportation that is efficient, affordable and accessible. Surveys show that 66% of Canadians would like to cycle more than they presently do. For example seven in ten Canadians say they would cycle to work if there "were a dedicated lane which would take me to my workplace in less than 30 minutes at a comfortable pace".[1] Cycling provides a sustainable alternative to the vehicle as it is one of the most energy efficient modes of transportation and generates no pollution. The transportation benefits of cycling include reduced road congestion, infrastructure, maintenance and user costs, and increased road safety. For distances up to 10 km in urban areas, cycling can be the fastest of all modes from door to door.

Seven in ten Canadians say they would cycle to work if there "were a dedicated lane which would take me to my workplace in less than 30 minutes at a comfortable pace".[1]

In a City of Toronto Cycling Survey conducted in 2009, 29% of individuals surveyed stated that they cycle mainly for utilitarian purposes while 25% said they were recreational cyclists. From 1999 to 2009 the number of individuals who classified themselves as non-cyclists in the City of Toronto dropped by 6% from 52% to 46%.[2] This reflects a growing trend in many other Canadian cities and towns where cycling is on the rise.

[1] Ontario Trails Strategy, Ministry of Health Promotion, 2005, Province of Ontario.

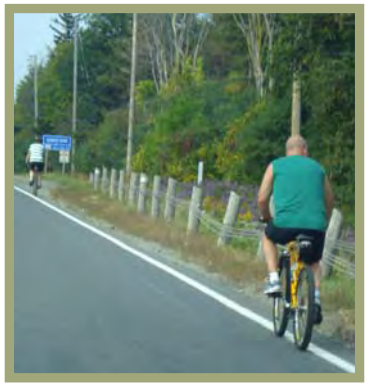
[2] City of Toronto Cycling Study Tracking Report (1999 and 2009), January 2010, Ipsos Reid

Cycling is an efficient alternative transportation mode (Source: League of American Bicyclists)

There is strong evidence that the development of a connected cycling route network along with supportive marketing strategies can increase the number of people who cycle, a phenomenon which is demonstrated in Portland, Oregon. The Portland Department of Transportation's (PDOT) annual bicycle counts constitute the City's primary means of assessing progress in its efforts to make the bicycle an integral part of daily life in Portland. The counts have shown that bicycle use in the city has not only grown rapidly, but the rate of growth is increasing as well. Portland's comprehensive cycling network has been a catalyst for significant changes in the way that residents travel in and around the city. The primary gauge for measuring bicycle use in Portland is the number of bicycle trips across the four bicycle-friendly bridges over the Willamette River (Hawthorne, Burnside, Steel, and Broadway bridges). The number of bicycle trips crossing these bridges increased by 21% between 2006 and

There is strong evidence that the development of a connected cycling route network along with supportive marketing strategies can increase the number of people who cycle, a phenomenon which is demonstrated in Portland, Oregon.

Portland's comprehensive cycling network has been a catalyst for significant changes in the way that residents travel in and around the city.



(Source: MMM Group)

2007 to a total of 14,563 trips daily.[1] If those daily bicycle trips were instead made by automobiles, they would have a significant negative effect on traffic congestion, parking availability, as well as air quality.

The addition of even a small volume of vehicular traffic to a congested road can create enormous delays for all users. In fact, at capacity conditions, increasing traffic by 5% can reduce speeds by up to 25%. Congestion costs in Ontario were estimated to be $6.4 billion annually and could grow by an additional $7 billion annually by 2021 without increased investment in alternative modes of transportation.[2] By shifting the number of trips taken by single occupant vehicles to sustainable modes such as cycling, not only is there the potential to reduce congestion but roadway costs may be reduced as well.

Typical roadway funding requirements include maintenance costs, safety and enhancement costs plus the addition of roadway capacity through lane widenings or additions. Furthermore, the costs for road construction, reconstruction and maintenance are usually paid for by road users through property and gas taxes. It would be more economical and efficient to provide paved shoulders on a road for cyclists than to widen the road to provide two additional motor vehicle travel lanes. Bicycles are lightweight vehicles that take up little space and cause virtually no wear and tear on a road surface. Additionally, many municipalities have found that paved shoulders reduce maintenance costs related to shoulder deterioration, grading and snow ploughing. In this way, an emphasis on cycling and other active transportation modes can result in a reduction in roadway costs.

Road improvements to increase the safety of cyclists can enhance the safety of other road users. The U.S. Federal Highway Administration reports that paved shoulders on two-lane, rural roads have been shown to reduce run-off-the-road, head-on and sideswipe collisions by 30% to 40%.

Another benefit of reduced car use is a decrease in the number of parking spaces required. Parking is a significant cost of operating an automobile. Encouraging more people to cycle to work can lead to a reduction in the number of parking spaces required at a place of employment. Bicycle parking facilities can be provided in an existing surface or underground parking lot with no additional parking lot

[1] Portland Bicycle Counts 2007

[2] Transportation Demand Management Strategy, City of Ottawa - TravelWise (Transportation, Utilities and Public Works), April 2003.

expansion required and can be integrated with other cycling facilities developed throughout a cycling network.

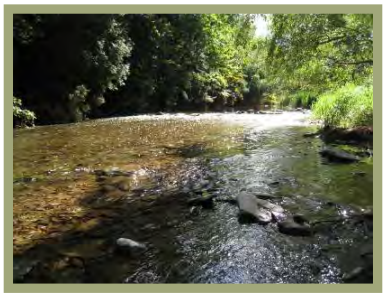
It has been estimated that due to rising gasoline prices, more than 10 million cars – mostly belonging to low income families – will disappear from families in the US in the next five years, and a similar trend is expected in Canada.[1] Cycling can provide a form of mobility for people who do not have regular access to an automobile and live in communities with limited transportation alternatives. As the mode of travel will shift to alternative modes of transportation such as cycling, providing safe options for bicycle travel is going to become increasingly important.

Providing safe options for bicycle travel is going to become increasingly important for all communities, including the Town of Halton Hills.

2.1.3 Environment

Pollution and poor air quality are significant environmental concerns for residents of southern Ontario. Cycling is an energy efficient, non-polluting mode of transportation. Short distance, motor vehicle trips generate the most pollution per kilometre and are the least fuel efficient form of travel. These trips have the greatest potential of being replaced by cycling trips. Shifting to cycling as a mode of travel can mitigate global climate change, local air pollution, photochemical smog, acid rain, water pollution and hydrologic disruptions, land use and noise pollution.

It has been estimated by the Region of Halton Health Department that the transportation sector was responsible for 31 percent of Ontario's total greenhouse gas (GHG) emissions, making it the largest single source of GHG emissions in Ontario, this amounts to the equivalent of approximately 65 mega tonnes of carbon dioxide (CO2) per year.[2] This has contributed to changes in climate patterns including increases in extreme weather such as heat waves, severe thunderstorms and tornadoes in the last decade. There are many shifts in policy and behaviour that are needed within Canadian society to reduce our share of greenhouse gases that contribute to climate change.



(Source: MMM Group)

[1] CIBC World Markets, 2008

[2] Creating Walkable and Transit-Supportive Communities in Halton, Halton Region, February 2009

While a great deal of progress has been made to reduce emissions from individual vehicles, this progress has been offset to some extent by the increasing number of vehicles on the road and the increasing number of kilometres travelled by Canadians. Recent studies have demonstrated that local transportation and planning decisions can have a significant impact on emissions, local air quality, and human health. Cycling plays an important role in reducing emissions of air pollutants and greenhouse gasses, and fostering good health directly.

Cycling in Copenhagen, Denmark (Source: Darryl Young)

Improving active transportation methods such as cycling and reducing automobile traffic can help make communities more liveable by creating an environment that is pleasant, safer and offers reduced noise and pollution.

Improving active transportation methods such as cycling and reducing automobile traffic can help make communities more liveable by creating an environment that is pleasant, safer and offers reduced noise and pollution.

With regard to noise pollution, motor vehicles generate various types of noise pollution including engine acceleration, tire/road contact, braking, horns and vehicle theft alarms. Bicycles make little or no noise.

Automobile dependent communities require more land for road rights-of-way and parking than communities that are not as reliant on the automobile. Making communities less auto-dependant by providing infrastructure for alternative transportation modes, such as walking and cycling, can reduce the amount of land required to construct new communities, thus creating more compact developments that make more efficient use of available land. This can help to encourage more social interaction and create a stronger sense of community.

2.1.4 Economics and Tourism

The implementation of a cycling network can also have a positive economic impact for a municipality. Economic benefits such as reduced household expenditures on transportation, increased productivity, reduced healthcare costs, and reduced pollution are benefits that municipalities can capitalize on through the creation of a cycling network. Communities that provide the proper infrastructure find that as cycling traffic increases, transit use also grows and the rate of traffic congestion growth is reduced, all of which increases the efficiency of the entire transportation network.[1]

Investing in complete streets, a concept designed to accommodate multiple modes and a wide range of users, provides a potentially safer and more convenient transportation option for all users.

According to Statistics Canada, in 2006 Canadians spent about 14% of their income on transportation. Investing in complete streets, a concept designed to accommodate multiple modes and a wide range of users, provides a potentially safer and more convenient transportation option for all users. Well designed and complete streets can encourage drivers to make the choice not to drive and use public transit, walk or cycle instead, thus lowering a driver's overall transportation costs.

With the addition of a cycling network, individuals are more willing to utilize their bikes to travel due in part to an increase in the perception of personal safety and security. When areas become safer and more attractive, land and property values often increase, which can in turn increase municipal tax revenues. Transportation Alternatives, a non-profit transportation advocacy organization in the United States, summarized the economic outcomes of the introduction of cycling lanes in an August 2008 report. Key findings included:

1 Urban Bicycle Planning, Transport Canada, November 2008

- An 85% reduction in traffic translated into a 5% increase in property values after one year, and 30% after 13 years;
- Homes on streets with no through traffic commanded up to a 9% price premium; and
- Quiet streets commanded a price premium of between 8% and 10% over noisy streets.[1]

The compete streets concept encourages the integrated multi-modal design of streets which would allow cyclists and pedestrians to interact in an effective and positive manner.

The complete streets concept encourages the integrated multi-modal design of streets which would allow cyclists and pedestrians (and motor vehicles) to interact in an effective and positive manner. Complete streets can also have a direct positive impact on local retailers by increasing foot traffic and making the business area safer and more attractive. Beyond the benefits to property values, the Transportation Research report also found that safe, convenient and attractive amenities boost foot traffic by up to 40%, which can in turn boost retail sales along commercial streets by between 10% and 25%.

A Street in Paris, France designed for pedestrians, cycling and transit (Source: MMM Group)

1 Complete Streets: Making Canada's Roads Safer for All, Transport Canada, March 2009

By contrast, poorly designed streets can hinder economic growth and result in lost business, lower productivity and higher employee turnover. In a report on employment centres outside of Pittsburgh, 30% of employers said that a lack of adequate public transportation was the number one barrier to hiring and retaining qualified workers.

A study published by Go for Green in March of 2004 established a convincing business case for active transportation in the report entitled "The Economic Benefits of Walking and Cycling".[1] These benefits include a reduction in:

- Road construction, repair and maintenance costs;
- Costs due to air pollutants and greenhouse gas emissions;
- Health care costs due to increased physical activity and reduced respiratory and cardiac disease;
- Parking subsidies; and
- Costs due to air pollution.

Benefits also include:

- The positive economic impact of bicycle tourism;
- The positive economic impact of bicycle sales and manufacturing; and
- Increased productivity and a reduction of sick days and injuries in the workplace.

On and off-road trail systems can be travel destinations in themselves, encouraging visitors to extend their stay in the area or enhancing business and pleasure visits. Providing attractions that encourage tourists to stay longer can result in additional expenditures on lodging and meals, a major direct benefit to local businesses. A 1997 survey of Canadian tourists active in the outdoors showed that 30% of Ontario tourists cycled on at least one occasion while on vacation. The Ontario Ministry of Transportation reported that touring cyclists spend an average of $130 per day in Ontario, and bicycle,

There is ample evidence that on-road and off-road trails provide significant economic benefits for adjacent landowners and local businesses.

(Source: League of American Bicyclists)

[1] The Business Case for Active Transportation, Go for Green, Better Environmentally Sound Transportation - BEST, March 2004.

retail and tourist industry contributes a minimum of $150 million a year to the Ontario economy. Bed and breakfast operators between Ottawa and Kingston report that the majority of their business is from touring cyclists. Cyclists in Vermont spend an average of $180 U.S. per day, the same amount as someone traveling by car.

Bicycle manufacture, sales and repairs, as well as bicycle tourism, recreation and delivery services contribute to the economy with little to no public investment or subsidy. In 2002, Canadian households spent an average of $42 on bicycles, parts and accessories for a total of approximately $500 million.[1]

Cycling La Route Verte in Quebec (Source: League of American Bicyclists)

[1] The Business Case for Active Transportation, Better Environmentally Sound Transportation - BEST, Go for Green, March 2004. Section 4.5.4, pg. 24.

Halton Region and the Town of Halton Hills are already a popular destination for cyclists in the Greater Toronto and Hamilton Area because of their interesting landscapes, lower volume roads and many other features. This provides an excellent economic opportunity for the Town to leverage through the marketing of Halton Hills as an inviting and bicycle friendly destination for visitors. Investing in a connected and signed network of cycling routes is a key ingredient to realize these types of cycling generated economic benefits.

2.1.5 Active Transportation - Making It Work in Canadian Communities

Municipalities across Canada are already making efforts to integrate cycling as part of their overall active transportation network. In recognition of this, the Transportation Association of Canada (TAC) undertook a survey of active transportation initiatives in Canadian municipalities. The findings were compiled in April 2010 into a comprehensive study report titled *Active Transportation - Making It Work in Canadian Communities*. The study included a literature review of 60 international references and 28 Canadian cycling and pedestrian plans to observe the successes and challenges of implementing active transportation within communities[1]. As well to gain further input, interviews were conducted with active transportation focus groups and experts and TAC member municipalities were invited to complete a web-based survey. (The Town of Halton Hills was one of the municipalities that completed the survey). Several themes were highlighted in the study as critical components to improving active transportation. These include: leadership, partnerships, public involvement, financial and human resources, knowledge and skills, policy and planning, travel facilities, improving safety and security, and influencing individual travel choices.

The study revealed that overall progress in implementing active transportation networks is advancing, albeit slowly. Progress is impeded by an automobile oriented society that exists currently with its associated urban design, land use and public perception. Additionally, the study recognizes that there are physical challenges including topography and weather which also can discourage increases in active transportation (and especially cycling) rates.

Supportive policies and guidelines, such as this Cycling Master Plan, provide the overall framework that is fundamental to the development of an active transportation network.

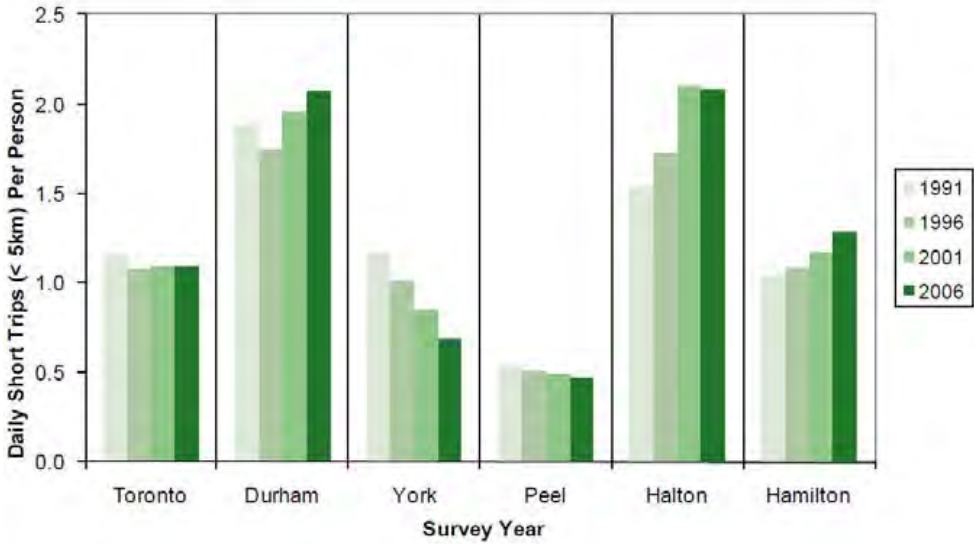
[1] Active Transportation - Making it Work in Canadian Communities, Transportation Association of Canada, April 2010

However, the report also highlighted several common actions from across the country that were important in the development of successful active transportation networks and programs. Supportive policies and guidelines, such as this Cycling Master Plan, provide the overall framework that is fundamental to the development of an active transportation network. These policies provide a long-term vision and infrastructure plan that can be followed by the leadership within the municipality. In addition to policy changes, the report emphasized that encouragement and outreach to promote public awareness of active transportation is necessary. The study found that increasing awareness can also increase political support for infrastructure projects.

Halton Region has the highest number of active short trips per capita than any other region or municipality in the Greater Toronto and Hamilton Area, including the City of Toronto and the City of Hamilton.

The overall progress, challenges and successes of active transportation in Canada is reflected in current trends. Various indicators were analyzed and summarized in the study report. Data for these indicators were retrieved from the Statistics Canada and the Transportation Tomorrow Survey. Important findings include:

- Cycling mode share for commuting trips tend to be increasing across the country, while walking mode share for commuting is decreasing across the country;
- The proportion of short trips (i.e. less than five kilometres) taken by active modes of transportation has increased since 2001. Halton Region has one of the highest number of active short trips per capita over other regions and municipalities in the Greater Toronto and Hamilton Area, including the City of Toronto and the City of Hamilton (shown in the following graph);
- The number of cyclists that are injured in Ontario is less than that of pedestrians and the rate of these accidents has decreased between 1989 and 2005. However, this trend has leveled off by 2005; and
- Total greenhouse gas emissions have increased steadily between 1990 and 2005, with an estimated 31% of the emissions coming from the transportation sector.



Active Short Trips per Capita (Source: Transportation Association of Canada, 2010)

The 2010 Transportation Association of Canada (TAC) Report provides a comprehensive review of walking and cycling context across Canada. As the report has shown, there are challenges to advancing active modes of transportation and this emphasizes the need for a clear vision and implementable objectives in each municipality, which for Halton Hills, has been outlined in this Cycling Master Plan.

2.1.6 The Benefits Summarized

Over the last ten years, the concept of cycling networks and active transportation has been gaining popularity because the health, social, environmental, and economic benefits are so substantial. There is clear evidence of benefits associated with designing cycling friendly communities and encouraging people to walk and bike more often for both recreation and utilitarian purposes. Promoting cycling, especially through the development of an integrated on and off-road cycling and trail system that provides transportation and recreation options is a simple and obvious strategy that can encourage

Over the last ten years, the concept of cycling networks and active transportation has been gaining popularity because the health, social, environmental, and economic benefits are so substantial.

people to reduce their use of the personal automobile, and create sustainable, more liveable communities.

2.2 Existing Local Context

In order to fully understand and examine the potential benefits to the Town with the implementation of the Cycling Master Plan, it is important to understand

In order to fully understand and examine the potential benefits to the Town from implementing this Cycling Master Plan, it is important to first understand the existing local context of Halton Hills. This section summarizes the study team's assessment of local communities, policies and the current transportation choices available to Halton Hills residents.

2.2.1 Community Profile

A community profile was generated in order to compare a number of municipalities that make up the Region of Halton. The Towns of Halton Hills, Oakville, Milton and the City of Burlington were compared based on selected indicators from the latest publicly available Statistics Canada Census (2006) data. The indicators selected were:

- Total Population;
- Population density per square kilometer;
- Land area;
- Median age of the population; and
- Median household income (2005)

The community profiles (based on information from the 2006 Canadian Census) are presented in the following *Table 2-1*. The same data is presented graphically in *Figures 2-1 to 2-5.*

Table 2-1: Community Profile Summary

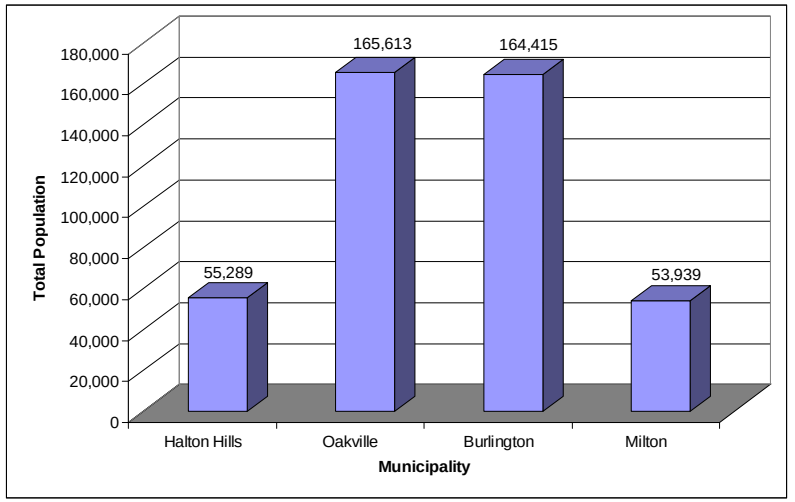
Indicator	Halton Hills	Oakville	Burlington	Milton
Total Population	55,289	165,613	164,415	53,939*
Population density per square kilometer	200.1	1,195.20	885.2	147.1
Land area (square km)	276.26	138.56	185.74	366.61
Median age of the population	37.9	38.4	40.3	34.4
Median household income (2005)	$85,520	$92,394	$86,174	$89,718

** Please note that as of 2008, the population of Milton has exceeded that of Halton Hills*

(Source: MMM Group)

Figure 2-1 identifies the total population of the four municipalities. Total populations vary from 54,000 to 165,000, with the Town of Halton Hills being one of the smaller communities within the Halton Region.

Figure 2-1 – Total Population



(Source: MMM Group)

Figure 2-2 compares the population density of each municipality. The Town of Halton Hills population density of 200.1 people per square kilometre falls well below the average of 606.9 people per square kilometre when all four municipalities are compared.

Figure 2-2 – Population Density

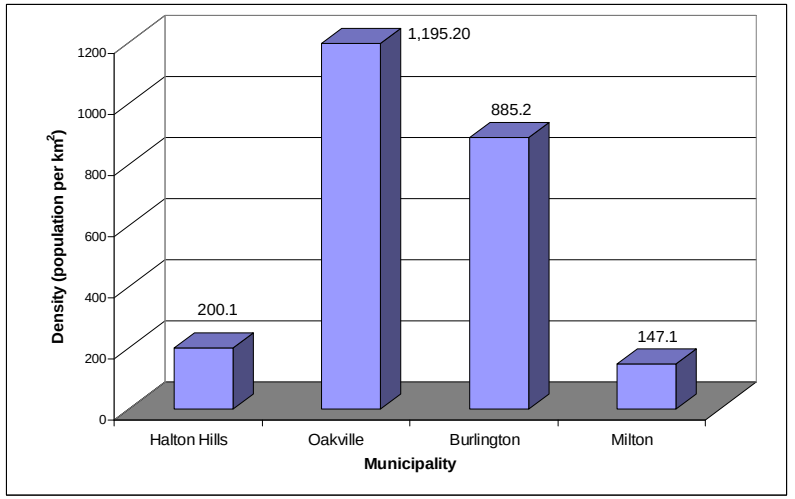


Figure 2-3 – Land Area (km^2)

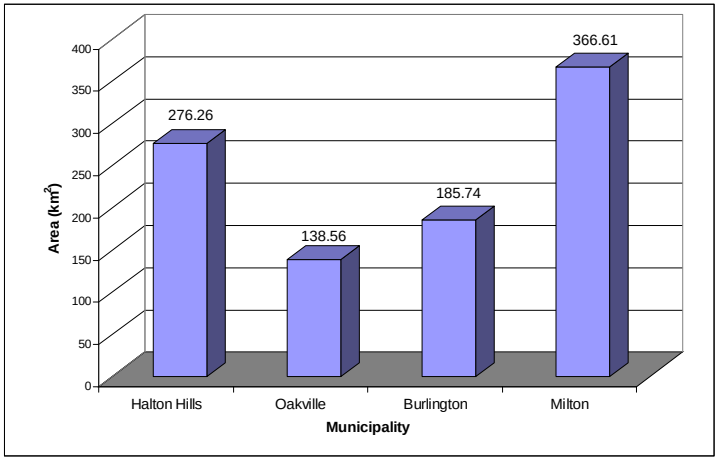


Figure 2-4 – Median Age of the Population

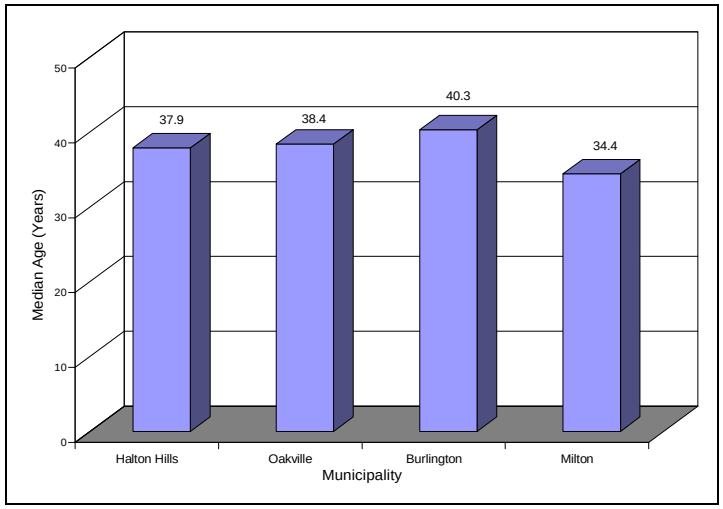


Figure 2-3 illustrates the land area for each municipality. Halton Hills is the second largest with a land area of approximately 276 square kilometers.

When compared to the other municipalities selected from the Region of Halton, Halton Hills has the second largest land area behind the Town of Milton. The Town of Oakville has the smallest land area at approximately 139 squared kilometres.

(Source: MMM Group)

Figure 2-4 indicates the median age for each municipality. Halton Hills, Oakville and Burlington have a similar median age ranging from 37-40 years. The Town of Milton has a slightly lower higher median age around 34 years.

(Cycling Garden Feature in Halton Hills Source: MMM Group)

(Source: John Luton)

Figure 2-5 – Median Household Income (2005)

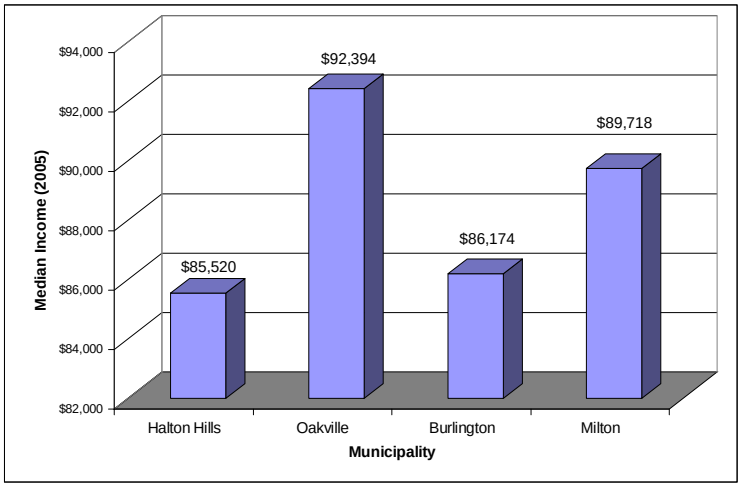


Figure 2-5 and median household incomes. The Town of Halton Hills had the lowest median income based on 2005 Statistics Canada data.

2.3 Existing Policies and Initiatives

2.3.1 Federal

Transport Canada released a report in 2005 titled "Strategies for Sustainable Transportation Planning: A Review of Practices and Options". The purpose of this report was to provide a foundation on which to build a set of guidelines for incorporating sustainable transportation principles into municipal transportation plans.[1] Some of these principles included the creation of policies related to cycling that can be used to develop effective, implementable transportation plans that promote sustainable transportation on a federal level. Some relevant strategies and policies are as follows:

Integration with Land Use Planning

- Encourage desirable land use form and design (e.g. compact, mixed-use, bike-friendly) through transportation plan policies.

[1] Strategies for Sustainable Transportation Planning: A Review of Practices and Options, Transport Canada, 2005

Environmental Health

- Identify strategies to mitigate the air impacts of transportation activities;
- Identify strategies to mitigate the noise impacts of transportation activities;
- Identify ways that transportation systems influence the achievement of the community's economic and social objectives. Provide support in the plan's strategic directions;
- Recognize the importance of ensuring access to opportunity for disabled and low income persons, recent immigrants, youth and the elderly. Set goals and objectives for reducing the need to travel, improving transit mobility, and preserving minimum levels of service on roadways. Identify related strategies;
- Address the transportation needs of persons with disabilities, notably with regard to public transit service and barrier-free design in public rights-of-way;
- Recognize the public health impacts of transportation activity arising through road safety, pollution and physical activity levels. Identify effective strategies to strengthen positive impacts and lessen negative ones; and
- Recognize the impact of transportation related death and injury on quality of life and the economy. Set goals and objectives for multimodal road safety. Identify effective road safety strategies.

Modal Sustainability

- Identify strategies, policies, facilities and services to increase walking, cycling, other active transportation, transit, ridesharing and teleworking;
- Recognize synergies and tensions among different modes (e.g. potential for multimodal cycling-transit trips, potential for modal shift from transit to ridesharing). Address possible implications for transportation objectives; and

Bill 51 includes changes to the planning process that are intended to support intensification, sustainable development and protection of green space by giving municipalities greater powers, flexibility and tools to use land, resources and infrastructure more efficiently.

- Include objectives, strategies, policies, facilities and services to make transit operations more sustainable.

