



April 28, 2022

David Schaeffer Engineering Ltd.
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Attention: Mr. Ryan Kerr

Thank you for your memo dated March 24, 2022, concerning the Technical Appendix provided at the development stakeholders meeting on March 8th, 2022. Town staff and Watson and Associates Economists Ltd. (Watson) have reviewed your comments and questions and the attached is our response.

If you require further information, please do not hesitate to contact me (jkim@haltonhills.ca) or Scott O'Donnell (sodonnell@haltonhills.ca).

Thank you,

Jinsun Kim
Senior Manager of Financial Planning & Budgets

Cc: Maureen Van Ravens, Director of Transportation
Bill Andrews, Commissioner of Transportation & Public Works
Moya Jane Leighton, Town Treasurer & Director of Finance

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Memorandum

To	Jinsun Kim
From	Andrew Grunda
Date	April 28, 2022
Re:	Memorandum from David Schaeffer Engineering re: Halton Hills Development Charges Background Study, Review of Technical Appendix dated March 24, 2022

Fax Courier Mail Email

We have reviewed the memorandum submitted by David Schaeffer Engineering on behalf of the Southwest Georgetown Landowners Group Inc. (DSEL Memo) to the Town of Halton Hills (Town). The memorandum presents their questions and comments following a review of the Technical Appendix provided at the March 8, 2022 developer consultation meeting. We provide the following in response to the matters raised in the memo. The questions and or comments from the DSEL Memo are provided in italics along with our response.

- 1. The 2022 Development Charge transportation cost estimates in the Technical Appendix have increased and decreased from the 2017 comparable projects. Some transportation projects increase from 2017 to 2022 by the total index amount of ~ 16% (or 3%/year compounded). Other projects do not increase at all, and are the same costs carried forward from 2017. Some projects have increased significantly, and by more than the indexing amount noted above.*

We request clarification from the Town of Halton Hills for the projects that have increased by more than the indexing amount, but appear to be the same project. The presentation slides indicate some of the projects have modified scope from 2017 (i.e. increased road length), and highlights two projects that fall under this category (Mountainview and Guelph Rd. Intersection improvements, and Eighth Line improvements project # 6200-16-1904). However, there are several other projects that are not explicitly mentioned that have increased in cost, and additional information on why these costs have increased are requested.

Town project numbers listed below:

- 6200-16-2402
- 6200-16-1004
- 6200-27-0101
- 6200-16-1803



The updated cost estimates included in the 2022 Development Charges (D.C.) Background Study reflect the latest information available to the Town. These estimates are updated annually as part of the Town's capital budgeting process. The drivers of the cost increases for the requested projects are summarized below:

Project 6200-16-2402 – 17 Side Road/River Drive 10th Line Re-alignment (1.1km)

The updated cost estimates reflect cost of similar projects observed by the Town for construction, engineering, and cost inflation. Moreover, the project includes increased property acquisition costs as a result of prevailing real estate market conditions.

Project 6200-16-1004 – Main St. Glen Williams Mountain to Urban Limit

The increase in cost is due to a change in the project scope from what was included in the 2017 D.C. Background Study. Specifically, this project now includes the bridge rehabilitation design for two structures, preliminary design of Confederation Street reconstruction, Tweedle Street improvements, and stormwater strategy for Urban Glen Williams.

Project 6200-27-0101 – Glen Lawson Construction

The 2017 D.C. Background Study included a capital cost estimate of \$200,000. Town review of the project during the capital budget process determined that this cost estimate only reflected the cost for design and did not include construction costs. Consequently, the costs for the project have been revised to \$1.5 million, which includes the anticipated costs for both the design and construction.

Project 6200-16-1803 – Prince Street

The costs for project increased because the project limit was extended east to 10th Line from what was provided in the 2017 D.C. Study. Furthermore, active transportation amenities required for new developments to the east, as well as costs associated with utility relocate and stormwater management, have also been included in the updated cost estimate.

- 2. There are several active transportation improvement projects totaling approximately \$8.9M (~37% of which is growth related). It is difficult to verify if costing is appropriate without additional information on the individual projects. We request Halton Hills provide additional information on the active transportation projects such as a project costing sheets, and a map of the projects if applicable.*

The active transportation projects and related cost assumptions included in the 2022 D.C. Background Study are included in the Town's Active Transportation Master Plan, Chapter 6. We have attached maps from the Town's Active Transportation Master Plan



for your review. Additional information relating to the Active Transportation Master Plan is provided on the Town's website at the following links:

- <https://www.haltonhills.ca/en/residents/active-transportation-master-plan.aspx#Our-trails-map>
- <https://pub-haltonhills.escribemeetings.com/filestream.ashx?DocumentId=9023>

3. *There are 11 projects described as Sidewalks and Pedestrian Crossings that have a growth-related cost. We request the Town of Halton Hills provide a map if these sidewalk and pedestrian crossing improvements, and the supporting calculation for Benefit to Existing (BTE) for projects No. 86 to 96.*

These pedestrian crossing and sidewalk projects represent an annual program where the Town implements infrastructure to address the growth in pedestrian and vehicular volumes. The costs have been estimated using annual program cost averages and historical locations. Locations for future improvements are currently unknown and are assessed based on criteria in the Ontario Traffic Manual on an annual basis as part of the Town's annual capital budget process.

4. *Project 6200-16-1004 appears to increase by 825% from 2017 to 2022. Is this correct?*

The project is addressed in our response to Question 1 above.

5. *How were the BTE calculations for stormwater and transportation calculated – please provide calculations?*

Transportation Services

Consistent with prior the Town's prior D.C. background studies, deductions for benefit to existing development (BTE) in the 2022 D.C. Background Study for Transportation Services generally vary depending on the type of improvement being undertaken. The deductions reflect a limited BTE where additional capacity is being created for new transportation capacity to meet the demands of development. These benefits are reflective of travel time benefits, replacement of existing infrastructure as part of providing capacity for development, or tangible improvements in existing service levels.

Where projects were included in prior D.C. Background Studies the BTE allocation is generally be maintained to reflect the long-term needs of service. For example, when the growth-related need for a road project emerges and is included in a long-term funding plan, then that funding should be followed until the roadwork is eventually complete and D.C. funded. Otherwise, the municipality would never be able to fully D.C. fund the growth-related cost share of any project, other than those carried out during the 5-year term of the D.C. By-Law.



Existing D.C. Reserve Fund balances are also applied against D.C. eligible capital costs to reflect contributions to these needs prior to the project being undertaken.

The following table summarizes the benefit to existing (BTE) deductions and rationale for transportation project types

Table 1
2022 D.C. Background Study BTE Rationale for Transportation Services

Project Type	B.T.E. Percentage	B.T.E. Rationale
Transportation Services		
1. New road infrastructure including streetlights and signage 2. Road realignment projects	0-10%	BTE deduction was made for all new road construction and realignment projects to recognize that a minimal travel time or service level benefit to existing development may occur as a result of addressing the demands of growth
3. Road widening, reconstruction and upgrades	11% - 65%	BTE deduction was made for all road widening and road reconstruction projects, where the existing road is required to be significantly rehabilitated to accommodate future transportation needs or requires upgrading to current engineering standards.
4. Intersection Improvements, Signals, Sidewalks and Pedestrian Crossings	10-20%	BTE deduction was made for transportation network improvements for traffic signals not associated with a road project, intersection improvements, sidewalks and pedestrian crossings to recognize the benefits to existing development that will occur as a result of addressing the increased demands of new development.



Project Type	B.T.E. Percentage	B.T.E. Rationale
5. Active Transportation Infrastructure	63%	BTE based on proportionate share of existing and future development to 2036, as determined when the program was assessed in the 2017 D.C. Background Study. This reflects a broad recognition of benefit to the existing community with improved service levels.

Stormwater Management Services

No benefit to existing development has been provided for the Upper Reach East West Tributary project. This project is required to accommodate the demands of new development. This approach is consistent with the Town's BTE for this project in the 2017 D.C. Background Study.

The needs for Weather and Flow Monitoring Stations to assess the increase in stormwater services for new development, will provide a tangible improvement to the existing service levels of the Town. As such, a BTE of 69% has been provided reflective of the proportionate share of existing and future development to 2036.

Proposed Off-Road Trail Hierarchy



HALTON HILLS ACTIVE TRANSPORTATION MASTER PLAN

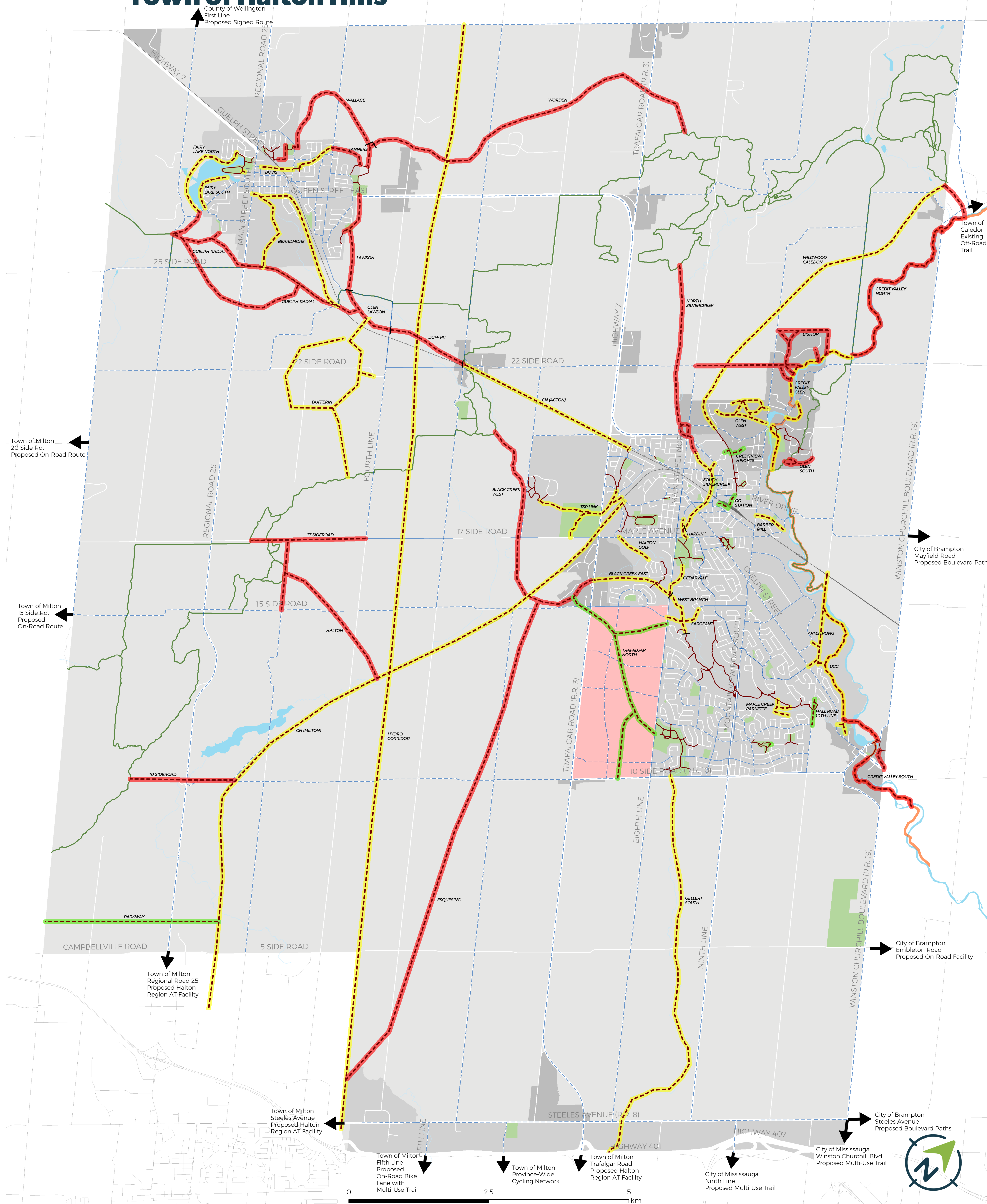
Legend

- Existing Off-Road Facility (solid red line)
 - Proposed Off-Road Facility (dashed red line)
 - Existing On-Road Facility (solid blue line)
 - Proposed On-Road Facility (dashed blue line)
- Trail Hierarchy**
- Type 1 (Primary) - Asphalt (thick green line)
 - Type 2 (Secondary) - Screenings (thick yellow line)
 - Type 3 (Tertiary) - Beaten Footpath (thick red line)
 - Bruce Trail (thin green line)
 - Credit Valley Trail (orange line)
- Community Centre (orange circle)
 - Hospital (blue circle)
 - Municipal Building (grey circle)
 - School (red circle)
 - Park (green square)
 - Urban Area (grey square)
 - Hamlet / Rural Cluster (light grey square)
 - Vision Georgetown Secondary Plan Area (pink square)
 - Connection to Surrounding Municipality (black arrow)