2.3.2 Provincial

There are a number of Provincial Policies that impact cycling in the Town of Halton Hills. The following provides highlighted information on relevant provincial policies.

The Highway Traffic Act (HTA) contains a number of policies relating to bicycles, including bicycle lanes on municipal roadways, vehicles interacting with bicycles, bicycles being overtaken, and regulating or prohibiting bicycles on highways.

Bill 51 – Planning Reform

Bill 51 includes reforms to the Planning Act, which provides the legislative framework for land use planning in Ontario. Bill 51 includes changes to the planning process that are intended to support intensification, sustainable development and protection of green space by giving municipalities greater powers, flexibility and tools to use land, resources and infrastructure more efficiently.

Bill 51 is in line with Ontario's recent policy shift towards sustainable land use development and planning. For instance, Bill 51 permits municipalities to require environmental sustainability design requirements for both individual buildings and entire neighbourhoods. It also adds sustainable development as a provincial interest in the Provincial Policy Statement.

Provincial Policy Statement

The Provincial Policy Statement (PPS) sets the foundation for regulating land use and development within the Province and supports Provincial goals. The PPS provides for appropriate development and protects resources of provincial interest. The vision of the land use planning system in PPS is that the "long-term prosperity and social well-being of Ontarians depend on maintaining strong communities, a clean healthy environment and a strong economy".[1]

The PPS promotes transportation choices that facilitate pedestrian and cycling mobility and other modes of travel. The term "transportation systems" under the PPS means a system consisting of corridors and rights-of-way for the movement of people and goods and the associated transportation facilities, which include cycling lanes and "park'n'ride lots". Policies pertaining to transportation, such as cycling, pedestrians and transit are dispersed throughout the PPS.

[1] Provincial Policy Statement, Ministry of Municipal Affairs and Housing, 2005.

Municipal Act, 2001

The Municipal Act, 2001 gives municipalities a broad new flexibility to deal with local circumstances, and to react quickly to local, economic, environmental or social changes. It recognizes municipalities as responsible, accountable governments with respect to matters within their jurisdiction.1 It provides policies relating to the municipalities jurisdiction over municipal highways and the maintenance of those highways, which has an impact on cycling.

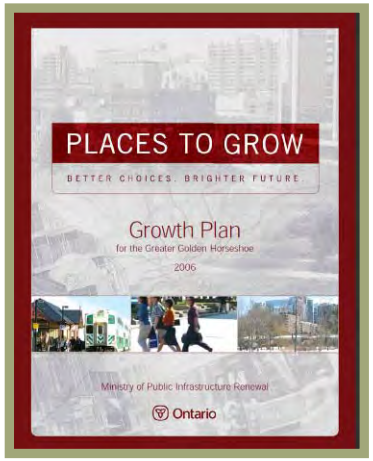
Highway Traffic Act

The Highway Traffic Act (HTA) contains a number of policies relating to bicycles, including bicycle lanes on municipal roadways, vehicles interacting with bicycles, bicycles being overtaken, and regulating or prohibiting bicycles on highways. Bicycles are recognized as a vehicle, as defined in the Highway Traffic Act, which can operate on public roadways with the same rights and responsibilities as motor vehicles. However, bicycles are not permitted on controlled access freeways such as the 400-series highways. As well, according to the Ontario Provincial Police, bicycles are vehicles, which are prohibited from sidewalks. The only exception is if a municipality passes a by-law that permits cycling on sidewalks (e.g. for small children), in which case, such a by-law would override the HTA.

Growth Plan for the Greater Golden Horseshoe

The Growth Plan for the Greater Golden Horseshoe was adopted in June 2006 under the provisions of the Places to Grow Act, 2005. This Act implements the Province's vision for developing stronger communities and managing the growth within those communities. The Province requires municipalities to take into consideration the policies and directives of the Growth Plan in their planning activities. The Growth Plan integrates and builds upon other key provincial initiatives, including the PPS, and municipal official plans must be in conformity with the Growth Plan.

With respect to pedestrian and cycling issues, the Growth Plan envisions that "an integrated transportation network will allow people choices for easy travel both within and between urban centres.

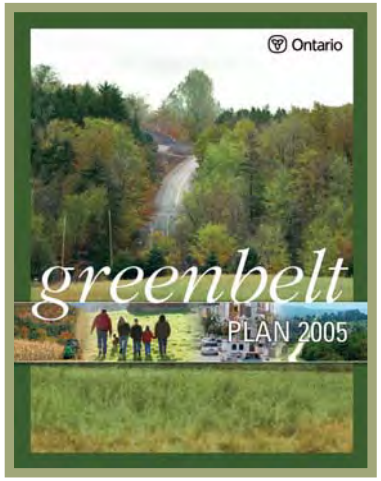


(Source: Government of Ontario)

Ontario's Greenbelt Plan works complementary with the Growth Plan for the Greater Golden Horseshoe by providing clear direction as to what and where should be protected from growth in Ontario.

[1] Ministry of Municipal Affairs and Housing: ww.mah.gov.on.ca/userfiles/HTML/mts_1_7748_1.html

It states that a healthy natural environment with clean air, land and water will characterize the Greater Golden Horseshoe".[1] It recognizes that travel by automobile will remain a significant means of transport, but this will be complemented by a variety of effective choices including fast, convenient and affordable public transit. Walking and cycling are also envisioned as practical elements of urban transportation systems. The Growth Plan provides broad-level policies that direct more sustainable growth and development in Greater Golden Horseshoe and specific targets for implementation among municipalities.



(Source: Government of Ontario)

Greenbelt Plan

Ontario's Greenbelt Plan works in a complementary fashion with the Growth Plan for the Greater Golden Horseshoe by providing clear direction as to features and locations that should be protected from growth in Ontario. It builds upon the policy framework established in the Provincial Policy Statement, and includes the lands and builds upon the ecological protection provided by the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan, as well as supports and complements the Parkway Belt West Plan and the Rouge Park Management Plans. The vision of the Greenbelt presented in the plan is to provide for a diverse range of economic and social activities associated with rural communities, agriculture, tourism, recreation and resource uses. The Culture, Recreation and Tourism goals for Ontario provided by the Greenbelt Plan related to cycling and pedestrian movement include:

- Provision of a wide range of publicly accessible built and natural settings for recreation including facilities, parklands, open space areas, trails and water-based shoreline uses that support hiking, angling and other recreational activities; and
- Enabling continued opportunities for sustainable tourism development.

Accessibility for Ontarians with Disabilities Act, 2005

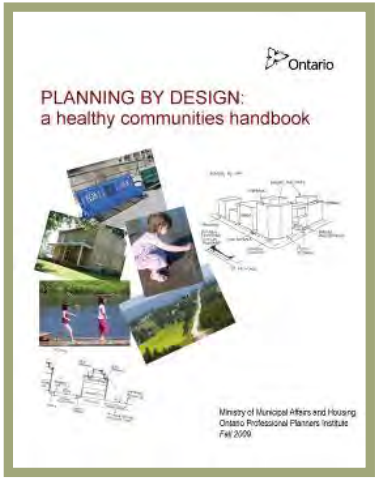
The Accessibility for Ontarians with Disabilities Act was passed on June 13, 2005 and is a provincially legislated policy which calls on the business community, public sector, not-for-profit sector and people

[1] Places to Grow, Growth Plan for the Greater Golden Horseshoe, Province of Ontario, June 2006.

with disabilities or their representatives to develop, implement and enforce mandatory standards. This policy makes Ontario the first jurisdiction in Canada to develop, implement and enforce accessibility standards and applies to both private and public sectors. These accessibility standards are the rules that business in Ontario should follow to identify, remove and prevent barriers to accessibility. The first standard to come into effect is the Accessibility Standards for Customer Service, however, Ontario is developing additional standards in the following area: built environment, employment, information and communications and transportation.

Planning By Design, 2009

In 2009 the Ontario Ministry of Municipal Affairs and Housing, in conjunction with the Ontario Professional Planners Institute, developed the *Planning by Design: A Healthy Communities Handbook* to promote sustainable development across the province. The handbook explores the connections between sustainable community building and health and the critical role that the built environment can play in shaping the health of individuals and communities throughout Canada.



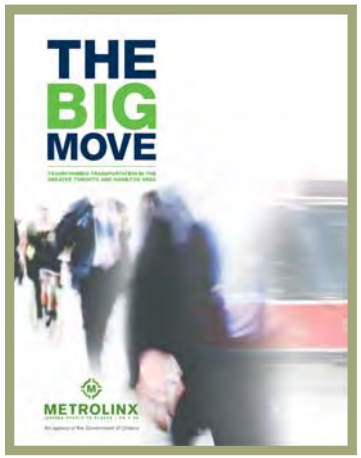
(Source: Government of Ontario)

The handbook outlines ways in which the current state of the built environment is detrimental to individuals and communities, and details changes that can be made in order to see noticeable improvements. Promoting safe and healthy mobility throughout communities is paramount to improving the overall health of Canadians. Section 2 of this document outlines considerations that municipalities may choose to make to the physical landscape in order to reduce the occurrence of disease, injuries and fatalities, such as;

- Creating streets, paths and trails that are well-connected, maintained and able to safely accommodate different modes of transportation;
- Creating neighbourhoods that are safe, accessible, aesthetically pleasing, well-serviced and inclusive; and
- Developing natural environments that are resilient, provide ecosystem services, support wildlife and their habitat and are better connected to where people live.

Promoting safe and healthy mobility throughout communities is paramount to improving the overall health of Canadians.

2.3.3 Metrolinx



(Source: Metrolinx)

Metrolinx, formerly known as the Greater Toronto Transportation Authority, was established in 2006 by the Government of Ontario. This agency of the Provincial Government was created in response to the need for a centralized organization to improve the coordination and integration of all modes of transportation in the Greater Toronto and Hamilton Area (GTHA). Metrolinx was tasked with developing a Regional Transportation Plan (RTP) for the GTHA based on a seamless, integrated Transportation network, with a real focus on public transit, that will allow people and businesses to move more easily from York and Durham, through Toronto, Peel, Halton and onward to Hamilton.

The RTP, adopted in November 2008 and entitled The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area, is primarily focused on enhancing and expanding public transit. In addition, the Plan includes a number of proposed initiatives related to sustainable transportation, and in particular to active transportation (walking and cycling). The Plan explicitly notes that the active transportation network includes on and off-road trails that accommodate non-motorized travel. Included among the 10 “strategies” in the Plan are:

The Plan explicitly notes that the active transportation network includes on and off-road trails that accommodate non-motorized travel.

#2 – Enhance and Expand Active Transportation; and

#7 – Build Communities that are Pedestrian, Cycling and Transit-Supportive.

Within each of these “strategies”, the Plan lists a series of specific priority actions and supporting policies. Recommendations relevant to active transportation within the two strategies identified above include:

- Plan and implement complete, integrated walking and cycling networks for the GTHA, including Toronto’s Downtown Walkway known as the PATH system, that address key barriers such as bridges over 400-series highways, rail corridors and major rivers, and missing sidewalks on major roads. The cycling networks will bring every GTHA urban resident to within a maximum of one kilometre of a dedicated bicycling facility. This will be supported by a provincial funding commitment increased over time to at least $20 million per year for municipalities to complete the walking and cycling networks.

- Create pilot bike-sharing programs in major urban centres.

- Research, standardize and promote best practices to integrate walking and cycling in road design, such as scramble intersections, bike boxes, and signal prioritization.
- Implement or expand safe cycling training programs, similar to the Commuter Cycling Skills Course offered in the Vancouver area, or the CAN-BIKE courses offered by municipalities across Canada.
- Undertake active transportation master plans and incorporate them into municipal transportation master plans.
- Metrolinx has recently contributed over $130,000 to Halton Region for the Metrolinx Bike Parking program, BikeLinx.

(Source: Halton Region)

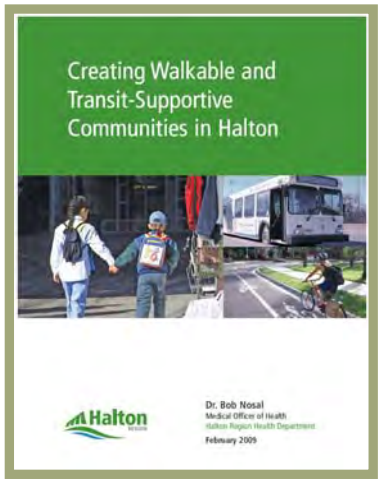
2.3.4 Halton Region

Halton Region will be a key partner in developing and implementing the Town's Cycling Master Plan. The Halton Region Transportation Master Plan (June 2004) highlights the need for an increased focus on active transportation, and includes as one of its nine key principles the promotion and integration of "walking and cycling and other non-auto modes as alternative travel modes". The Regional Plan also included a Pedestrian and Cycling Infrastructure Plan that confirms the need for improved facilities for walking and cycling. Cycling infrastructure is also included in the Plan's implementation schedule, with the following priorities noted for implementation from 2006 through 2021:

The Halton Region Transportation Master Plan highlights the need for an increased focus on Active Transportation, and includes as one of its nine key principles the promotion and integration of "walking and cycling and other non-auto modes as Alternative Travel Modes".

- Independent policies to upgrade roadways to accommodate cycling facilities through widening / reconstruction.
- As an implementation priority, upgrade roadways associated with the proposed Ontario Bike Route Network to minimum cycling standards.

The Regional Plan specifically designates "potential on-road cycling facilities" on Regional roads in a conceptual cycling and pathways network, with several routes through the Town of Halton Hills. The



(Source: Halton Region)

The Regional Plan specifically designates "potential on-road cycling facilities" on Regional roads in a conceptual cycling and pathways network, with several routes through the Town of Halton Hills.

mapping presented in Chapter 4 of the Town of Halton Hills Cycling Master Plan includes these proposed routes.

Relevant general recommendations from the Regional Plan include:

- All new urban arterial and collector roadways, as well as urban arterial and collector roadways that are to be rebuilt, should be reconfigured to have, at a minimum, wide outside lanes (i.e. minimum 4.2 m wide) in consideration of cyclists. This new standard should be implemented on new roadways and on existing roadways that are to be rebuilt, upgraded or resurfaced.
- Boulevard multi-use pathways are not recommended, except for short sections where an important and continuous off-road connection can be accomplished. They should not be introduced as an alternative to a parallel on-road facility, except in the case of 400 series expressways where cyclists are prohibited users.
- All new urban multi-use pathways or existing pathways that are to be rebuilt should be a minimum of 3.0 metres wide in consideration of pedestrians, cyclists and inline skaters.
- The recommended minimum width of a public right-of-way corridor intended to include an off-street multiuse pathway is 10 metres. This minimum width allows for the potential inclusion of a 3.0-metre wide pathway, horizontal clearance distances, landscaping (i.e. shade trees), seating areas and property line fencing. Where it is necessary to make a vital off-road connection between existing and/or potential facilities, an absolute minimum corridor width of 5.0 metres would be acceptable.
- The formation of a Halton Regional Cycling Committee was recommended (now formed) to ensure proper and safe use of cycling facilities by cyclists and promote cycling in the Region.

These principles, policy statements and infrastructure plans were key inputs to the Town's Cycling Master Plan.

Creating Walkable and Transit-Supportive Communities in Halton

Creating Walkable and Transit Supportive Communities in Halton was completed by the Halton Region Health Department in February 2009. The study report discusses the impact of land use planning on the health of a community, defines a walkable and transit-supportive community and

provides recommendations for density, mixed-use development, and design based on a literature review of health and land use planning best practices. This paper provided considerations for the Sustainable Halton and Regional Official Plan Review processes.

With regard to cycling, this document provides a discussion on the perception of cycling safety increases on roads that have dedicated cycling facilities, especially those that are off-road or adjacent to the road. It highlights that it is important to provide cycling facilities, which should be designed so that users of all cycling abilities may feel that the facilities are safe, comfortable and convenient. This paper provides key recommendations for cycling facilities, noting that their *"literature and best practices review"* suggests that the number of beginner or infrequent cyclists increases when:

- *Neighbourhoods and communities accommodate a cycling network that includes bike lanes and off-road cycling or multi-use trails*
- *Roads with speeds over 60km/h have separated lanes that are part of the road, not sidewalk, infrastructure*
- *Roads with speeds between 50-60km/h have marked bicycle lanes*
- *Roads with speeds under 40km/h are shared*
- *Priority is given to cyclists at intersections*
- *Overly frequent stops or places where reduced cycling speeds are necessary are reduced*
- *Residents have access to trip end facilities such as secure long-term bicycle parking (e.g., lockers), secure short-term bicycle parking (e.g., bicycle racks), and showers in commercial buildings*
- *All streets, roadways and designated bike routes are maintained to be free of deterrents to bicycling (such as potholes, debris, and overgrown landscaping)*

(Source: Cycling in Halton)

The study [Halton Region] report discusses the impact of land use planning on the health of a community, defines a walkable and transit-supportive community and provides recommendations for density, mixed-use development, and design based on a literature review of health and land use planning best practices

Additionally, the study suggests that a cycling review for connectivity and safety be undertaken for planning applications.

2.3.5 Town of Halton Hills

The Town of Halton Hills has a number of policies that directly or indirectly affect cycling. This section highlights some of these key policies.

Town of Halton Hills Official Plan

The Town of Halton Hills Official Plan consolidation (2008) makes reference to cycling in its sections focused on development related to various modes of transportation. The Plan makes reference to the integration of cyclists into both new and redeveloped areas throughout the Town and linkages that will connect key destinations. The Official Plan also references the importance of safe and efficient accommodations for cyclists throughout the Town and the significance of promotion and education in order to establish a successful network. *Section F6.2 - Pedestrian and Cycling Routes and Facilities* of the Official Plan specifically states:

The Official Plan makes reference to the integration of cyclists into both new and redeveloped areas throughout the Town and linkages that will connect key destinations.

"Council shall develop an interconnected system of cycling and walking routes which are expected to provide access to major activity and employment areas and to future public transit. In this regard, reference to the Trails and Cycling Master Plan to provide the basis for the establishment of a future networks in the Town should occur upon completion.

In addition to the Master Plan, and in order to plan for and encourage walking and cycling, Council shall:

a) *Consider the provision of safe and convenient cycling and walking routes in the review of all development applications;*

b) *Require the provision of sidewalks in Urban Areas and Hamlet Areas, where appropriate;*

c) *Investigate and provide for bicycle lanes wherever possible in the construction or reconstruction of roads and bridges;*

d) *Encourage and support measures which will provide for barrier-free design of pedestrian facilities;*

e) *Ensure that lands for bicycle/pedestrian paths are included with the land requirements for roads;*

f) *Ensure that the rights and privacy of adjacent property owners are factored into the design process for pedestrian and cycling routes; and,*

g) *Ensure that all pedestrian and cycling routes are designed to be safe."*

It should be noted that the Official Plan reference above is to the Trails and Cycling Master Plan completed in 1999. As such, these policies should be considered for revision pending the adoption of the 2010 Halton Hills Cycling Master Plan. Cycling Policy Updates are discussed further in **Section 5.6** of this report.

Town of Halton Hills Cycling Committee

The Town Cycling Committee was created in 2009 to assist and guide the development of the Cycling Master Plan. The purpose of this committee was to ensure community involvement of the development of the Plan. At the beginning of the Cycling Master Plan study, the Town Cycling Committee outlined a vision statement to guide the development of the Plan.

The Halton Hills Cycling Master Plan should…

- *…be adopted and supported by residents, businesses and community organizations because the plan is developed in consultation with the public and meets the social, economic and physical needs of Halton Hills.*
- *…provide a system of safe, reliable, convenient, well maintained bicycle paths and facilities equipped to meet the needs of cyclists of all ages and skill levels.*
- *…ensure that the cycling system in Halton Hills allows residents to "leave their cars at home" for trips within the Town, emphasizing active transportation for trips to schools, shops, errands and recreational facilities*
- *…promote the enjoyment of Halton Hills for its citizens, in a manner consistent with the Town's Green Plan and the principles of environmental sustainability and stewardship.*
- *…enhance the cycling experience by not only providing "space to cycle" but giving information and direction for cyclists, motorists and all other parties to ensure cycling in Halton Hills is always an enjoyable experience*

(Source: Town of Halton Hills)

2.3.6 Environmental Policies

Credit Valley Conservation Watershed Planning and Regulation, 2010

The Credit Valley Conservation Watershed Planning and Regulations aim to maintain an environmentally healthy Credit River watershed by taking a "natural heritage systems" approach to planning. The Conservation Authority acts as a technical advisor to municipalities, and maintains an interest in planning matters related to watershed planning, sustainable water management and infrastructure planning, natural heritage, and natural hazards. Credit Valley Conservation reserves the right to protect the quality of the watershed but will permit passive, low-intensity recreational uses (such as hiking and cycling) so long as it does not require major building construction, and major modification to terrain and vegetation.

The Credit Valley Conservation Watershed Planning and Regulations aim to maintain an environmentally healthy Credit River watershed by taking a "natural heritage systems" approach to planning.

Endangered Species Act, 2007

The Endangered Species Act was adopted in 2007 with the purpose of identifying species at risk based on the best available scientific information, the protection of species that are at risk and their habitats, the promotion of the recovery of species that are at risk and the promotion of stewardship activities to assist in the protection and recovery of species that are at risk. The Act outlines specific classification of species, the protection and recovery of species, agreements, permits and other instruments to be used when assessing endangered species throughout Ontario and lastly, the enforcement of policies as well as offences and penalties for violation.

With regards to specific policies and strategies within this Act there have been a number of advancements to how and what the document is used for. Currently, the new act (2007) provides protection for species and their habitats. When a species is classified endangered or threatened the habitat of that species is protected under a general definition. The act strongly promotes the recovery and protection of species at risk based on the work of all Ontarians .The new Endangered Species Act 2007 recognizes the importance of stewardship and includes the creation of a Species at Risk in Ontario Stewardship Program. Through funding and outreach, the program encourages the involvement of landowners and other groups and individuals in recovery activities.

2.4 Summary

All of the above noted policies and initiatives relating to cycling in and the future of Halton Hills have been considered in the development of the 2010 Halton Hills Cycling Master Plan. In addition to

understanding the existing context for cycling within Halton Hills, this Master Plan was also shaped through consultation with residents, Town staff from various departments, the Region of Halton and other stakeholders. The following chapter presents the consultation completed for the plan and outlines some of the key findings.

3.0 PUBLIC CONSULTATION

Halton Hills Cycling Master Plan Open House (Source: MMM Group)

3.1 Consultation Process

A Communication Strategy was developed at the outset of the Cycling Master Plan Study in order to provide a framework for engaging stakeholders, local committee members and members of the public. The communication strategy developed for the study included public notices, an online web-based survey, steering and cycling committee meetings, stakeholder and consultation meetings and two Public Information Centres (PIC).

The communication strategy developed for the study included public notices, an online web-based survey, steering and cycling committee meetings, stakeholder and consultation meetings and two Public Information Centres (PIC).

(Source: MMM Group)

3.1.1 Communication Strategy

An effective public communication strategy is a key element to the development of a meaningful Cycling Master Plan. Actively engaging stakeholders and the public fosters an understanding and commitment to the project that is a vital element of a successful study. The communication strategy was developed to engage interested residents, stakeholders and municipal staff, with the following objectives:

- To engage residents and stakeholders, Councillors, and Town staff, regarding the purpose, approach and findings of the Halton Hills Cycling Master Plan Study;
- To encourage stakeholders to participate in the study process;
- To promote active transportation, particularly cycling for residents of all ages;
- To promote the benefits of combining active travel modes with public transit when commuting; and
- To encourage cycling friendly land development and reduce single occupant motor vehicle use.

An effective public consultation strategy is a key element to the development of a meaningful Cycling Master Plan.

3.1.2 Key Audiences

The key audiences engaged through the consultation strategy were:

- Town's Cycling Advisory Committee;
- Citizens of Halton Hills;
- Special interest groups and stakeholders;
- Organized cycling groups in Halton Hills;
- Town of Halton Hills staff and Councillors;
- Halton Region (Police, Health, Engineering);
- Bordering municipalities (City of Brampton, Town of Milton, and City of Mississauga); and
- MTO, GO Transit / Metrolinx, CNR, Conservation Halton, Bruce Trail Association, and the Credit Valley Conservation Authority.

The results of the consultation program were overwhelmingly positive and in favour of the plan. Through various meetings, the online survey and the PIC a compilation of comments and suggestions was created and integrated into the final plan where appropriate. Major destinations throughout the Town were also identified as key locations to be considered when establishing the cycling network. Throughout the study process it also became clear that residents were interested in using the cycling network for a variety of reasons, both recreational and utilitarian, and were excited about more emphasis being placed on cycling in the future planning and development of Halton Hills.

(Source: MMM Group)

3.1.3 Consultation Activities

This section summarizes the various consultation activities undertaken as part of the study. The results of the consultations are discussed in more detail in Section 3.2.

Notice of Study Commencement

The Notice of Study Commencement was designed to introduce the study and inform the public and stakeholders on how they could participate throughout each stage of the study. The notice included the required components typical of a public notice for a Master Plan (Phase 1 and 2) as established in the Municipal Engineers Association Municipal Class Environmental Assessment (2007).

Web-based Survey

A web-based (online) survey was developed and a hyperlink to the survey was added to the Town's web page. The survey asked the opinion of Halton Hills' residents regarding the current state of cycling and what could be done to encourage them to cycle more often. This method of consultation was a valuable tool for obtaining input from the public on the locations and types of network facilities and improvements that should be considered as part of the study. The survey was designed and issued using SurveyMonkey, a web-based survey tool.

The survey asked a series of questions about the opinions of Halton Hills residents regarding the Cycling Master Plan study as well as what they think could be done to encourage them to cycle more often.

Consultation with Agencies

Local agencies that had an interest in the study were contacted throughout the study to ensure coordination with their ongoing initiatives related to cycling within the Town. Adjacent municipalities,

(Source: MMM Group)

(Source: MMM Group)

Halton Region, MTO, Metrolinx, GO Transit, Credit Valley Conservation, Conservation Halton, The Bruce Trail Association and Niagara Escarpment Commission were each consulted throughout the study. Representatives from each agency were given the opportunity to review study materials and provide their input over the course of the study. In addition, Halton Hills contacted agencies and sent out public notices and study updates.

Cycling Committee

The study team consulted with and was provided guidance by the Town of Halton Hills Cycling Committee throughout the study.

Public Information Centres (PIC)

A two-part PIC was conducted during the early stages of the study. In an effort to gain input from various residents of Halton Hills, the PIC was held at public events on a weekend which would engage a number of residents and interested groups. An interactive display booth was created for the Georgetown Fall Fair and the Acton Fall Fair. Study team members and/or Town staff were on hand for the duration of each of these weekend events in mid September 2009. The interactive displays focused on presenting the study vision, route selection principles and typical facility types. Additionally, figures presented the existing cycling context, and gave residents the opportunity to comment on candidate alternative cycling routes as well as provide input on where improvements should be made for cycling in Halton Hills. A similar display was also set up at the Georgetown Farmer's Market on September 19, 2009.

A second PIC to review this draft Cycling Master Plan was held on June 29, 2010 at the Town Hall. The draft has been posted for a 30 day public review period. The draft is available online on the Town's website and in hard-copy at the Town's office.

3.2 What You Told Us

The consultation program provided the study team with a wide range of comments and ideas from members of the public, Council, committees and agencies. These comments were reviewed and where applicable, they were incorporated in the Master Plan. Comment forms were provided at the PICs, the online survey was maintained and updated frequently throughout the study, and interested parties were encouraged to contact the Project Manager from the Town and MMM Group.

Based on the study team's review of the comments received, some common themes became apparent. These included:

- Cycling should be an important component of the Town's transportation system;
- The Halton Hills Cycling Master Plan should include recommendations to support a more connected and integrated local system of on and off-road cycling facilities;
- Safety should be a key consideration when identifying improvements;
- Cycling should be a potential means of increasing tourism throughout the Town;
- Cycling routes should be developed to cater to a wide range of cyclists at different ages and levels of expertise to avoid the phenomenon of one dominant cycling group;
- Key destination points should be considered wherever the network is developed;
- Maintenance of the cycling systems should be considered not only throughout the development process but yearly;
- The design of entry and exit points along the cycling network should reflect the needs of the cyclists as well as being functional;
- Cyclists should not have to share sidewalks with pedestrians;
- Cycling facilities should be developed to accommodate people of all ages and abilities and should be maximized along the proposed network;
- Signage of the trails, both on-road and off-road, should inform and provide guidance to all users of the network; and
- Cycling should be recognized to have significant environmental, health and economic benefits and improve the quality of life of Halton Hills residents.

(Source: MMM Group)

Over the course of the study, a Project Record was maintained which documented all of the input received from various stakeholders and the public. The Project Record is provided as a separately bound appendix to the Halton Hills Cycling Master Plan final report.

3.2.1 Online Survey Results

(Source: MMM Group)

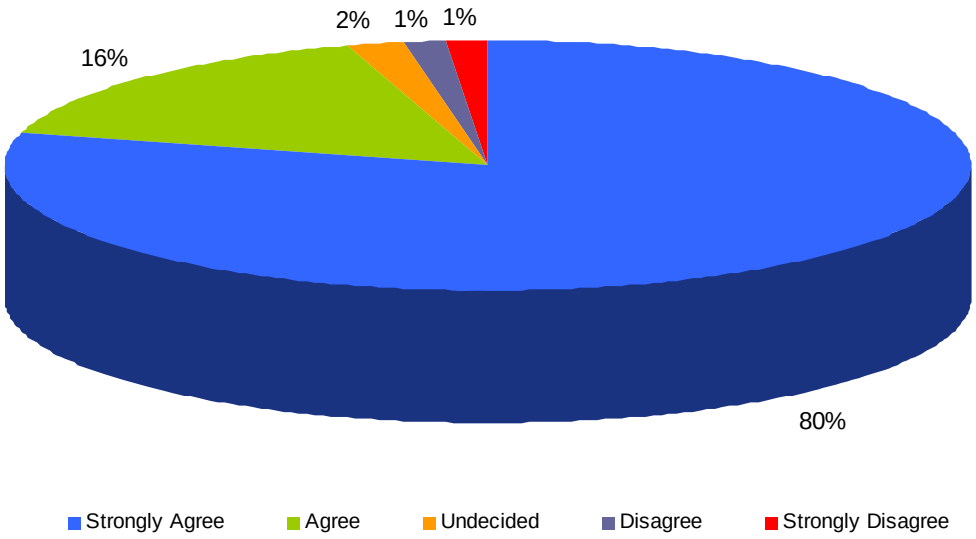
As a part of the Cycling Master Plan study, a web-based survey was developed and hosted using the online service *SurveyMonkey* (www.surveymonkey.com). The survey, which was issued early in the study and concluded in April of 2010, was also accessible to residents during the first PIC.

Although not statistically valid, the survey results provided the study team with important inputs to the study, including:

- Reasons why people cycle;
- How people might be encouraged to cycle more often; and
- Locations for new or better connected trails, and cycling facilities.

The final survey results are based on 217 respondents, of which 132 completed the entire survey. The following is a summary of the key findings from the survey:

- Over 95% of survey respondents agreed that the Town of Halton Hills should invest in improvements for cycling in the Town as illustrated in *Figure 3-1*.



Over 95% of survey respondents agreed that the Town of Halton Hills should invest in improvements for cycling in the Town.

Figure 3-1: Proportion of support for making investments for cycling improvements in Halton Hills

- Existing cycling in Halton Hills primarily occurs in the spring, summer and fall, with the majority of respondents cycling at least a few times each week during those seasons. Furthermore, over 71% of respondents indicated that they cycle at least a few times each week in the summer. In contrast, only 8% of respondents cycle at least a few times each week during the winter months.
- Recreation or fitness is a primary motivator for cycling with over 94% of respondents indicating that it motivates them at least sometimes to cycle. As well, the majority of respondents are motivated to cycle for utility trips, which includes trips to and from shops, visiting friends or running errands. However, trips for commuting to work or workplace travel during the work day are currently not motivators for cycling in Halton Hills. The comparison of responses is illustrated in *Figure 3-2*.

Recreation or fitness is a primary motivator for cycling with over 94% of respondents indicating that it motivates them at least sometimes to cycle.

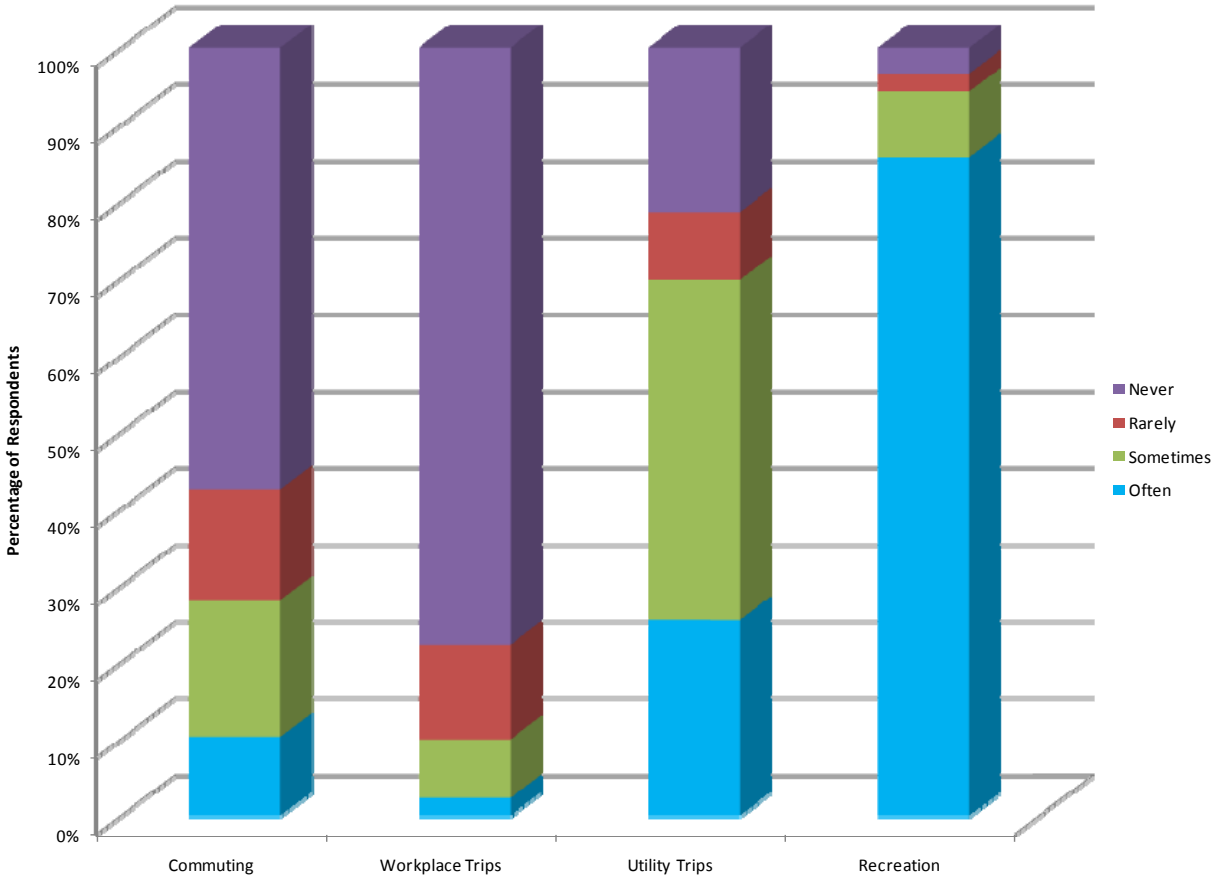


Figure 3-2: Motivators for cycling activity in Halton Hills

The following three improvements were selected as the most important by respondents for encouraging cycling in Halton Hills: more on-road cycling routes (84%), more off-road bike paths (71%) and better education for all users of the road (60%). Additionally, the majority of respondents also indicated that improved signs and identification of routes, the provision of secure bicycle parking and better connections to key destinations would encourage further cycling.

Respondents are most comfortable with cycling on roads with bike lanes or paved shoulders (86%), and then off-road multi-use trails (77%). In contrast, almost 80% of respondents are least comfortable with cycling and sharing the road with motor vehicle traffic on major roads without cycling facilities and 43% of respondents are least comfortable on minor roads without cycling facilities.

Over 94% of parents who responded agreed that they are least comfortable with their children cycling on roads without dedicated cycling facilities. The majority of these respondents also indicated that they are comfortable with their children cycling either within dedicated on-road cycling facilities or multi-use pathways. Surprisingly, only 46% of respondents indicated that they are comfortable with their children cycling on sidewalks.

(Source: MMM Group)

The majority of respondents feel that an on and off-road cycling network should be developed for the Town of Halton Hills for the following reasons (listed in order from greatest importance to least importance):

- To improve safety and reduce risks for cyclists (91% of respondents);
- To improve quality of life and health of Halton Hills residents (83% of respondents);
- To provide opportunities to cycle within local communities (81% of respondents);
- To improve cycling as a transportation option (76% of respondents);
- To provide access to natural areas (67% of respondents);
- To reduce impacts on the environment (65% of respondents); and
- To improve cycling connectivity between communities (60% of respondents).

Respondents were also given the opportunity to highlight key destinations and connections that should be considered within the overall cycling network. Respondents suggested several preferred corridors for potential cycling routes, these included: Maple Avenue, Mountainview Road, Guelph Street, Delrex Boulevard in Georgetown; Guelph Street and Main Street in both Georgetown and Acton; and corridors between Georgetown and Acton. These comments were taken into consideration during the

network development process outlined in Chapter 4. All responses from the online survey are summarized and presented in Appendix A.

3.2.2 Key Concerns

Concerns raised by the public throughout the study process included better road maintenance, and the lack of an integrated network of cycling facilities that do not simply end without warning.

(Source: MMM Group)

In addition, the following responses from the web-based survey were common concerns among most respondents:

- Lack of designated safe bike routes on roads with high traffic volume;
- Lack of off-road routes that provide safe alternatives to the existing cycling network;
- Existing network is not connected, nor does it provide access to key destinations in the Town;
- Lack of secure bicycle parking facilities at destinations; and
- Disrespectful interaction between motorists and cyclists;

Many noted that Halton Hills is a regional cycling destination because of its spectacular scenery, the varied topography, relatively quiet roads and proximity to the large urban population along the Lake Ontario shore. In conjunction with the sentiment regarding Halton Hills as a cycling destination, there were also concerns raised by some residents, particularly in the rural countryside about large groups of cyclists from “out of town” parking along roadsides in the rural area, leaving garbage behind and riding in large packs on the rural roads. A number of respondents suggested that some form of messaging should be developed to inform cyclists about respecting the rights of rural property owners.

The public and stakeholder input received over the course of the study was carefully reviewed and used to guide and inform the study team and the development of the Halton Hills Cycling Master Plan.

4.0 THE CYCLING NETWORK

An In-Boulevard Multi-Use Trail in Halton Hills (Source: MMM Group)

4.1 Introduction and Network Context

This chapter describes the recommended cycling network for the Town of Halton Hills. It includes a description of the process that was taken in developing the recommended network and identifies the guiding principles for route selection and recommended facility types. This chapter should be read in conjunction with Chapter 5-Implementation.

The vision statement developed by the Cycling Committee for the Town of Halton Hills is to:

"….provide a system of safe, reliable, convenient, well maintained bicycle paths and facilities equipped to meet the needs of cyclists of all ages and skill levels."

The intent of the Halton Hills Cycling Master Plan is to build upon work that has already been completed through other studies and initiatives such as the Recreation and Parks Strategic Master Plan (2007), the Town of Halton Hills Green Plan (2007), the Region of Halton Transportation Master Plan (2004), the Hungry Hollow Management Plan (2004), the Halton Hills Trails and Cycling Master Plan Study (1999), the Halton Hills Parks and Trails Maps, and the Town of Halton Hills Official Plan.

The Halton Hills Cycling Committee has developed a vision for cycling in Halton Hills. The vision states that cycling should:

> *"be adopted and supported by residents, businesses and community organizations because the plan is developed in consultation with the public and meets the social, economic and physical needs of Halton Hills."*

The vision also states that it is necessary to

> *"…promote the enjoyment of Halton Hills for its citizens, in a manner consistent with the Town's Green Plan and the principles of environmental sustainability and stewardship".*

A significant aspect to adopting, supporting and promoting cycling in Halton Hills can be achieved with the provision of a network of cycling facilities and dissemination of information to the public regarding where designated cycling routes can be found, how cycling facilities should be used, and how cyclists, pedestrians and motorists can successfully co-exist. With this in mind, the vision goes on to state that it will be necessary to:

- …ensure that the cycling system in Halton Hills allows residents to "leave their cars at home" for trips within the Town, emphasizing active transportation for trips to schools, shops, errands and recreational facilities;
- …enhance the cycling experience by not only providing "space to cycle" but giving information and direction for cyclists, motorists and all other parties to ensure cycling in Halton Hills is always an enjoyable experience; and
- ….provide a system of safe, reliable, convenient, well maintained bicycle paths and facilities equipped to meet the needs of cyclists of all ages and skill levels.

The proposed cycling network presented in this chapter, and the approach used to develop it, was guided by this vision statement and the following network development approach.

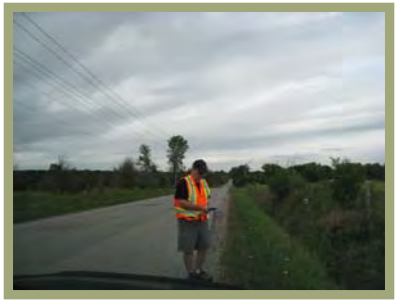
4.2 The Network Development Approach

An iterative process was used to develop and refine the cycling network that is recommended in the Halton Hills Cycling Master Plan Study. This process included the following key steps.

- Inventory of Existing Conditions: Using the Town's Geographic Information System (GIS) database and other key sources of information the status of trails and cycling routes was assembled onto a common map base.
- Develop Network Guiding Principles: Guiding Principles were established, which help to translate the vision into the route hierarchy concept, and the guidelines for the different types of routes in different locations.
- Develop Network Candidate Routes (route alternatives): A set of candidate cycling routes were established through consultation with the Steering Committee and the public. Using the Town's high resolution aerial imagery and field investigation, candidate routes were then evaluated against the Network Guiding Principles.
- Develop the Route Network: The Cycling Route Network was prepared for review with the Steering Committee, stakeholders and the public. The preliminary network included some, but not all of the candidate routes. Based on this consultation and further field investigation, the network was refined and a final route network was recommended.
- Recommend Facility Types: Cycling facility type recommendations were made for each of the on and off-road route segments that together form the comprehensive network.
- Develop the Implementation Strategy: Using a set of criteria for determining the priorities for implementation, a phased strategy was prepared which outlines the progressive development of the network over time, and the associated order-of-magnitude costs. Along with the recommended facility types, the implementation strategy was reviewed with the Project Steering Committee.

The following sections provide details for each of these steps within the network development process.

An iterative process was used to develop and refine the Cycling Network….



(Source: MMM Group)

4.3 Inventory of Existing Conditions

(Source: MMM Group)

Information related to on and off-road routes and trails that were in existence and formally recognized at the time the study was undertaken, as well as those that had been previously planned as part of other studies was assembled from a number of sources. Key sources of information included the following:

- The Halton Hills GIS database and high resolution aerial imagery;
- The Region of Halton Transportation Master Plan (2004);
- The Hungry Hollow Management Plan (2004);
- The Town of Halton Hills Trails and Cycling Master Plan Study (1999); and
- Mapped trails and facilities in public open space, conservation areas and agreement forests; and The Ontario Bicycling Route Network, a provincial on-road bicycle network proposed by the Ontario Cycling Association and the former Cycle Ontario Alliance. When complete it will comprise approximately 7800km of routes across the province connecting regions, municipalities and points of interest.

This information was assembled according to the following categories and is illustrated in *Figures 4-1 through 4-3.*

Existing and previously planned off-road trails consist of those routes that are formally recognized by the Town as trail routes. Some of these are intended as multi-use such as the boulevard trail along Eighth Line, the rail trail from Wildwood Road south to John Street and trails that have been designed and constructed in municipal parks. In addition to these, there are other existing off-road trails such as the main and side routes of the Bruce Trail which are intended for pedestrian uses only (i.e. walking and hiking). Previously planned off-road trails are those that have been approved through other studies but have not yet been implemented.

Existing and previously planned on-road bicycle routes, which include on-road cycling facilities that were in place or approved through other studies when field work for the Halton Hills Cycling Master Plan Study was undertaken.

SEE ENLARGEMENT FIGURE 4-3

SEE ENLARGEMENT FIGURE 4-2

CREWSONS CORNERS
ACTON
BANNOCKBURN
BALLINAFAD
SILVER CREEK
TERRA COTTA
HENDERSON'S CORNERS
LIMEHOUSE
GLEN WILLIAMS
STEWARTTOWN
GEORGETOWN
NORVAL
ASHGROVE
HORNBY

WELLINGTON ROAD 50
BALLINAFAD
NO 32
NO 27
NO 22
NO 20
NO 17
NO 15
NO 10
NO 5
CAMPBELLVILLE
MAYFIELD
WANLESS
BOVAIRD
EMBLETON
STEELES
401
407

ERAMOSA-ERIN
FIRST LINE
SECOND
THIRD
FOURTH
FIFTH
SIXTH
SEVENTH
EIGHTH
NINTH
TENTH
TRAFALGAR
DUBLIN
NASSAGAWEYA ESQUESING
REGIONAL ROAD 25
CREWSONS
WALLACE
TIDEY
MCDONALD
TRILLIUM
MILL
KINGHAM
MAIN
RENNIE
FERGUSON
ABBITT
BRIDLEWOOD
ALLISON
FALLBROOK
CLAYHILL
CASSIDY
KING
BISHOP
OLD SCHOOL
WINSTON CHURCHILL
HUME
JAMES SNOW
HIGH POINT
DURANTE
BOSTON CHURCH
MARTIN
PEDDIE
LAWSON
HERITAGE
MEADOWPINE
ARGENTIA
ONTARIO
ERIN
HOWARD
DAWSON
TODD
MARY
JOHN
JAMES
QUEEN
RIVER
PARK
MAPLE
GUELPH
SHELLEY
MILLER
EATON
OAK
DANBY
MOUNTAINVIEW
KATHLEEN
BARBER

0 650 1,300 2,600 3,900 5,200 Metres

Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE 4-1
Existing Facilities

TOWN WIDE

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection

On Road Cycling Routes

- Existing On Road Route
- Proposed On Road Route (routes approved in previous studies)

Off Road Trails

- Existing Off Road Route
- Proposed Off Road Route (routes approved in previous studies)
- *Bruce Trail, side trails of the Bruce Trail, Credit Valley Footpath and Guelph Radial Trail

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS

MMM GROUP

HENDERSON'S CORNERS
GLEN WILLIAMS
STEWARTTOWN
GEORGETOWN
NORVAL
ASHGROVE
NO 22
NO 20
NO 17
NO 15
NO 10
EIGHTH
NINTH
TENTH
CONFEDERATION
TRAFALGAR
HALTON HILLS
LINDSAY
JOHNSON
MOWAT
BERTON
BANTING
HYLAND
MOORE PARK
KENNEDY
CARRUTHERS
EWING
MAIN
NEWSON
BAYFOOT
MARY
HENRY
GEORGE
JAMES
MUNRO
ATHOLD
CASA
NEWMAN
GREY OWL
PRINCESS ANNE
HAROLD
CHURCH
PARK
CHARLES
EDITH
ORCHARD
PARKVIEW
GARBINER
HALTON HILLS
THOMPSON
MILL POND
BLACK CREEK
NORTH RIDGE
MCNALLY
BELMONT
CROMAR
ARBORGLEN
GRIST MILL
CINDERBARKE
MAPLE
MCMASTER
MEAGAN
WILDWOOD
ANN
PARK
ONTARIO
MAIN
ERIN
BEAVER
KAREN
MULLEN
VICTORIA
ACADEMY
COSTIGAN
JOHN
ROSETTA
LYNDEN
RIVER
COREY
WYLIE
KING
QUEEN
ALBERT
DURHAM
GUELPH
HARDING
BRADLEY
MILL
BACK
JOSEPH
PRINCE
BISHOP
SHELLEY
BYRON
PRINCE CHARLES
WINDSOR
REXWAY
MCINTYRE
NORTON
BAIRSTOW
NOBLE
HALE
CHIPPER
SARGENT
GARNE
HESLOP
FALUDON
DAWSON
IRWIN
EDEN
LEWIS
HAWKINS
WETCALFE
GOWER
DUNCAN
RAYLAWN
WEBER
GAIREY
DELREX
ROSEFIELD
REGAN
CHELVIN
FAGAN
HALL
RUSSELL
ARMSTRONG
TODD
SINCLAIR
ABBOTT
EATON
LOOKOUT
FORSYTH
INVADER
CHAPLIN
CRAIG
RESOURCE
GOLLOP
KAY
SAMUEL
WATSON
STONE
STANDISH
OAK
MAY
ROBINSON
BOWMAN
ORCHARD
MILLER
ROANE
MOUNTAINVIEW
HARROP
BARBER
SINCLAIR
ARGYLL
MUIR
WEBSTER
DRAPER
KING
ADAMSON
SERENITY
DANBY
MILFOIL
LILY
LAROCHE

0 290 580 1,160 1,740 2,320
Metres

Town of Halton Hills
Cycling Master Plan November 2010

FIGURE 4-2
Existing Facilities

GEORGETOWN

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection

On Road Cycling Routes
- Existing On Road Route
- Proposed On Road Route (routes approved in previous studies)

Off Road Trails
- Existing Off Road Route
- Proposed Off Road Route (routes approved in previous studies)
- *Bruce Trail, side trails of the Bruce Trail, Credit Valley Footpath and Guelph Radial Trail

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS
MMM GROUP

CREWSONS CORNERS
DUBLIN
REGIONAL ROAD 25
THIRD
COMMERCE
GUELPH
WALLACE
SCENE HILL
DAIRY
DOCTOR MOORE
ACTON
SPRUCE
LASBY
MASON
MCDONALD
NORMAN
PEARL
BROWNS
TANNERS
HURST
BANNOCKBURN
7
ELMORE
TIDEY
JEFFREY
TYLER
NELSON
ELIZABETH
SCHOOL
RIVER
KNOX
WILLOW
ALICE
BOWER
PERTH
ROSEMARY
DIVISION
TURTLE LAKE
LAKE
PARK
CAMERON
WRIGHT
CHURCH
JOHN
ELGIN
AGNES
ACTON
ARTHUR
PEEL
QUEEN
YOUNG
MARIA
CRESCENT
HILLCREST
POPLAR
MOWBRAY
CHURCH
BEARDMORE
DAWKINS
NELLES
LONGFIELD
KINGSLEY
SPRUCE
RACHLIN
BIRCHWAY
MILL
BROCK
COBBLEHILL
STOREY
BERRY
DUBY
RANSOM
VIMY
KINGHAM
GREENORE
TRILLIUM
MAIN
NO 25
GLEN LAWSON
REGIONAL ROAD 25
THIRD
THIRD
NO 22

0 175 350 700 1,050 1,400
Metres

Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE 4-3
Existing Facilities

ACTON

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse

On Road Cycling Routes

- Existing On Road Route
- Proposed On Road Route (routes approved in previous studies)

Off Road Trails

- Existing Off Road Route
- Proposed Off Road Route (routes approved in previous studies)
- *Bruce Trail, side trails of the Bruce Trail, Credit Valley Footpath and Guelph Radial Trail

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS

MMM GROUP

Key Destinations and Points of Interest such as:

- Municipal parks and conservation areas;
- Commercial areas and shopping plazas;
- Major employment areas or zones;
- Community and Recreation Centres;
- Important cultural destinations/landmarks including museums, monuments, public libraries, and community centres downtown core areas, churches and heritage buildings;
- The Georgetown GO station;
- Elementary and secondary schools; and
- Conservation Areas such as Limehouse, Terra Cotta and Silver Creek. Although all Conservation Areas are destinations, cycling is permitted only on trails designated for cycling within these Conservation Areas (i.e. signed cycling trails in Terra Cotta Conservation Area). In most cases cyclists are required to park their bicycles and walk/hike on trails in Conservation Areas)

(Source: MMM Group)

Barriers to the development of the cycling network include those natural and constructed/man-made features that create a physical impediment to the development of an interconnected trail system. These include active railways, major waterways, highways and major regional roads, valley lands, and utility corridors. Some of the barriers to cycling in Halton Hills include:

- The CN/GO railway that enters the municipality along Highway 7, passes through Acton and Georgetown and exits the Town east of Norval, en-route to Brampton and Toronto;
- The CP rail line which begins in Milton and joins the first line at Georgetown, serving the community as a major freight line;
- Major roadways and highways such as sections of Highway 401 on the southern boundary of the Town;

- Major arterial roadways in the urban and rural areas such as Guelph Street in Georgetown, Trafalgar Road, and Highway #7;
- Waterways such as the Credit River and its tributaries;
- Steep valley lands such as the Hungry Hollow Ravine in Georgetown; and
- Steep slopes on some of the roads in Halton Hills are a barrier to many cyclists, and attractive to others who seek the challenging ascents and descents. The Niagara Escapement, a major feature in the Halton Hills landscape, contributes to the challenging and scenic nature of many of Halton Hills' roads.

4.4 Route Development and Selection Principles

When making decisions about which roads and trails to include in the cycling network, route selection principles were used to help to define the character of the cycling network. These principles should also be referred to in the future when network changes may be contemplated, new opportunities are identified, and when individual routes are entering into the detailed planning and design stage.

(Source: MMM Group)

- Safety: Reducing risks to users and providing facilities that support cycling are key considerations when selecting routes for the network.
- Visible: Routes should be a visible component of the transportation system and well marked so that both cyclists and motorists see/share the route, and to inform cyclists about key destinations along the route.
- Direct / Connected: Routes should be linked to form a cycling network that provides connections between existing and planned neighbourhoods, between different land uses, between Halton Hills' urban communities and beyond municipal boundaries to Halton Hills' neighbours.
- Destination Oriented: Cycling routes should provide access to major destinations in Halton Hills including schools, community and neighbourhood parks and recreation, shopping facilities, employment areas, and natural and cultural points of interest.

- Attractive and Scenic: Cycling routes should take advantage of attractive and scenic areas, views and vistas.
- Diverse: The cycling network should support where feasible a diverse on and off-road cycling experience, which recognizes both utilitarian and recreational uses, and the range of cyclist skill levels.
- Easily Accessible: Cycling routes should be easily accessible from local neighbourhoods within Halton Hills, to facilitate travel within the urban centres, and should also connect to inter-community routes. Every effort should be made to integrate these routes with adjacent municipal cycling and multi-use trail networks.
- Flexible and Integrated: Route selection will consider future opportunities within the municipality (i.e. new development areas). In areas of new development, planning for on and off-road cycling will be an integral part of the land use planning process, and should be coordinated between the Region of Halton and Town of Halton Hills.
- Density-Driven: The density of routes in the cycling network should be driven at least in part by population density. As such a higher density of routes is anticipated in urban areas.
- Integrated with Other Modes of Transportation: The cycling network should be integrated with other modes of transportation, particularly interregional transit (i.e. GO Transit). Routes should be selected to facilitate access to public transit to allow for multi-modal trips and reduce dependency on the automobile.
- Linked to Natural Heritage Areas: Where possible and feasible, the cycling network should provide access to natural heritage areas within Halton Hills, however, the provision of and location of cycling routes should be based on the objective to create a balance between the need to provide cycling opportunities and the need to preserve natural heritage resources. In some locations preservation will take precedence over recreation, and access for cycling will be limited or restricted. Specific considerations include minimizing intrusion into core natural areas, avoiding

(Source: MMM Group)

steep topography and saturated soils, providing environmental buffers between sensitive areas and major cycling routes, and coordinating route alignments with existing disturbances such as utility corridors (i.e. sanitary sewer, natural gas and oil pipelines, hydro etc.).

Recommendation

4-A: Route development and selection principles should be considered in the future when network changes are contemplated, new opportunities identified and when individual routes are entering into the detailed planning and design stage of implementation.

4.5 The Cycling Network Concept

Cyclists come in all ages, shapes, sizes and skill levels and they have different reasons for cycling which range from basic transportation to recreation and physical fitness.

Cyclists come in all ages, shapes, sizes and skill levels and they have different reasons for cycling which range from basic transportation to recreation and physical fitness.

Cyclists come in all ages, shapes, sizes and skill levels and they have different reasons for cycling which range from basic transportation to recreation and physical fitness. The cycling population can generally be divided among the following four groups.

- Group 1: the "Strong and Fearless"-This small sector (i.e. 1-2%) of the population are typically highly experienced cyclists, many of whom have been riding for years. They are often quite comfortable riding with traffic, even on arterial roads without facilities such as bike lanes. Within this group are those who ride year-round regardless of weather or road conditions. There are also those who feel that dedicated cycling facilities are not needed, as they do not want to be relegated to bike lanes and trails, they are quite aware of their rights as cyclists (under the Highway Traffic Act) and prefer to operate in traffic with vehicles.
- Group 2: the "Enthused and Confident"-Typically in the range of 5 to 10% of the population, these cyclists may ride regularly or infrequently, they generally are comfortable riding on trails and quieter streets without facilities and appreciate the addition of facilities to busier roads, often noting that proper cycling facilities might encourage them to cycle more regularly.
- Group 3: the "Interested but Concerned" – This fairly large sector of the population (as high as 60%), ride infrequently and note that they like to cycle but are afraid to ride in traffic. They typically indicate a preference for pathways and trails, and some note that designated on-road facilities improve their perception of safety, and that designated on-road facilities might encourage them to ride more often. A fairly low percentage of this group ride regularly.

- Group 4: the "Non cyclist" – Approximately 30% of the average population is not interested or may not be physically able to cycle.

Recognizing that there is a wide range of experience, skill and confidence levels among cyclists, and that 60-75% of the population may fit into Groups 2 and 3, the provision of a comprehensive network of facilities has strong potential to lead to greater participation in cycling by a broad sector of the population. A continuous network of cycling facilities is needed to overcome barriers and create links among communities within the Town of Halton Hills, while at the same time promoting connections to surrounding communities.