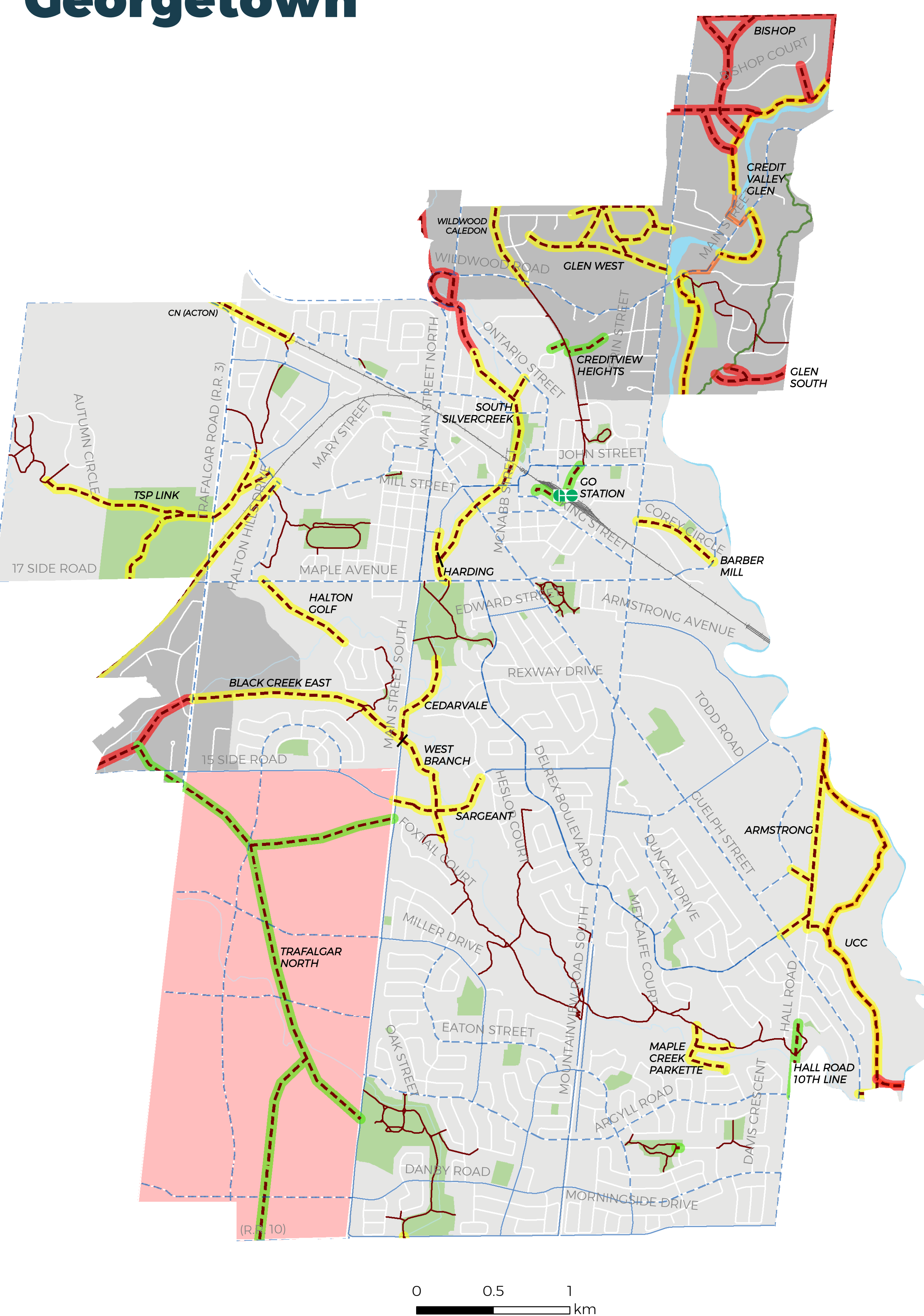
Acton

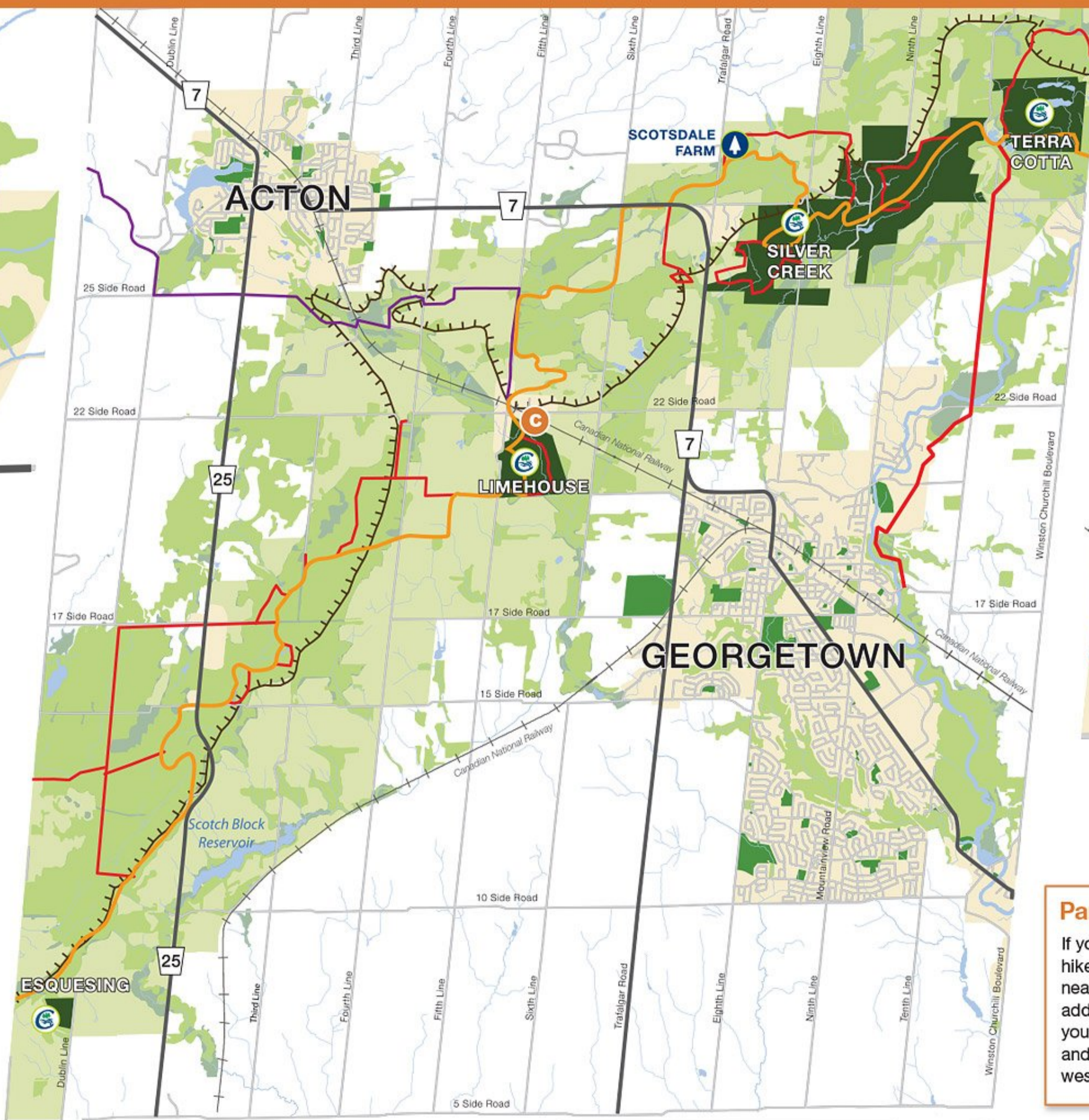


Town of Halton Hills



Georgetown





Trail Seasons

Spring
Look for increased wildlife activity on trails. Many plants and trees begin blooming in early April. Melting snow and ice means higher than average water levels – wear appropriate footwear, and always use caution when hiking.

Summer
The most popular time for trail use. Hike or bike on most trails. Be careful in hot weather. Always stay hydrated and look for shade if you need a break to cool down.

Fall
Cooler temperatures, scenic landscapes and a dramatic colour palette make fall a beautiful season to hike trails in your area. Wear layers for added comfort, and don't forget a camera!

Winter
Trails are not maintained during winter months – use at your own risk with high-grip footwear. Snowshoes and cross-country skis are popular methods of accessing trails during winter months.



Dogs on a leash

Trails are a perfect spot to walk your family pet! Remember, dogs must always remain on a leash when not in a Leash Free Zone. Stoop and scoop after your pet to keep trails clean for everyone to enjoy.



Help keep parks and trails clean

Please put waste in its place. Garbage containers are placed at trail entry/exit points, and some areas have blue bins for recycling.

Parking before your hike

If you need to park before your hike, several spots are available near 124 Miller Drive (enter this address on your GPS). From there you can enjoy the wooded section and smaller circuit trails offered west of Mountainview Road.

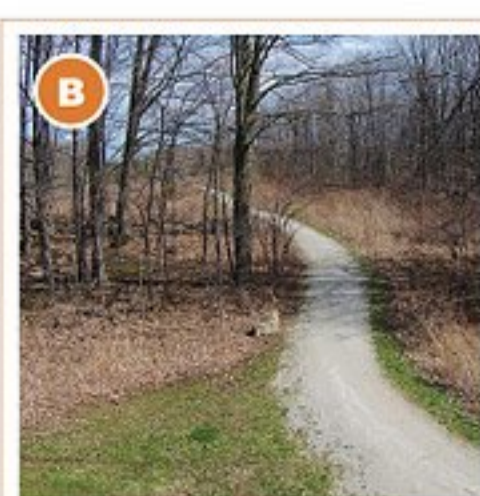
LEGEND

- Municipal Trail (entry)
 - Future Trail
 - Bruce Trail
Difficulty: ● Challenging
 - Bruce Trail - Side Trail
Difficulty: ● Challenging
 - Guelph Radial Line Trail
Difficulty: ● Challenging
 - Destination Park
 - Picnic Pavilion
 - Leash Free Zone
 - Cycling/Inline/Strollers
 - Parks & Cemeteries
 - Woodlands/Wetlands
 - Protected Greenlands
 - Conservation Area
 - Hospital
 - Town Facility
 - Splash Pad
 - Skate Park
 - Niagara Escarpment
- | | |
|--|--|
| 1 Prospect Park Trail: 1.8km
30 Park Avenue, Acton
Difficulty: ● Easy | 8 Wildwood Trail: 1.3km
Wildwood Road and Oakridge Drive, Georgetown
Difficulty: ● Easy |
| 2 Danville/Wallace Trail: 0.85km
76A Danville Court, Acton
Difficulty: ● Easy | 9 Hungry Hollow Trails: 5.5km
Miller Drive and Lookout Court, Georgetown
Difficulty: ● Medium |
| 3 Tanners Drive Woodlot: 0.93km
45 Tanners Drive, Acton
Difficulty: ● Medium | 10 Jubilee Woodlot: 0.5km
407 Barber Drive, Georgetown
Difficulty: ● Easy |
| 4 Rennie Street Woodlot: 0.25km
32 Rennie Street, Acton
Difficulty: ● Easy | 11 McNab Trail: 0.66km
Guelph Street and Noble Street, Georgetown
Difficulty: ● Easy |
| 5 Chris Walker Trail: 6.6km
1 Park Avenue, Georgetown
Difficulty: ● Medium | 12 Ainley Trail: 0.7km
12 Ainley Trail, Glen Williams
Difficulty: ● Medium |
| 6 Arborglen Trail: 0.75km
2 Arborglen Drive, Georgetown
Difficulty: ● Medium | |
| 7 Gellert Trail: 3.5km
10241 Eighth Line, Georgetown
Difficulty: ● Easy | |
- Difficulty Levels: ● Easy = mostly flat, hard surface. ● Intermediate = some hills, mixed surface. ● Challenging = large hills, difficult terrain

TRAILS



Fairy Lake



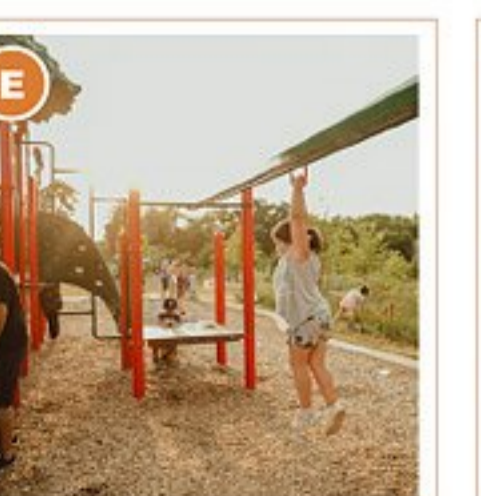
Tanners Woodlot



Limehouse Kilns



Chris Walker Trail



West Branch Drive Park



Regan Ridge Bridge



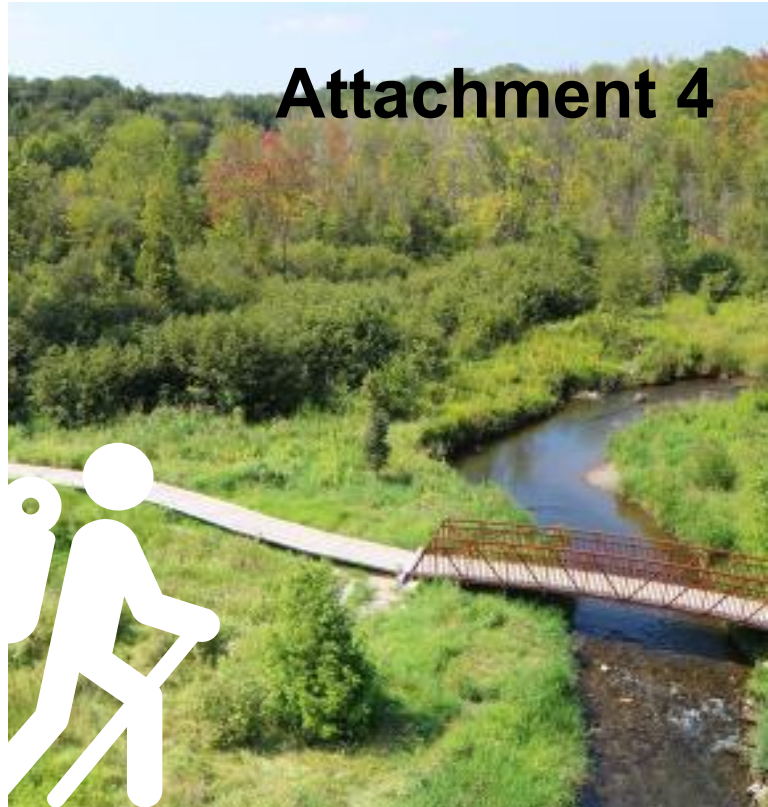
Halton
Hills

Active

Transportation



Attachment 4



Master
Plan

FINAL REPORT

October 2020



we walk

we ride

we thrive.



Table Of

Contents

Chapter 1.0 . Creating an active future.....	1
1.1 A.T. in Halton Hills.....	2
1.2 Building on successes.....	9
1.3 ATMP overview.....	13
1.4 Creating an active future.....	17
1.5 Content and recommendations.....	20
Chapter 2.0 . The climate lens.....	24
2.1 Climate approach.....	25
2.2 Network development overview.....	26
2.3 On-road improvements.....	28
2.4 Off-road improvements.....	30
2.5 Pedestrian improvements.....	33
2.6 Designing the network.....	36
2.7 Climate recommendations.....	47
Chapter 3.0 . The culture lens.....	48
3.1 Creating culture change.....	49
3.2 Culture shift considerations.....	54
3.3 Halton Hill's action plan.....	58
3.4 Culture recommendations.....	71

Chapter 4.0 . The growth lens.	73
4.1 Growth approach.	74
4.2 Quick wins and aspirations.	77
4.3 Implementation processes & tools.	79
4.4 Growth recommendations.	88
Chapter 5.0 . The sustainability lens.	89
5.1 Sustainability strategy.	90
5.2 Supportive Policies.	91
5.3 Roles & partnerships.	94
5.4 Maintenance.	97
5.5 Monitoring & evaluation.	100
5.6 Sustainability recommendations.	102
Chapter 6.0 . The finance lens.	103
6.1 Financial approach.	104
6.2 Funding options.	113
6.3 Financial recommendations.	116

List of Tables.

Table 1. Summary of relevant socio-demographic information for Halton Hills.	6
Table 2. Summary of Technical Memos #1 and #2 content, input gathered and uses ..	16
Table 3. Summary of proposed on-road improvements.....	28
Table 4. Summary of proposed off-road improvements.....	30
Table 5. Overview of applicable design guidelines related to on-road active transportation improvements	40
Table 6. Summary of proposed trail hierarchy details.....	43
Table 7. Overview of proposed quick-win projects.....	77
Table 8. Long range on-road aspirational projects	78
Table 9. Winter maintenance practices based on recommendations outlined in OTM Book 18 Table 10.7	99
Table 10. Proposed performance measures for consideration by Halton Hills	101
Table 11. Summary of proposed education and encouragement action plan costing.	108
Table 12. Summary of typical maintenance costs as well as estimated costs for the proposed AT network.....	110
Table 13. Summary of high-level maintenance cost estimate for the proposed AT network	111

List of Figures.

Figure 1. Overview of active transportation user types.	2
Figure 2. Overview of active transportation trip types typically taken.....	5
Figure 3. Overview of existing on and off-road active transportation infrastructure.....	11
Figure 4. Overview of project schedule and outcomes.....	13
Figure 5. Summary of strategic priorities supported by the A.T.M.P.	17
Figure 6. Overview of active transportation network development process.....	27
Figure 7. Overview of missing sidewalk linkages within Acton and Georgetown.....	35
Figure 8. Town of Halton Hills Primary Trail Cross-Section.....	44
Figure 9. Town of Halton Hills Secondary Trail Cross-Section	45
Figure 10. Town of Halton Hills Tertiary Trail Cross-Section.....	46
Figure 11. Overview of 5 stages of behaviour change.....	51
Figure 12. Five Step Implementation Process	79
Figure 13. Overview of trail design and implementation process.....	84
Figure 14. Sample Sidewalk Prioritization Scoring Framework	86
Figure 15. Proposed reporting structure for ATMP implementation	94
Figure 16. Summary of proposed on-road improvement costing.....	105

chapter 1.0

Creating an active future.

In November 2018, the Town of Halton Hills embarked on a comprehensive review of their active transportation (AT) related policies and plans with the intent of developing one central source for self-propelled transportation planning, design and implementation direction in the form of an on and off-road active transportation master plan (ATMP). The information contained within the ATMP reflects an intentional and collaborative approach to provide the Town of Halton Hills and its partners with a reference, guide and resource to inform future decision making, partnerships, programming, outreach, budgeting, monitoring and evaluation.

The ATMP carries the momentum of existing master plans including the foundational cycling master plan and trails strategy. It also reflects the significant growth that the Town has and will continue to experience which requires complete, healthy and active community planning for people of all ages and abilities. While based on localized opportunities and issues, the plan also incorporates wider global issues such as climate change and more recently the impacts of the COVID-19 pandemic which will inevitable have long-lasting human behaviour impacts.

Chapter 1.0 provides an overview of rationale for developing the Town's 2020 ATMP. It outlines past successes, the overall vision and objectives for the master plan and the assumptions that went into its development, the content and how it is meant to be used. The ATMP report is a consolidation of content found within two technical memos prepared during the project. It focused on the implementation recommendations and supports to facilitate long-term policy, infrastructure, programming and process changes to prioritize safe, comfortable and accessible transportation options and alternatives.

1.1 A.T. in Halton Hills.

Active transportation, which by definition includes walking, cycling and other self-propelled forms of transportation plays a vital role in how we get around our communities and conduct our day to day trips. Whether it's a weekend stroll through a local park or along a natural trail corridor, short bike ride to a neighbour's house or a roll along a commercial main street, all of these trips can be categorized as an active mode of travel.

While not a dominant form of transportation in the Town of Halton Hills, active transportation holds significant potential for shorter trips between dense community developments, schools, local destinations and employment and as an accessible form of recreation. As noted in the Halton Region Public Health Active Transportation Report, in 2011, more than 50% of car trips were 5 km or less; a distance suitable for walking or cycling. The promotion of Active Transportation also supports a more inclusive and resilient transportation system, by providing mobility to youth, older adults and others without access to a motor vehicle.

Understanding how active transportation is defined and practiced with Halton Hills is instrumental in developing the ATMP. As the master plan is meant to be a blueprint and guide to achieve the Town's active transportation vision, it must be locally adapted while also reflecting provincially and nationally accepted planning and design practices.