4.6 Candidate Routes

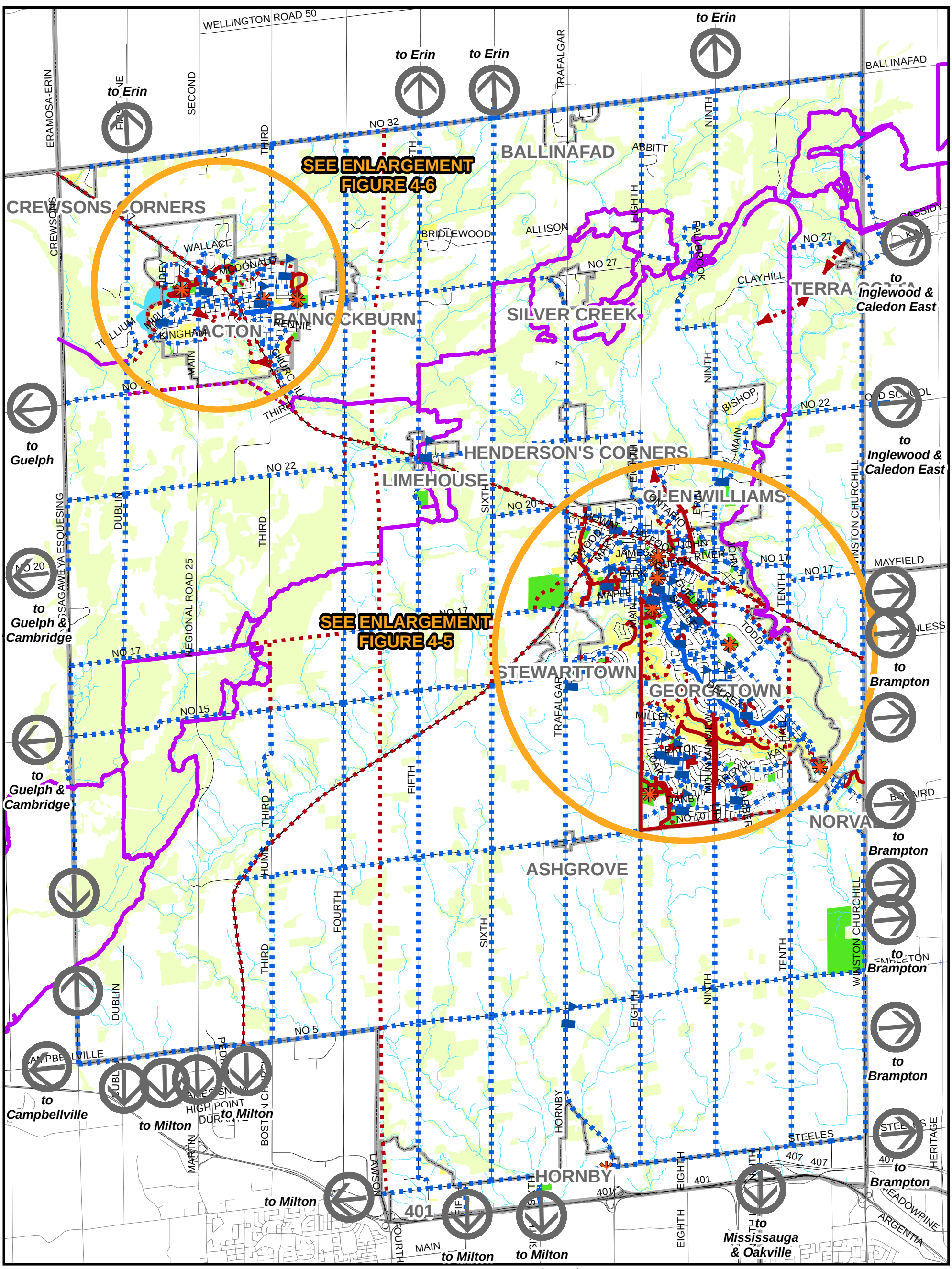
Candidate routes are illustrated in *Figures 4-4 through 4-6*. As previously discussed, these include existing and previously planned routes from other studies and initiatives, routes suggested by the project Steering / Cycling Committee and the public, based on results from the online survey and candidate routes that were identified by the study team. The network development process involved comparing each candidate route with the route selection criteria and field investigating routes to determine which of the candidates should be included in the Recommended Cycling Network.

4.7 The Recommended Cycling Route Network

The Recommended Cycling Network is illustrated in *Figures 4-7 through 4-9.* A primary goal of the Town of Halton Hills Cycling Master Plan is to encourage more people to cycle more often for both utilitarian (commuting) and recreational purposes. One method of achieving this goal is to encourage more people to become and remain interested in cycling. This can be accomplished in part through implementing a range of facility types that provides opportunities for a wide range of user groups, skill and age levels, including a variety of on-road and off-road facilities such as bike lanes, sidewalks and multi-use trails. The key to a successful cycling network is to provide facility types that are connected throughout the Town and to existing and future networks in the other local municipalities within the Region as well as cycling routes that link key destinations. These connections and key destinations

(Source: MMM Group)

A hierarchy of route types can help less-experienced cyclists to gain skill and confidence they need on quieter routes and gradually make the transition to bicycle lanes on busier roads.



Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE 4-4
Candidate Routes

TOWN WIDE

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection
- Regional Network Connection

On Road Cycling Routes

- Existing On Road Route
- Proposed On Road Route (routes approved in previous studies)

Off Road Cycling Routes

- Existing Off Road Route
- Proposed Off Road Route (routes approved in previous studies)
- *Bruce Trail, side trails of the Bruce Trail, Credit Valley Footpath and Guelph Radial Trail

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS

MMM GROUP

HENDERSON'S CORNERS
GLEN WILLIAMS
STEWARTTOWN
GEORGETOWN
ASHGROVE
NORVAL
NO 22
NO 20
NO 17
NO 15
NO 10
EIGHTH
NINTH
TENTH
CONFEDERATION
MCMASTER
MEAGAN
WILDWOOD
ANN
PARK
ERIN
BEAVER
MAIN
JOSEPH
PRINCE
LINDSAY
BANTING
HYLAND
MOORE PARK
JOHNSON
MOWAT
BERTON
CARRUTHERS
KENNEDY
EWING
ONTARIO
KAREN
MULLEN
NEWMAN
MUNRO
ATHOLD
CASA
MARY
HENRY
GEORGE
BATTOCH
NEWSOM
VICTORIA
ACADEMY
COSTIGAN
JOHN
LYNDEN
RIVER
COREY
WYLIE
GREY OWL
PRINCESS ANNE
HAROLD
CHURCH
JAMES
MILL
QUEEN
ALBERT
DURHAM
KING
ROSETTA
HALTON HILLS
GARDINER
PARKVIEW
ORCHARD
CHARLES
EDITH
MAPLE
GUELPH
HARDING
BRADLEY
CINDERELLA
PARK
THOMPSON
SHELLEY
BYRON
PRINCE CHARLES
WINDSOR
REXWAY
MCINTYRE
ARMSTRONG
TODD
SINCLAIR
ARBORGLEN
GRIST MILL
MILLPOND
NORTH RIDGE
MCNALLY
CROMAR
BELMONT
BLACK CREEK
NOBLE
HALE
NORTON
BAIRSTOW
ARNOTT
CHIPPER
SARGENT
GARNET
HESLOP
FALUDON
GOWER
RAYLAWN
DUNCAN
WEBER
DAWSON
LEWIS
HAWKINS
IRWIN
EATON
LOOKOUT
EDEN
WETCALFE
GAIREY
DELREX
ROSEFIELD
HALL
RUSSELL
REGAN
GILMOUR
FAGAN
FORSYTH
HAZER
CHAPLIN
CRAIG
RESOURCE
STONE
CURRY
SAMUEL
GOLLOP
KAY
OAK
SAUNDERS
MAY
ROANE
MOUNTAINVIEW
ROBINSON
BOWMAN
HARROP
BARBER
ORCHID
MILFOIL
LILEY
EMSLIE
ARGYLL
WEBSTER
WATSON
SERENITY
DANBY
LAROCHE
DRAPER
KING
ADAMSON
TRAFALGAR

0 287.5 575 1,150 1,725 2,300 Metres

Town of Halton Hills
Cycling Master Plan November 2010

FIGURE 4-5
Candidate Routes

GEORGETOWN

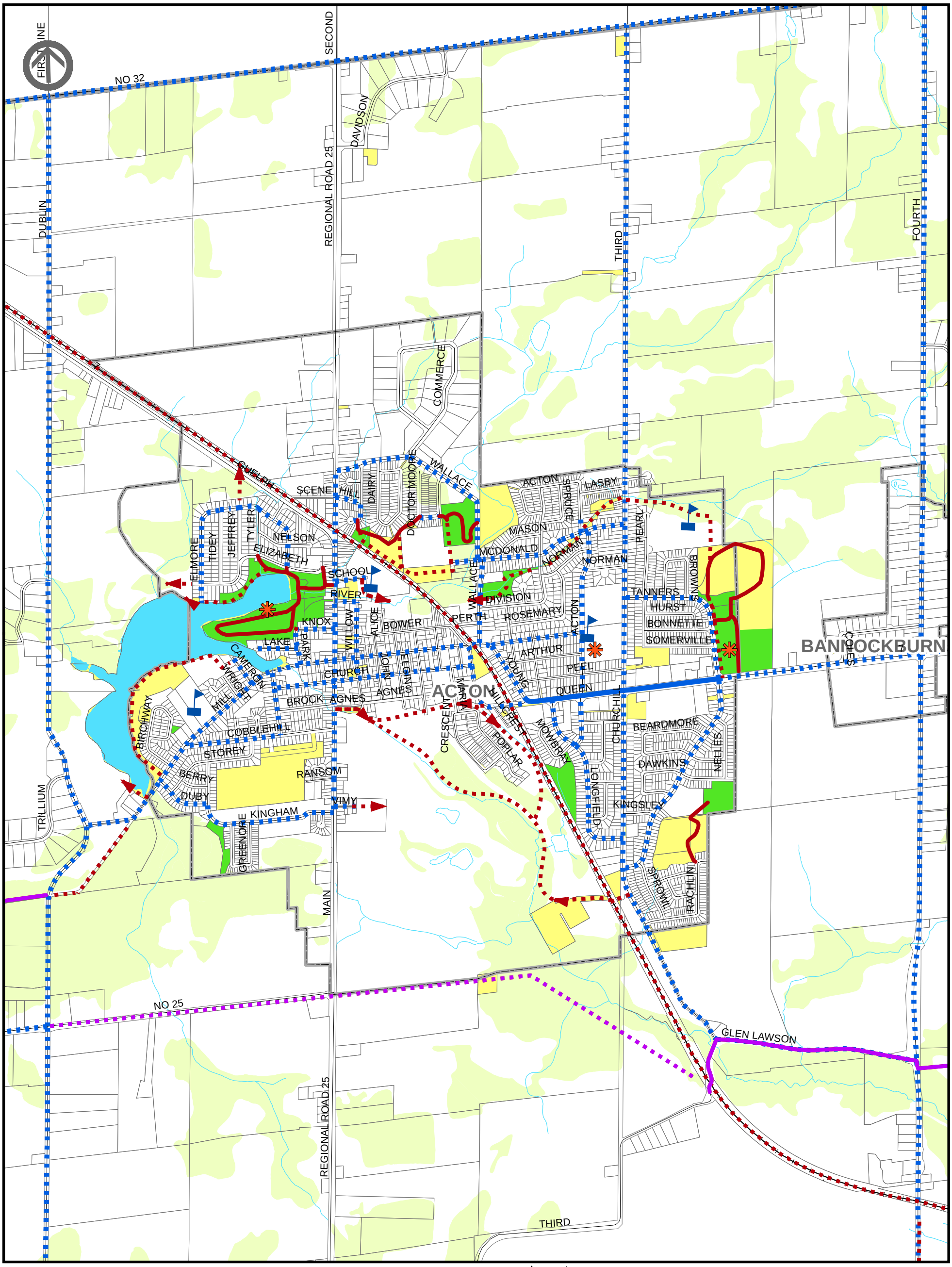
- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection

On Road Cycling Routes
- Existing On Road Route
- Proposed On Road Route (routes approved in previous studies)

Off Road Cycling Routes
- Existing Off Road Route
- Proposed Off Road Route (routes approved in previous studies)
- *Bruce Trail, side trails of the Bruce Trail, Credit Valley Footpath and Guelph Radial Trail

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS
MMM GROUP



Town of Halton Hills
Cycling Master Plan November 2010

FIGURE 4-6
Candidate Routes

ACTON

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection
- Regional Network Connection

On Road Cycling Routes

- Existing On Road Route
- Proposed On Road Route (routes approved in previous studies)

Off Road Cycling Routes

- Existing Off Road Route
- Proposed Off Road Route (routes approved in previous studies)
- *Bruce Trail, side trails of the Bruce Trail, Credit Valley Footpath and Guelph Radial Trail

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS

MMM GROUP

have been chosen as they are located in the "right" corridors and are "comfortable" for the public to use.

In Halton Hills, a hierarchy of cycling facility types is recommended which includes a range of facilities from off-road pathways and signed-only cycling routes on quiet streets for inexperienced or leisure cyclists, to bicycle lanes and paved shoulders on arterial and higher volume collector roads for more experienced cyclists. A hierarchy of route types can help less-experienced cyclists to gain skill and confidence they need on quieter routes and gradually make the transition to bicycle lanes on busier roads. Over time, it is hoped that inexperienced cyclists will become confident enough to ride year round on roads with higher traffic volumes and no designated cycling facilities. Cycling facility types are discussed in further detail in Section 4.8.

In Halton Hills, a hierarchy of cycling facility types is recommended. This includes off-road pathways and signed-only cycling routes on quiet streets for inexperienced or leisure cyclists, to bicycle lanes and paved shoulders on arterial and higher volume collector roads for more experienced cyclists.

The proposed network hierarchy for Halton Hills consists of a Primary and Secondary system. The Primary system consists of cycling routes designed to provide:

- Direct links between the Town's main urban areas (Georgetown, Acton and Glen Williams),
- Direct links between major destinations within each of the urban areas, including commercial, community recreational, employment, institutional, and residential destinations, and
- Connections to surrounding municipalities,

The Primary system serves as the spine of the Halton Hills Cycling Network. Although the Primary system is available to all, it generally tends to serve the more experienced and confident cyclist (i.e. Group 1, and a significant portion of Group 2). The spine system typically consists primarily of on-road bike lanes, paved shoulder bikeways, wide shared use lanes on busier roads under the authority of the Town/Region/Province, key off-road multi-use trails, and linear off-road corridors such as abandoned railway lines and unopened road allowances. Under certain conditions, spine routes on busier roads may also include "In-boulevard Multi-use Trails" and physically separated on-road bike lanes or "Cycle Tracks" (refer to Section 4.8.1). Providing higher order cycling facilities that are separated from motor vehicle traffic (e.g. bike lanes) will appeal to a larger percentage of the population, as cyclists will be more comfortable on these routes.

The Secondary system provides connections within neighbourhoods and connections to the Primary system within the Town and connecting to cycling networks within bordering municipalities. In the urban areas, secondary routes provide connections to destinations such as schools, residential areas,

local stores, commercial nodes, neighbourhood parks and are often less direct than the Primary system. In urban areas secondary routes are typically located on quieter streets (local roads) and multi-use trails. Facility types associated with on-road secondary routes typically include signed-only routes in both the urban and rural areas, bicycle boulevards/bicycle priority streets in urban areas and some paved shoulders in rural areas. In rural areas, secondary routes will also include signed scenic cycling routes. Secondary routes may also include off-road trail networks in the rural areas where cycling is permitted such as Conservation Authority lands, parks and Agreement Forests.

In some locations both the Primary and Secondary routes intersect with pedestrian-only, or special-use trails such as the Bruce Trail where cycling is not permitted. Although the cycling network provides access to special-use trails, cycling must be discouraged on these pedestrian only trails through signage, the provision of bicycle parking facilities at trail access points/parking lots and enforcement.

It is anticipated that routes in urban areas will generally serve a wider range of cyclist types than in rural areas. Apart from key rural recreation destinations that have off-road trails, the majority of routes in the rural areas will be on-road. These typically consist of signed routes on roads with lower traffic volumes, low commercial vehicle percentages and good sight lines. Paved shoulders should be added to designated routes that experience high traffic volumes, high posted and traveled speeds and high commercial vehicle percentages.

Recommended on-road routes in the rural areas follow existing paved roads where possible. Gravel roads are utilized only in those locations where segments complete part of an important network connection or complete a loop. It is recommended that these segments be upgraded to a hard surface when they are scheduled for repair or when the opportunity arises. The following locations should be considered:

- Fallbrook Trail from the intersection with 9th Line and Clayhill Road to the intersection of Fallbrook Trail and 32nd Sideroad/Wellington Road 42; and
- 32nd Sideroad from Regional Road 25 (Second Line) to First Line.

Facility types associated with on-road secondary routes typically include signed-only routes in both the urban and rural areas, bicycle boulevards/bicycle priority streets in urban areas and some paved shoulders in rural areas. In rural areas, secondary routes will also include signed scenic cycling routes. Secondary routes may also include off-road trail networks in the rural areas where cycling is permitted such as Conservation Authority lands, parks and Agreement Forests.

Regional Connections

Regional connections are shown on the map at locations where the Recommended Cycling Network connects to cycling or trail systems in adjacent municipalities. Wherever possible, efforts should be made to connect the cycling network to adjacent municipalities to create an expanded network for cyclists and to provide amenities and appropriate way finding signage at these transition points between two systems.

Desired Network Connections

The Recommended Cycling Network includes Desired Network Connections. These connections are shown conceptually on the maps but are limited by significant issues including land ownership and active rail lines that would need to be resolved to implement these routes. These routes include the north-south hydro corridor off-road cycling route, and the potential Acton-Georgetown connection or Interregional connections along existing rail corridors (Rail with Trail). These desired connections should be secured if development occurs along these properties or through “friendly” land securement processes (easements, purchase, license agreements).

Recommendations

4-B: A wide variety of cycling types should be considered in order to encourage all cyclists of various skills, age and confidence level to cycle in the Town of Halton Hills.

4-C: The implementation of both Primary and Secondary systems should be considered in order to create a comprehensive cycling network in the Town of Halton Hills.

4-D: The Town and its partners should discourage cycling on pedestrian-only or special-use trails such as the Bruce Trail through the use of signage and enforcement.

4-E: Gravel roads identified as part of the overall cycling network should be upgraded to a hard surface when the opportunity for reconstruction arises.

4.8 Types of Cycling Facilities Proposed

The recommended network identifies a system of routes throughout the Town to accommodate cyclists of all ages and with a variety of skill levels. This following section introduces the various types of cycling facilities that make up the recommended network. The Planning and Design Guidelines (provided as a separately bound technical appendix) provides additional detail regarding facility types

and their application. In some cases, an individual cycling route may consist of more than one facility type throughout its length because of changing road geometry, varying posted and/or travel speed changes in traffic volume, or changes in cross section from urban (with curbs) to rural (with shoulders and ditches). In locations where a number of constraints exist, the design may require a specialist who is familiar with common guidelines as well as innovative techniques that have been applied in other jurisdictions.

In some cases, an individual cycling route may consist of more than one facility type throughout its length because of changing road geometry, varying posted and/or travel speed changes in traffic volume, or changes in cross section from urban (with curbs) to rural (with shoulders and ditches).

4.8.1 On-Road Cycling Facilities

Bike Lanes

Bike lanes are typically located on urban cross-section roads (with curb and gutter) to create a physical space in the traveled portion of the roadway that is designed for one-way bicycle travel. Bike lanes are demarcated with pavement markings and signage. *Figures 4-10 and 4-11* illustrate typical roadway cross-sections that include bike lanes.

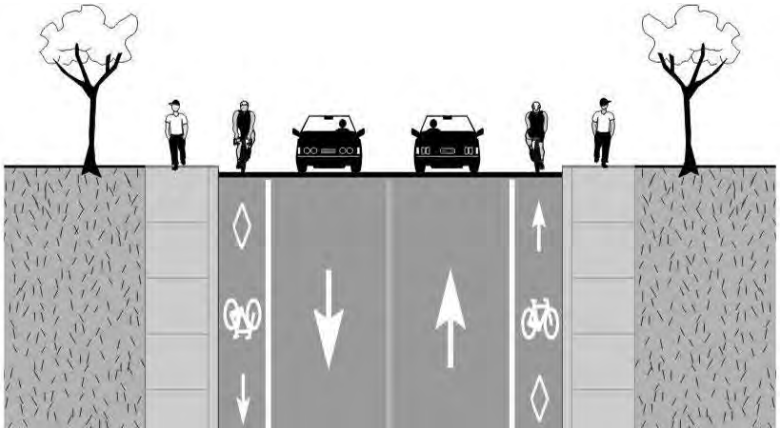


Figure 4-10: Typical Bike Lanes

(Source: MMM Group)

The following are a number of different strategies that can be used when adding bike lanes on 2-lane roads:

- Repaint to add bike lanes where current road width permits when pavement markings are renewed or the road is resurfaced.
- Repaint to add bike lanes by restricting on-street parking to one side of the road when pavement markings are renewed or the road is resurfaced.
- Repaint to add bike lanes by removing on-street parking on both sides of the road when pavement markings are renewed or the road is resurfaced.
- Add bike lanes by widening the road at the time it is scheduled for reconstruction.

Similarly, several different strategies can be employed when adding bike lanes to multi-lane roads:

- Repaint to add bike lanes when pavement markings are renewed or the road is resurfaced by narrowing the inner travel lanes and creating sufficient space in the curb lane for bike lanes
- Reduce the number of travel lanes when pavement markings are renewed or the road is resurfaced (also known as a “road diet”). For example, change the cross section from 4 vehicle travel lanes to 2 bike lanes, 2 travel vehicle lanes and a continuous centre left-turn lane
- Add bike lanes by widening the road at the time it is scheduled for reconstruction.

Examples of proposed bike lanes designated in the network plan include Maple Avenue and Guelph Street in Georgetown and Tanners Drive, Queen Street and Regional Road 25 in the Acton urban area.

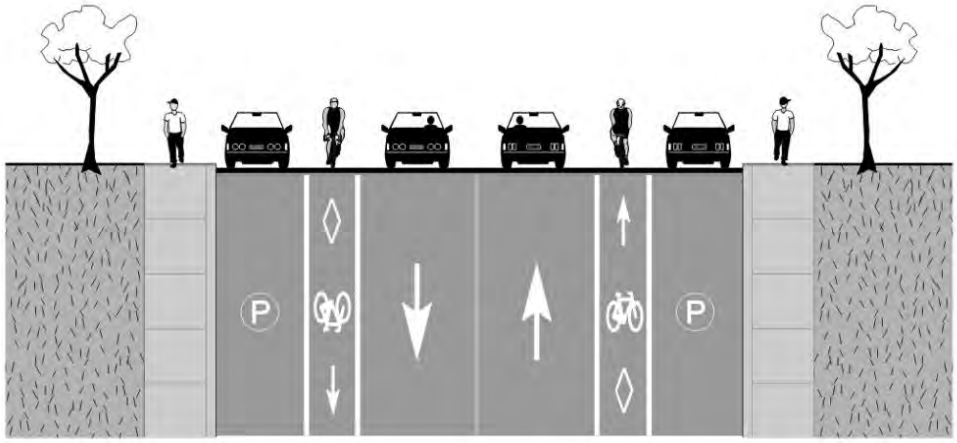
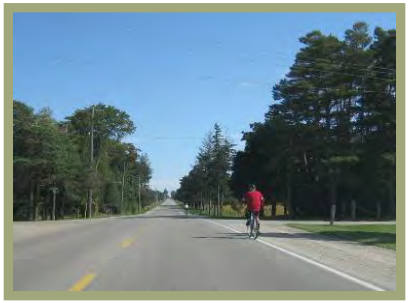


Figure 4-11: Typical Bike Lanes Adjacent to On-street Parking

Adding or improving existing paved shoulders can be the best way to accommodate cyclists in rural areas, and paved shoulders can also benefit other road users by providing a wider pavement width.

Bicycles are designated as a vehicle under the Highway Traffic Act (HTA) and as such are required to obey all of the same rules and regulations as automobiles when being operated on a public roadway. It is important to note that even when bike lanes are provided, cyclists are not obligated to use them. Should they choose to do so, cyclists are legally permitted to travel with mixed traffic in a standard motor vehicle travel lane.

With the exception of public transit buses, stopping or parking of motor vehicles is not permitted in bike lanes, and the bike lane marking through a bus stop zone may be indicated with a dashed line. Current legislation requires vehicles – including bicycles – to yield to buses, as indicated by markings on the rear of all buses.



(Source: MMM Group)

Paved Shoulder Bikeway

Where paved space has been provided, cyclists may choose to ride in the shoulder portion of the roadway between the edge line of the travel lane and the edge of pavement. A paved shoulder bikeway is typically recommended on rural cross section roads (no curb and gutter) where traffic volume and speed are high, where sight lines are poor, and/or where truck volumes are higher than

average. The paved shoulder bikeway is demarcated with signage that identifies the facility as a cycling route.

Examples of proposed paved shoulder bikeway designated in the network plan include:

- Fifth Line from the Milton boundary north to the Erin Township boundary;
- 15 Sideroad from Stewarttown Road to the western boundary of the Town; and
- Winston Churchill Boulevard.

Adding or improving existing paved shoulders can be the best way to accommodate cyclists in rural areas, and paved shoulders can also benefit other road users by providing a wider pavement width. Research indicates that paved shoulders can reduce erosion and long-term maintenance costs of the road, extend pavement life, and reduce the potential for single vehicle run-off-the-road incidents. Some jurisdictions such as the Region of Niagara, City of Ottawa and Grey County have recently approved policies to pave rural road shoulders when roads are resurfaced or reconstructed.

Adding or improving existing paved shoulders can be the best way to accommodate cyclists in rural areas, and paved shoulders can also benefit other road users by providing a wider pavement width.

Figure 4-12 illustrates a typical paved shoulder bikeway.

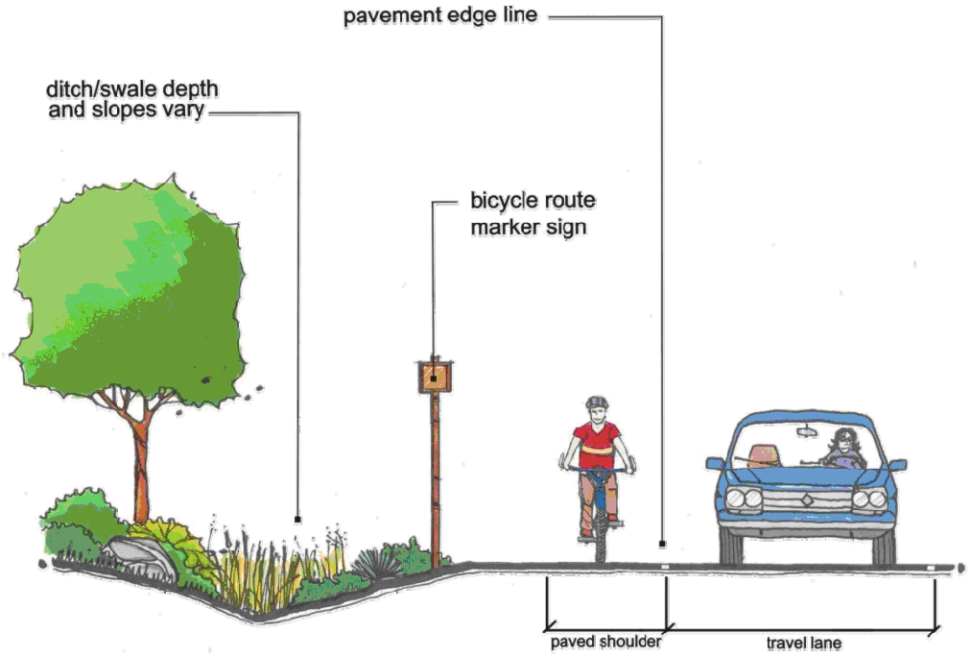


Figure 4-12: Typical Paved Shoulder Bikeway

Signed-Only Bicycle Routes

The objective of designating a signed-only bicycle route is to promote a road for cycling because it is well suited for travelling by bicycle and it provides an important connection between destinations, however the road does not warrant or can not accommodate higher level bike facilities like designated bicycle lanes. Signed-only bicycle routes can be located on roads with standard curb lane widths or wide curb lane widths. Although wider travel lanes may provide additional space for cyclists to share the lane, they may also result in increased motor vehicle speeds. For this reason, bike lanes or other separated cycling facilities are preferred, especially on high volume, high speed roadways. In both cases, the travel lane is shared by motorists and cyclists. Signed-only bicycle routes are typically

The objective of designating a signed-only bicycle route is to promote a road for cycling because it is well suited for travelling by bicycle and it provides an important connection between destinations, however the road does not warrant or can not accommodate higher level bike facilities like designated bicycle lanes.

found along roads where traffic volumes and vehicle speeds are low. Typical of quieter residential streets (low volume and low speed), core urban areas (higher volume and low speed) and lower order rural roads (low volume and moderate speed), cyclists can share the road with motor vehicles without the need for a designated space. Bicycle route marker signs located at intersections and at regular intervals aid users with wayfinding. Along signed routes where the street is very narrow, "Share the Road" signs and/or shared lane pavement markings ("Sharrows") can also be added to encourage cooperative behaviour between cyclists and motorists. *Figure 4-13* illustrates a typical signed-only bicycle route along a wide curb lane.

Along signed routes where the street is very narrow, "Share the Road" signs and/or shared lane pavement markings ("Sharrows") can also be added to encourage cooperative behaviour between cyclists and motorists.

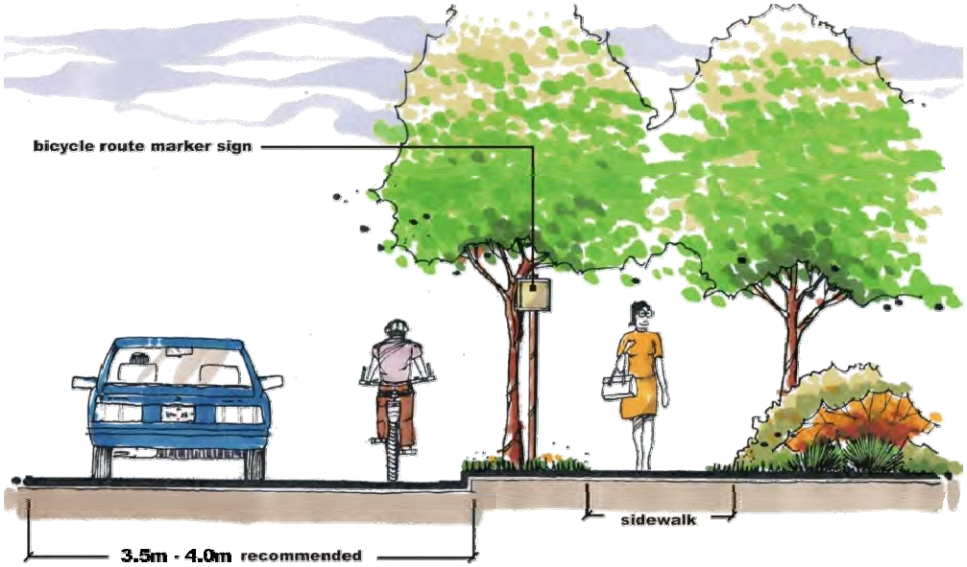


Figure 4-13: Typical Signed-Only Bicycle Route along a Wide Curb Lane

Examples of proposed signed only bike routes in the urban areas include Prince Charles Drive, Duncan Drive and Sargent Road in Georgetown and Church Street and McDonald Boulevard in Acton. In the rural areas, examples include Third Line through Scotch Block and Ninth Line north of Glen Williams.