Active transportation is not a single mode of transportation but a collection of self-propelled forms, each with their own common uses and set of potential users and destination types. For the purposes of the Halton Hills ATMP, active transportation is assumed to refer to one of four categories of travel. Each depends on the individual's trip type, preferences, level of comfort, destination and duration among other consideration. An overview of the active transportation types is provided in **Figure 1**.

pedestrians



Those who travel by foot including walkers, joggers, hikers and runners.

cyclists



Those who use a bicycle to get to and from their destinations.

mobility assisted



Those that require mobility devices (e.g. wheel chairs, power chairs) to travel locally.

other



Those who use rollerblades, skateboards and e-bikes etc.

*Please see additional details on e-bikes and micromobility on the following page.

Figure 1. overview of active transportation user types.

Understanding electric bikes...

As noted in Figure 1 when designing for AT, consideration should be given not only to the traditional forms of self-propelled transportation. Emerging transportation options, including shareable and electrical power cycling are increasingly becoming a preferred alternative for seniors or those who are looking for additional support when engaging in active forms of transportation or recreation. Otherwise referred to as **Micromobility**, e-bikes tend to be the most common and widely accepted.

In Canada and Ontario, historically there has been some confusion around where and how e-bikes are meant to be used and how they interact with other active transportation users. This primarily stems from the lack of a clear and consistent definition as well as enforcement of safe use. For the purposes of the Halton Hills ATMP, e-bikes are considered as a critical emerging policy and design area and will be discussed in more detail in later sections of the report. The following content; however, is meant to be used to establish the necessary common understanding around the micromobility and specifically the electric bicycle options and alternatives.

Electronic bicycles are defined as bicycles equipped with an electrical motor that assist the user in propelling the device. They are typically categorized into two types, based off the functionality of their motor and resultant speed and weight including **Bicycle-Style E-Bikes (BESB)**; which largely resemble conventional bikes and **Scooter-Style E-Bikes (SSEB)**; which largely resemble motorized mopeds. For the purposes of the ATMP, we are focusing on the Bicycle-Style E-Bikes which are further organized into four categories, described below, of which three are considered bicycle style e-bikes.

Full Pedal-Assist	Pedal-Assist + Throttle	Speed-Pedelec (S-Pedelecs)	Scooter-Style E-bikes
Pedal-assist motor Max speed: 32k m/hr	Pedal-assist motor with throttle that can replace pedalling Max speed: 32 km/hr	Pedal-assist motor Max speed: 45 km/hr	Motor is run by throttle + bicycle pedals that can propel the bike Max speed: 32 km/hr

Studies that have been completed across Europe and Canada indicating that e-bikes are able to promote cycling to a wider range of demographics and are favourable among populations who feel insecure cycling, such as some women and older adults. According to the 2014 Census Canada report, women cycled 12% less than men, and only 27% of the older adult population cycled – indicating a generational and gender gap in cycling across Canada (source. WSP). At a wider-scale, the encouragement and support of e-bikes can have significant community specific benefits including but not limited to:

1. Replacing a car for trips to and from work or school for trips that are short to moderate distances;
2. Providing an alternative mode of sustainable travel beyond the traditional forms of transportation;
3. Supporting life-lone cycling for those who are physically not able too or have challenges with the physical activity of walking or cycling; and
4. To support first and last-mile trips to facilitate multi-modal transportation trips.

So, what does this mean for Halton hills?

Within Canada, e-bikes are defined nationally by Transport Canada, specifically as part of the Motor vehicle Safety Regulation section of the Motor Vehicle Safety Act and are primarily referred to as power-assisted bicycles.

As such, all provincial regulation must adhere to the specifications of this definition. Therefore, in Canada, all e-bike typologies (bicycle-style and scooter style) are legally classified as a bicycle, and all types of e-bikes are interchangeable as the definition regulates both pedal-assist and throttle-assist e-bikes.

Taking a closer look at the provincial level, Within Ontario based on a review of applicable regulation and guidelines the following can be assumed – at this time – about the categorization of e-bikes:

- Accepted definition is consistent with power assisted bicycle
- No distinction between pedelecs and scooter style e-bikes
- No licensing or registration is required but a headlight is required
- User must be at least 16 years of age
- Device must be restricted to a maximum speed of 32km/h
- Device must bare a maximum weight of 120kg
- Device must bare a maximum power rating of 500wats

Despite its potential, further adoption of E-Bikes across Canada remains constrained by the absence of supportive policies and infrastructure. Notably, this includes a lack of public charging stations, on-road facilities designed to accommodate their travel and governmental funding schemes to address these deficiencies. As noted previously, much of this stems from the fact that a consistent definition or approach has not been identified and adopted.

The Halton Hills AMP is not meant to reinvent the wheel regarding an e-bike definition or policy. Instead, it is recommended that Town officials monitor the adoption rate of E-Bikes within the municipalities and make modifications to their infrastructure and transportation policies based off observed trends and practices. Additional details can be found in **section 5.2**.



In addition to these modes of travel, when and how people get to and from their destination and for what purpose has an equally strong influence on mode choice. Though they can vary, most trips can be organized into three types – commuter i.e. day to day trips; recreation – for leisure or fitness; and tourism – for exploration and entertainment. Importantly, these figures remain subject to change, amid shifts in how AT is appreciated, due to the COVID-19 pandemic. Each trip type is described in detail in **Figure 2**.

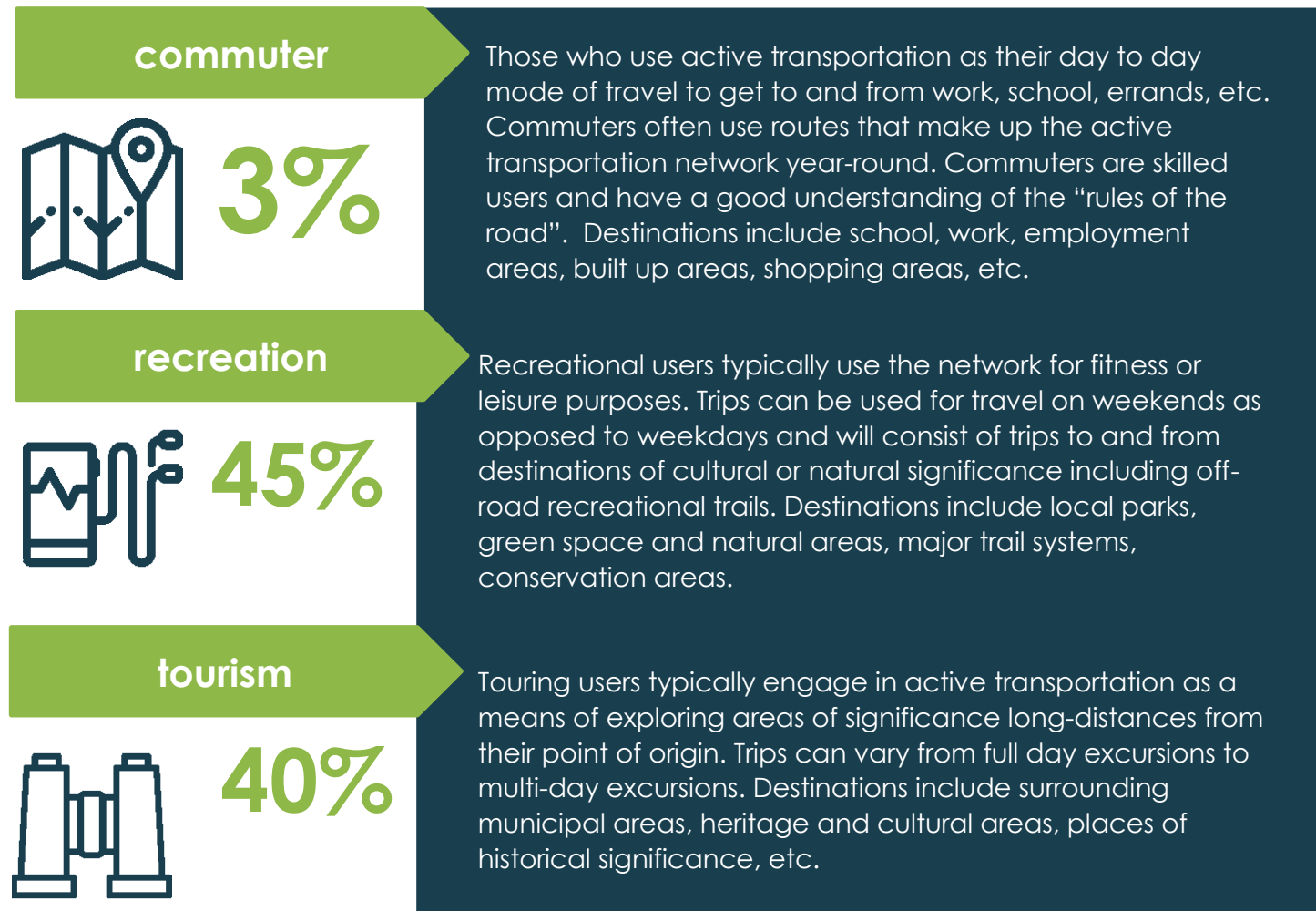


Figure 2. overview of active transportation trip types typically taken

Like any decision, age, gender, education and values all influence a user's mode choice. For example, males and females have different interests and experiences when it comes to the type of route or facilities that they use including a range of opinions on the level and comfort and safety of the facility types itself, the routes and its conditions and the location. This will be discussed in more detail in **Chapter 2.0** of this master plan report.

Additional details and design considerations regarding these active transportation modes and trip types can be found on page 8 of Technical Memo #1.

As noted above, active transportation mode and how it is used is influenced by several factors. A key requisite to developing Halton Hill's ATMP was a firm understanding of the community's sociodemographic makeup. Using this information ensured recommendations properly corresponded to identified and forecasted local concerns and aspirations related to AT. The result is both a more public-orientated process and tailored product with greater likelihood of success. In section 2.2 of Technical Memo #1 (link here) there is a comprehensive community profile which was prepared for Halton Hills at the time the ATMP was developed. **Table 1** identifies some of the relevant trends for the Town of Halton Hills. These figures illustrate a general sense of how people currently travel in Halton Hills and do not represent wide disruptions, such as the COVID-19 pandemic.

Over **80%** of Halton Hill's **residents drive a motor vehicle** as their main means of getting to and from work or school.

Over **68%** of the population **commutes for work outside of Halton Hills**, into adjacent municipalities.

13% of the total population **is over** the age of **65** and another **19%** is **under** the age of **15**.

The **population continues to grow at a 3.6%** growth rate with more people living within urban areas.

Around **6% carpool commute** and **3% take transit** reflecting opportunities for alternative modes

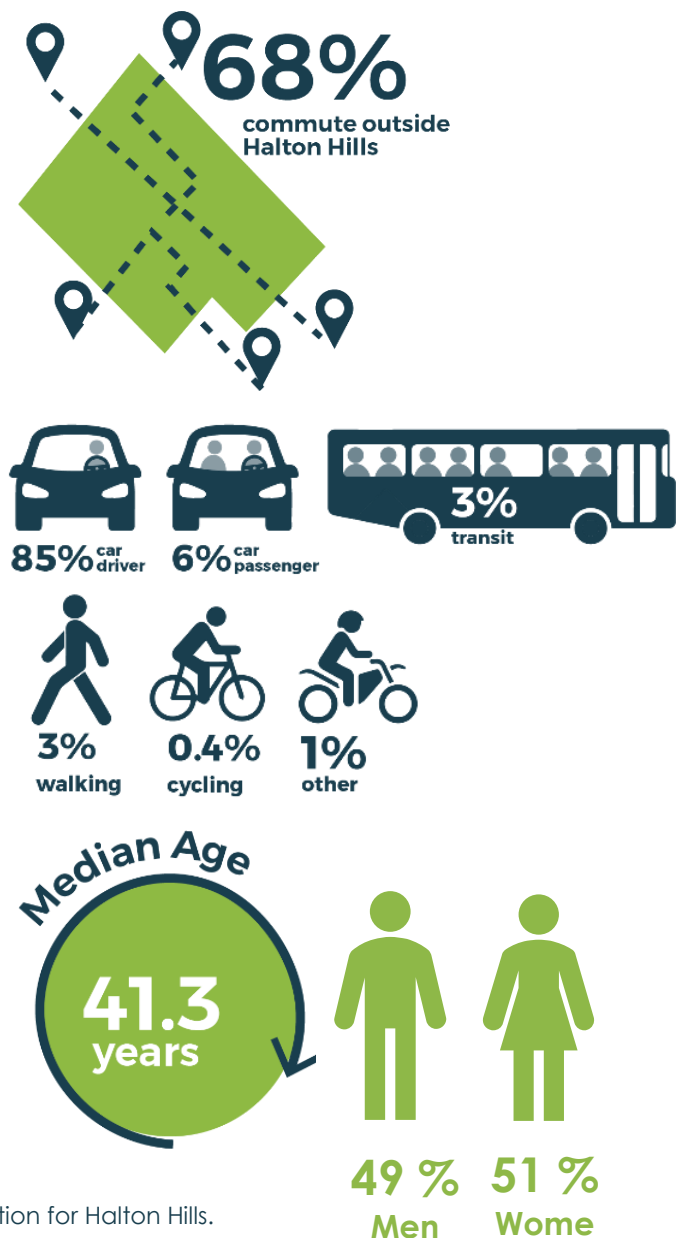


Table 1. Summary of relevant socio-demographic information for Halton Hills.

Based on the community profile cycling related planning trends were considered and applied throughout the ATMP process. There are four planning and design principles which were selected. These do not represent all the emerging trends that could be identified within the active transportation field but those that are considered the most applicable based on Council's strategic priorities and community interests. A complete list of these municipal priority items is provided within **Figure 5**. These approaches have acquired renewed relevance with the COVID-19 pandemic having exemplified the significant opportunity and versatility of active transportation in contributing to healthy community recreation as well as mode choice.

Healthy community design.

The Healthy Community approach highlights the role of design in supporting community health and wellbeing. As municipalities grapple with an increased need for physical and mental health supports, practitioners must design communities to be promotive of healthy, active lifestyles for people of all ages and abilities i.e. the 8-80 approach. This approach should not address problems retroactively but be adaptive to emerging trends and accelerate responses to unforeseen challenges. It seizes the renewed appreciation for active transportation as an effective public health measure, as a result of the COVID-19 pandemic.

Complete streets.

Complete streets is the practice of considering the design of transportation corridors based on the needs of all potential road users. It does not stipulate that all roads should be designed for all users but emphasizes the use of context specific considerations to identify treatments that encourage a greater sense of comfort and safety. Attention however, should be given to supporting users of active transportation, who often lack a degree of safety and comfort comparable to motorists.

Safety First.

The Safety-first approach encourages planning which prioritizes the safety of all users within roadway design. Relying on evidence-based data from past precedence, the approach especially supports those most vulnerable including AT users, while ensuring greater mobility and healthier communities. Through responding to the COVID-19 pandemic, designing AT facilities with the flexibility to support physical distancing in an effort to achieve wider public health and safety regulations and requirements has become an even greater community reality.

Green communities.

The Green Communities approach recognizes the underlying relationship between environmental sustainability and community health. Like the Complete Streets approach, Green Community advocates encourage a municipal-wide provision of safe and accessible facilities for active transportation. This includes those supportive of walking and cycling, which encourage active lifestyles that yield considerable physical and mental health benefits to residents.

So, what does this mean for Halton hills?

The application of these trends related to the Town of Halton Hills helped to form a set of project assumptions which, along with the AT mode types and trip types, created a foundation of understanding around the intent and purposes of the active transportation master plan. These assumptions are not the vision but more the commonly accepted elements that were reflected when identifying proposed routes, facilities / infrastructure, programs, policies and recommendations.

Refine...

the cycling plan

Refine the Cycling Master Plan's (2010) previously proposed route alignments to emphasize priority routes and meaningful infrastructure improvements based on design guidelines developed since its adoption.

Maintain...

the trails network

Proceed with the proposed off-road trail network envisioned in the 1999 Master Plan and the Active Transportation Committee's 2012 work plan. Identify a set of trail design standards to ensure continuity and consistency.

Connect...

communities

Identify strategic links between major and minor built up areas that facilitate the greatest number of daily trips with a focus on those between Acton, Georgetown, Limehouse and on the 401 Corridor.

Create...

an integrated system

Establish on and off-road networks that considers an interconnected design among end of trip facilities, transition points between on and off-road facilities as well as amenities to enhance overall experience.

Reinforce...

the Region's network

Maintain the active transportation routes and facilities proposed in the Halton Region 2015 Active Transportation Master Plan unless, revised by Regional staff.

Consider...

barriers

Provide routes, facilities and amenities that aim to bridge major physical and social gaps in the community. Physical barriers include rail corridors, major collector or arterial roads, waterways, etc. Social barriers include access to information or equitable access to major services.