Please note that although Bicycle lanes are considered a key on-road facility proposed throughout the cycling master plan, the Town may wish to initiate a pilot project or explore and implementation cycle

tracks in place of bike lanes on some sections of Town roads, as outlined in recommendation 4-K. This may occur if cycle tracks are considered a more feasible option or bicycle lanes are not deemed an appropriate facility.

Signed Bicycle Routes Enhanced with Edge Lines or Sharrows

Where road right-of-way widths are limited, where narrowing or removing traffic lanes is not feasible, and/or where the relocation or removal of parking is not an option and the demand for parking is low, an “Edge Line” or “Sharrow” treatment may be considered as a traffic calming measure.

The practice of adding edge lines along both sides of an urban residential street generally has several effects, some of which may benefit pedestrians and cyclists. The edge line may act as a traffic calming measure, by narrowing the motor vehicle travel lane to help reduce vehicle speeds, and by directing vehicles away from the boulevard and sidewalk which creates a wider buffer zone between pedestrians and moving vehicles. It also reduces wear-and-tear on curb-side catch basins by reducing the incidence of vehicles "hugging the curb" and travelling directly over catch basins. In addition, whether intentional or not, it provides an informal but delineated space on the street that many on-road cyclists are comfortable using.

In situations where roadway width is limited and bike lanes are not appropriate because of demand for on-street parking, a signed-only bike route combined with edge lines or sharrows is an alternative approach that some cyclists believe is better than a signed-only route with no edge lines or cycling pavement markings. The edge line treatment may also be considered in conjunction with the posting of seasonal peak hour on-street parking restrictions (i.e. weekday parking prohibitions during these times: 8:00 a.m. - 9:30 a.m. and 2:30 p.m. - 6:00 p.m.). Edge lines located less than 1.2 m from the edge of the pavement are not recommended on urban roads with curbs due to the increased risk of cyclists striking the curb and “bouncing” back into the motor vehicle travel lane and potentially colliding with a motor vehicle. Existing urban cross-section roads with edge lines less that 1.2 m from the curb should not be signed as bike lanes. Illustrated below in *Figure 4-14* is an example of an Edge Line treatment along Delrex Blvd.

Example of a Sharrow in Windsor, ON

Figure 4-14a: Delrex Blvd. prior to Edge Line Treatment

Figure 4-14b: Delrex Blvd. with Edge Line Treatment

Figure 4-14: Edge Line Treatment Along Delrex Blvd.

Although not specifically identified in the plan, one alternative to standard on-road bike lanes now being considered by a number of jurisdictions across North America is the separated bike lane, often referred to as a “Cycle Track”.

Cycle Tracks

Although not specifically identified in the plan, one alternative to standard on-road bike lanes now being considered by a number of jurisdictions across North America is the separated bike lane, often referred to as a “Cycle Track”. The concept is based on on-street bikeways and bikeway boulevards popular in some European countries, especially the Netherlands. The facility is located on the road surface and not above the curb in the boulevard, and is typically unidirectional (although they can be bidirectional). Cycle tracks have some form of separation from vehicular traffic lanes such as a painted buffer, bollards, a mountable curb or raised median. The graphics to the right illustrate a typical unidirectional cycle track, in one case with on-street parking and in the other case without on-street parking.

Variations on the cycle track concept described above have been applied in different jurisdictions. Some examples of these variations include:

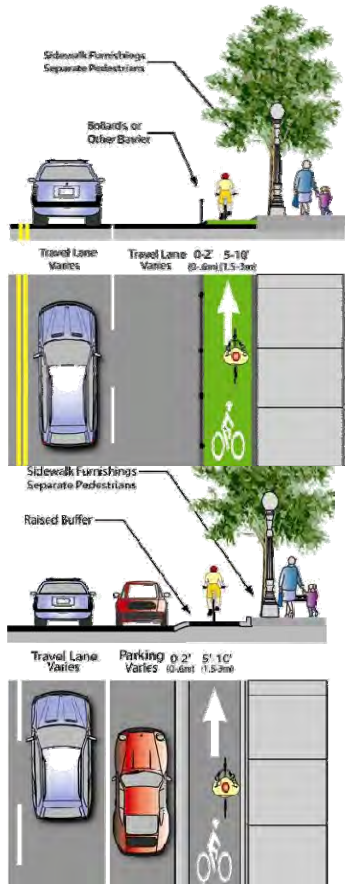
- Raised bike lanes, where a mountable curb separates the bike lane from the vehicular travel lane;

- Bi-directional cycle tracks, where two-way bicycle traffic shares a physically separated portion of the roadway; and
- Cycle tracks adjacent to on-street parking with planted curb extensions.

Cycle tracks may be appropriate for certain locations in Halton Hills and should be further investigated early on in the implementation of the Halton Hills Cycling Master Plan. The implementation process proposed in this plan includes a step to confirm or revisit the proposed facility type to ensure its feasibility. As part of this step, the Town may wish to explore the opportunity to develop a cycle track as a demonstration or pilot project. Possible locations for a pilot cycle track on roads identified in the cycle plan for bike lanes may include Queen Street in Acton and Guelph Street in Georgetown.

4.8.2 Off-Road Multi-Use Facilities

A multi-use trail is a facility that is completely separate from the travelled portion of a roadway, and may take the form of an in-boulevard trail in a public road right-of-way or an off-road multi-use trail within a greenway, abandoned rail corridor, or utility/hydro corridor. These types of trails are typically designed to support the widest range of users including pedestrians, cyclists, in-line skaters and skateboarders where trail surfaces permit such activities. Multi-use trails located in parks primarily serve recreational pedestrians and cyclists but can also be used for commuting. These can include trails along valley lands, river and canal corridors, active or abandoned rail lines, hydro corridors and other linear routes that serve the needs of both recreational and utilitarian cyclists.



Typical Cycle Track With or Without On-Street Parking (source: "Cycle Tracks: Lessons Learned", ALTA Planning + Design, 2008)

(Source: MMM Group)

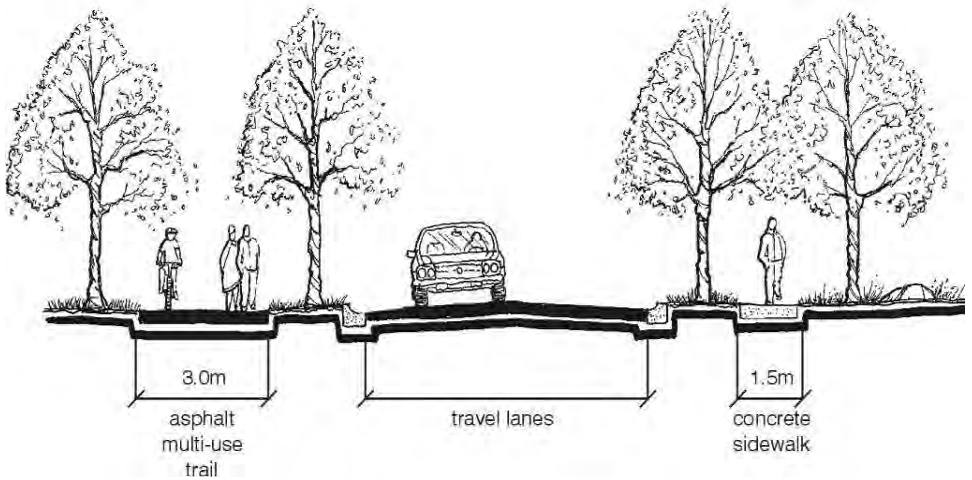


Figure 4-15: Typical In-boulevard Multi-use Trail

Multi-use trails that form part of the proposed Halton Hills Cycling Master Plan should include appropriate signing to inform users that this trail segment is also part of the Town's Cycling Master Plan network.

Multi-use trails that form part of the proposed Halton Hills Cycling Master Plan should include appropriate signing to inform users that this trail segment is also part of the Town's Cycling Master Plan network. *Figure 4-15* illustrates a typical in-boulevard multi-use trail. Typical multi-use trails for cycling purposes should have a minimum 3.0m width to facilitate two-way travel. The width of the trail may be widened to accommodate a higher volume of users. An ideal example of a proposed in-boulevard multi-use trail is on 10th Sideroad between 9th and 10th Line in south Georgetown as it continues the theme already established for a number of the arterial roads in this part of the town.

Over the years the Town has developed a number of off-road trails and has planned for additional future routes to be constructed when timing and funding is appropriate. The off-road network consists of a hierarchy of trail types from wider, hard surface trails along heavily used main routes through parks and public open space, hard surface and granular surface multi-use trails in boulevards along some arterial roads to soft surface mulched trails, natural earth surfaced trails and boardwalks in natural areas. The intent of the hierarchy is to match user types with the environment in which the trail is located and provide a variety of user experiences.

As illustrated in Figures 4-7 through 4-9, a portion of the multi-use trail network has been identified as a "Primary" component of the cycling network. These selected off-road routes form critical links in the town-wide cycling network. All "Primary" multi-use trails should be reviewed on a site-by-site basis to determine the appropriate upgrades needed to ensure that these routes conform to minimum acceptable guidelines for two-way bicycle traffic. These guidelines are generally based on a design speed of 30 km/hr for trails with a gradient of less than 4%, and 40-50km/hr for trails with a gradient greater than 4%. With these design speeds in mind, some key pathway design characteristics to be examined include:

- Pathway width (a minimum of 3.0m is recommended for 2-way bicycle travel);
- Pathway surface (asphalt is recommended where snow clearing during winter months is being considered and/or where small-wheeled uses such as skateboarding and in-line skating are desirable);
- Horizontal and vertical pathway alignment to allow for adequate sight lines around corners and over hills;
- Clear zones beside the trail bed that are kept free of obstructions such as tree branches, rocks, signposts and signboards etc.; and
- Trail signage positioned in such a manner to provide cyclists with adequate advance warning of upcoming changes to the trail system (e.g. trail junctions, road crossings, trail narrowings, bridges, sharp curves, steep gradients etc.).

In new development areas, the Town of Halton Hills should require the provision of new on and off-road cycling facilities and trails. The alignment, density, facility types and location is expected to be determined through the subdivision design and approval process. New routes and facilities should be consistent with and connect to the Town Wide Cycling Plan and have regard to applicable Credit Valley Conservation Authority and Ministry of Natural Resources guidelines and standards.

In new development areas, the Town of Halton Hills should require the provision of new on and off-road cycling facilities and trails. The alignment, density, facility types and location is expected to be determined through the subdivision design and approval process.

Cycling Routes in Hungry Hollow

The Cycling Master Plan proposes off-road cycling routes through Hungry Hollow. These connections were felt to be critical by the Cycling Committee and the public. However, it should be noted that the Hungry Hollow area is a sensitive natural area, and trails are being developed in accordance with the Hungry Hollow Management Plan which was approved by Council in 2006. The Management Plan and subsequent Council direction include specific recommendations regarding trail locations, widths and cycling in Hungry Hollow.

The Master Plan is recommending cycling routes through Hungry Hollow to be "family oriented" cycling to experience the natural area, and is not suggesting that mountain biking/BMX, other off-road biking, or high speed cycling groups be encouraged or allowed, given the constraints of the area.

The Master Plan is recommending cycling routes through Hungry Hollow to be "family oriented" cycling to experience the natural area, and is not suggesting that mountain biking/BMX, other off-road biking, or high speed cycling groups be encouraged or allowed, given the constraints of the area.

Development of primary cycling connections through Hungry Hollow will require careful coordination with the Management Plan and the Credit Valley Conservation Authority, and if approved by the Town and Conservation Authority extra care must be given to minimizing impacts on the natural environment. There are also routes shown, such as the connection from 15 Sideroad and Main St. to Sargent that were never contemplated by the Management Plan due to environmental constraints, and would require extensive additional detailed studies and amendments to the Hungry Hollow Management Plan.

Recommendations

4-F: Recognize that all Town and Regional roads except freeways / 400 - series highways are available to cyclists, and that a vehicular approach to cycling be adopted that recognizes the bicycle as a vehicle, which operates on public roadways or within road rights-of-way with the same rights and responsibilities as motor vehicles.

4-G: Bike lanes should be considered on those collector and arterial roads designated in the Plan that have an urban cross-section; if not, the implementation of edge lines or sharrows should be explored.

4-H: Paved shoulder bikeways proposed in the Plan should be considered on roads with a rural cross-section.

4-I: Signed-only bicycle routes proposed in the Plan should be considered on local roads with low traffic volume and / or with wide curb lane widths to highlight that it provides an important connection between destinations and primary routes.

4-J: Bicycle priority streets or bikeway boulevards outlined in the Plan should be considered by the Town to allow cyclists to travel more efficiently through traffic-calmed neighbourhoods.

4-K: A pilot project involving cycle tracks should be considered to explore the feasibility of implementing this facility within Halton Hills.

4-L: Multi-use trails that are a part of the “Primary” component of the cycling network should be reviewed on a site-by-site basis to determine the appropriate upgrades needed to ensure that the routes conform to minimum acceptable guidelines for two-way bicycle traffic.

4-M: In new development areas, the Town of Halton Hills should require the provision of new on and off-road cycling facilities and trails. The alignment, density, facility types and location is expected to be determined through the subdivision design and approval process. New routes and facilities should be consistent with and connect to the Town Wide Cycling Plan.

4.9 The Proposed Cycling Network Facility Types

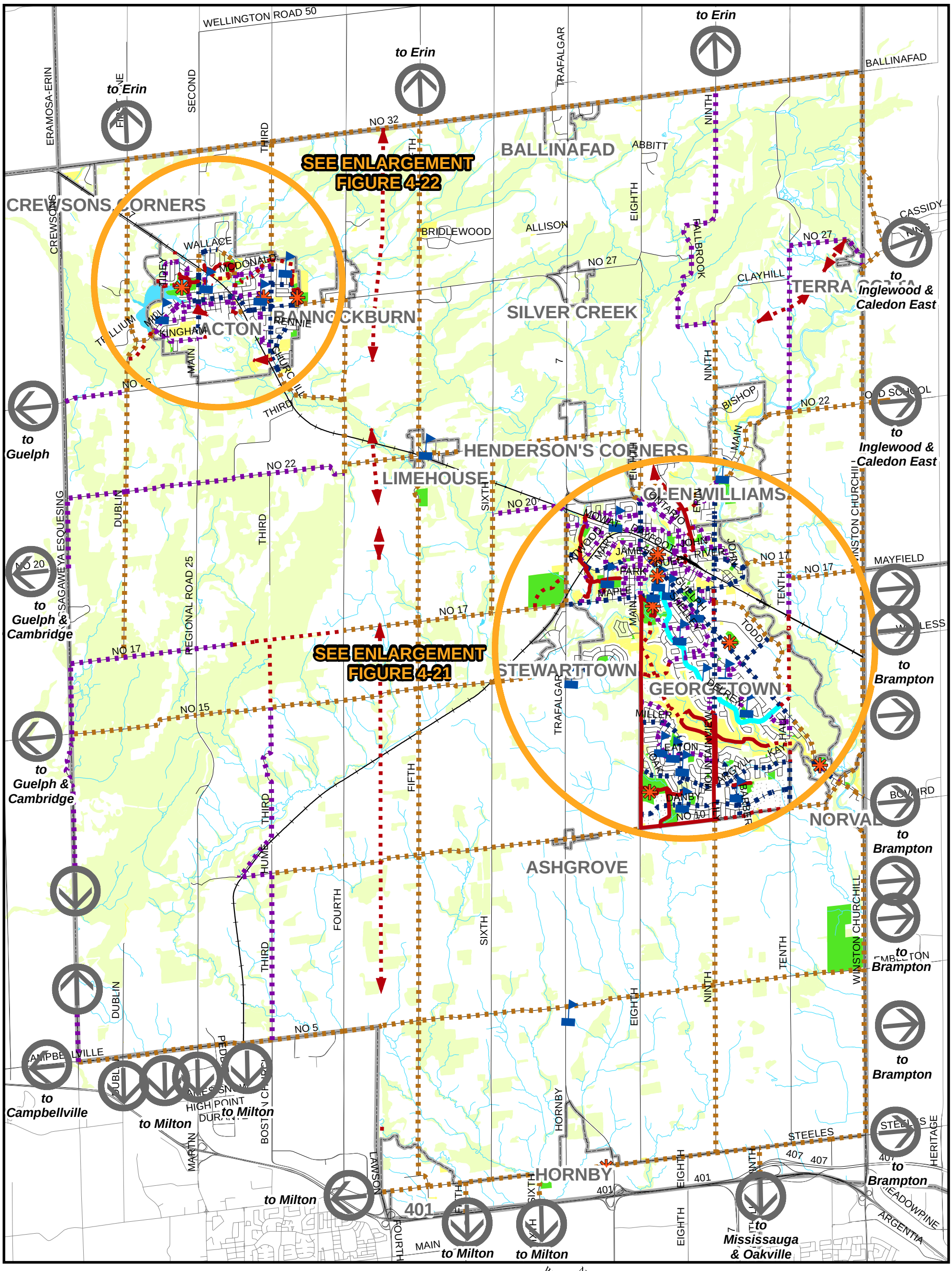
The proposed facility types are illustrated in *Figures 4-16 through 4-18*, and Table 4-1 provides a summary of bikeway types according to short, medium and long term phasing. When complete, the cycling network in Halton Hills will consist of 317 km of designated facilities. This total includes almost 275km (274.9km) of facilities under the jurisdiction/management of the Town of Halton Hills, and just over 42km (42.1km) of facilities under the jurisdiction of the Region of Halton. Phasing and probable implementation costs are discussed further in Chapter 5 of this report.

Table 4-1. Bikeway network statistics by length (km)

	Bike Lane	Paved Shoulder	Edge Line	Signed Route	Multi-use Trail
Existing	0	0	6.2	0	20.1 (1) (2)
Proposed	34.9	156.5	0.0	70.3	51.4 (3) (4)
Subtotal by Facility Type	34.9	156.5	3.9 (5)	70.3	51.4
Grand Total Network Length	317.0km				

Notes
1. The 20.1km of existing trails illustrated on Figures 4-1 to 4-3 include all those within the Town's municipal boundary that are considered to be critical to the cycling network. Note that a number of other existing trails in Halton Hills such as the Bruce Trail, side trails of the Bruce Trail, Guelph Radial Line Trail, trails in some Conservation Areas and some Conservation Authority Regulated Areas do not permit cycling.
2. It has been assumed that all of the 20.1km of trails reported as existing require upgrades to properly accommodate cycling. To avoid "double-counting of trail lengths, these 20.1km trail are included as part of the 51.4km of proposed trails to reflect the need for upgrades.
3. Of the proposed 51.4km, 23.0km are recommended for implementation in the mid-term. This consists of 8.7km that require minor upgrades, 6.7km that require significant upgrades and 7.6km of trails that have not yet been constructed.
4. Of the proposed 51.4km, 28.4km are recommended for implementation in the long term. This consists of 4.7km that require a significant upgrade and 23.7km of trails that have not yet been constructed.
5. The subtotal for Edge Lines incorporates the conversion of the 2.3km of existing Edge Lines to Bike Lanes on Queen Street in Acton.
6. Refer to Tables 5-1 and 5-2 for a breakdown of Town versus Regional facility lengths and estimated costs for implementation.

This chapter describes the development of the recommended Town-wide cycling network, and the facilities that are proposed to comprise it. The next chapter presents the strategy for implementing the recommendations of this Master Plan study, as well as phasing and cost estimates for implementation.



Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE 4-16
Recommended Facility Types

TOWN WIDE

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection
- Regional Network Connection

On Road Cycling Routes

- Existing Signed Route
- Proposed Signed Route
- Existing Bike Lane
- Proposed Bike Lane
- Existing Paved Shoulder
- Proposed Paved Shoulder
- Existing Edge Line
- Proposed Edge Line

Off Road Cycling Routes

- Existing Off Road Route
- Proposed Off Road Route (includes routes from previous studies and other routes identified by Study Team)

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS

MMM GROUP

HENDERSON'S CORNERS
GLEN WILLIAMS
STEWARTTOWN
GEORGETOWN
NORVAL
ASHGROVE
NO 22
NO 20
NO 17
NO 15
NO 10
EIGHTH
NINTH
TENTH
CONFEDERATION
MAIN
MCMASTER
MEAGAN
WILDWOOD
PRINCE
JOSEPH
BISHOP
LINDSAY
JOHNSON
BANTING
HYLAND
MOORE PARK
KENNEDY
MOWAT
GERTON
CARRUTHERS
NEWMAN
EWING
NEWSON
ONTARIO
ANN
PARK
ERIN
BEAVER
KAREN
MULLEN
MARY
HENRY
GEORGE
JAMES
ACADEMY
VICTORIA
GOSTICAN
JOHN
DANIELA
RIVER
COREY
WYLIE
KING
QUEEN
ALBERT
DURHAM
MILL
CHURCH
PARK
CHARLES
EDITH
MAPLE
GUELPH
MCCLURE
BRADLEY
GARDINER
PARKVIEW
ORCHARD
HALTON HILLS
PRINCESS ANNE
GREENBOW
CINDERBARKE
EDWARD
BYRON
TERRY
WINDSOR
REXWAY
PRINCE CHARLES
MCINTYRE
NORTON
BAIRSTOW
HALE
NOBLE
ARBORGLEN
GRIST MILL
NORTH RIDGE
MCNALLY
MILL POND
BELMONT
BLACK CREEK
THOMPSON
CHIPPER
SARGENT
GARNET
HESLOP
FALCON
DAWSON
LEWIS
GOWER
RAYLAWN
DUNCAN
WEBER
ARMSTRONG
IRWIN
EDEN
METCALFE
GAIREY
DELREX
ROSEFIELD
REGAN
FAGAN
HALL
RUSSELL
TODD
SINCLAIR
ELLIOTT
MEADOWLARK
LOOKOUT
FORSYTH
ROBINA
CRAIG
RESOURCE
SAMUEL
GOLLOP
KAY
WATSON
STONE
STANDISH
OAK
MAY
CURRY
WILLIAM
ROWNTREE
ROBINSON
ORCHID
FARROW
BARBER
MOUNTAINVIEW
ARGYLL
WEBSTER
EMERALD
SERENITY
DANBY
MILFOIL
LILY
LAROCHE
TRAFALGAR
DRAPER
KING
ADAMSON

0 290 580 1,160 1,740 2,320 Metres

Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE 4-17
Recommended Facility Types

GEORGETOWN

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection

On Road Cycling Routes

- Existing Signed Route
- Proposed Signed Route
- Existing Bike Lane
- Proposed Bike Lane
- Existing Paved Shoulder
- Proposed Paved Shoulder
- Existing Edge Line
- Proposed Edge Line

Off Road Cycling Routes

- Existing Off Road Route
- Proposed Off Road Route (includes routes from previous studies and other routes identified by Study Team)

TOWN OF HALTON HILLS

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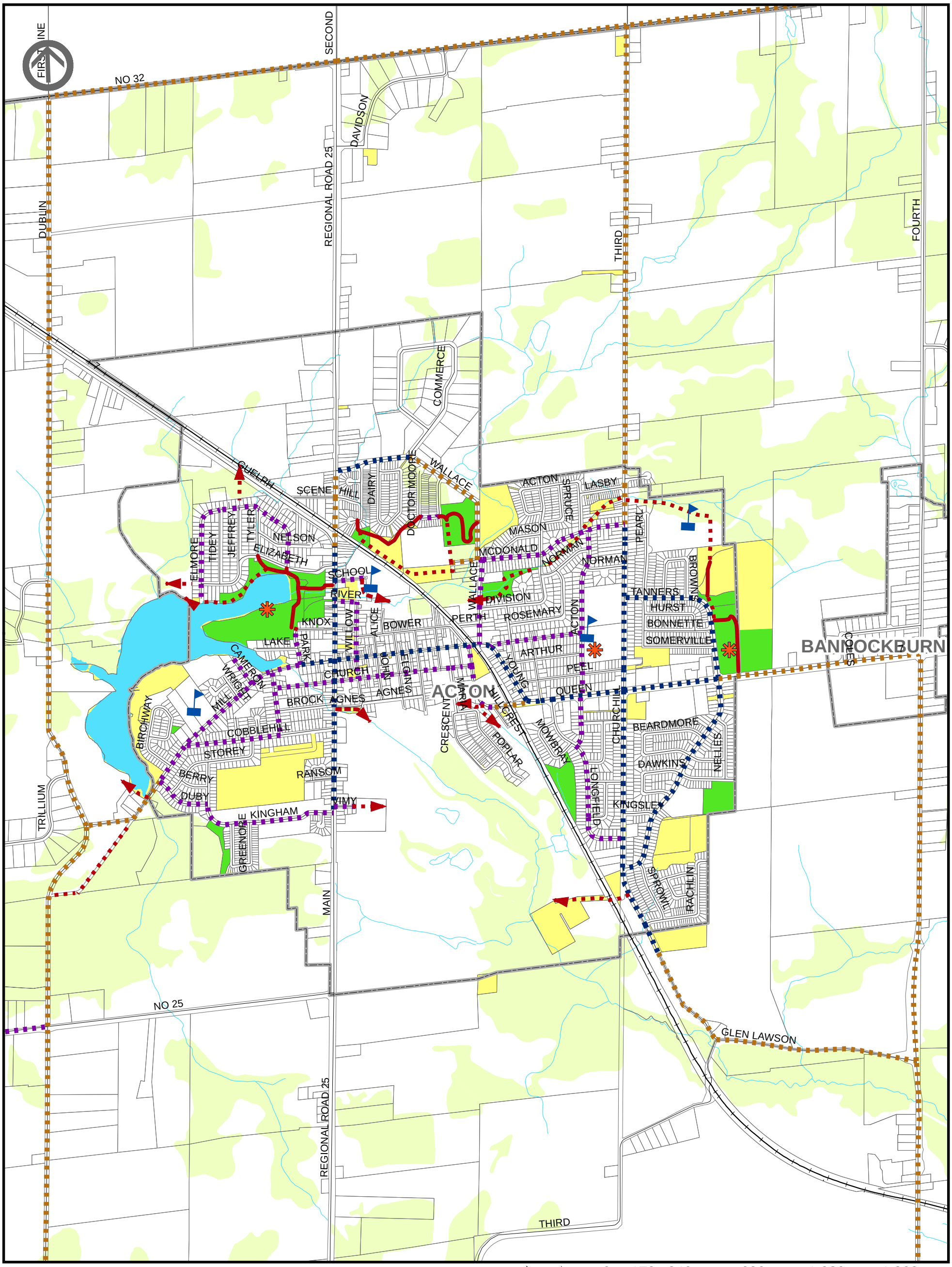
* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.



Town of Halton Hills
Cycling Master Plan November 2010

FIGURE 4-18
Recommended Facility Types

ACTON

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection
- Regional Network Connection

On Road Cycling Routes

- Existing Signed Route
- Proposed Signed Route
- Existing Bike Lane
- Proposed Bike Lane
- Existing Paved Shoulder
- Proposed Paved Shoulder
- Existing Edge Line
- Proposed Edge Line

Off Road Cycling Routes

- Existing Off Road Route
- Proposed Off Road Route (includes routes from previous studies and other routes identified by Study Team)

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS

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5.0 IMPLEMENTATION

Cyclists in Halton Hills (Source: MMM Group)

The Cycling Master Plan is designed to be flexible so that the Town and Region can adapt to changes, constraints, available budget resources and opportunities as they arise.

5.1 The Implementation Strategy

The Halton Hills' Cycling Master Plan provides a long-term vision for cycling in the Town of Halton Hills. The proposed infrastructure improvements require a clear implementation strategy that prioritizes routes for construction or rehabilitation. However, it is important to keep in mind that the Cycling Master Plan will not only be an infrastructure plan. It is a Plan that includes a set of recommendations to promote safe cycling in Halton Hills and to recognize and promote the economic, health and quality of life benefits that this form of transportation can offer. The proposed network will be supported and complemented by a number of outreach initiatives and policy updates that will be used to encourage cycling activities throughout the Town.

5.2 How to Implement the Master Plan

This chapter proposes a strategy to assist the Town of Halton Hills in the implementation of the Cycling Master Plan. The strategy is designed to be flexible so that the Town and Region can both adapt to changes, constraints, available budget resources and opportunities as they arise. The strategy outlines the people, processes, policies, programs and resources needed to implement the Cycling Master Plan.

5.2.1 Who Does What?

People and leadership are essential for setting the implementation of the Halton Hills Cycling Master Plan into motion. The formal relationships between individuals and organizations and their operational practices is an important factor in determining whether cycling initiatives will proceed and be successful. Maximizing participation and removing obstacles to the flow of information between participants are two of the main objectives in managing implementation.

People and leadership are essential for setting the implementation of the Halton Hills Cycling Master Plan into motion.

Town Council sets the direction for all municipal programs, policies and initiatives. Effective implementation of this Cycling Master Plan requires the support and leadership of Town Council. As a first step, it is recommended that the Town of Halton Hills Cycling Master Plan, including the implementation strategy in this chapter, be adopted by Council in principle and assumed as the Town's long-term strategy to improve cycling conditions in Halton Hills.