Integrate...

touring "loop" routes

Integrate two cycle touring "loop routes" identified by the "Bike It" subcommittee as part of the network development process. Formalize by including AT facilities along their alignments.

Prioritize...

separated facilities

Design the active transportation network to focus on strategic corridors where separated or dedicated cycling facilities and pedestrian routes can be achieved. Where possible limit signed routes to the rural areas.

Balance...

cost and design

The active transportation projects should not off-set other municipal priorities. Projects should be implemented where able to be coordinated with larger capital projects and sufficient existing demand observed

1.2 Building on successes.

The ATMP was developed with the knowledge and understanding that the Town and its partners have achieved great success within the planning, design and programming of active transportation. The master plan is an evolution of the policies and initiatives that precede it. Rather than reinventing the wheel, the plan leverages the precedence set by the municipality, the Halton Region and throughout the province of Ontario.

This ensures that the successes that have been achieved by the Town and its partners are not lost through the planning process but highlighted and leveraged to maximize potential impact and influence. “Success” can be defined in many ways, however; for the purposes of the Halton Hills ATMP; the successes have been organized into policies, infrastructure and programs. An overview of the major active transportation successes is provided below.

Policies

Policies have been adopted at all levels of government – local, regional or provincial - either directly addressing the way in which a active transportation is planned for or designed or indirectly through the planning tools and policy requirements that are adopted. The following is an overview of the applicable policies that have some influence on active transportation within the Town of Halton Hills.

Province of Ontario.

applicable policies

7

Provincial Policy Statement

The Place to Grow Act 2019

Accessibility for Ontarians with Disabilities Act (AODA)

Ontario Trails Strategy

Cycling Strategy

Policy references

- All urban transportation systems are to include provisions for alternative transport, including AT, to reduce reliance on the automobile.
- All municipal roadway facilities are to be built and maintained according to provincially prescribed Minimum Maintenance Standards and be compliant with applicable sections of AODA.
- All on-road cycling facilities and pedestrian crossing are to follow the guidelines of the Ontario Traffic Manual's book 18 and 15, respectively.

Role and relevance

Establishes the general direction and list of imperatives that municipalities must adhere to within transportation planning. Though binding, these requirements remain interpretive to local needs and conditions.

Halton Region.

applicable policies

2

Official Plan

Transportation Master Plan

Active Transportation Master Plan

Policy references

- Achieve a balanced transportation system which supports all mode users and encourages a more active and sustainable community
- connectivity between communities through an integrated AT network
- Achieve an objective of 5% AT mode share in the PM peak, by 2031

Role and relevance

Coordinates the transportation planning of its comprising local municipalities under a series of strategic objectives and decision-making frameworks. This often includes modal split targets as well as step-by-step infrastructure implementation processes.

Town of Halton Hills.

applicable policies

5

Trails & Cycling Master Plans

Official Plan

Master Transportation Plan

Active Living Strategy

Transit Strategy

Policy references

- Achieve a balanced transportation system which supports all mode users and encourages a more active and sustainable community
- Connectivity between communities through an integrated AT network
- Achieve an objective of 5% AT mode share in the PM peak, by 2031

Role and relevance

Coordinates the transportation planning of its comprising local municipalities under a series of strategic objectives and decision-making frameworks. This often includes modal split targets as well as step-by-step infrastructure implementation processes.

The intent is not to provide a comprehensive overview of all applicable policies but to understand that there are a limited number of policy barriers that stand in the way on making significant localized active transportation changes. Policies should continue to be monitored and evaluated. A comprehensive review of the applicability of local policies was undertaken which is found **section 2.3** of Technical Memo #1 and policy recommendations are provided in **chapter 5.1**.

Infrastructure

Infrastructure refers to the routes and facilities that accommodate active travel both within the road right-of-way i.e. on-road; and outside of the road right-of-way i.e. off-road. The way in which active transportation infrastructure is approached within the Town of Halton Hills means that routes and facilities are implemented by different departments. The off-road infrastructure is addressed by the Town’s Recreation and Parks Department while the on-road infrastructure is addressed by the Town’s Transportation Public Works Department.

There are existing on and off-road routes and facilities found throughout the Town which provides the foundation upon which the active transportation master plan improvements are being refined, identified and confirmed. **Figure 3** provides an overview of the existing active transportation infrastructure found within the Town of Halton Hills by the level of separation that is provided – consistent with the Ontario Traffic Manual Book 18: Cycling Facilities design guidelines. The routes are illustrated on **Map 2**.



Figure 3. Overview of existing on and off-road active transportation infrastructure.

Programs.

Programming refers to initiatives that aim to educate residents and visitors about the active transportation opportunities found within the Town of Halton Hills as well as encourage those who live, work and play to engage in active transportation for day to day activities and trips. Programs typically aim to achieve one of these two goals for a specific audience but can also be a more general Town-wide activity.

Since the adoption of the 2010 Cycling Master Plan the Town of Halton Hills has achieved a number of successes through the hard work of the active transportation committee and other regional and provincial partners. The following is an overview of some of the local programs that the Town has adopted and implemented and how they have been successful in educating and encouraging a greater interest in active transportation.

Active and Sustainable School Travel (ASST)

Active and Sustainable School Travel (ASST), is an existing initiative run within Halton Hills, which promotes sustainable transportation adoption among youth, including active transportation. Through the program, initiatives such as “Every Meter Counts” are provided within local schools, to encourage youth to either walk or bike to and / or from school or their local bus stop, taking into consideration the significant environmental and health benefits. Though run externally by Green Communities Canada, ASST is equally reliant on partnerships with the local government and school boards including local schools based in Halton Hills or in surrounding areas.

Halton Hills Community Cycling Summit

In March 2019, Halton Hills hosted its first Community Cycling Summit to both celebrate and showcase its emerging cycling culture. The event is an annual tradition which brings out numerous local stakeholders to share their vision and support for Halton Hill’s cycling future.

Annual Festivals Open Streets & Bike it to Leathertown

To educate and promote active transportation use within the community, Halton Hills hosts organizes a variety of related activities within annual festivals and events. As part of its famed Leathertown Festival, Halton Hill’s Bike-It advisory committee and the Acton BIA conjointly host a series of community rides for cyclists of varying abilities. The municipality also hosts an annual Open Streets event, involving the temporal closure of key roadways for pedestrians, cyclists and other recreational activities.

Bronze Bicycle Friendly Community Designation

As of 2014, Halton Hill’s has maintained a Bronze Bicycle Friendly Community Designation through the Share the Road Organization. Such is provided in recognition of its policies, programs and infrastructure provisions, that support cycling locally. Through the efforts of its Bike-It Advisory Committee, the municipality strives to achieve a silver designation.

1.3 ATMP overview

The ATMP was completed from November 2018 to December 2020. To ensure a timely and complete delivery, Halton Hill's ATMP was developed under a four-phase process starting in December 2018 and completed in September 2020.

The master plan report was completed as a collaborative effort between Town staff, the active transportation committee, members of the community and decision makers. An overview of the project process including the purposes of each project phase as well as the outcomes that were achieved is provided in **Figure 4**.

A locally focused strategy was one of the core outcomes of the project. To achieve this, community engagement and outreach was a critical component of this assignment and was used at each phase to inform the outcomes.

A more detailed overview of the engagement process and key milestones is provided on the following pages.

P1. background

Purpose.

To gain an understanding of the current active transportation conditions and potential challenges within the Town of Halton Hills.

Outcomes.

- AT vision and objectives
- Spatial analysis of AT potential
- Technical memo #1

P3. implementation

Purpose.

To develop an Implementation Strategy to guide in the phasing of the active transportation.

Outcomes.

- Draft ATMP report
- Consultation summary
- Final report

Figure 4. overview of project schedule and outcomes

NOVEMBER 2018

P2. network

Purpose.

To develop a connected, continuous and well-designed system of active transportation facilities throughout Halton Hills.

Outcomes.

- AT system development and rationale
- Facility selection
- Technical memo #2

P4. finalization

Purpose.

To prepare, finalize and approve the active transportation master plan by Town Council and staff.

Outcomes.

- Final report presentation to Council.
- Notice of study completion.

SEPTEMBER 2020

Reflecting community interests...

Regarding public and stakeholder outreach, the ATMP included a range of options and opportunities to provide meaningful input based on clear and understandable information. Where possible, information as well as the engagement tactics were tailored to the intended audience. The level of participation and the information gathered reflects a robust engagement approach and a sense of buy-in and interest provided by a range of audiences.

Feedback was assembled from a wide range of stakeholders using a variety of in-person and virtual engagement formats. This included pop-ups at local festivals, an online engagement portal, workshops within local schools and meetings with Town staff and the active transportation committee. Such enabled an extensive list of more than 1000 interactions, whose feedback subsequently informed the ATMP's cumulative outcomes and recommendations. A more detailed overview of these activities, including their number of participants and insights gathered and these provided throughout the report.

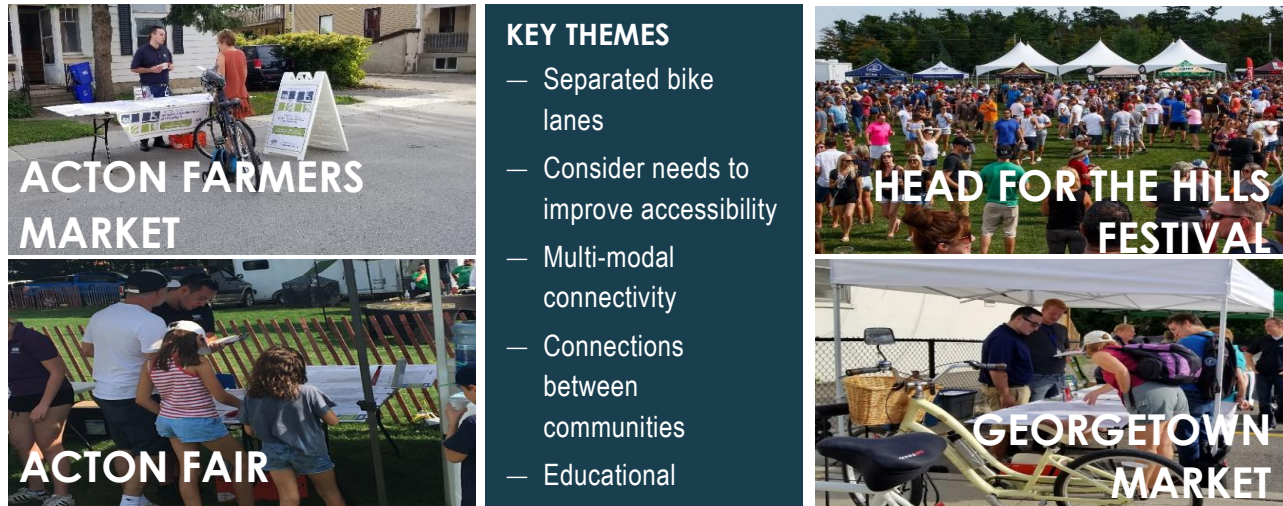
Online Interactive Engagement Tool

The first public engagement opportunity featured an interactive online survey developed using MetroQuest, hosted from the Let's Talk Halton Hills page. The online program was made available from June 2019 to September 2019 and, invited participants to identify priorities for the Town's active transportation network through four interactive activities. Overall the survey received 73 responses, with the following insights:

#1 ATMP Priorities	#2 AT System	#3 Design	#4 Final Questions
Articulate criteria used in selecting and prioritizing AT routes	Identify opportunities and challenges in implementing AT system	Rank and evaluate design considerations for AT system	Specify additional AT preferences and socio-economic background
240 rankings	146 markers	252 ratings	232 responses
8 comments	101 comments	18 comments	22 comments
<ul style="list-style-type: none"> — Design facilities to be safe & comfortable — Links to major trip generators — Accessible routes throughout HH 	<ul style="list-style-type: none"> — Prioritize improvements within built-up areas and high trafficked corridors — Apply consistency within the design of off-road trails and missing links 	<ul style="list-style-type: none"> — Pavement markings to better delineate bike lanes — Demarcate space for pedestrians and cyclists within in-boulevard trails — Greater physical separation for cycle tracks and paved shoulders 	

Community Pop-ups & Events

To encourage more causal conversations within the community on the ATMP, pop up booths were setup within four local festivals during the summer of 2019. To support the promotion of these activities among other forms of public engagement, a social media campaign was also launched. Such not only gathered supplementary feedback on the proposed AT network and ATMP but, also raised its community profile. A complete list of the events attended is provided below:



Student Outreach & Education

To engage with community youth more directly and uphold Halton Hill's platinum level youth friendly community designation, an AT workshop was held among grade 9 geography classes of the two local high schools. The purpose was to encourage students to consider how key streets within Halton Hills could be redesigned as Complete Streets or, to accommodate all modes. Using the online streets design tool *Streetmix*, students were able to identify their vision for the way streets are used and the different mode considerations within both Acton and Georgetown. The following are some key themes that emerged:

- Provide full or partial separation for on-road cycling facilities;
- Design facilities to be multi-modal – integrate with transit service;
- Offer space to accommodate amenities, such as: benches, signage, bike parking and transit shelters;
 - Provide links to major community destinations including a range of food and entertainment;
 - Improve the overall streetscape to make major streets a destination within the community; and
 - Prioritize pedestrians within the design of roadways, and street boulevards.

Outreach with the youth in the community was considered a success for the ATMP. The level of commitment and understanding demonstrated by the students created the opportunity for more long-term interest and involvement.

As noted in the introduction, the ATMP report builds upon the content and recommendations provided in Technical Memo #1 and #2 which were prepared and finalized during the project process. Complimentary of these two reference documents are iterative phases of public engagement, which informed the plan's baseline and updates to subsequent drafts. **Table 2** provides an overview of relevant information for these documents.

	technical memo #1 Background	technical memo #2 AT network
content	<ul style="list-style-type: none"> An overview of Halton Hill's subjected policy regimes and their applicability to local active transportation planning and implementation — An detailed breakdown of Halton Hill's current socioeconomic profile — A list of objectives and vision underlying of the ATMP's approach — A summary of Halton Hill's existing active transportation infrastructure and programs 	<ul style="list-style-type: none"> — A detailed breakdown of the proposed AT system approach to inform future planning practice — An overview of the industry guidelines used to inform facility designs — A list of additional considerations to inform active transportation planning decisions
input	<ul style="list-style-type: none"> Active transportation design preferences — Locations of challenges and barriers — Confirmation of vision statement — Identification of active transportation design preferences — Input on potential best practices to draw inspiration from 	<ul style="list-style-type: none"> — Review and confirmation of implementation timeline — Identification of infrastructure priorities — Capacity and coordination with relevant partners — Identification and confirmation of recommendations and initiatives
uses	<ul style="list-style-type: none"> Communication tool for members of the public on rationale for investment — Documentation of supportive and existing conditions as the basis for development — Overview of key considerations and planning principles for decision making 	<ul style="list-style-type: none"> — Process and supportive tools for staff responsible for implementation — Guide to inform annual budget decisions — Suggested strategies for committee work plan and partner coordination — Monitoring and maintenance strategy

Table 2. Summary of Technical Memos #1 and #2 content, input gathered and uses

1.4 Creating an active future.

The ATMP is not a sole policy or strategic planning document. The active transportation master plan has been developed to support a wider set of municipal priorities and initiatives. The ATMP's role is to reflect three core elements of municipal decision making including high-level corporate strategic guidance documents, Council determined strategic priorities and the business plans and implementation budgets to facilitate completion (all illustrated in **Figure 5**).