The Town of Halton Hills staff will oversee the implementation of the Cycling Master Plan. It is recommended that the Town of Halton Hills designate the current position of Manger of Design and Construction to oversee the implementation of the Plan. The individual in this position should 'champion' the Cycling Master Plan. A key role of this position will be to support the active promotion of cycling programs and initiatives throughout the Town.

To assist the implementation of the Cycling Master Plan, Town Council should expand the Trails Advisory Committee and change the name of the group to the Trails and Cycling Advisory Committee. The expanded scope of this committee will be to provide advice and input to the Town regarding the design, construction, funding, infrastructure and promotion of a cycling and trails system. This committee would work closely with a coordinator and primary lead from the Infrastructure Services Department with a secondary lead from the Recreation and Parks Department.

An efficient reporting and implementation structure is vital to ensure that the decision-making process throughout the implementation of the Cycling Master Plan is managed and all relevant Town and Regional municipal Departments are appropriately engaged. A suggested structure for managing and implementing the master plan is illustrated in *Figure 5-1.*

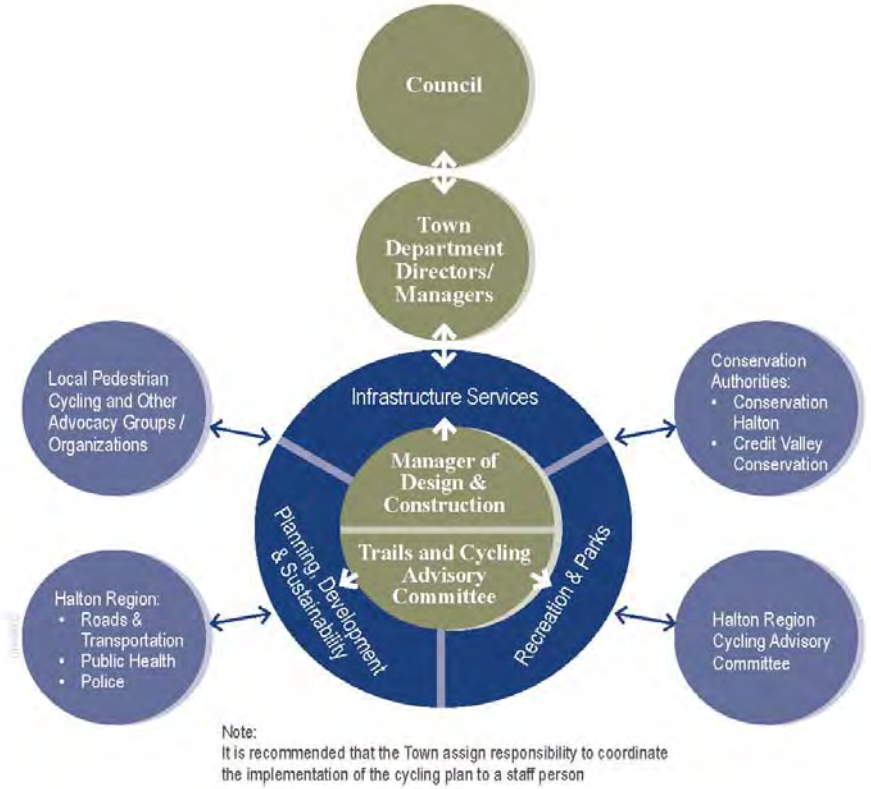


Figure 5-1 – Proposed Cycling Master Plan Reporting Structure

The formal relationships between individuals and organizations and their operational practices is an important factor in determining whether cycling initiatives will proceed and be successful.

Led by the Town's Coordinator and the Trails and Cycling Advisory Committee, a core team would be formed with representation from the Town's Planning, Development & Sustainability, Infrastructure Services and Recreation & Parks Departments. This core group of the recommended reporting structure would oversee and make recommendations regarding funding and priorities associated with the Cycling Master Plan, as well as other Town active transportation, transportation demand management, and sustainable transportation initiatives, as required.

Halton Hills staff will also require ongoing collaboration and support from the Region of Halton, City of Brampton, City of Mississauga, Region of Peel, local conservation authorities, local cycling advocacy groups, including input on progress and cooperative funding on joint projects as they arise. The successful implementation of the Halton Hills Cycling Master Plan will require a strong working relationship between the Town and Regional staff, as well as conservation authorities, developers and the public. Town staff may wish to adapt the proposed reporting structure in order to be inclusive of the affected departments and the current structure within the Town.

5.2.2 A Network Management Tool

The proposed cycling network for the Master Plan was developed using the Town's Geographic Information System (GIS) base. The digital, GIS based network map provided to the Town as part of the Plan can also be used as a cycling facility management tool. A database is associated with the map information and includes a number of different attributes. For example, the network has been divided into segments, each is defined by its length, the type of cycling facility proposed, as well as the phase in which the route and facility is to be implemented.

(Source: MMM Group)

During the implementation process, Town staff can use this tool to assist in confirming the feasibility of cycling routes and facilities and the proposed schedule for implementation. The GIS tool can also be used to track and document new segments as they are implemented. Updating the network facilities component of the Cycling Master Plan as they are rehabilitated or constructed will significantly reduce the effort and cost to update the entire Cycling Master Plan, which is recommended to occur every five years. If the Town chooses, this GIS information with some programming could also be posted on the Town's website in an interactive map format. This would be useful to the public and developers and would also serve as a 'quick reference'.

Recognizing that not all Town staff will have access to GIS software, key components of the database and map will be provided in KML format which will allow Town Staff with access to Google Earth digital aerial photography from the internet to overlay the Town's network route and facility information.

5.2.3 A Five-Step Network Implementation Process

The Halton Hills Cycling Master Plan is not intended to be a static document. The timing and details related to implementation, particularly the location of recommended routes and cycling facility types should, and will evolve through community consultation and technical review during the implementation. At the same time, however, the extensive community and stakeholder effort that established the overall direction for the Master Plan should be respected. It should also be recognized that the cycling network and priorities recommended might evolve through the environmental assessment, planning and capital budget processes.

The timing and details related to implementation, particularly the location of recommended routes and cycling facility types should, and will evolve through community consultation and technical review during the implementation.

Central to the proposed implementation process tool is a proposed guideline that would require that the Cycling Master Plan be reviewed and given consideration when a Town, Regional Road or other capital infrastructure project is identified or scheduled. This should include the Town and Region's Capital Budget and Forecast program for re-constructing or re-surfacing roads, as well as any investigation of potential new road alignments or the reuse and/or sale of abandoned rail corridors, utility corridors or unopened road allowances. The objective is to ensure that Town assets, particularly roads designated in the Cycling Master Plan for future cycling routes, are given due regard when planning, designing and budgeting larger capital road / infrastructure projects. This step should also apply to Town planning studies or studies initiated by Halton Region in which the Town is a partner. Without this step, network opportunities could be lost and cost efficiencies not realized.

Building upon this central recommendation, *Figure 5-2* outlines a proposed process tool for guiding the implementation of cycling network facilities in Halton Hills. It is recommended that Town staff review this tool and adapt it as necessary to suit their needs.

The network implementation process is comprised of five phases and is a step-by-step mechanism to confirm the feasibility of each recommended network route at the time implementation is proposed. It will assist Town staff from affected departments to work together, to share information and to facilitate the implementation of the Cycling Master Plan.

Each phase of the network implementation process is described in the following sections.

The network implementation process is comprised of five phases and is a step-by-step mechanism to confirm the feasibility of each recommended network route at the time implementation is proposed.

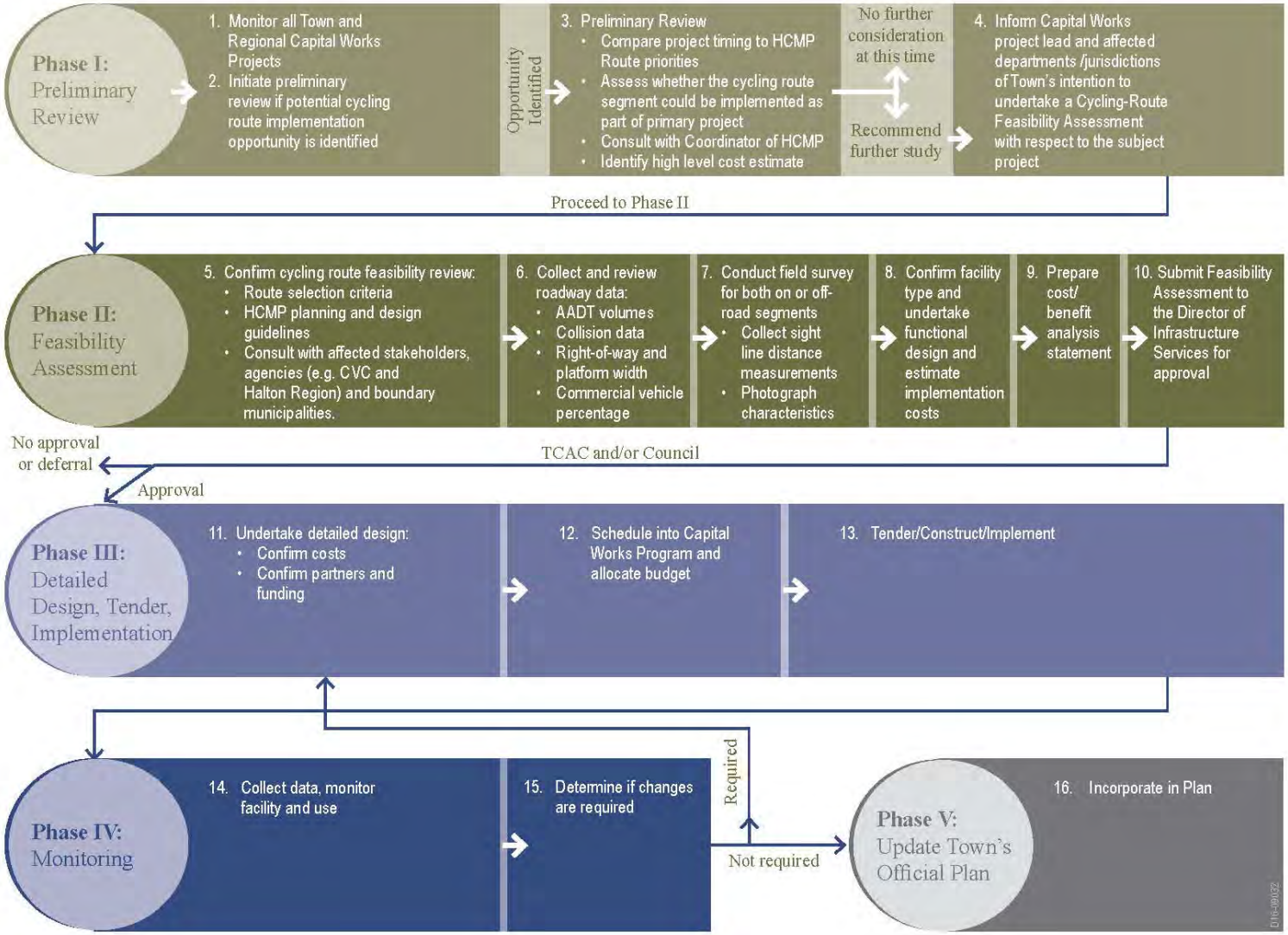


Figure 5-2 – A Five-Step Network Implementation Process

Phase I: Preliminary Review

The first phase in implementing the cycling network will be to identify and communicate opportunities. In addition, each of the road and trail projects scheduled for the Town and Region in Halton Hills, including those in the Capital Budget and Forecast should be monitored. In the case where a Plan identified corridor or road, proposed for a cycling route, is advanced to the planning stage the Town should undertake a Phase 1 Preliminary Review. This is also the case where an opportunity comes forward to establish a new route not identified by the Plan. This review should:

- Identify the jurisdictions involved in a project and opportunities to collaborate on creating a seamless cycling network.
- Compare the timing of the project to the short, mid and long term implementation priorities identified in the Cycling Master Plan;
- Assess whether the nature of the project may permit implementation of the preferred cycling facility type in a cost effective manner; and
- Inform the project lead and affected departments whether or not a feasibility assessment should be undertaken to confirm the feasibility and costs for implementing the proposed cycling route as part of the subject project.

The first phase in implementing the cycling network will be to identify and communicate opportunities. In addition, each of the road and trail projects scheduled for the Town and Region in Halton Hills, including those in the Capital Budget and Forecast should be monitored.

The key aspect of this initial phase is communication. Staff from various departments should report all upcoming projects that may involve or impact a cycling facility designated in the Master Plan. From this point forward, the Town Coordinator would be expected to work through the remaining steps of the implementation process with various departments at the Town and Regional level as appropriate.

Phase II: Feasibility Assessment

If a cycling project is confirmed through the preliminary review process (Phase I), the Coordinator should lead Town staff in undertaking a Feasibility Assessment. This should be a brief study and include the following steps:

- Confirm the feasibility of the route based on a review of the Cycling Master Plan and supporting route selection and planning and design criteria, as well as other relevant information.
  - Collect or confirm current roadway characteristic information including AADT volumes, collision data and the commercial vehicle percentage.
  - Conduct a field check for both on and off-road route segments to identify any other issues that should be considered and to measure sight line distances (if applicable).
  - Undertake a functional design for the on or off-road cycling facility segment and estimate implementation costs, including construction and signing.
  - Prepare a cost/benefit analysis statement.

This "statement" should comment on the following:

- The timing for implementing the proposed cycling facility;
- Costs and efficiencies achieved;
- Identify any less costly alternatives and how they may fit within the overall cycling network plan;
- Provide recommendation on how to proceed; and
- Submit the Feasibility Assessment for approval to the heads of the affected departments.

This process typically takes place in conjunction with, or as input to, a roadway or public works Class EA or functional design process whereby design alternatives are prepared. The design for the cycling portion of the facility should be in accordance with the Design Guidelines, as well as other relevant regional, provincial and national design standards.

Priority consideration should be given to situations where there is a clear community demand for cycling facilities. If site-specific circumstances prevent a facility from being constructed in association with a particular improvement project being considered, other nearby parallel routes on both Town and Regional Roads should be closely examined at the time to determine their suitability.

Priority consideration should be given to situations where there is a clear community demand for cycling facilities.

Phase III: Detailed Design, Tender and Implementation

Once approval has been obtained to implement a cycling route segment, the necessary detailed design should be completed. This phase is typically done as part of the detailed design for the primary capital roads project, such as a road widening and does not require additional resources. This third phase of the process should also include confirming details with regard to partners (if any) and cost sharing. The project should then be scheduled into the Town's Capital Budget program with a suitable budget allocated. The final step involves tendering the project (if not undertaken by the Town in-house), followed by construction / implementation.

Once approval has been obtained to implement a cycling route segment, the necessary detailed design should be completed. This phase is typically done as part of the detailed design for the primary capital roads project, such as a road widening and does not require additional resources.

It is also possible that following detailed design the decision is made not to proceed with the facility or preferred facility type because of the cost, other constraints that arise through the detailed design process or based on direction from Council. If this occurs, the network should be updated and an alternative route should be proposed.

Phase IV: Monitoring Phase

Once cycling facilities have been constructed, their design and use should be monitored to ensure they function in the manner intended. Facilities should also be maintained and upgraded to ensure ongoing safe use by cyclists. Monitoring (observation and data collection) will also help to ensure that the cycling design guidelines are current by informing staff on how various design applications are being used by cyclists.

Phase V: Town Official Plan

The fifth phase of the implementation process includes updating the Town's Official Plan to account for changes in policy and network routes.

Facilities should also be maintained and upgraded to ensure ongoing safe use by cyclists.

Recommendations

5-A: Council should adopt the Town of Halton Hills Cycling Master Plan, in principle, including the implementation strategy in this chapter, and should assume this Plan as the Town's long-term strategy to improve cycling conditions in Halton Hills. This Master Plan should be updated every five years.

5-B: The Town should designate a Staff person to coordinate the implementation of the Cycling Master Plan.

5-C: Council should consider the expansion of the Trails Advisory Committee to include trails and cycling programs and initiatives. The revised committee should be renamed the Trails and Cycling Advisory Committee.

5-D: The Town of Halton Hills should adapt the proposed reporting structure to meet the needs and partnerships that currently exist in order to effectively implement the Master Plan.

5-E: A network management tool should be maintained by the Town in order to assist in implementing the Plan to update the network as proposed routes are implemented.

5-F: The Town should consider coordinating the implementation of cycling improvements with Town or Regional roads when they are identified or scheduled for reconstruction or resurfacing.

5-G: The Town should consider future opportunities to expand the cycling network in addition to the routes identified in this master plan when reconstructing and widening existing roads, and through an investigation of potential new road alignments, abandoned rail corridors, utility corridors or unopened road allowances.

5-H: The network implementation process proposed in this section should be adapted by the Town to meet its needs.

5.3 Building and Maintaining the Network

The following section provides recommendations regarding the implementation and maintenance of the cycling network. It describes the phasing schedule, rationale for selecting priorities and a list of some of the key priorities identified for Acton, Georgetown and the rural area. Details regarding the estimated probable costs for implementation can be found in Section 5.5

5.3.1 Network Implementation Schedule

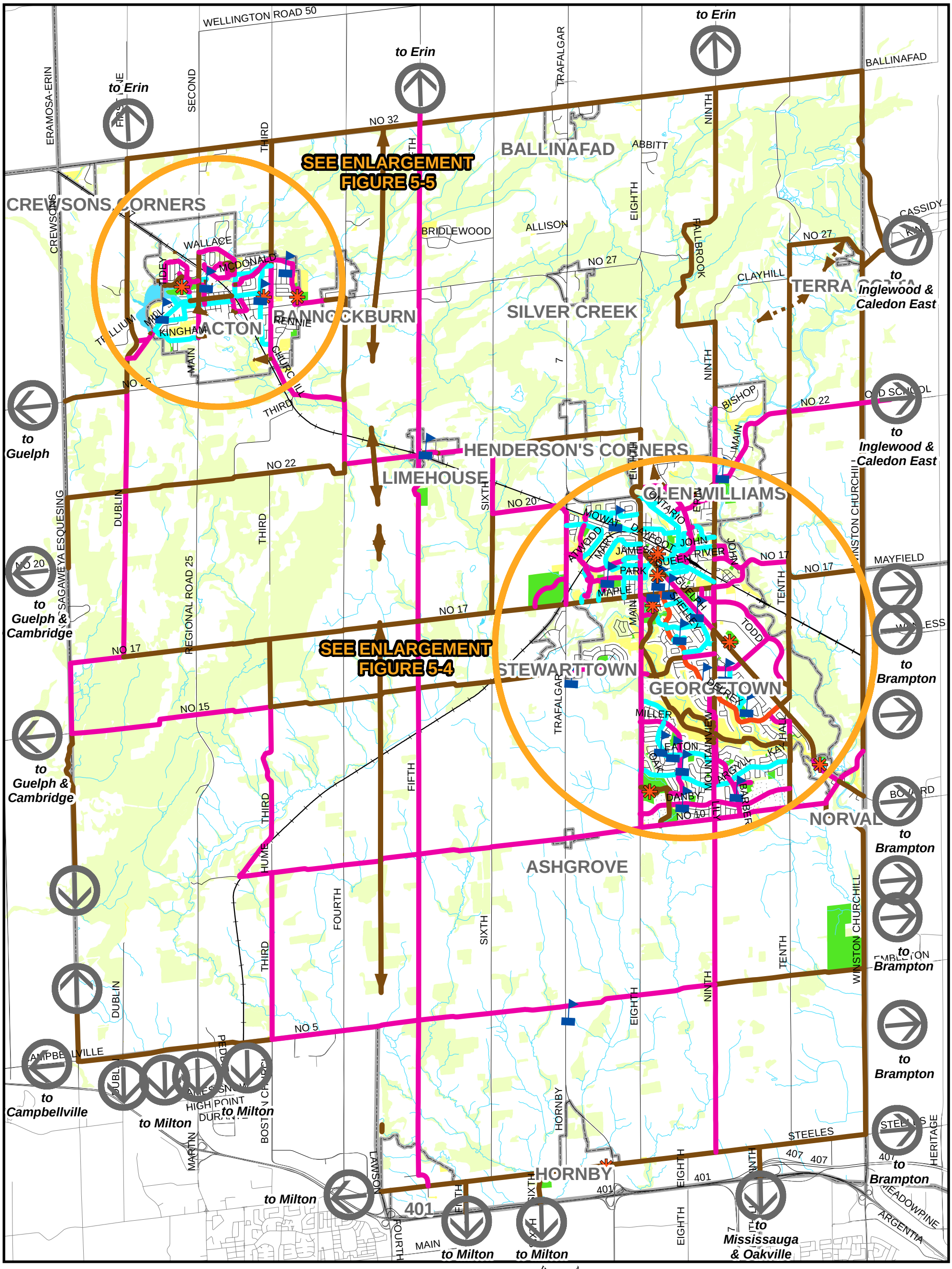
Network implementation priorities were established using several inputs including routes identified by the Project Steering / Cycling Committee and the public as a high priority. In addition, the consulting team relied on insight gained through other cycling, trail and active transportation master plans developed for other jurisdictions across the country.

The proposed Implementation Plan consists of three phases so that it can be coordinated where possible with the Town's plans for capital projects. The phases are:

- Phase 1: Immediate/Short Term (Year 1);
- Phase 2: Mid Term (Years 2-10); and
- Phase 3: Long Term (Years 11+).

The Implementation Plan is illustrated in *Figures 5-3 through 5-5*. Each of the phases is distinguished with a separate colour. The ultimate cycling network (following build-out) would be represented by the combination of all of the colours. In addition to the strategy to implement network routes as part of planned capital road improvement projects, a number of other strategies were used to prioritize the implementation of routes in this plan. It is recommended that these strategies should continue to be used in the future when annual network priorities are being reviewed and/or updated. These include:

- Closing short gaps in the existing network with a focus on those short gaps that, when completed result in long and continuous routes;



Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE 5-3
Proposed Implementation Schedule

TOWN WIDE

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection
- Regional Network Connection

Proposed Phasing

- Existing
- Short Term
- Mid Term
- Long Term

Note:
It is recommended that all existing trails included as part of the cycling network be reviewed/inspected and upgraded as required to meet an acceptable standard for cycling, therefore these existing trails are shown in the implementation plan under the medium and long term.

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

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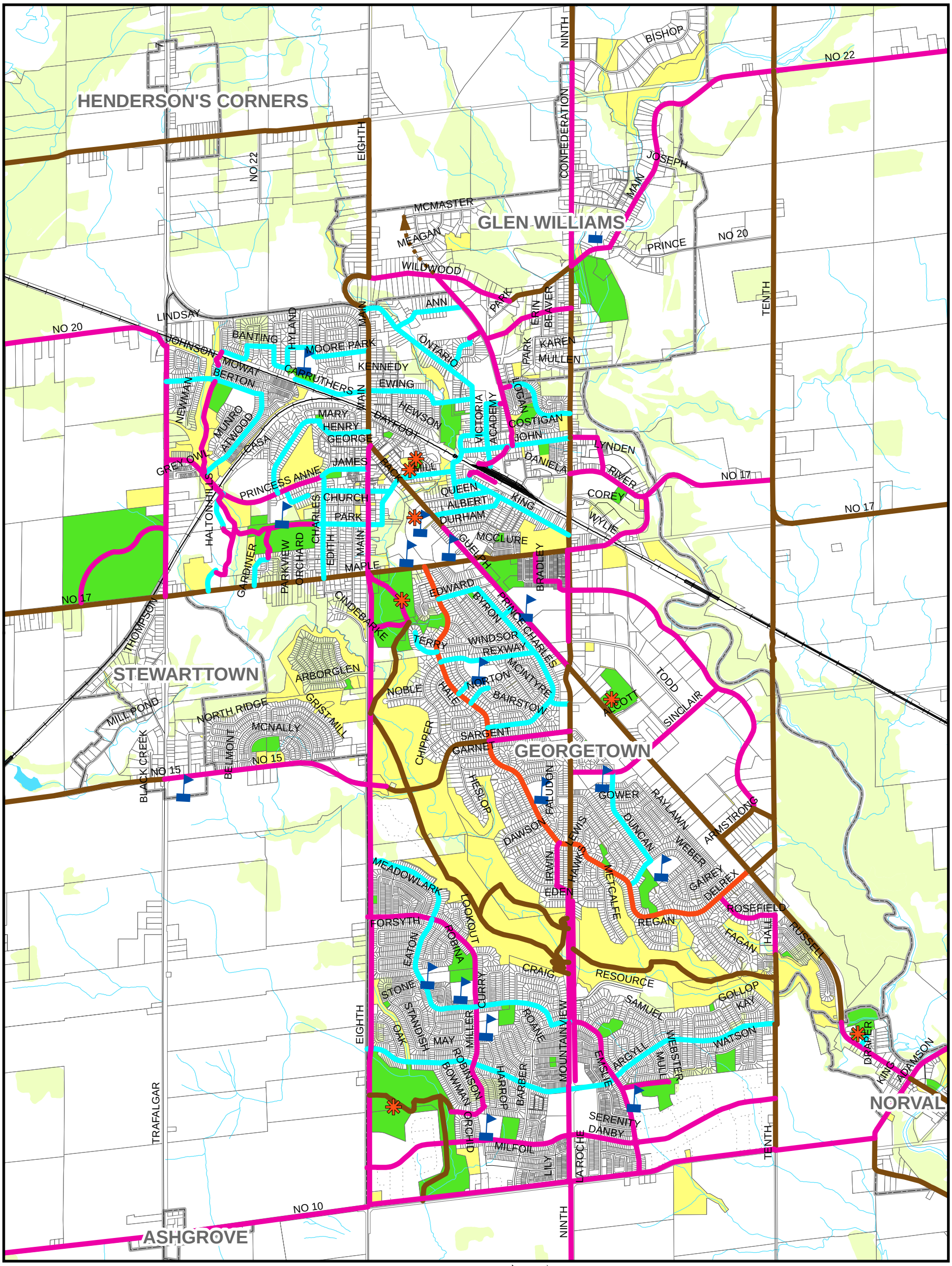

Town of Halton Hills
Cycling Master Plan

November 2010

FIGURE 5-4
Proposed Implementation Schedule

GEORGETOWN

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection

Proposed Phasing

- Existing
- Short Term
- Mid Term
- Long Term

Note:
It is recommended that all existing trails included as part of the cycling network be reviewed/inspected and upgraded as required to meet an acceptable standard for cycling, therefore these existing trails are shown in the implementation plan under the medium and long term.

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

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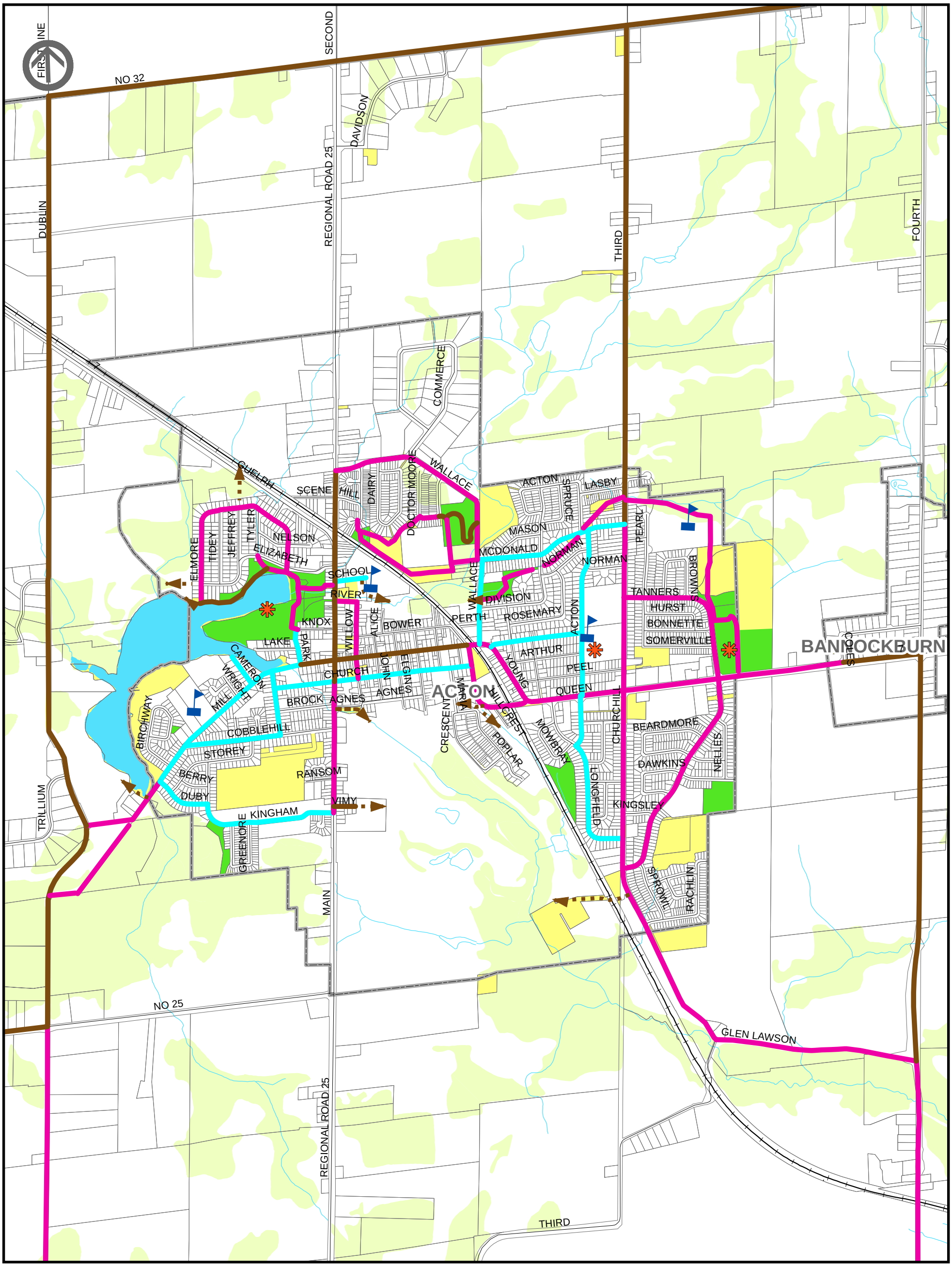


Town of Halton Hills
Cycling Master Plan November 2010

FIGURE 5-5
Proposed Implementation Schedule

ACTON

- Community Facility
- School
- Road
- Proposed Road
- Rail Line
- Municipal Park
- Municipal Property
- Wooded Area / Wetland
- Watercourse
- Desired Network Connection
- Regional Network Connection

Proposed Phasing
- Existing
- Short Term
- Mid Term
- Long Term

Note:
It is recommended that all existing trails included as part of the cycling network be reviewed/inspected and upgraded as required to meet an acceptable standard for cycling, therefore these existing trails are shown in the implementation plan under the medium and long term.