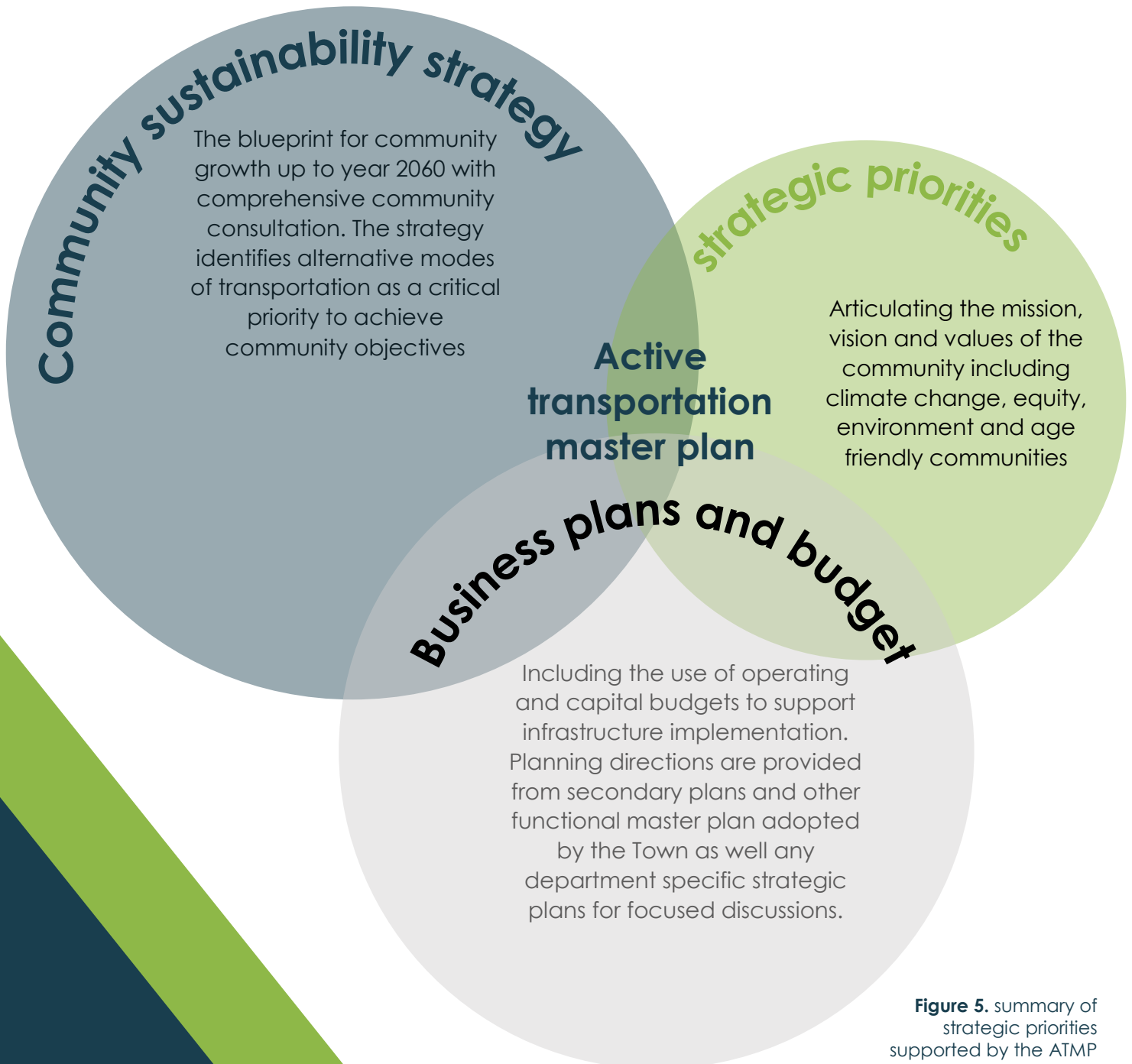


Figure 5. summary of strategic priorities supported by the ATMP

The active transportation vision...

The ATMP is meant to be the mechanism by which the Town's active future is achieved, but what does that look like? Before developing policies, recommendations, initiatives or strategies it is important to articulate the ultimate goal. In the master plan context, the ultimate goal is the overall vision statement which identifies the aspirations that the community wishes to achieve. A vision statement, when adopted by the municipality, its residents, decision makers, interest groups and stakeholders can be a powerful tool to create buy-in which helps to achieve long-term commitment to implementation. The development of a vision statement is also required as part of the first step of any project being completed consistent with the Municipal Class Environmental Assessment process.

The following is the 2020 active transportation vision for the Town of Halton Hills.

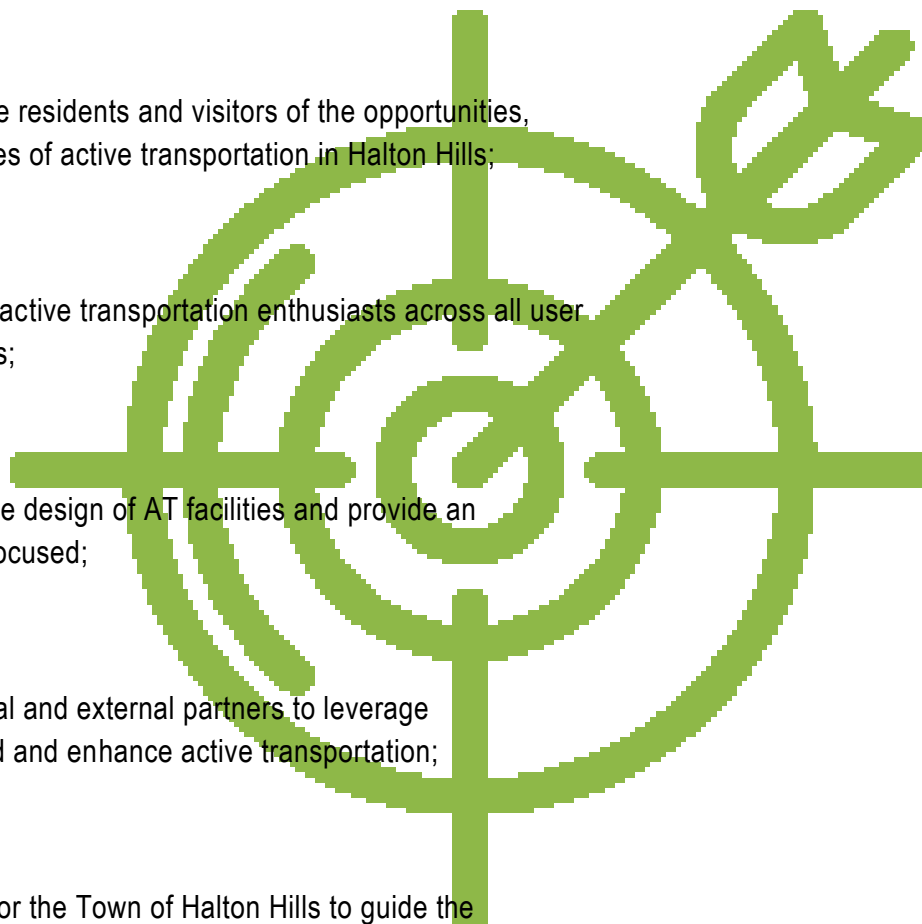
“The Town of Halton Hills supports and achieves a healthy community and high quality of life through both individual as well as community active transportation and recreation for people of all ages and abilities. The network and environment support active trips for all purposes including commuting, tourism, fun and fitness. Halton Hills is a destination as well as a desirable community because of the safe, comfortable and enjoyable opportunities it provides.”



While this statement captures all of the elements that are meant to be achieved at its core, however, the ATMP seeks to establish an environment in the Town of Halton Hills “that provides equitable self-propelled transportation options and experiences for people of all ages and abilities”. While the vision statement represents what Halton Hills wants to be, the ATMP outlines how the Town can get there.

The vision is a statement that articulates the ultimate goal. The vision is further underpinned by a series of 7 actionable active transportation objectives that clarify how the vision is meant to be achieved. The following are the objectives that were defined by Town staff and its partners. Where possible, the way in which the master plan content fulfills these objectives is outlined throughout the report. The objectives should be used as indicator and evaluators of the success of the master plan moving forward.

1. Provide a network of on and off-road facilities that is connected and continuous and considered safe and comfortable by users;
2. Encourage and educate residents and visitors of the opportunities, objectives and outcomes of active transportation in Halton Hills;
3. Foster a community of active transportation enthusiasts across all user groups and generations;
4. Provide guidance on the design of AT facilities and provide an approach that is user focused;
5. Collaborate with internal and external partners to leverage opportunities to expand and enhance active transportation;
6. Create an action plan for the Town of Halton Hills to guide the planning, design and implementation of active transportation Town-wide; and
7. Identify and evaluate the progress of the active transportation master plan through performance targets and monitoring tools.



1.5 ATMP Summary and Recommendations

Functional master plans are designed and developed to be part of the comprehensive municipal policy structure. The content should clearly align with other municipal interests, priorities and initiatives. The content of the ATMP has been developed and designed to reflect the Town's strategic priorities. The information that has been generated has been organized into five lenses. The following is an overview of each lens and the recommended applications and recommendations.

Chapter 2.0. Climate Lens

Active transportation network overview

While there are a number of adaptation and mitigation tactics that can be employed to address climate change, investment in and emphasis on a shift from motorized to self propelled forms of transportation can be most impactful. An increase in the number of people walking and cycling in Halton Hills will, in part, be achieved by the construction of a safe and comfortable active transportation network comprised of on and off-road connections linking major communities, areas of interest and employment.

how is it meant to be used?

- The chapter rationalizes the ATMP as a potential cornerstone of the Town of Halton Hills's local climate change mitigation strategy
- Details how climate considerations were incorporated within network development assumptions that informed the selection of recommended routes and facilities
- Outlines tangible measures the Town can take to encourage active transportation and reduce harmful CO2 emissions

Summary of recommendations:

- 2.1 The active transportation network will be referred to on an annual basis to determine potential on or off-road improvements for implementation.
- 2.2 At the time the Official Plan is next reviewed or updated, the active transportation network as identified in the ATMP should be integrated and adopted as a schedule.
- 2.3 At the time site plan applications are accepted by the Town the AT network should be reviewed to determine if improvements are needed.
- 2.4 The design guidelines should be used at the time an improvement is being made to confirm the preferred design treatment – both on and off-road.
- 2.5 Design standards should be reviewed and updated to reflect the design considerations outlined within the ATMP as well as provincially accepted guidelines such as OTM Book 18, OTM Book 15 and MTO's bikeways design guidelines.
- 2.6 Complementary design treatments such as pedestrian or mixed-use crossings should be identified and prioritized based on accepted design guidelines and standards including OTM Book 15 (controlled pedestrian crossings) and OTM Book 18 (mixed-use cycling and pedestrian crossings).
- 2.7 Continuous education opportunities should be given to staff to train them on active transportation specific planning, engineering and design i.e. OTM Book 18 training courses.

Chapter 3.0. Culture Lens

Education and encouragement action plan.

A shift in the cultural acceptance of active transportation is meant to complement and enhance the infrastructure improvements and generate a grass roots level appreciation for a more healthy and liveable community. A greater sense of support for and acceptance of walking and cycling in Halton Hills will also be achieved by implementing a tailored set of education and encouragement initiatives which reflect the needs of the community.

how is it meant to be used?

- The chapter outlines how the Town of Halton Hills's can promote a stronger cultural appreciation for AT
- Identifies existing local institutions and programs that can be leveraged to build public awareness and support
- Draws precedence from comparable municipalities, recommending an approach of influencing behaviour through actions that encourage and educate residents on AT

Summary of recommendations:

- 3.1 The active transportation committee in partnership with the Bike-it committee should review the action plan with staff and decision makers to determine the appropriate course of action.
- 3.2 A dedicated staff person should be identified to lead the implementation of the AT plan specifically focusing on education and encouragement efforts.
- 3.3 A promotion and awareness dedicated webpage should be developed to provide active transportation related information to members of the public and should be monitored and maintained for accuracy.
- 3.4 A dedicated pool of funding to the amount of \$20,000 should be allocated to the implementation of the action plan annually for the next 5 years.
- 3.5 External partnerships should be encouraged and leveraged to ensure that there are opportunities to build upon existing initiatives and expand upon new opportunities.
- 3.6 The Town, in partnership with applicable public health agencies, should identify quick win initiatives to implement in the short-term, including the "Every Meter Counts" Program. Specific staff requirements should be based off funding allocated within item 3.4
- 3.7 Maintain and continue to foster the educational relationship established with local high schools and pursue opportunities for engagement with geography teachers and classes at least twice a year. Consider expanding to local elementary and middle school age groups

Chapter 4.0. Growth Lens

Phasing strategy

The town of Halton Hills is a growing community that requires a transportation system which meets the needs of its community members while also providing a realistic approach to build-out related to community interests and municipal priorities. A strategic yet flexible approach to implementation will be achieved through the adoption and fulfillment of long-term phasing strategy. Under which, projects will be categorized as either a short, medium and long-term project as well as a quick win or existing project already listed within the Town's capital and operating strategies.

how is it meant to be used?

- The chapter strategizes the implementation of recommended AT facilities in accordance with the Town's fiscal and population growth projections
- Phases all recommended facilities within one of three-time horizons, based off their cost, complexity and significance within the broader AT network

Summary of recommendations:

- 4.1 The proposed phasing strategy should be reviewed and adopted as the preferred timeline for implementation for on and off-road AT improvements.
- 4.2 The phasing strategy should be reviewed on an annual basis to inform capital and operating plans on an annual basis.
- 4.3 The aspirational projects should be pursued further to determine the viability of the active transportation improvements. The outcomes should be documented
- 4.4 The on-road improvement process should be used by the public works department at the time any recommended project is identified for implementation to determine the appropriate next steps.
- 4.5 The off-road improvement process should be used by the recreation and parks department at the time any recommended project is identified for implementation to determine the appropriate next steps.
- 4.6 The sidewalk improvement process should be used by the public works department to inform the sidewalk prioritization process and to respond to requests as they are submitted.
- 4.7 The proposed phasing strategy should be reviewed on an annual basis and updated to reflect the implementation of the proposed AT network and updates to the timeline identified for implementation.

Chapter 5.0. Sustainability Lens

Policies and implementation tools

A successful long-term functional master plan must be adopted and integrated into the existing municipal decision-making structure and should be flexible enough to be adaptable to changing environments. Long-term implementation means that there needs to be clarity around the purpose and use of the master plan. Processes, tools and supports to facilitate implementation will help Halton Hills achieve a more streamlined and consistent approach to implementation, which can be used by all involved Town staff and easily communicated to other key partners as the master plan is actioned.

how is it meant to be used?

- The chapter identifies the policies and operational practices required to sustain recommended AT network and facilities
- Lists a series of seasonal and year-round maintenance practices as well as frameworks and tools related to the implementation of AT facilities

Summary of recommendations:

- 5.1 As policies are reviewed, revised and amended, the policy themes and considerations contained within the ATMP report.
- 5.2 Pursue the development of a complete streets policy document and / or a component of a TMP update as well as a supportive complete street design manual to address the design and implementation of complete streets. Adopt the reporting structure and the defined roles and responsibilities as the active transportation related work plan associated with municipal staff.
- 5.3 Secure either a part-time or a full-time staff person to serve as the active transportation coordinator for the Town of Halton Hills. If a part time staff is selected, identify opportunities to reassess roles and responsibilities after 1st or 2nd year to determine if additional staffing is required
- 5.4 Establish and develop a terms of reference for a trails advisory committee as part of the AT committee.
- 5.5 Review and revise current maintenance standards and practices to reflect (at a minimum) seasonal maintenance for AT infrastructure for existing and proposed routes as they are implemented.
- 5.6 Review current equipment to determine if there are investments that need to be made to the current fleet.
- 5.7 Identify a winter-maintained priority active transportation network and select routes based on input from the bike-it committee and staff.
- 5.8 Establish an approach and a set of performance measures to support the implementation of a monitoring and evaluation program specific to active transportation in Halton Hills.
- 5.9 Work with local committee members and stakeholders to support the acquisition of relevant data and information to support the monitoring and evaluation program.

Chapter 6.0. Financial Lens

Funding strategy

The recommendations found within a functional master plan require municipal support in the form of staff level of effort and time as well as monies to support implementation, operations, management and maintenance.

Along with the proposed phasing a concurrent funding strategy must be adopted including both internal and external supports to facilitate continued investment. The funding strategy provides options and alternatives to ensure that the Town can achieve the commitments and the milestones that have been identified.

how is it meant to be used?

- The chapter details the financial commitment involved in implementing the ATMP's recommendations
- Overviews the costing assumptions held in pricing the ATMP's recommendations and prescribes a variety of options and partnerships to finance them

Summary of recommendations:

- 6.1 The costing assumptions identified within the ATMP should be reviewed and revised as needed on an annual basis to ensure that the assumptions are in-line with accepted practice.
- 6.2 The high-level costing contained within the ATMP should be used to inform annual budget decisions for both the recreation and parks department as well as the public works department.
- 6.3 The cost estimates should be reviewed and confirm at the time that a project moves forward to implementation including the identification of additional costs beyond construction.
- 6.4 The maintenance costs should be reviewed and – along with information contained within chapter 5.0 – to update operating budgets for the Town on an annual basis.
- 6.5 External funding options should continue to be monitored by staff to determine if there are additional opportunities to financially support implementation.



chapter 2.0

The climate Lens.

Climate change is defined as any significant long-term change in the expected patterns of average weather within a region or local area over a prolonged period; usually averaged to a minimum of 30 years. In 2019, the Town of Halton Hills declared a climate emergency. Under which, many high priority actions have been recommended including the commendable and ambitious goal to achieve net zero emissions by 2030. Measures prescribed to achieve this include a focus on future growth considerations related to transportation emissions, a shift away from transportation use of fossil fuels and a movement towards more sustainable forms of transportation as a whole.