* Some existing trails (e.g. Bruce Trail, Guelph Radial Trail, trails in some Conservation Areas and some CVC regulated areas) do not permit cycling.

TOWN OF HALTON HILLS
MMM GROUP

- Develop on-road bike lanes in the mid term (Years 2-10) where they can implemented through lane reallocations and repainting pavement markings;
- Implement on-road signed routes, particularly in the urban areas; and
- Focus on areas where current cycling volumes are highest, and/or where the highest demand is anticipated. For example, routes that facilitate access to key destinations, especially those that have the potential to attract large numbers of would be cyclists including routes to schools, community centres and employment districts;

5.3.2 Priority Projects for Implementation

A number of projects have been identified as priorities for consideration. These include those listed in the Short Term (Year 1), plus select projects identified in the Mid-term (Years 2-10). This list includes:

Georgetown

- The majority of the on-road signed routes with the exception of short links that rely on the implementation of new facilities (mid or long term projects) at one or both ends of the link;
- Edge lines along Delrex (very recently completed in spring 2010);
- Bike lanes along Argyll and Miller through lane repainting (requires re-assignment of on-street parking to one side of the street);
- Reviewing the in-boulevard multi-use trails on 8th Line, 10th Sideroad and Mountainview to determine and complete minor upgrades (signing, pavement markings, street crossings etc.);
- Bike lanes on Sinclair from Armstrong to Guelph St. (through lane repainting);
- Upgrades to the multi-use trail at the railway underpass in Moore Park to the Fairgrounds and Maple;
- Bike lanes on Princess Anne (through the reassignment of on-street parking and lane repainting);
- Bike lanes on Guelph St. from Mountainview to Durham (as part of the road work identified in the Towns Capital Budget and Forecast);

- Investigate the possibility of a crossing of the Silver Creek ravine to connect the existing bike lanes on 15th Sideroad west of 8th Line, and the multi-use trail on 8th Line with the edge lines on Delrex, a signed route on Rexway and connection to the Georgetown Mall. This assessment will require consideration of the environmental sensitivity of the ravine and consultation with Credit Valley Conservation.

Acton

- The majority of the on-road signed routes with the exception of short links that rely on the implementation of new facilities (mid or long term projects) at one or both ends of the link;
- Bike lanes along Tanners and Miller through lane repainting (requires reassignment of on-street parking to one side of the street);
- Paved shoulders on Glen Lawson (as part of the road reconstruction identified in the Town's Capital Budget and Forecast);
- Bike lanes on Church through lane repainting (requires reassignment of on-street parking);
- Bike lane on Queen from Tanners to Young through lane width adjustments and repainting (converting the existing edge line treatment into proper bike lanes).

Town Wide

- The majority of the on-road signed routes in the rural area, with the exception of those that rely on the implementation of new facilities (mid or long term projects) at one or both ends of the link, and/or road upgrading from a granular surface to a hard surface;
- Developing a connection between Acton and Georgetown via 20th Sideroad, 6th Line, 22 Sideroad, 4th Line and Glen Lawson; and
- Creation of a north-south spine using paved shoulders on 5th Line.

5.3.3 End of Trip Facilities

(Source: MMM Group)

End-of-trip facilities are an important element of the cycling system. The provision of these facilities can encourage the use of the cycling network. For some cyclists, good end-of-trip facilities can be the key factor in deciding whether or not to travel by bicycle. The development of end-of-trip facilities should be a priority for the Town and its partners in implementing the Cycling Master Plan. These facilities encourage cycling by improving convenience and feasibility.

End-of-trip facilities that encourage cycling includes:

- Convenient and secure bicycle parking and storage, which are a necessity for most cyclists. Bike racks can be provided for short term use, while bike lockers or bike cage style parking facilities are more appropriate for long-term use. Design criteria and various types of bicycle parking facilities are discussed in detail in the separately bound Design Guidelines document.
- Showers and change facilities at workplaces, which help to promote cycling for utilitarian purposes. Institutions with more than 20 employees / students should be encouraged to offer these facilities.

In addition to end-of-trip facilities, furniture and facilities such as benches, garbage receptacles, washroom facilities, water fountains, trail lighting can be implemented at key locations throughout the network such as trail heads.

The implementation of end-of-trip facilities should specifically include the purchase and installation of cycling racks at both schools and key locations throughout the Town. These facilities should be highly visible and will increase residents' and visitors' awareness of cycling as a viable option for transportation. End-of-trip cycling facilities which are implemented throughout the Town will send the message that Halton Hills is a cycling friendly community. In addition to meeting a critical need for cyclists, they can be seen as an excellent promotional tool as they present the opportunity to partner with local services groups and business within and around the Town along the proposed cycling network.

Where connections are made with Conservation Areas the decision to implement end-of-trip facilities would be the responsibility of the applicable Conservation Authority. Bicycle parking at these important destinations may also help to reduce automobile trips to and from these locations.

5.3.4 Maintenance

The Halton Hills Cycling Master Plan is both an infrastructure and operations plan. Therefore, it requires infrastructure, program development, operations and maintenance funding to ensure successful implementation and monitoring. Operations costs include on-going funding related to implementing the Cycling Master Plan, preparing an annual progress report, delivering safety, educational outreach and promotional programs, and performing network and infrastructure maintenance to achieve a state of good repair and to ensure all season use. This also includes staff resources, as well as management and administration.

The recommended Town-wide network consists of over 243km of on-road facilities and approximately 48km of off-road routes. The incremental cost to maintain (including winter maintenance) bike lanes, paved shoulders is relatively low compared to standard annual road snow clearing and maintenance budgets. Generally, most municipalities adjust maintenance budgets based on the number of kilometres of each facility and increase maintenance budgets relative to the length of new infrastructure added on an annual basis. For example, if five kilometres of pavement markings and bike stencils for bike lanes are added, then the annual maintenance budget is adjusted accordingly based on the owner's maintenance performance measures. The Town's existing level of service standards regarding maintenance should be reviewed with consideration given to adopting the Minimum Maintenance Standards for Municipal Highways.

The recommended Town-wide network consists of over **243** km of on-road facilities and approximately **48** km of off-road routes.

Maintenance costs for cycling facilities in this master plan have been developed based on the following assumptions:

- Signs for bike lanes and signed bike routes are assumed to require replacement at the rate of 20% of signs per year starting in year 6.
- Thermoplastic edge lines and stencils for bike lanes are assumed to require re-application at the rate of 20% of pavement markings per year starting in year 6. Painted lines will need to be updated on average every 2 years.
- An absolute dollar value for maintenance costs were not calculated for either the on or off-road cycling network as the budget for maintenance will need to grow in an incremental fashion along

with the incremental growth of the cycling network. As each new network segment is added (either on or off-road), the impact to the operations budget should be calculated by Town staff so that it can be added into the annual maintenance budget request.

- Maintenance costs for on-road facilities are estimated to range from $5,000 to $9,000 /km/year depending on the facility type (paved shoulder with edge /signs, bike lane in urban area, painted lines vs. thermo plastic etc.) and economies of scale gained from incorporating cycling facility maintenance in the Town's current road maintenance program. Annual maintenance can include but is not limited to line and stencil reapplication, replacement of bike lane and bike route signs, minor asphalt repairs (pothole patching and crack sealing), sweeping, snow plowing and replacement of older style catch basic grates with bicycle friendly grates.
- Maintenance of mature off-road multi-use trails, particularly in greenways and parks can range between $4,000 to $6,000 per linear kilometre of trail (3.0 m wide), depending on the level of service standard of a municipality. Annual maintenance can include drainage and storm channel maintenance, sweeping, clearing of debris, trash removal, weed control and vegetation management, mowing of grass along shoulders, minor surface repairs, repairs to trail fixtures (benches, signs) and other general repairs.

Cost estimations for the Halton Hills cycling network are discussed further in Section 5.6.2.

5.3.5 Risk Management and Liability

The management of risk and liability should be considered by the Town of Halton Hills when implementing this Cycling Master Plan.

Bike lanes, paved shoulder bikeways and signed only routes generally fall into the same liability pattern as roadways and sidewalks, meaning that the Town (and Region) become liable only if the facility is improperly designed, constructed, or maintained.

Even though multi-use trails are separated from the roadway, they still may legally fall under the definition of a "highway", since bicycles are legally defined as vehicles.

Even though multi-use trails are separated from the roadway, they still may legally fall under the definition of a "highway", since bicycles are legally defined as vehicles. This is an important point because it means that cycling facilities are covered under many of the same basic immunities as other highways. It also illustrates the importance of adhering to design and construction guidelines, as this will provide the greatest legal protection. Aside from proper design and operation of pedestrian and cycling facilities, the Town of Halton Hills should address potential hazards associated with these

facilities including accidents, theft, vandalism, and other problems. This becomes much more acute when these facilities are located along waterways and residential backyard fences.

The following methods of reducing risk are proposed for Halton Hills to help minimize the liability associated with providing designated cycling facilities:

- Improve the physical environment, increase pubic awareness of the rights and obligations of cyclists and improve access to educational programs in order to demonstrate that efforts are being taken to reduce the likelihood of accidents occurring and lawsuits being initiated by injured parties;
- Select, design and designate facilities in compliance with the highest prevailing standards. Regulatory signs, as identified by the MTO Manual of Uniform Traffic Control Devices, should be used to indicate the applicability of legal requirements that might not otherwise be apparent;
- Design concept(s) should comply with all applicable laws and regulations (e.g. Ontario Highway Traffic Act and current Town and Regional by-laws);
- Maintenance operations should conform to acceptable standards. If a hazard cannot be removed, it must be isolated with barriers or notified by clear warning signage;
- Monitor on a regular basis the physical conditions and operations of roadways and trail facilities. All reports of hazardous conditions received from cyclists, pedestrians, police or others should be promptly and thoroughly investigated;
- Keep written records of monitoring and maintenance activities;
- Avoid describing or promoting routes or pathways as “safe” or “safer” than alternatives. It appears preferable for facility users to assess their capabilities themselves and govern their choices accordingly, which is the prevailing situation; and
- Maintain proper insurance coverage as a safeguard against having to draw payment for damages from the public treasury.

Recommendations

5-I: The Town should consider phasing the implementation of the cycling network as described in this section.

5-J: The Town should consider the prioritization strategies outlined in this section when annual network priorities are being reviewed and/or updated.

5-K: The Town should consider the implementation of the priority cycling projects as soon as possible.

5-L: The provision of end-of-trip facilities such as secure bicycle parking at key destinations within the cycling network should be encouraged by the Town.

5-M: The Town's existing level of service standards regarding maintenance should be reviewed with consideration given to adopting the Minimum Maintenance Standards for Municipal Highways.

5-N: Risk and liability should be considered by the Town of Halton Hills during the implementation of the cycling network.

5-O: The Town should include the projects as proposed in the Cycling Master Plan on its 2011 and 10-year budget forecast.

5.4 Outreach

A key principle of this plan is that public outreach through education and promotion is as important as implementing a cycling network.

Outreach is an important element of the Cycling Master Plan and it is recommended that the Town adopt and implement the outreach strategy outlined in this section. This strategy is designed to help educate residents about pedestrian and cycling safety and encourage residents to cycle more often for both utilitarian and recreational purposes. It will build upon current initiatives by the Town and Region and is intended to complement the network components of the Master Plan. A key principle of this plan is that public outreach through education and promotion is as important as implementing a cycling network. For this plan to be successful, cyclists and motorists in Halton Hills must understand how each should interact with the other. As well, through the strategies identified within the plan, all users should understand the benefits of active transportation.

5.4.1 Education

Education can have a positive influence on the behaviour and attitudes of cyclists, motorists and the general public to produce safer conditions for all, and provide incentives to encourage more cycling. Formal cycling education and training encourages people to use alternative modes, and can shift their transportation choices to cycling.[1]

People of all ages and abilities should be educated on the proper use of the Town's cycling network for both recreational and commuting purposes. Implementing educational programs will teach proper cycling skills and raise public awareness of the overall benefits of engaging in such an activity.

People of all ages and abilities should be educated on the proper use of the Town's cycling network for both recreational and commuting purposes.

Active and Safe Routes to School

Children's daily trips to and from school represent a significant opportunity for increasing cycling in Halton Hills. The trips made most regularly by children are to and from school, although these trips are less and less often made by walking or cycling. In a typical community, 20-25% of person trips during rush hour (peak period) are travel to and from school.[2] Active and Safe Routes to School (ASRTS) is a program administered by Green Communities Canada that promotes the use of active and efficient transportation for the daily trip to school, addressing health and traffic safety issues within the classroom while also taking action on air pollution and climate change. The Town should continue to work with ASRTS, the Halton District School Board, and the Halton Catholic District School Board to incorporate active transportation education within the curriculum and to develop initiatives aimed at encouraging children to cycle to and from school more often.

[1] Bike BIZ. "BikeAbility Training Converts Cyclists Says Research" (http://www.bikebiz.com/news/30845/BikeAbility-training-converts-cyclists-says-research), July 21, 2009.

[2] Active and Safe Routes to School (Green Communities Canada). "Ontario Walkability Study", May 2001.

Encouraging cycling from a young age (Source: League of American Bicyclists)

Improving Access to Information

Making information easily available is a core element of any educational strategy. The Town should consider the implementation of bicycle education programs and partner with other groups, local municipalities, and agencies to educate residents on cycling. Halton Hills could follow the examples of other municipalities and organizations in developing a variety of educational materials. Many of these publications have a host of contributing partners, including Healthy Living, Ministry of Transportation of Ontario, Transport Canada, Health Canada and the Canadian Safety Council, as well as private sector sponsors. This underscores the importance of cooperation and the need to share expertise and resources.

The Town could also adapt / develop guides to cycling that address specific concerns, such as those related to:

- Implementation of the Cycling Master Plan;
- Cyclist safety;
- Cycling to school or work;
- Winter / inclement weather conditions;
- Particular age groups, such as elderly persons or young children;
- The rules and regulations for cyclists, and cycling etiquette for on-road and off-road routes;
- The benefits of active transportation (health, financial, environmental, etc.); and
- Intermodal connections, for example between cycling and transit.

Newsletters or digital e-newsletters could focus on cycling, with information about existing and planned facilities, statistics, recommended routes and destinations, safety and training information, and tips for cyclists. They could also include information about initiatives by others, for example cycling events (local trail organizations, charities, etc.), bike racks on buses (GO Transit), bicycle parking at local destinations (businesses and Town / Regional facilities) and the benefits of cycling (Halton Region Health Service, Health Canada, etc.).

Newsletters or digital e-newsletters could focus on cycling, with information about existing and planned facilities, statistics, recommended routes and destinations, safety and training information, and tips for cyclists.

Educational information should be developed in a language and style appropriate for the age group being targeted, such as children or seniors. Information on cycling education could be provided to residents, employees and visitors to Halton Hills through the following methods:

- The Town's website, ideally via a specific web page(s) dedicated exclusively to cycling issues, with posted information, downloadable files, and links to other relevant cycling-related websites;
- The production of hardcopy pamphlets and brochures to inform and educate residents on safe operating procedures for cyclists and other road and trail users, which could be made available at Town facilities (e.g. Town Hall, community centres, arenas, libraries, etc.), delivered as part of mailings (e.g. Councillor newsletters, resident information mailings, etc.), distributed at events (e.g.

"Pioneer Days", Canada Day celebrations, etc.) and circulated through community partners (e.g. Halton Region, Halton Regional Police, etc.); and

- The implementation of education programs through partnerships between the Town and Region of Halton, agencies, and other groups to educate Halton Hills residents on cycling in general.

The same methods could generally be used for the distribution of promotional materials, described further in section 5.4.2.

Recommendations

5-P: The Town should consider programs to educate both cyclists of all ages and abilities and motorists on the proper use of the Town's cycling network to improve conditions of safety for all users.

5-Q: The Town should consider a partnership with the ASRTS, Halton District School Board and the Halton Catholic District School Board to incorporate active transportation education within the curriculum and to develop initiatives aimed at encouraging children to cycle to and from school.

5-R: The Town should consider partnerships with local agencies, community groups, and neighbouring municipalities to develop a variety of cycling education material that can be understood by the targeted audience.

5-S: A newsletter or digital e-newsletter should be considered by the Town to educate and promote the implementation of the Cycling Master Plan and other initiatives developed by partners.

5.4.2 Encouragement

In order to encourage residents, workers and visitors in Halton Hills to cycle more often, a strong and focused range of programs aimed at encouraging and promoting cycling, as well as a supporting marketing strategy and convenient infrastructure, is required. One of the objectives of this Plan is to change the attitudes and behaviours of residents, employees and visitors within the Town, resulting in a larger number of people of all ages cycling more often. The following are different methods that should be considered in the development of programs to promote and encourage cycling in Halton Hills.

Bicycle Friendly Community

The Bicycle Friendly Community designation program identifies municipalities that have the conditions that support cycling. If a community has applied for a designation, a panel of cycling experts in partnership with local cyclists, would analyze five factors of cycling activity in the community including engineering, education, encouragement, enforcement and evaluation. Initiatives and actions recommended in this master plan are also considered within a Bicycle Friendly Community. This program is currently offered in the United States by the League of American Bicyclists. There are plans to initiate a similar program in Ontario starting in 2011 through a partnership between the League of American Bicyclists and the Share the Road Cycling Coalition, an Ontario based cycling advocacy organization. As elements of the Cycling Master Plan are implemented, the Town of Halton Hills should consider applying in order to be recognized as a Bicycle Friendly Community. If the Town is recognized, the designation can be used as a promotional tool to encourage residents and visitors to cycle. As well, becoming a Bicycle Friendly Community would continue to inspire the Town of Halton Hills to make improvements to its overall cycling infrastructure and outreach programs. The Bicycle Friendly Community Scorecard has been provided as Figure 5-6.

(Source: MMM Group)

The Bicycle Friendly Community designation program identifies municipalities that have the conditions that support cycling.

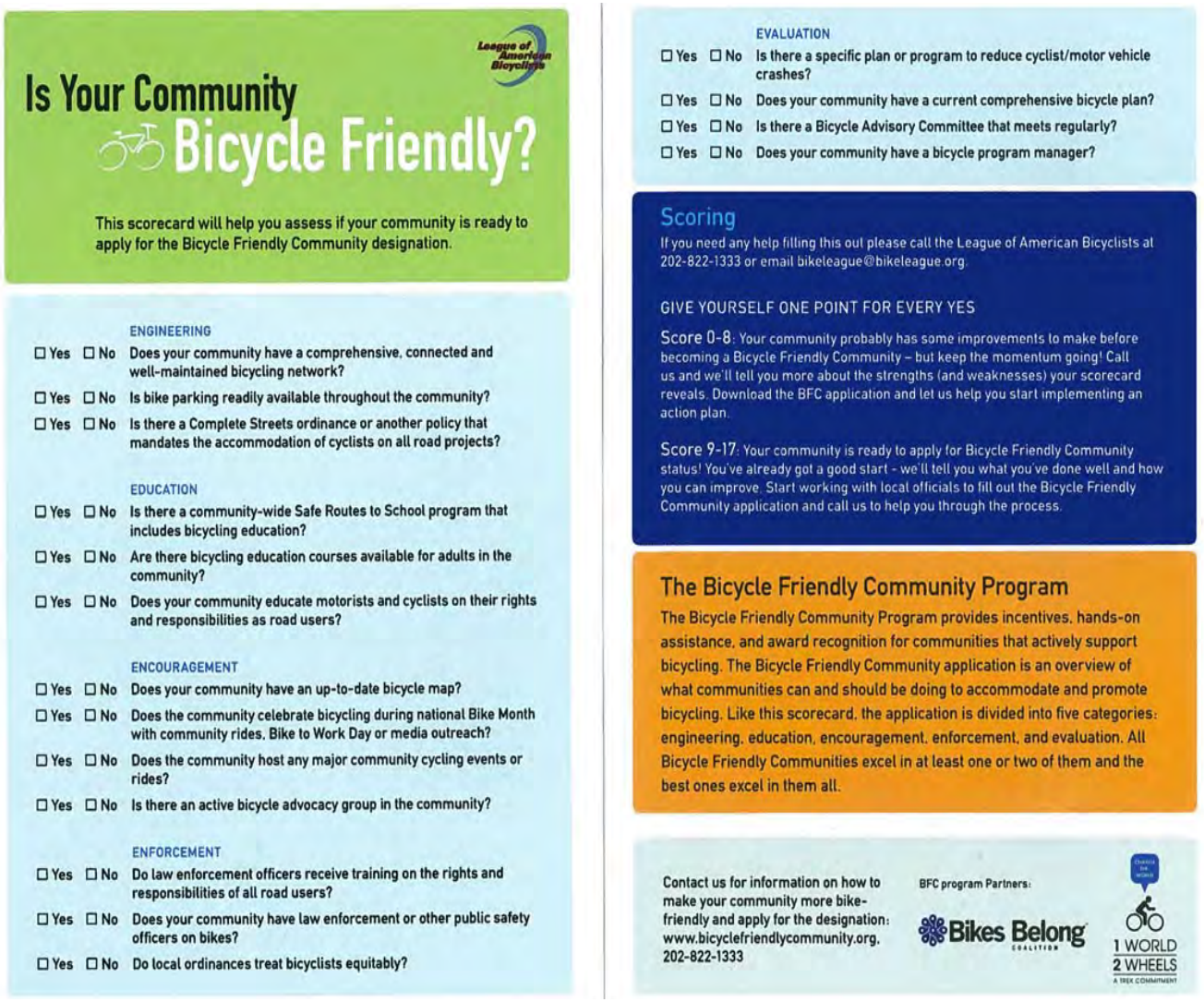


Figure 5-6: The Bicycle Friendly Community Scorecard (Source: League of American Bicyclists)

Community-based Social Marketing

People can be encouraged to adopt more sustainable transportation habits, including cycling more often, through community-based social marketing (CBSM). CBSM is a practical approach that stresses direct contact among community members and focuses on removing structural barriers that prevent people from changing their behaviour. A CBSM program involves five steps:

1. Identify the desired behaviour change;

2. Identify barriers;

3. Design the program;

4. Pilot the program with a small segment of the community; and

5. Evaluate and improve the program on an ongoing basis as it is implemented.

A number of examples of CBSM programs from other communities show how public attitudes and behaviours can effectively be influenced, and include "tools" such as:

- Commitment campaigns – People are asked to pledge or agree to carry out a specific action. *Example: the City of Mississauga's "Towards an Idle-Free Zone" anti-idling campaign asked drivers to commit to reducing the frequency and duration of engine idling and to declare their commitment by placing a decal on their vehicle's windshield*.
- Prompts – Prompts are used to remind people to perform a particular action. *Example: the City of Ottawa's "Walk the Talk" program provided participants with a bright yellow card and memo holder to remind them to track their walking, cycling and transit trips.*
- Personalized communication – Information is tailored to a target audience's specific needs, with particular information and images. *Example: the City of Vancouver's "TravelSmart" program provides a form to interested households with which they can request specific materials on select topics that suit their travel needs, be it transit maps, cycling guides, trail maps, bike shop discount coupons, etc.*

CBSM is a practical approach that stresses direct contact among community members and focuses on removing structural barriers that prevent people from changing their behaviour.

- Norm appeals – Making the group standards, behaviour and attitudes that people observe, more apparent to encourage a desired behaviour. *Example: the national "Commuter Challenge" encourages the senior staff of participating workplaces to lead by example in adopting more sustainable transportation choices for their commute.*
- Word-of-mouth – Information that people hear from family, friends or colleagues, which they often respond best to because it comes from someone they trust. *Example: the City of Seattle's "In Motion" initiative provided lawn signs to participants who received information about travel options, stimulating conversation within their neighbourhoods about the program.*
- Overcoming specific barriers – Information or initiatives targeted at specific issues or groups that have been identified as significant. *Example: British Columbia's "Bike Smarts" program provided specific information about bicycle safety to parents and children, since this was identified as the primary concern for parents.*
- Incentives and disincentives – Rewards for desired behaviour or punitive measures for the behaviour being discouraged. *Example: the Government of Canada's change to the Canadian Income Tax Act to make the cost of monthly transit passes tax deductible in order to encourage regular transit use.*
- Feedback – Demonstrating the outcomes, particularly the positive impacts, or behaviour changes *Example: the successes of the City of Boulder's "Go Boulder" program were publicized in local newspapers and on the community television channel, highlighting the results of the program's initiatives aimed at encouraging residents to shift to more sustainable travel modes.*
- Social media - Using web-based platforms such as Facebook, Twitter or Google Maps to promote cycling activities, programs, initiatives or events. *Example: The City of Hamilton's Smart Commute team effectively used Facebook and Google Maps to publicize local Bike-to-Work Day events and cycling routes.*

The Town should consider the application of various CBSM techniques in its marketing and promotional efforts related to the Cycling Master Plan.

Employers should be motivated to encourage and support cycling among their employees. The Town of Halton Hills should show leadership in promoting cycling by setting an example for others to follow.

Leadership by Example

Employers should be motivated to encourage and support cycling among their employees. The Town of Halton Hills should show leadership in promoting cycling by setting an example for others to follow.

A comprehensive approach should be put in place to encourage municipal employees to walk or cycle to work, and to combine these modes with transit for longer distance trips. A Pollution Probe Survey in 2001 provided information on the number of employers in the United States and Canada that have included walking / cycling supportive initiatives and programs to encourage more employees to walk or ride their bicycles to work and decrease the use of single-occupant motor vehicles for work related trips.[1] Initiatives included bike racks, showers, lockers, cycling subsidies and transportation allowances. As well as fighting congestion, these programs reduced expenses, increased workplace morale and were considered a valuable employee recruiting and retention tool.

The Town can lead by example in encouraging cycling by:

- Create an incentive program and develop contests for employees who walk or cycle to work, perhaps based around car-free commuter days;
- Organize a bicycle mentoring program that allows employees who want to cycle to work to find a colleague with whom they can share the ride;
- Ensure bicycle access to all Town-owned buildings by conducting an inventory of end-of-trip facilities available at these buildings, then create a prioritized schedule to install expanded or new facilities; and
- Incorporate end-trip facilities within building lease negotiations.

Cycling maps provide valuable information about the Town's cycling network, illustrating the routes that connect key destinations within the Town.

Cycling Maps

Cycling maps provide valuable information about the Town's cycling network, illustrating the routes that connect key destinations within the Town. The Town should develop a cycling map and update it on a regular basis. The map could be made available to the public at a nominal fee to generate revenue that can then be reinvested in future map editions and used to fund educational initiatives, or provided at no cost to residents. The Town could also develop a combined Trails and Cycling Map for the Town.

[1] Pollution Probe. "North American Workplace-based Trip Reduction Programs", November 2001.

A cycling / trail map could provide information on:

- Existing and future on and off-road cycling routes;
- Key attractions and destinations;
- Existing staging and parking areas;
- Cyclist education materials (e.g. proper helmet use, cyclist etiquette, safety tips, explanation of pavement markings and signage, etc.); and
- Key services related to cycling such as bicycle shops, bicycle clubs and bicycle tour operators.

The Town should continue to encourage children to use sustainable modes of transportation such as walking, cycling and public transit, and reduce their autodependency.

Cycling and Children

The mobility needs of children are often overlooked in transportation and land use planning. The Town should continue to encourage children to use sustainable modes of transportation such as walking, cycling and public transit (when or where available), and reduce their autodependency (through their parents) so they may be more inclined to choose active modes of transportation when they are adults. The University of Winnipeg based Centre for Sustainable Transportation has studied these issues and produced Child and Youth Friendly Land Use Transport Planning Guidelines for Ontario. This document provides reasons why land use and transport planning should be made more child and youth friendly, sets out 27 guidelines for municipalities or other agencies and provides a discussion of implementation issues. Key excerpts from the Guidelines include:

- Guideline 10 – For older children and youth, ensure that destinations are no more than a bicycle ride away;
- Guideline 11 – For younger children, ensure that sidewalks are suitable for their tricycles and bicycles;
- Guideline 13 – Ensure that bicycle riders are well provided for at intersections and have sufficient priority for forward movement; and
- Guideline 14 – At destinations, provide secure, convenient bicycle parking.

The Guidelines should be considered by the Town as cycling promotional materials are developed, particularly for those that specifically target children and youth.

Intermodal Connections

Facilitating intermodal connections – particularly between cycling and public transit – is another way of encouraging cycling. A longer distance trip (generally greater than 10 kilometres) may not be feasible by cycling alone, but may easily be completed as a chain of trips that incorporates public transit in addition to cycling. This trip chaining effectively increases the feasible trip distance that a person can make without the use of a personal vehicle, and thereby makes cycling a more viable transportation option. Similarly, trip chains can also incorporate trips by car, for example in the case of a person who cycles from home to a Park-n-Ride lot to catch a ride with a carpool.