Since the development and adoption of the 2010 Cycling Master Plan, sustainable transportation has been an area of focus given its direct and indirect climate adaptation and mitigation outcomes. It is widely understood that designing, implementing, and promoting active transportation has an important role in addressing the climate crises. Active transportation can displace trips typically made by motor vehicle that are under 3km in length. Additionally, by designing the Town to be supportive of active transportation and public transit, residents can intuitively and effortlessly incorporate active travel into their daily travel plans. While the Town is committed to creating a shift in transportation behaviours there is still a sense of reliance on motorized vehicles. Much of this can be attributed to the viability of sustainable transportation alternatives beyond traditional recreational trips. To get people out of their cars and onto active transportation instead, there needs to be a shift from low order facilities for self-propelled movement to more safe, comfortable, connected, continuous and separated options.

Chapter 2.0 identifies the proposed system of on and off-road AT improvements. They have been identified and designed to accommodate a wide range of AT users, of various ages and abilities for different trip types. The goal is to create a system of facilities that provide sufficient space and separation for people to feel as though active transportation is a comparable or viable mode of transportation for some of their daily trips. While it likely won't be possible to shift all trips out of the car and onto a bike or by foot, even a 3-5% shift could have significant climate impacts not only within the Town of Halton Hills but regionally, provincially and globally.

2.1 Climate approach.

The logic and rationale behind the “climate approach” is to shift a car centric community to one that utilizes alternative modes of transportation, particularly, active transportation. This shift is largely determined by the provision of high-quality infrastructure that support active transportation as a safe, comfortable and connected way to travel. Justifying active transportation investments as an emissions reduction and climate adaptation and mitigation strategy, represents an important distinction from past master plan recommendations. Input gathered indicates that a lack of behaviour shifting infrastructure investment i.e. more comfortable and safe routes and facilities is one of the key causes of this.

A network of proposed infrastructure is a core element of an active transportation functional master plan. In the context of developing an active transportation network, it is important to understand the metrics around what A.T offers from a climate change perspective. Bicycles emit 10 times less carbon dioxide emissions per passenger kilometer travelled than private automobiles. When considering that 20% of all car trips under 3km having the potential to be accommodated by walking and cycling, the potential carbon dioxide emissions reductions achieved from AT adoption can be quite significant. If active transportation infrastructure is planned and designed with climate change and human behaviour in mind, residents and visitors are provided with a greater range of transportation options that also fulfill municipal commitments related to climate change. For the purposes of the ATMP, climate goals include the following:

- A shift among trips within 5km or less from single occupancy vehicles to walking or cycling;
- A shift among trips greater than 10km from single occupancy vehicles to walking or cycling combined with other forms of sustainable transportation such as transit or car pooling; and
- The integration of on and off-road active transportation routes to maximize trip potential for a greater number of commuting trips.

10x less emissions
per passenger km



2.2 Network development overview.

The Halton Hills Active Transportation network is a connected and continuous system of walking and cycling routes and facilities that connects major community destinations, trip generators, natural areas and areas of cultural and community significance which accommodate both recreational as well as commuter trip types. The AT network was developed using a five-step approach which is documented in detail – both the process and outcomes – in Technical Memo #2. The five-step approach is organized into two components – the approach used to identify on-road improvements and the approach used to identify off-road improvements.

Off-road improvements

Off-road improvements are categorized as routes and facilities that accommodate pedestrians, cyclists and other active forms of recreation (primarily) that occur within parks, open spaces, hydro corridors or other naturalized areas.

The off-road improvements have been identified with the goal of building upon trail routings identified within the 2014 trails strategy, a review and confirmation of a trail hierarchy for design consistency and the integration of on and off-road routes through strategic signage and amenities.

On-road improvements

On-road improvements are categorized as routes and facilities that accommodate pedestrians, cyclists and other forms of self-propelled transportation either between the curbs of the roadway or within the boulevard of the roadway.

The on-road improvements build upon the recommendations of the proposed cycling network identified in the 2010 cycling master plan, modified to ensure compliance with recently updated provincial guidelines including, the Ontario Traffic Manual Book 18.

A more detailed overview of the proposed approach used to identify on and off-road improvements is provided on the following page. A comprehensive overview of the network development process including key considerations, assessments and rationale is provided in Technical Memo #2.

The on and off-road improvements focus primarily on cycling and multi-use facilities; however, in reality most daily trips, whether they are active transportation or motorized vehicle, begin and end on foot.

Pedestrian improvements have been reviewed and considered as part of the Halton Hills active transportation master plan; however, unlike the on-road and off-road improvements, pedestrian improvements mostly pertain to priority neighbourhoods disconnected by missing sidewalk links.

An overview of the process used to identify pedestrian improvements as well as the outcomes is provided in **section 2.6**.

While there are similar elements between the two components, the reality is that the intended use, design impacts and approvals processes, as well as the staff responsible for implementation differs. **Figure 6** illustrates the approach used to identify on and off-road active transportation improvements within the Town of Halton Hills.

Process Step.

Outcomes.

1 Existing & Previously Proposed Routes

Map of existing and previously proposed routes

2 Context Specific Conditions

Database of route & surrounding conditions

Identify Preliminary AT Network

On-road
Refine Routes & Level of Separation

Off-road
Identify Trail Hierarchy

Map & Database of Preliminary Proposed Routes

4 Gather Feedback

Review & Refine Routes based on Input Gathered

Identify Preliminary AT Network

On-road
Confirm Proposed Routes & Facilities

Off-road
Confirm Routes & Trail Types

Map & Database of Confirmed Active Transportation Network

Figure 6. Overview of active transportation network development process

2.3 On-road improvements.

Considering the unique conditions of the roadways and the objectives and assumptions of the network development approach, there are a range of facilities that make-up the proposed on-road improvements. These facilities range from shared infrastructure where the cyclists and motorists share the same space with pedestrians using the sidewalk to fully separated facilities, including cycle tracks where there is a physical separation between modes. While it isn't possible to have separated facilities on all roadways, on-road improvements were prioritized in locations where there was the potential and need for separation.

Research shows that individuals who are interested but concerned about active transportation including, older adults, younger children and females, tend to need a greater level of separation in order to feel more comfortable and safer using active transportation facilities within urban areas. In the rural areas where people are typically more experienced active transportation users, the need and opportunities for separated facilities is significantly reduced. The results of the on-road improvements processes are presented in **Table 3. Map 2a** illustrates the on-road improvements identified for the Town of Halton Hills.

Table 3. Summary of proposed on-road improvements.

FACILITY TYPE	EXISTING (km)	PROPOSED (km)
In-Boulevard Multi-Use Path	6.84	13.25
Buffered Paved Shoulder	-	12.5
Paved Shoulder	4.15	38.71
Cycle Track	-	5.7
Buffered Bike Lane	-	4.59
Bike Lane	7.37	20.96
Signed Bike Route	10.54	82.17
Urban Shoulder	6.79	1.03
Bicycle-Friendly Corridor	-	1.49
TOTAL	38.45	256.67*

*The following total length of on-road improvements includes 8.04km worth of on-road segments that warrant additional study prior to be recommended

Depending on the context and location of the proposed on-road improvements, the facility types identified in **Table 1** can accommodate a range of users and trip types. **132.7** kilometres of proposed facilities are proposed to accommodate both pedestrians and cyclists. This includes buffered paved shoulders and paved shoulders within rural where space exists.

115.98 kilometres of proposed facilities are intended to accommodate cyclists specifically and are primarily proposed in the built-up areas of Acton and Georgetown.

[page left blank intentionally for Map 2a – Proposed On-Road Network]

2.4 Off-road improvements.

Unlike the on-road improvements, off-road improvements had already been identified and confirmed by municipal staff as part of the trail's strategy. Many of the routes identified are conceptual in nature and will require additional investigation, detailed design and permitting prior to any construction. While the proposed off-road improvements are still conceptual in nature, the placement and general intent of the routing has been reviewed and reconfirmed by staff as well as the public.

Similarly, the intent of the connections between these facilities has been confirmed for future construction. At full build-out the Town of Halton Hills will have a fully connected and continuous system of off-road trails. Attention will also be given to ensuring a consistent approach to trail design, to rectify a trail network that is somewhat disjointed. While this usually has minimal impact on the overall experience; a focus on designing for equity and accessibility now requires a more cohesive and predictable trail experience.

In response to this need, a hierarchy of trail types has been identified for the Town of Halton Hills. There are three types of trails that have been identified, ranging from a high level of design and full accessibility through parks and utility corridors to more naturalized trails for recreational purposes within destination open spaces.

A high-level overview of the three trail types is provided below and the trail network and application of the hierarchy is presented on **Maps 2b** and **2c**. The hierarchy and design considerations and classification is intended to be applied as new trails are implemented and as monies become available for potential trail retrofits.

5.9 KM

Primary Trails (Type 1)



Recreation, leisure and active transportation commuting functions, providing access to key destinations such as community centres, parks, key commercial areas, schools, etc. Includes loops in neighbourhood parks and access to park facilities (e.g. playgrounds)

43.6 KM

Secondary Trails (Type 2)



Primarily recreation and leisure. Though active transportation is not a key function, Secondary trails provide connections to active transportation routes

25.9 KM

Tertiary Trails (Type 3)



Recreation and leisure provide opportunities to 'escape' the urban environment and experience natural settings within Town limits.

Table 4. Summary of proposed off-road improvements.

[page left blank intentionally for Map 2b – Proposed Off-Road Network]

[page left blank intentionally for Map 2c – Proposed Off-Road Trail Hierarchy]



2.5 Pedestrian improvements.

An active transportation master plan aims to provide a continuous and connected system of infrastructure that accommodates all self-propelled forms of transportation. As the most vulnerable mode of transportation for human safety, there should be a more strategic and intentional approach to pedestrian network planning that prioritizes missing links, overall connectivity and accessibility.

Pedestrian-friendly municipalities promote active transportation over inactive transportation through urban design and the built form. A municipality such as Halton Hills can be classified as walkable if it has a high number of destinations within walking distance, a continuous and connected street network, and a mix of land uses. Walkability can be used to indicate the success of a community through the implementation of an active transportation system which specifically addresses pedestrian movements. Designing walkable neighbourhoods creates health, social, environment, and economic benefits which have been well documented.

Through thoughtful design, communities can be developed to fit the needs of all users and provide convenient, accessible, and safe methods of transportation to various destinations. Tools such as walk-score and other walkability assessments can be used to gain a better understanding of the status of the municipality to determine what may need to be done to improve or enhance the overall walking experience of existing and future users.

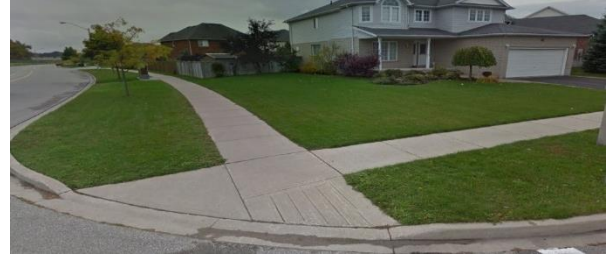
Pedestrian movements are typically accommodated by five types of facilities including dedicated space for pedestrian movement as well as roadway crossings to provide access to those dedicated spaces (see a more detailed description of each on the following pages). Of the five types of facilities, sidewalks and neighbourhood pathways are the most critical and visible components of pedestrian networks. As noted above, sidewalks are most typically implemented within more built-up urban areas where there is an “urban cross section” meaning that there are curbs on the road.

Neighbourhood pathways are a common pedestrian connection treatment which were originally incorporated within the design of more suburban developments which included cul-de-sacs and other curvilinear street types. Though the proposed AT system identifies pedestrian improvements in the form of multi-use pathways and off-road trails; most residents tend to strictly prioritize sidewalk improvements that enhance the pedestrian experience.

Beyond the AT system mapping that has already been presented, a set of map graphics were prepared illustrating the existing pedestrian network found within the Town. Based on research and anecdotal feedback, an acceptable pedestrian trip is usually around 1-2km in length. While this can vary depending on the trip user type, such is a common benchmark used to assess the functionality of existing pedestrian networks. It also means that the areas with the greater potential for increases in pedestrian activities are the major communities i.e. “urban areas” within the Town of Halton Hills.

Sidewalks.

- Dedicated facilities for pedestrians
- Bicycles not permitted on sidewalks, except for small children
- Provided in urban and suburban areas



Walkways.

- Used to connect sidewalks between streets, sidewalks to parks or to an existing off-road trail
- Improve walkability within neighbourhoods by reduced travel distances
- Provided in urban and suburban areas



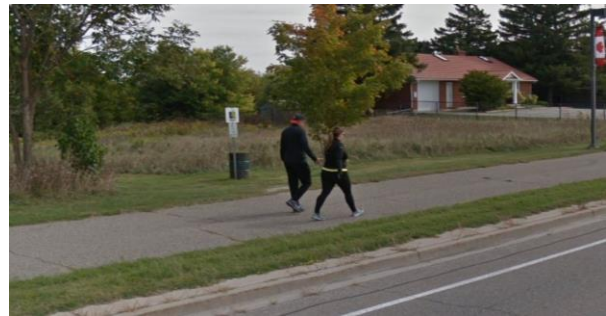
Off-Road Trails

- Used by different user groups (pedestrians, cyclists)
- Designed with various surface types and at different widths based on environment and use
- Typically provided in natural areas and parks but are also accommodated in utility corridors



In-Boulevard Multi-Use Path

- Used by different user groups (pedestrians, cyclists, people on scooters, skateboards, etc.)
- Typically located along busy corridors where greater separation is needed for motorists
- Provides connections to existing trails or as an on-road alternate

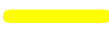






Pedestrian mapping outcomes.

The maps presented in **Figure 7** depict the pedestrian network – including sidewalks, pathways, multi-use pathways and off-road trails (both existing and proposed) in Acton and Georgetown. When looking at these maps it is evident that the town has done an exceptional job building their pedestrian network as part of the design and construction of both new and old neighbourhoods and community destinations.

There are few missing links that cause significant gaps and hinder overall connectivity in certain areas. That said, there are still some areas within each of the communities that seem to have limited or no pedestrian accommodation except for linkages into the neighbourhoods. Areas highlighted in purple represent sections of the built-up areas that, through an assessment of missing links, lack the necessary infrastructure to accommodate pedestrian travel. One exception to this assessment – though identified - is south Georgetown, with parts still under development.

Considering the robust network that is currently in place within the Town, the pedestrian network exercise is less about identifying a full “network” of pedestrian facilities but more so about providing the Town with the necessary tools to support the future prioritization of pedestrian infrastructure within existing neighbourhoods and policy to reinforce pedestrian consideration through land use planning and design. In addition, a more pedestrian friendly community is not only achieved through infrastructure implementation. It will also require consideration for community based social marketing activities to help with overall behaviour change to encourage walking as a “go to” mode for day to day activities within a reasonable distance.

-  In-Boulevard Multi-Use Trail
-  Existing Sidewalk
-  Existing Pathway
-  Existing Off-Road Facility
-  Proposed Off-Road Facility

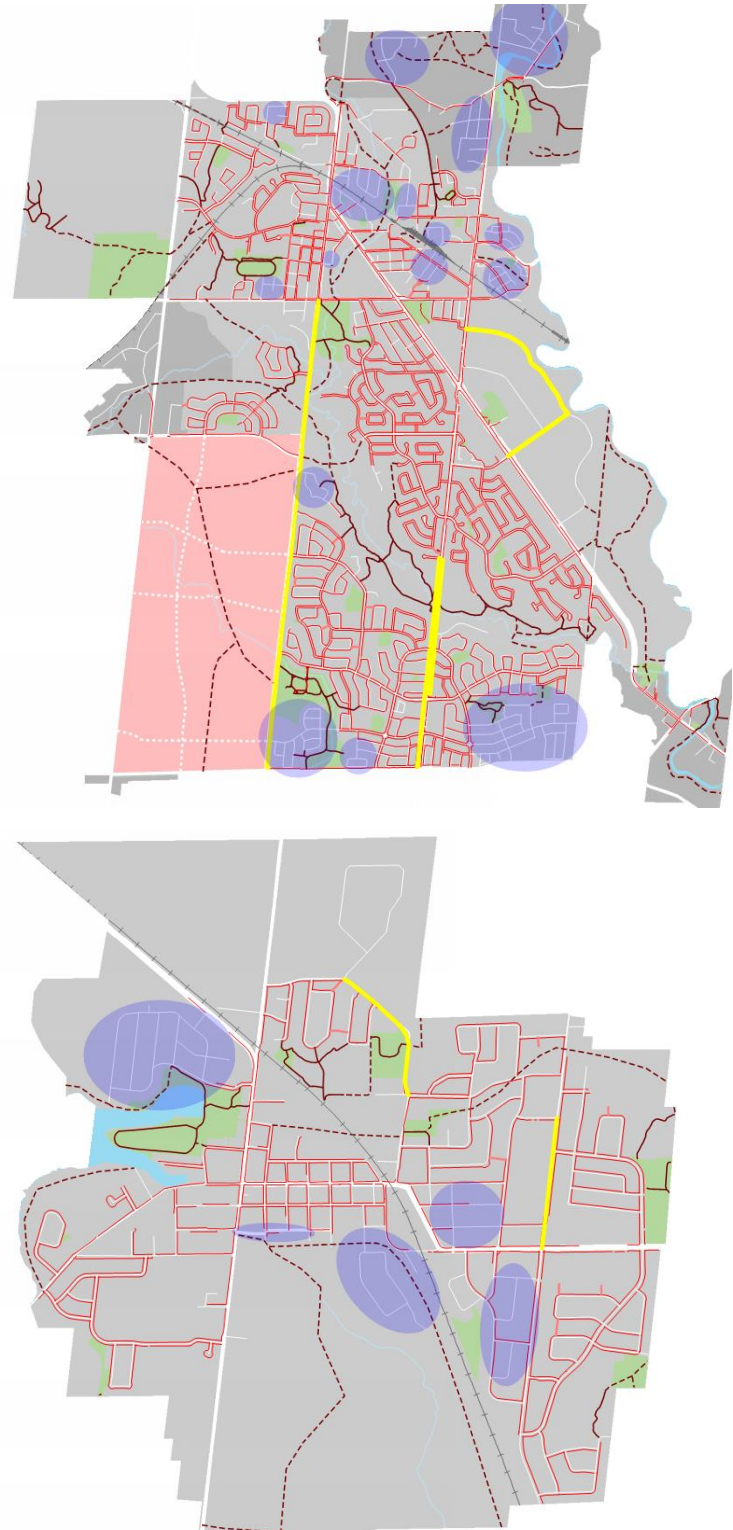


Figure 7. Overview of missing sidewalk linkages within Acton and Georgetown

Pedestrian Crossings.

When walking, pedestrians will likely find themselves at a point where they will need to cross a major or minor roadway or barrier to access the next leg of their trip. These locations can be particularly challenging as trail connections tend to end at mid-block locations with the next logical signalized or stop controlled intersection / crossing occurring at an inconvenient distance. In these locations, without a designated crossing, significant safety concerns arise related to the movement between trail linkages. A solution which addresses these critical barriers is the design and implementation of a pedestrian crossing treatment system which is defined in Ontario Traffic Manual Book 15 as “a combination of components which form a single strategy to facilitate the crossing of pedestrians. Components may include signs, signals and pavement marking”.

OTM Book 15 outlines a hierarchy of controlled pedestrian crossings which are implemented based on the complexity and function of the roadway. The crossings that would apply to the Halton Hills context include:

- **Intersection Pedestrian Signal** – traffic control signal systems that are dedicated primarily to providing traffic gaps for pedestrian right-of-way installed as pedestrian signals at intersections.
- **Midblock Pedestrian Signal or Crossing** – traffic control signal systems that is dedicated primarily to providing traffic gaps for pedestrian right-of-way installed as pedestrian signals at mid-block pedestrian crossings.
- **Pedestrian Crossover (of which there are 4 types)** - traffic control signal systems that is dedicated primarily to providing traffic gaps for pedestrian right-of-way which could be identified by signage, signalization or pavement marking.

Section 5.0 of OTM Book 15 identifies a process by which the preferred controlled intersection design is selected. Before undertaking this process, OTM Book 15 stipulates that “it must be confirmed that the identified location has adequate sight distance for both motorists and pedestrian. It is the practitioners’ responsibility to review the identified locations for safety and provide adequate measures to enhance safety for pedestrian, if required”. It is the Town’s responsibility to undertake this exercise once locations have been selected or identified through public input. Stopping distance guidelines and standards are outlined in the Geometric Design Standards for Ontario Highways and Geometric Design Guide for Canadian Roads (TAC). Figure 2 on page 26 of OTM Book 15 outlines the decision support tool to determine the need and design of a crossing. This should be utilized by the Town along with other more context specific considerations i.e. users, demand, need, access and conditions to determine the locations for improvement (see the following page) and approach for design.

One of the fundamental statements in OTM Book 15 which provides guidance as to how to approach the identification and design of a controlled crossing is as follows:

“The decision to install a particular type of Treatment System should be based on sound engineering judgement. Warrants should not be used as a substitute for engineering judgement; however, they promote uniformity in treatment selection throughout a jurisdiction and help traffic practitioners in making informed decisions. It is traffic practitioner’s fundamental responsibility to exercise engineering judgement and experience on technical matters within the context of using the Decision Support Tool (DTS) for assessing pedestrian crossing needs and selection of an appropriate Treatment System.”

Where could these be implemented?

There are a number of locations along the existing and proposed AT network where a controlled pedestrian crossing may be warranted. For example, based on comments provided by the public both prior to and during the development of the ATMP, one specific location may be on the North end of Gellert Park and Community Centre.

In this location, there are trail linkages that provide access to Argyll Road with a “designated” crossing without control to access the sidewalk on the northern side of the roadway. In locations such as this, the Town of Halton Hills is encouraged to work through the OTM Book 15 DTS to determine the appropriate crossing needs and design applications.

While the identification and design of specific pedestrian crossing locations was not formally part of the ATMP project scope, some information gathered through the process may also help to inform the identification of potential crossing locations. In order to start prioritizing potential improvements, the Town of Halton Hills is encouraged to focus on mid-block trail crossing of existing off-road trails along collector and arterial roadways.

Additional improvement may also be needed at intersections where trails start, end or continue. Collector and arterial roadways are typically the highest volume roadways within the Town. As such it is likely that these locations would require additional design treatments to accommodate the safe crossing of pedestrians.

The Town should map and review these locations and work through the rationalization and decision support process to determine whether a treatment is needed and what that treatment would “look like” based on provincially accepted guidelines and standards.



2.6 Designing the network.

The on-road improvements reflect the most up to date design guidelines and standards as accepted by municipalities of a similar scope and scale and at the provincial level. Provincial guidelines that have been considered and applied include but are not limited to: Ontario Traffic Manual Book 18: Cycling Facilities, Ontario Traffic Manual Book 15: Pedestrian Facilities, Ministry of Transportation Ontario Bikeways Design Guidelines, Accessibility for Ontarians with Disabilities Act, and Transportation Association of Canada Geometric Design Guide for Canadian Roads. In addition to the design direction provided in section 2.5 regarding potential crossing treatments, **Table 5** provides a reference to where facility-specific information can be found within the documents referenced above.

As the Town proceeds with the implementation of its active transportation network, improvements should be consistent with the most up to date version of the guidelines – where possible. There is a substantial amount of information that is contained within these documents. To streamline their application, a summary of relevant sections and design guidelines has been prepared for the Town's review and application.

The Town of Halton Hills should continue to refer to and utilize the provincially accepted design guidelines and standards for cycling infrastructure and if possible, also update their existing municipal road classifications and design standards accordingly. Trails strive to be designed and implemented with barrier-free access and adhere to AODA built environment standards whenever the lack of steep slopes permits. For the proposed off-road improvements, a set of trail specific design standards have been prepared related to the proposed trail hierarchy. **Table 6** provides an overview of the detailed design considerations related to the three trail types followed by a set of trail standards illustrated in **Figure 8** through **Figure 10**.

The Town of Halton Hills is to adopt these design standards for off-road improvements – both new trail routes as well as retrofitting of existing trails – for a continuous, accessible (where appropriate) and consistent Town-wide trail experience.



	BUFFERED BIKE LANE	BIKE LANE	PAVED SHOULDER	SIGNED BIKE ROUTE	AT-FRIENDLY BOULEVARD	OFF-ROAD TRAIL	SIDEWALK	INTERSECTION TREATMENTS
OTM Book 15: Pedestrian Crossing Treatments (2016)	n/a	n/a	n/a	n/a	S. 4.1 (Classification of Pedestrian Crossing Facilities) S. 6.2.1 (Geometric Design Components) S. 6.2.4 (Pavement Markings) S. 6 (Pedestrian Crossing Facility Design: Controlled Crossings) S. 7 (Pedestrian Crossing Facility Design: Uncontrolled Crossings)	n/a	n/a	S. 4.1 (Classification of Pedestrian Crossing Facilities) S. 6.2.1 (Geometric Design Components) S. 6.2.4 (Pavement Markings) S. 6 (Pedestrian Crossing Facility Design: Controlled Crossings) S. 7 (Pedestrian Crossing Facility Design: Uncontrolled Crossings)
OTM Book 18: Cycling Facilities (2020)	S. 4.3 (Physically Separated Bikeways) S. 4.4.2 (Buffered Bike Lane)	S. 4.4.1 (Conventional Bicycle Lanes)	S. 4.5.4 (Paved Shoulder)	S. 4.5.3 (Mixed Traffic Operation)	S. 4.5.2 (Neighbourhood Bikeways)	S. 4.3.4 (In-Boulevard Multi-use Path)	n/a	S. 6 (Intersections and Crossings)
MTO Bikeways Design Manual (2014)	S. 4.4 (Separated Bicycle Lane)	S. 4.3 (Bicycle Lane)	S. 4.2 (Signed Bike Route with a Paved Shoulder)	S. 4.1 (Signed Bike Route)	n/a	S. 5.1 (Active Transportation Path) S. 5.2 (Off-Road Multi-Use Trail)	n/a	S. 4.6 (Intersections, Interchanges and Channelizations) S. 5.3 (Crossings at Roadways and Interchange Ramps)
AODA Built Environment Standards	n/a	n/a	n/a	n/a	S. 2.1.5 (Curb Ramps) S. 2.1.6 (Depressed Curbs) S.2.1.7 (Accessible Pedestrian Signals at Street Crossings)	S. 2.2 (Recreational Trails)	S. 2.1.1 (Sidewalks and Walkways)	S. 2.1.5 (Curb Ramps) S. 2.1.6 (Depressed Curbs) S.2.1.7 (Accessible Pedestrian Signals at Street Crossings)

Table 5. Overview of applicable design guidelines related to on-road active transportation improvements

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	Primary Trail (Type 1)	Secondary Trail (Type 2)	Tertiary Trail (Type 3)
Definition / Description			
General Function	Recreation, leisure and active transportation commuting functions, providing access to key destinations such as community centres, parks key commercial areas, schools etc. Includes loops in neighbourhood parks and access to park facilities (e.g. playgrounds)	Primarily recreation and leisure. Although active transportation is not a key function, Type 3 trails provide connections to active transportation routes	Recreation and leisure providing opportunities to 'escape' the urban environment and experience natural settings within Town limits.
Town Example	Gellert Park Pathways	Hungry Hollow Trails	Credit Valley Footpath (Bruce Trail)
User / User Experience			
Ease of Use Rating	Easy	Easy to Moderate	Moderate to Difficult
Anticipated Level of Use	High	Moderate	Low to moderate
Users / User Group	Accommodates all user groups, all users and ability, families	Some experience / stamina required, families, experienced hikers and cyclists	Experience/stamina required, experienced hikers
Usability	Pedestrian, mixed uses, vehicular for servicing. Suitable for users with little to no trail experience	Pedestrian, mixed use, vehicular for servicing in some locations. Some used may be restricted / prohibited	Pedestrian, but may include special use trails (e.g. catering to hiking only, fitness etc.)
Wayfinding / Signage	Meets or exceeds minimum accessibility requirements	Suitable for users with some trail experience	Suitable for users with moderate level or trail experience
Lighting	High frequency, at trail entry points, trail intersections, key decision points. At regular intervals where there are long distances between intersections.	Meets accessibility requirements where feasible. Maintaining natural heritage values takes precedence.	Maintaining natural heritage values takes precedence over accessibility
Amenities	Designed to meet AODA requirements at trail entrances	Moderate frequency, at all trail entry points, trail intersections and key decision points. Occasional markers where there are long distances between trail intersections.	Low frequency, at trail entry points and key decision points.
Width	3.0m minimum width (may be narrower in constrained locations-i.e. limited property/parcel width)	1.8m – 2.1m width (typical - may be narrower in constrained locations such as limited property/parcel width, topographic natural heritage and natural hazard constraints)	1.0-2.0m (may be narrower in constrained locations such as limited property/parcel width, topographic and natural heritage and natural hazard constraints)
Accessibility Requirements (Profile / Longitudinal Slope)	5% maximum (meet AODA requirements where feasible)	Meet AODA requirements where feasible (strive to be barrier-free)	5% maximum (Low likelihood of meeting AODA requirements due to natural obstacles and slope steepness)

	Primary Trail (Type 1)	Secondary Trail (Type 2)	Tertiary Trail (Type 3)
Surface	Typically, hard surface (i.e. 90mm asphalt, concrete)	Granular surface (i.e. limestone screenings, granite screenings) Granular A, clear stone, wood boardwalk in context specific locations Limestone screenings should not be used in floodplain areas or where drainage flows directly to watercourses. Hardening in active erosion locations may impede geomorphic process of the watercourse and exacerbate erosion elsewhere (i.e. on other properties or other locations of the watercourse) and often provides a temporary solution. Trails should not be proposed where active erosion is an ongoing issue.	Natural surface (earthen, grass), woodchips May include granular (limestone screenings, granite screenings, granular A, clear stone), or wood boardwalk in context specific locations
Base Depth	300mm Increase to 350mm for trails intended to include vehicular service access May include Recycled Concrete Material (RCM) to OPSS 1010 Specification	150mm typical, increased to 300-350mm for trails intended to include vehicular service access May include Recycled Concrete Material (RCM) to OPSS 1010 Specification	0-150mm
Vertical Clear Zone	3.0m minimum	3.0m minimum	2.1m minimum
Horizontal Clear Zone	1.5m, may be reduced to 0.6m in constrained areas	1.5m, may be reduced to 0.6m in constrained locations	0.3m -1.5m
Setback for Landscaping	3.0m	Not applicable	Not applicable
Maintenance	High level of service in 3-seasons, and moderate frequency of maintenance (e.g. twice per month during spring, summer, fall; and/or as required for emergencies during 4 seasons). Trail segments identified as key commuter routes are candidates for winter maintenance. Mowing and trimming as per surrounding park maintenance practices and schedule. High maintenance cost (i.e. range \$2,500/km to \$4,000/km for 3 seasons Some sections may be candidates for winter maintenance, an additional \$6,750 to \$12,500/km annually for winter maintenance.	Moderate level of service in 3 seasons and moderate-low frequency of maintenance (e.g. seasonally or as required for emergencies) Includes topping up of granular surface as necessary, keeping trail envelope free from obstacles (e.g. pruning to maintain clear zone). Mowing along trail edges is not recommended in proximity to watercourses to avoid erosion and to provide a natural buffer to the creek. Recommended that native vegetation/see mix be applied for ecological, air quality and hydrological benefits. Moderate maintenance cost (i.e. range \$1,250/km to \$1,500/km annually No winter maintenance.	Lowest level of service (e.g. to remediate significant erosion, remove obstacles on trailbed) Lowest frequency of maintenance (e.g. annually or as required for emergencies) Lowest maintenance cost (i.e. range \$750/km to \$1,000/km annually No winter maintenance.
Risk Management	Moderate to high effort to mitigate risk	Moderate effort to mitigate risk	Lowest effort to mitigate risk