A longer distance trip may not be feasible by cycling alone, but may easily be completed as a chain of trips that incorporates public transit in addition to cycling.

The Town can encourage cycling as part of trips that incorporate intermodal connections by:

- Encouraging GO Transit to designate areas within GO Trains for bicycle storage;
- Encouraging GO Transit to ensure the provision of secure bicycle parking at major transit stops, nodes and terminals;
- Promoting the use of bike racks on GO buses and bike racks at bus stops; and
- Promoting cycling as part of longer distance trips combined with public transit and carpooling.

(Source: MMM Group)

Recommendations

5-T: The Town should consider pursuing the Bicycle Friendly Community designation when the program is offered in Ontario.

5-U: The Town should consider the application of various community based social marketing techniques in its promotional efforts related to the Cycling Master Plan.

5-V: The Town should consider the implementation of encouragement initiatives for municipal staff to lead by example and encourage other employers to promote cycling.

5-W: A cycling map or combined Trail / Cycling Map should be considered by the Town as a means to provide cycling route network and destination information to cyclists.

5-X: Child and Youth Friendly Land Use Transport Planning Guidelines should be considered in the implementation of the cycling route network and the development of promotional materials that target children and youth.

5-Y: The Town should encourage cycling as part of trips that incorporate intermodal connections.

5.4.3 Enforcement

Enforcement is key to cycling safety, with the principal objective of reducing incidents causing property damage, injury and death. It is important to note that enforcement should be applied to all road and trail users, not only cyclists, since all should be aware of proper operating procedures in the vicinity of cyclists.

Halton Regional Police

The responsibility for enforcement rests primarily with the Halton Regional Police, who are already active in educating and enforcing cycling safety in Halton Hills. Halton Regional Police Services offer safety information on their website (www.hrps.on.ca).

The Halton Regional Police are also partners in the Halton Hills Community Road Watch program, a community driven program that provides citizens with a means to report dangerous or unlawful driver behaviour. This program is another tool that supports enforcement of proper use of the Town's cycling network, particularly related to the behaviour of motorists.

To strengthen the effectiveness of enforcement in Halton Hills, the Town, in association with Halton Regional Police Services, should consider the following:

- The creation of cycling patrols and safety blitzes along cycling routes and pathways enforcing safe operating procedures for pedestrians, cyclists and other sidewalk, road and trail users;
- The collection of accurate cycling collision data in an effort to help identify any potential problem areas as well as safety and enforcement priorities; and
- The development of materials to inform cyclists about the steps they should take if they are involved in a collision.

It is important that police officers receive instruction in the proper training of cyclists and cyclists' rights, and understand the operating characteristics of bicycles to better identify the cause when investigating cycling collisions. Once trained, officers can aid in the instruction of safe cycling at special events and can exhibit proper cycling behaviour in the community. The Halton Regional Police should continue to be an active member in the development and delivery of cycling safety programs in the Town and throughout the Region.

Town By-Law Enforcement Officers

The enforcement activities of Halton Regional Police may be supplemented by the Town's by-law enforcement officers, although Town by-laws generally do not relate to cycling issues. In some cases their involvement may be required, for example where a parked vehicle obstructs a pathway or bike lane and interferes with cycling access (i.e. enforcement of the Town's parking by-laws). As well, enforcement of the proposed cycling by-law in Chapter 5.6.1 should be undertaken by the Town's by-law enforcement officers.

The enforcement activities of Halton Regional Police may be supplemented by the Town's by-law enforcement officers, although Town by-laws generally do not relate to cycling issues.

Recommendations

5-Z: The Town should partner with Halton Regional Police and the Town's By-Law Enforcement Officers in order to effectively provide enforcement and encouragement of safe cycling.

5-AA: Enforcement of cycling safety should be considered for all road and trail users.

5-BB: Cycling patrols and safety blitzes along cycling routes should be considered to enforce safe operating procedures and interactions between all road users.

5-CC: Collection of accurate cycling collision data should be considered in order to identify potential problem areas within the cycling network.

5-DD: The Town should consider the development of materials to inform cyclists about the steps they should take if they are involved in a collision.

5-EE: The Town should consider encouraging Halton Regional Police to train police officers regarding cyclists' rights and responsibilities, and the operational characteristics of bicycles.

The Town will need the cooperation of outside agencies, volunteer groups and individuals to achieve the positive results expected from bicycle outreach programs.

5.4.4 Working with Others

The Town will need the cooperation of outside agencies, volunteer groups and individuals to achieve the positive results expected from bicycle outreach programs. All participants and partners are important and can bring helpful ideas and resources to the table. The Town should actively reach out and consult with internal and external organizations such as school boards, the Ministry of Transportation Ontario, Ministry of Health Promotion, the Halton Public Health Unit, Conservation Authorities, the Trails and Cycling Advisory Committee and others to support a safe active transportation environment.

School Boards

As discussed previously in Section 5.4.1, school boards are a key stakeholder, who can provide a mechanism to teach children about safe cycling as a basic life skill that is healthy and supports an environmentally friendly choice for mobility. In addition to Active and Safe Routes to School (ASRTS), the Town of Halton Hills should work with the Halton District School Board and the Halton Catholic

District School Board to develop additional cycling initiatives such as a Bike to School Program and the implementation of bicycle racks at schools.

Ministry of Transportation (MTO)

The Ministry of Transportation (MTO) is the custodian of the Province's Bicycle Policy (last updated in 1992), as well as the Draft Ontario Bikeways Planning and Design Guidelines (1996). MTO also administers the Highway Traffic Act (HTA) which legally identifies the bicycle as a vehicle, with cyclists having the same rights and duties on the road as motorists. The Provincial government, therefore, has great influence over the present status and future potential for cycling in the province.

(Source: Government of Ontario)

The Ministry was urged by a 1998 Coroner's report to take the lead role in improving bicycle safety and encouraging greater use of bicycles. The establishment of an "expert review process" involving municipal and other stakeholders was proposed to recommend changes to the HTA and Municipal By-Laws to make them consistent, understandable and easier to enforce with respect to cycling. In addition, it was recommended that MTO provide additional cycling safety information and content in all driver-training handbooks. Driver examiners should also have practical training in safe cycling CAN-BIKE courses.

The Ministry should take the leadership role in facilitating the communication of information on cycling issues throughout the province. In order to resume this role, the Ministry needs to revisit its 1992 Bicycle Policy and update it as necessary to clarify its role to municipalities. Current policies, facility designs and safety information would all assist in creating a standardized approach that municipalities in the province could use as a guide. Municipalities that do not have the resources to do their own research would benefit from obtaining this information. A good example already being taken by the Ministry is the updated Cycling Skills booklet for teen and adult cyclists. The Ministry of Transportation also produces the Young Cyclist's Guide in cooperation with the Ontario Cycling Association. Halton Hills should work with MTO as it proceeds with cycling initiatives.

Ministry of Health Promotion

The Ministry of Health Promotion was created in 2005 with a mandate to help Ontarians lead healthier lives by delivering programs that promote healthy choices and healthy lifestyles. One of the Ministry's Sports and Recreation initiatives is the Ontario Trails Strategy, which provides a plan for developing and promoting a network of recreational use trails throughout Ontario. Halton Hills should work with the Ministry to collaborate on planning cycling networks within the Town and providing connections to other municipalities and regions.

The Ministry of Health Promotion endorses Canada's Physical Activity Guide to Healthy Active Living. This Guide promotes active transportation, such as cycling, as part of healthy living. This physical activity reduced the risk of premature death, heart disease, obesity, high blood pressure and many other diseases and disorders. The Town of Halton Hills should endorse cycling as part of a healthy lifestyle in promotional material.

The Town of Halton Hills should endorse cycling as part of a healthy lifestyle in promotional material.

Halton Region Public Health Department

The Halton Region Public Health Department is an essential community health service with dedicated staff that focuses on promoting and protecting the health of the community. The department is funded by the Ministry of Health and Long-Term Care and local governments within Halton Region including the Town of Oakville, the City of Burlington, the Town of Milton and the Town of Halton Hills. Separate grants are often received for one-time funding of specific projects. Halton Public Health recognizes that bicycling can be part of an active lifestyle. The Town should partner with the Halton Public Health Department to develop and deliver an effective outreach plan for Halton Hills.

Conservation Authorities

Credit Valley Conservation and Conservation Halton have watershed jurisdictions within the Town of Halton Hills. The Conservation Authorities oversee the protection and restoration of the natural heritage system through land acquisition and management; regulation and policy administration; related development near wetlands and watercourses; water quality and quantity management; and through stewardship initiatives and educational outreach. The Conservation Authorities Act R.S.O 1990, c C.27 outlines the function and abilities of conservation authorities. Sections 28 of this Act gives the Conservation Authority the ability to make regulations as it pertains to property owned by the authority. Potential trail development through regulated features will require consultation and

permission from the appropriate Conservation Authority. Both Conservation Halton and the Credit Valley Conservation should be approached about partnering with the Town of Halton Hills to assist in the delivery initiatives related to the Cycling Master Plan when cycling facilities provide access to properties they own, as well as when cycling facilities are being considered within or adjacent to environmentally sensitive areas.

Halton Regional Cycling Committee

The Halton Regional Cycling Committee is an Advisory Committee authorized by Regional Council and has a stated mandate "...to promote cycling in the Region as a healthy, safe and environmentally friendly activity through educational, encouragement, and engineering initiatives.

The purpose of the HRCC is to provide input and advice on initiatives which:

- Promote utilitarian, commuting, fitness and recreational cycling as a positive, safe, environmentally friendly activity;
- Raise the profile of the Region as a cycle touring destination;
- Promote and encourage safe, responsible cycling practices through education and liaise with schools, local cycling clubs and other organizations;
- Develop liaison opportunities with existing municipal cycling committees and cycling clubs within Halton, seeking their input when necessary on Region-wide issues;
- Provide input on the establishment of cycling facilities on proposed Regional road projects including the interpretation of technical standards and guidelines;
- Encourage and facilitate Region-wide bicycling programs, events and tours;
- Provide support on the implementation of cycling related recommendations contained in Halton's Transportation Master Plan;

- Assist and guide the standardization and integration of municipal cycling facilities; and
- Initiate the sharing of information and advice on current cycling issues with other Regional or municipal cycling committees. [1]

It is recommended that the Town continue to have representation on the Halton Regional Cycling Committee and that the HRCC support the implementation of the CMP and in particular those components of the plan that come under the jurisdiction of Halton Region.

Recommendation

5-FF: The Town should consider partnerships with the regional school boards, health department, conservation authorities, advisory committee and provincial agencies during the implementation of the overall cycling network and the outreach program.

5-GG: The Town should continue to have representation on the Halton Regional Cycling Committee (HRCC). It is also recommended that the HRCC support the implementation of the Cycling Master Plan.

5.5 THE INVESTMENT

5.5.1 The Investment Approach

The costs of the Cycling Master Plan can be justified as part of the cost of providing a more sustainable, balanced and efficient transportation system in the Town of Halton Hills.

There are a number of benefits that emphasize why the Town of Halton Hills' commitment to implement the Cycling Master Plan is so important. Subsection 2.4 of this report details the various benefits of walking and cycling in terms of recreation, health and fitness benefits; transportation benefits; environmental benefits; and economic benefits. The Town's investment in the CMP can be expected to yield benefits in all of these areas.

In addition to these important benefits, the costs of the Cycling Master Plan can be justified as part of the cost of providing a more sustainable, balanced and efficient transportation system in the Town of

[1] Halton Regional Cycling Committee Terms of Reference, http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=10865

Halton Hills. Finally, as the consultations conducted as part of this study confirmed, Town residents want a more bicycle friendly Halton Hills. The public and stakeholder input received during the preparation of the Cycling Master Plan study indicate that both residents and visitors to Halton Hills support improving cycling facilities and programs to promote these activities in the Town and to reduce the use of single occupant automobiles. Town Council's leadership in adopting this Master Plan will directly connect and improve the liveability of communities in Halton Hills and support the objectives of the Town's Official Plan.

5.5.2 How Much Will it Cost?

A schedule of unit costs used to calculate network implementation costs is provided in Table 5-1. Estimated unit costs for the construction of on and off-road bikeways are based on averages obtained from recent construction projects in other municipalities across Ontario. They should be used as a guideline for establishing the costs for implementation of bikeway segments. The unit costs assume typical conditions for construction. These unit costs (in 2010 dollars) are based on the following assumptions:

- Cost estimates for on-road bikeways assume bi-directional facilities (i.e. one way on both sides of the street);
- Projects that were identified for the 2010 construction year in the Capital Budget and Forecast are listed as short term and no unit price has been assigned as it is assumed that the budget has already been approved;
- Estimates do not include the cost of property acquisitions or utility relocations;
- Costs associated with major site-specific projects such as bridges, railway crossings, retaining walls and stairways are not included in the estimate;
- Annual inflation, which includes increased cost of labour, materials, fuel etc., is not included in these costs;

- Three different unit prices have been used for off–road trails; $140,000/km for trails that have been planned but have not yet been constructed, $5,000/km for trails that have been constructed and require only minor upgrades (e.g. signing and minor improvements as is the case with existing asphalt boulevard multi-use trails); and $50,000/km for other existing trails that have been selected as part of the Primary cycling network and require more significant upgrades (e.g. widening, consideration for hard surfacing etc.; and

- Professional services and/or staff time for detailed design and all applicable taxes are also additional.

Table 5-1 Unit Costs for Bikeway and Trail Construction		
Route Type	**Cost per kilometre[1]**	**Comments**
On-Road Routes (1)		
Add 1.5m Bike Lane as part of the construction of a new road	$200,000	Cost of additional asphalt and markings only. Assumes the road project pays for curbs, catch basin leads, and road pavement structure.
Add 1.5m Paved Shoulder when existing road is scheduled for resurfacing	$55,000	Cost of 1.5m asphalt, assumes road project already includes the other costs (i.e. granular shoulder, any ditch/drainage works, pavement marking etc.)
Retrofit existing two lane road with wide-shared use lane (on typical road with 1 lane each direction)	$7,000	Repaint only (includes removal of existing lines, repainting of lane markings, addition of "Sharrow" symbol every 75m (durable paint), and addition of share the road signage).
Retrofit existing road with wide-shared use lane (on typical road with 2 lanes in each direction)	$13,000	Repaint only (includes removal of existing lines, repainting of lane markings, addition of "Sharrow" symbol every 75m, addition of share the road signage).
Retrofit existing 2 lane road to include bikeway boulevard features	$80,000	Includes features such as neighbourhood traffic circles, through restrictions for automobiles etc.
Retro-fit existing road with bike lanes (line painting)	$20,000	Repaint only (includes removal of existing lines, repainting of lane markings, addition of bike lane symbol every 200m, addition of bike lane road signage).
On-road signed route	$2,000	Assumes five "bike route" signs each side per kilometre in urban areas (10 signs total), assumes cost to supply and install each sign. Does not include allowance for other route signing systems (i.e. street blade signing, route map/orientation signing).
Off-Road Routes		
Construct new 3.0m wide multi-use trail	$140,000	Assumes normal site conditions.
Upgrade existing trail to a multi-use standard appropriate for cycling	$50,000	Assumes normal site conditions. (to bring existing trails designated as part of the cycling network to a suitable condition for cycling)
Retrofit existing in-boulevard multi-use trail	$5,000	Retrofit an existing asphalt in boulevard multi-use trail with updated signage and pavement markings (i.e. along 8th line, 10th Sideroad and Mountainview in Georgetown)

Notes
1. Cost for on-road routes is for a one-way facility on each side of the road.

Table 5-2 provides a summary of length by facility type and estimated implementation costs for each phase. As each route segment becomes a priority for construction, a more detailed assessment as part of the design process will be required to determine site-specific conditions and design details. From this assessment a more detailed estimate of cost for construction can be prepared, as discussed in Section 5.2.3.

Table 5-2. Network Implementation Costs by Phase and Facility Type.

	Town of Halton Hills		Region of Halton	
	Length (km)	Cost	Length (km)	Cost
Existing				
Bike Lane	0	N/A	0	$0
Paved Shoulder	0	N/A	0	$0
Edge Line	6.2[1]	N/A	0	$0
Signed Route	0	N/A	0	$0
Multi-use Trail	20.1[2]	N/A	0	$0
Total Existing	**26.3**	**N/A**	0	$0
Short Term (Year 1)				
Bike Lane	3.0	$59,240	0	$0
Paved Shoulder	0	$0	0	$0
Edge Line	0	$0	0	$0
Signed Route	28.0	$55,797	0	$0
Multi-use Trail	0	$0	0	$0
Total Short Term	**31.0**	**$115,037**	0	$0
Mid-Term (Years 2-10)				
Bike Lane	18.6	$1,326,039	0	$0
Paved Shoulder	61.2	$3,368,192	11.2	$616,067
Edge Line	0	N/A	0	$0
Signed Route	17.3	$34,660	0	$0
Multi-use Trail (minor upgrade)	8.7	$43,420	0	$0
Multi-use Trail (major upgrade)	6.7	$333,250	0	$0
Multi-use Trail (new construction)	7.6	$1,072,100	0	$0
Total Mid-Term	**120.1**	**$6,177,661**	**11.2**	**$616,067**
Long Term (Years 11+)				
	Town of Halton Hills		**Region of Halton**	
	Length (km)	**Cost**	**Length (km)**	**Cost**
Bike Lane	10.5	$2,097,450	2.8	$554,025
Paved Shoulder	56.0	$3,073,574	28.1	$2,856,944
Edge Line	0	$0	0	$0
Signed Route	25.0	$50,089	0	$0
Multi-use Trail (minor upgrade)	0	$0	0	$0
Multi-use Trail (major upgrade)	4.7	$237,050	0	$0
Multi-use Trail (new construction)	23.7	$3,318,778	0	$0
Total Long Term	**119.9**	**$8,776,941**	**30.9**	**$3,410,969**

Notes
1. 2.3km of the 6.2km of Edge Lines reported as existing are converted to Bike Lanes.
2. The 20.1km of existing trails reported as existing include all those within the Town's municipal boundary that are considered to be critical to the cycling network and all of these 20.1km of trails require upgrades to properly accommodate

estimated costs to implement the Plan by adding the estimated costs to construct the network with suggested costs for network maintenance and outreach/programs (refer to Sections 5-3 and 5-4 respectively).

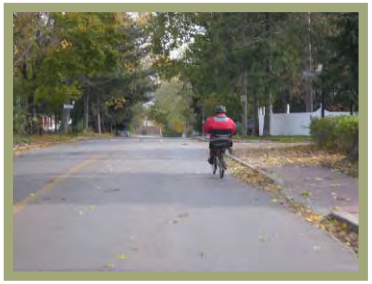
Table 5-3. Implementation Summary Including Network, Programs and Maintenance.

	Town of Halton Hills		Region of Halton	
Part 1: Network	**Length (km)**	**Cost**	**Length (km)**	**Cost**
Bike Lane	32.1	$3,482,729	2.8	$544,025
Paved Shoulder	117.2	$6,441,766	39.3	$3,473,011
Edge Line[3]	3.9	$0	0	$0
Signed Route	70.3	$140,546	0	$0
Multi-use Trail [1]	51.4	$5,004,598	0	$0
Total	**274.9**	**$15,069,639**	**42.1**	**$4,027,036**
Part 2: Programs[2]	**$500,000**		N/A	
Part 3: Maintenance	See note #4			

Notes:
1. Includes only those multi-use trails that have been recommended as critical links in the cycling network. Other existing and planned trails under the jurisdiction of the Town of Halton Hills are not included, nor are trails that are intended for pedestrian/hiking use only (Bruce Trail and side trails of the Bruce Trail, Guelph Radial Line Trail, trails in some Conservation Areas and some trails in Conservation Authority Regulated Areas etc).
2. An annual budget of $50,000 over the life of the Cycling Master Plan (or $500,000 over 10 years) is recommended for programming elements.
3. The total length of 3.9km for edge lines reflects the conversion of 2.3km of existing edge lines to bicycle lanes on Queen St. in Acton.
4. Total annual maintenance costs are directly related to the length of network that has been implemented. Therefore maintenance costs will increase over time as more of the network is implemented. The suggested annual maintenance budgets are: $10,000/km for the on-road network and $4,000/km for the off-road network.

5.5.3 Funding and Partnership Strategies

Halton Hills' Cycling Master Plan can only be successful if funding and staff resources are committed by Council on an annual basis. The Town should also seek out other sources of revenue from its partners, including Metrolinx, AMO Green Fund, Halton Region plus the Provincial and Federal Governments. In addition to sources of revenue from partners, the Town should also look into



(Source: MMM Group)

updating the Development Charges for local development as a potential funding source for proposed trails within Town boundaries.

The Cycling Master Plan is an integrated body of components, and requires a strategic approach for implementation and a funding commitment. Focusing efforts on individual elements of the Cycling Master Plan in isolation of the others will not result in the level of success that it has been designed to achieve. For example, funding a new bicycle lane or a multi-use trail in the short-term, but not the development and delivery of programming or promotional campaigns, is not an efficient or recommended strategy.

Recommendation

5-HH: The Town should consider and pursue partnerships with Halton Region, Metrolinx, the AMO Green Fund, and the Provincial and Federal governments in order to fund components of the Cycling Master Plan.

5.6 CYCLING POLICY UPDATES

The Town of Halton Hills' Official Plan currently has a policy for Pedestrian and Cycling Routes which is set out in Section F6.2 (and also presented in Chapter 2.3.5 of the HHCP). While this provides a good foundation for the existing cycling network, Halton Hills should consider implementing the following pedestrian and cycling related policies when the Official Plan is next updated. Suggested additions to the existing section of the Official Plan are italicized and underlined.

Section F6.2 - Pedestrian and Cycling Routes and Facilities

Council shall develop an interconnected system of cycling and walking routes which are expected to provide access to major activity and employment areas and to future public transit connections. In this regard, reference to the Cycling Master Plan and Trails Master Plan to provide the basis for the establishment of a future network in the Town should occur upon completion.

In addition to the Master Plan, Council shall consider the following policies to plan for and encourage walking and cycling:

a) *Consider the provision of safe and convenient cycling and walking routes and bicycle parking and end-trip facilities in the review of all development applications;*

b) *Require the provision of sidewalks and cycling facilities in Urban Areas and Hamlet Areas, where appropriate;*

c) *Investigate and provide for bicycle lanes or other forms of designated cycling facilities wherever possible in the construction or re-construction of roads and bridges;*

d) *Encourage and support measures which will provide for barrier-free design of pedestrian facilities;*

e) *Ensure that lands for bicycle/pedestrian paths are included with the land requirements for roads;*

f) *Ensure that the rights and privacy of adjacent property owners are factored into the design process for pedestrian and cycling routes;*

g) *Ensure that all pedestrian and cycling routes are designed to reduce risk and improve safety for users.*

h) *Integrate land use development and transportation systems planning, and the principle of complete streets to give greater priority to cycling and pedestrian needs.*

i) *Explore opportunities for pedestrian and cycling connections within unopened road allowances, hydro rights-of-way, abandoned rail corridors, and public open space development.*

j) *Explore the acquisition of private lands to maximize opportunities for connecting missing links within pedestrian and cycling network.*

k) *The Town should in partnership with School Boards, Halton Region Public Health, the Province of Ontario and other agencies, develop and fund programs to promote and educate residents about the health benefits of active transportation (walking and cycling) and safe cycling skills.*

5.6.1 Children Cycling on Sidewalks

The Town of Halton Hills currently does not have a by-law regarding cycling on sidewalks. According to the Ontario Provincial Police, bicycles are vehicles under the Highway Traffic Act, and vehicles

cannot travel on a sidewalk. However, there is recognition that young children may not have the confidence or cognitive skills to safely cycle on roads with vehicular traffic. For this reason, the Town of Halton Hills should consider the adoption of a by-law to permit young children, and parents who are accompanying them, to ride on the Town's sidewalks. Since it may be difficult to enforce this policy based on the age of a child, the Town should create this policy based on bicycle wheel size.

The Town may wish to adopt a by-law that limits children with a tire size greater than 61 cm (24 inches) or those who are over 12 years of age, from riding on the sidewalk. Any child that falls under this limit may be accompanied by an adult.

This policy is not suggested to encourage sidewalk cycling by adults, as this is discouraged. There are many hazards involved when cycling on sidewalks, including potential conflict points at every intersection including driveways. In any collision between a cyclist and a pedestrian or vehicle, the injuries can be severe. However, this policy acknowledges that there are various reasons for a cyclist to choose to ride on the sidewalk, including the notion that cyclists, and especially young children, are not comfortable with riding alongside vehicle traffic.

A component of measuring the implementation of the Plan and its success in meeting objectives is to establish performance measures and targets.

In association with the recommendation to develop a Town policy to permit young children to cycle on sidewalks, the Town should endeavor to inform young children and their parents about cycling on the sidewalk, using the existing and proposed outreach and education initiatives. Key messages include:

- Always yield to pedestrians. Dismount and walk your bike or put your foot down.
- Ride slowly.
- Always walk your bike through a crosswalk or crossover (fines apply if not followed).
- Use a bell or horn to let pedestrians know that you are there.
- Make eye contact with drivers. Assume that drivers do not see you.
- Look for cars in driveways, laneways, and at intersections and be prepared to stop, and;
- Expect pedestrians to exit from stores.

The Town of Halton Hills should refer to the by-law developed by the Town of Oakville for a basis of a by-law for children cycling on sidewalks.

5.6.2 Additional Policy Recommendations

It is also recommended the Town develop and then adopt a land securement policy designated to enable the Town to acquire private/ other public land for the purposes of eliminate missing links in the Town's existing or proposed pedestrian, trail or cycling networks.

Recommendations

5-II: Council should consider revisions to the Town's Official Plan as proposed in the Cycling Master Plan.

5-JJ: Once the Town has made progress with the implementation of the network component of the plan and cyclists become more comfortable using on –road facilities, the Town should consider a cycling by-law to permit children with bicycles under a certain wheel size to cycle on Town sidewalks. However, the Town should not promote the use of bicycles on sidewalks by adults, unless they are accompanying a child cycling on a sidewalk.

5-KK: The Town should consider the development of a land securement policy.

5-LL: The Town should strongly consider updating the Trails Master Plan to conform with those projects and initiatives proposed in the Halton Hills Cycling Master Plan.

5.7 MEASURING SUCCESS – MONITORING AND PERFORMANCE INDICATORS

A component of measuring the implementation of the Plan and its success in meeting objectives is to establish performance measures and targets.

Implementation of the Halton Hills CMP is expected to begin in 2011. It is proposed that the Town implement the town-wide cycling network infrastructure plan on an annual basis in accordance with the proposed phasing and available capital funding, and as authorized by Town Council. One of the key performance indicators for monitoring the plan will the number of kilometres of on and off-road cycling facilities implemented on an annual basis over the ten year horizon of this Master Plan.

Collecting data to evaluate the different and changing aspects of cyclist behaviour will assist in evaluating the effectiveness and overall contribution of various activities to achieve the stated vision and goals of this plan.

This data collection should begin in 2011 and build upon the various Cycling Master Plan initiatives, and may include public attitude surveys. The data will establish a benchmark with which to compare data as the Plan is implemented.

The data collection will be used to:

- Confirm the overall direction and implementation of the Cycling Master Plan;
- Confirm statistics on the number and type of cyclists;
- Verify the route selection process; and
- Identify the supply and demand for bicycle parking.

Over time, the evaluation system should identify changes in route preference to assist in determining where to implement changes to “hard and soft” cycling infrastructure. The results of this assessment may be used to determine the success of implementing various types of cycling facilities. However, caution must be used in relying on an immediate response to a given improvement. An extended timeframe should be established to ensure that cycling awareness initiatives are in place to assist in changing travel patterns and habits.

Assessing the impact and costs of the implementation program might be based on information such as:

- Origin/destination counts;
- Screen line counts on a finer scale that are appropriate to cycling
- Travel patterns;
- Intersection counts to coincide with routes on which improvements are proposed, and also on parallel routes; and
- User counts on major trail systems.

Data collected through evaluation/monitoring programs along with information collected through on-going public consultation exercises, such as user surveys and public attitude surveys, can inform and assist in preparing the list of annual priorities and measuring the performance of the Plan.

Recommendations

5-MM: The Town should implement the town-wide cycling network infrastructure plan on an annual basis in accordance with the proposed phasing and available capital funding, and as authorized by Council.

5-NN: The Town should collect suitable data to both inform and monitor the overall progress of implementing the Cycling Master Plan.

5.8 NEXT STEPS - FROM PLAN TO IMPLEMENTATION

There are a number of recommended steps that the Town of Halton Hills should take in 2010 to advance the Cycling Master Plan which are outlined below. These policies and those which have been proposed throughout this chapter, if implemented accordingly, will work towards the development of an extensive cycling network throughout the Town of Halton Hills. It is important to note that we must ensure that all facilities and networks which are implemented must be maintained and enhanced over time to continuously promote and support an increased awareness and understanding of the importance of cycling to a sustainable community and active and healthy lifestyles for both residents and visitors.

Recommendations

5-OO: Following Council's adoption of the Draft Cycling Master Plan, issue a media release and public notice announcing the completion of the Cycling Master Plan and note that the report is available for public review for a 30 day period, following which if there are no major concerns it will be formally adopted by the Town. The draft report should be posted in digital format on the Town's website so that it can be viewed and downloaded by the public, and copies made available at the Town's offices and public libraries.

5-PP: Copies should be provided to all Town and Regional Departments

5-QQ: Accompanying the copy of the Cycling Master Plan to Halton Region's Planning Department should be a request that the Region give consideration to the proposed route and facility types proposed for Regional roads in the Town in all future environmental assessment studies and road design projects.

5-RR: A digital copy of the Cycling Master Plan should be issued to adjacent municipalities, the Ontario Ministry of Transportation (Policy Branch and Design Branch), Metrolinx, school boards, and GO Transit for information and as input to their long range planning initiatives.