Table 6. Summary of proposed trail hierarchy details

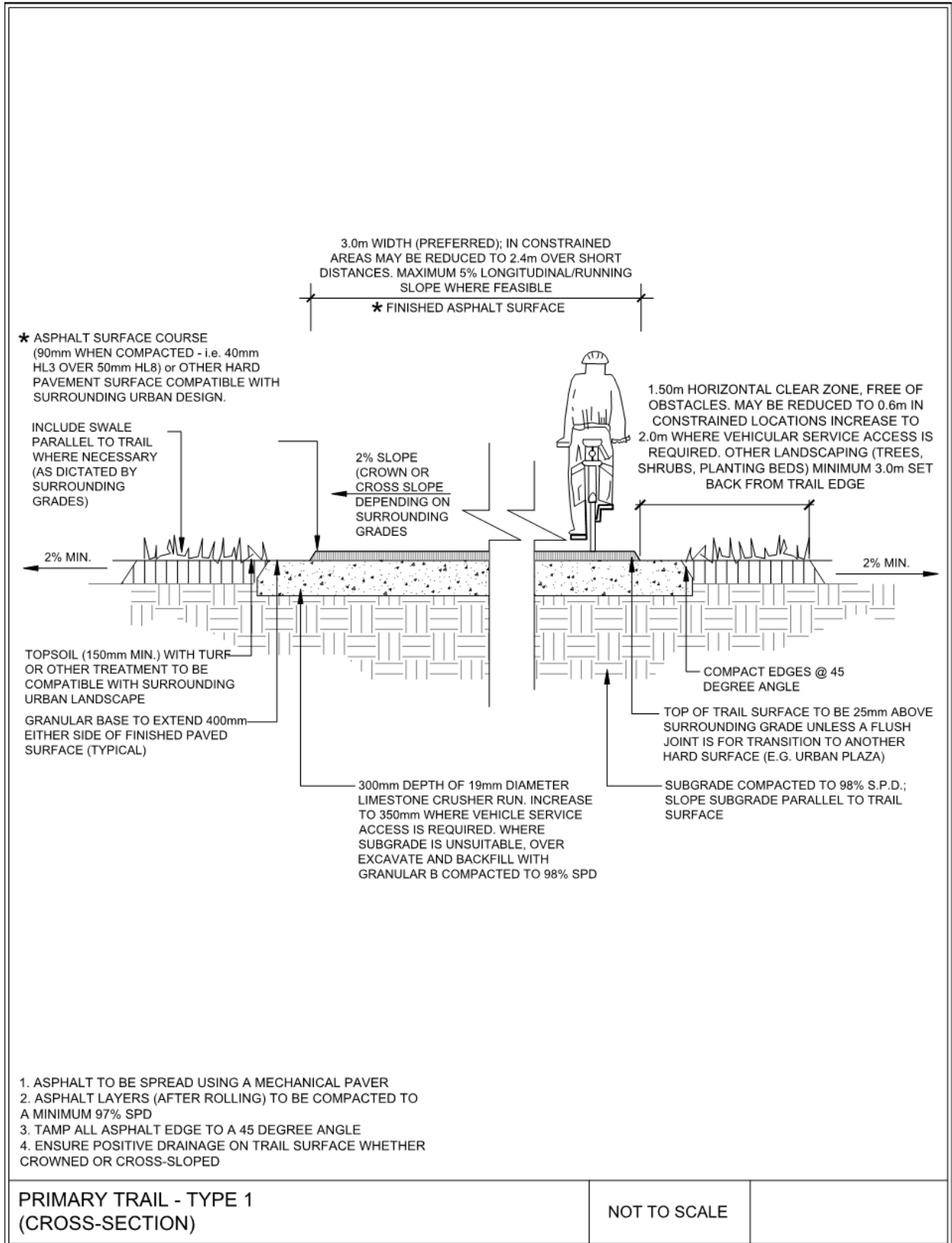


Figure 8. Town of Halton Hills Primary Trail Cross-Section

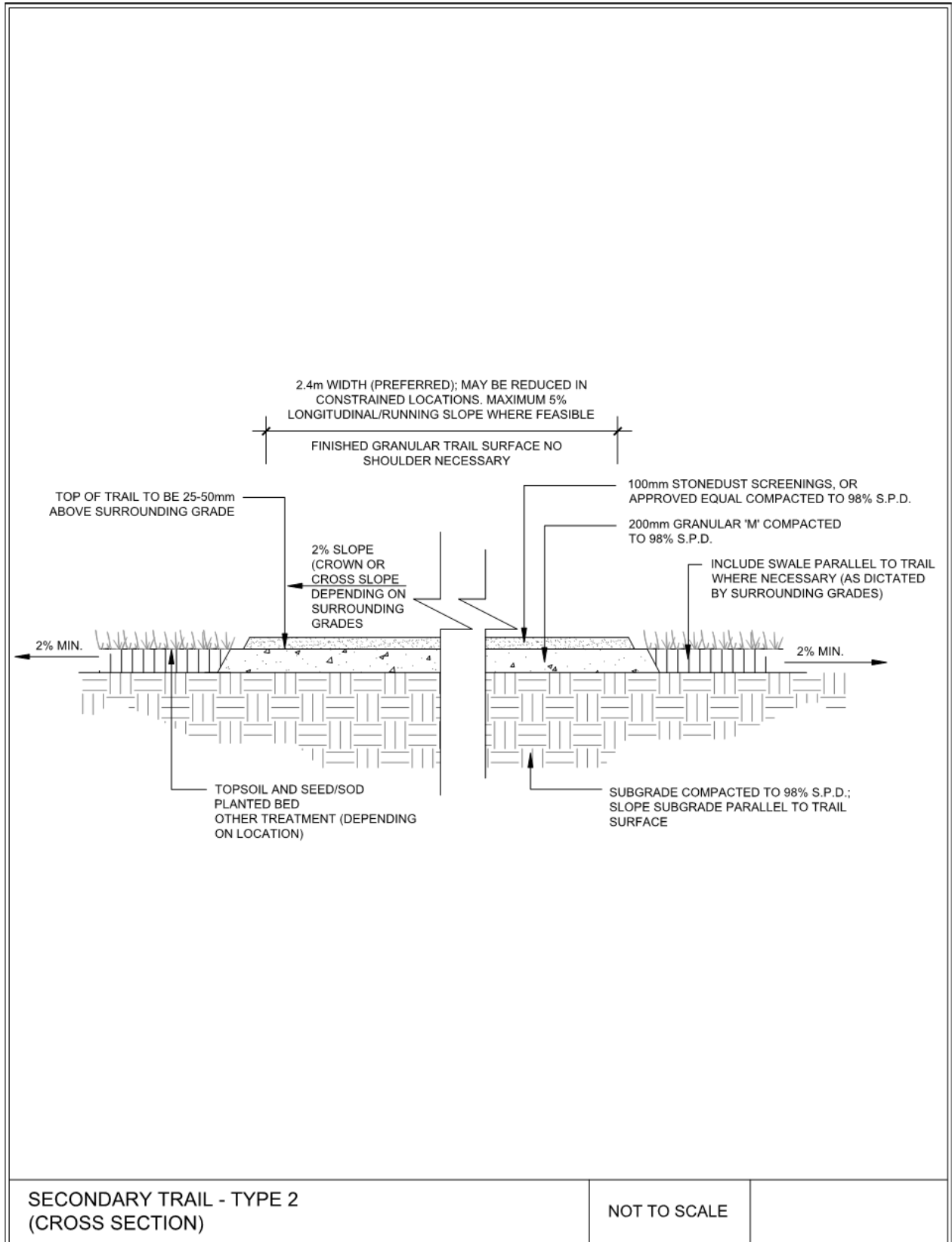


Figure 9. Town of Halton Hills Secondary Trail Cross-Section

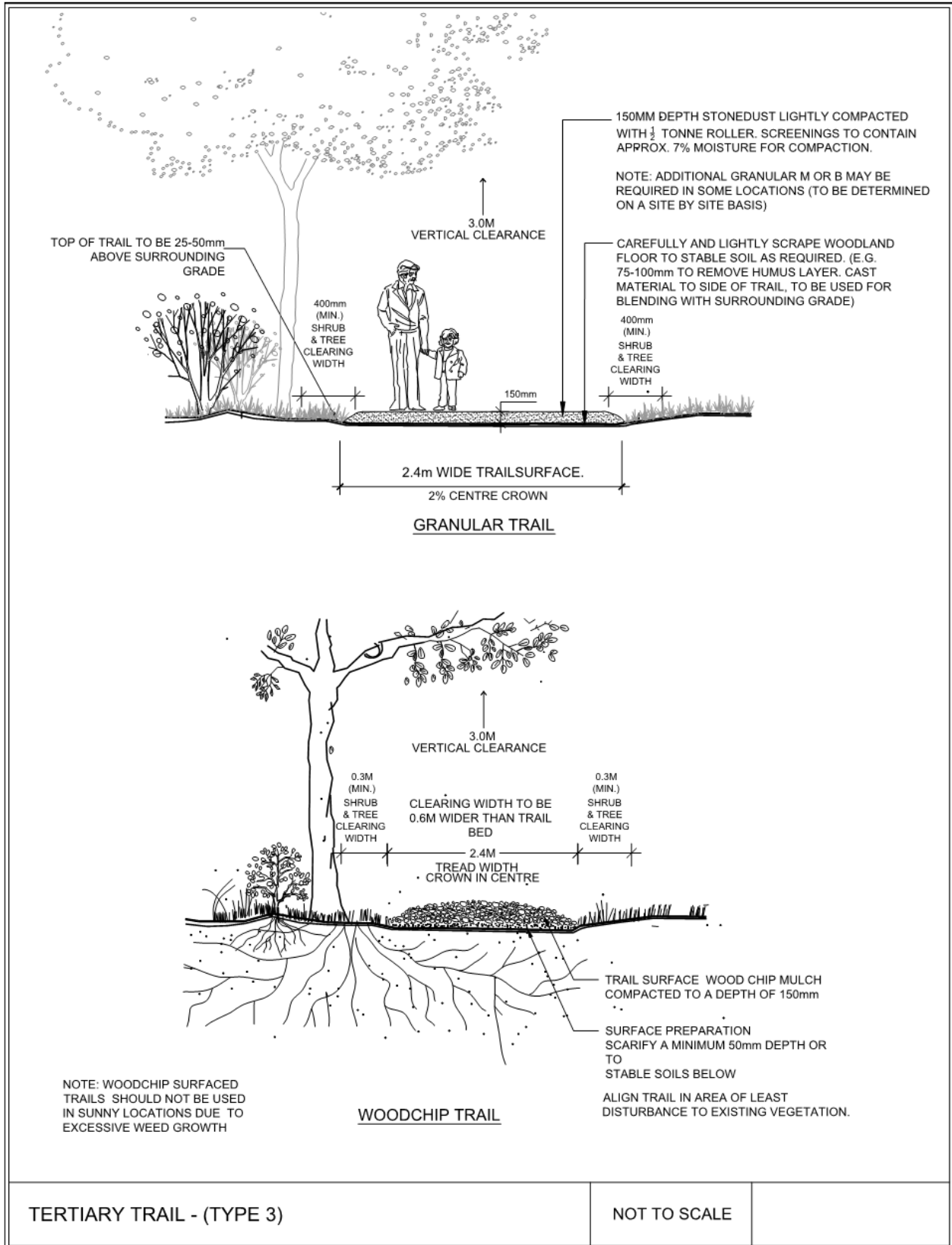


Figure 10. Town of Halton Hills Tertiary Trail Cross-Section

2.7 Climate recommendations.

The following is a summary of the recommendations related to the proposed active transportation network.

2.1

The active transportation network will be referred too on an annual basis to determine potential on or off-road improvements for implementation.

2.2

At the time the Official Plan is next reviewed or updated, the active transportation network as identified in the ATMP should be integrated and adopted as a schedule.

2.3

At the time site plan applications are accepted by the Town the AT network should be reviewed to determine if improvements are needed.

2.4

The design guidelines should be used at the time an improvement is being made to confirm the preferred design treatment – both on and off-road.

2.5

Design standards should be reviewed and updated to reflect the design considerations outlined within the ATMP as well as provincially accepted guidelines such as OTM Book 18, OTM Book 15 and MTO's bikeways design guidelines.

2.6

Complementary design treatments such as pedestrian or mixed-use crossings should be identified and prioritized based on accepted design guidelines and standards including OTM Book 15 (controlled pedestrian crossings) and OTM Book 18 (mixed-use cycling and pedestrian crossings).

2.7

Continuous education opportunities should be given to staff to train them on active transportation specific planning, engineering and design i.e. OTM Book 18 training courses.

chapter 3.0

The culture lens.

Changing the infrastructure to make walking and cycling safer and more accessible, lays the foundation for a broader shift in how the residents and visitors to Halton Hills view transportation. But to effectively leverage the investments in new infrastructure that are being made, the Town will also need to make strategic investments in the area of culture change. Culture is created from decades of human behaviour and social influence. The culture of a country, region and community is influenced by a range of factors not always clearly defined and, can shift due to internal and experience influences. For the past 50 years our transportation culture has been one that focuses on the motorized vehicle. In the past motor vehicles have been symbols of status and social hierarchy, with ownership and use of a vehicle being desirable from a socio-demographic perspective.

More recently, with the influences of climate change, economic sustainability and equity, there has been a shift from a motorized vehicle centric culture to one that values and integrates multi-modal travel. This includes the use of sustainable and active transportation into day to day decision making and trip taking. While the shift is somewhat evident, it is not occurring at the same pace or in the same way in all communities. The creation of an active transportation supportive culture for the Town of Halton Hills requires considerable and strategic consideration for the education and encouragement of cycling supportive behaviours.

Chapter 3.0 prescribes steps that the Town can take to develop a stronger culture of active transportation so that residents see walking, wheeling and cycling as the preferred and easiest choice to get around their communities. The approach is one that is based on communities of best practices world-wide with a similar geographic and demographic makeup to Halton Hills and extensive community input. Based on the premise that culture change relies on sustained efforts to influence behaviour, the Town should focus on programs that Educate and Encourage residents when it comes to active transportation. This Chapter recommends a variety of methods that can help Halton Hills facilitate the desired culture and behaviour change which are meant to be implemented concurrently with the proposed infrastructure improvements noted in Chapter 2.

3.1 Creating culture change.

Not every trip in Halton Hills is one that can be done through active transportation. For instance, many residents still commute out of Halton Hills for work every day, and those trips are often relatively too long distances for active transportation. However, trips that take place within the areas of Acton and Georgetown; those to local destinations like grocery stores, local shops, downtown areas, farmers' markets and more are all within an easy walking or cycling distance.

So why are more people not cycling within Halton Hills?

There is an opportunity to leverage an increase in active transportation for “the first and last mile” to help facilitate additional trips using transit, which could significantly expand the number of trips that could incorporate active travel within Halton Hills but there needs to be a greater understanding around this potential use and function. Simply presenting residents with more information about the benefits of active transportation will not result in behaviour change. A successful strategy must work to change social norms and understandings while also creating opportunities for residents to connect with active transportation at an individual level stemming from two core elements:

- The education of target audiences; and
- The encouragement of existing as well as potential users.

A more detailed description of these two elements is provided to the right.

Education.

- Provide information on the benefits of active transportation at both the personal and community level
- Provide necessary skills and competencies to make active transportation a choice
- Route selection
- Basic bike maintenance
- Bike handling
- Rights and responsibilities for each user type

Encouragement.

- Provide opportunities to shift behaviours using positive social messaging and events
- Create space for residents to question their assumptions about their own travel habits and rethink their choices
- Make active transportation an enjoyable, social experience

Education and encouragement are part of the five E approach that many master plans are based around: education, encouragement, engineering, enforcement and evaluation

The Goals.

Like any master plan, when developing a strategic action plan – as this community culture shift is meant to be – it is important to define the aspirational goals which are meant to be achieved through continuous implementation, monitoring and evaluation. The culture shift and behaviour change goals for the Halton Hills ATMP focuses on changing individual actions and understandings. It also prioritizes shifting the overall understanding and social perceptions of active transportation within the community by providing more tools that enable more residents to make trips actively more often. There are four goals that have been identified for a shift towards more of an active transportation-oriented culture in the Town of Halton Hills, they are as follows.

Build Capacity.

Existing stakeholders within Halton Hills are already working on improving access to AT. Service clubs, BIAs, local businesses and more are all working together to make walking, wheeling and cycling in Halton Hills more enjoyable, and with additional support from the Town and their partners, these stakeholders can expand their efforts and their reach within the community. It is important to assign and communicate clear roles and responsibilities and to establish an understanding of capacity – both existing and future.

Ensure Sustainability.

Many of the existing efforts in Halton Hills are being led on an ad-hoc basis, and often are being led by volunteers. While volunteers are undoubtedly the backbone of any effort to build a stronger culture of active transportation, relying heavily on volunteers can result in programs abruptly stopping. This can be due to either burnout, a key volunteer leaving the community or just a lack of ability to coordinate volunteers effectively. For programs to remain sustainable, there needs to be resource requirements that preserve the ongoing growth of a culture of active transportation is strategically achieved.

Expand Audiences.

To achieve an AT culture shift, all efforts will need to be focused on expanding the number and types of people that are reached by messaging and programming in the Town. Residents who are not currently walking or biking should be the primary focus, since they are the ones with the highest potential to introduce positive change in their lives. Programs should identify key audiences and tailor strategies to the wants and need of those groups. For Halton Hills focus audiences include women, seniors, youth, families and people with disabilities since active transportation rates tend to be lower among those demographics.

Strengthen Connections.

Halton Hills is a community with a high degree of social cohesion. The numerous service clubs, BIAs, local businesses and local stakeholders reach a large number of residents, many of whom are already offering programs encouraging healthy lifestyles and active transportation. Many of these stakeholders, however, are doing their work in relative isolation from despite their shared objective. Their efforts should be coordinated to encourage the sharing of resources and strengthening existing programs and initiatives.

The process.

The process by which behaviour is changed and a culture is shifted recognizes that these significant shifts take time. When considering how to shift behaviours there are typically five stages which are identified – **Figure 11**. Moving residents through the various stages of behaviour change will require continuous effort on behalf of the Town and stakeholders who have a role to play in the creation of a stronger culture of active transportation. This process was reviewed and considered as the proposed action plan was developed and should continue to be used as a resource and reference by staff who lead the implementation of the action plan following the adoption of the ATMP.

The process combined with the recommended community based social marketing approach will be the basis for the exploration of additional programs identified by the Town or its partners.

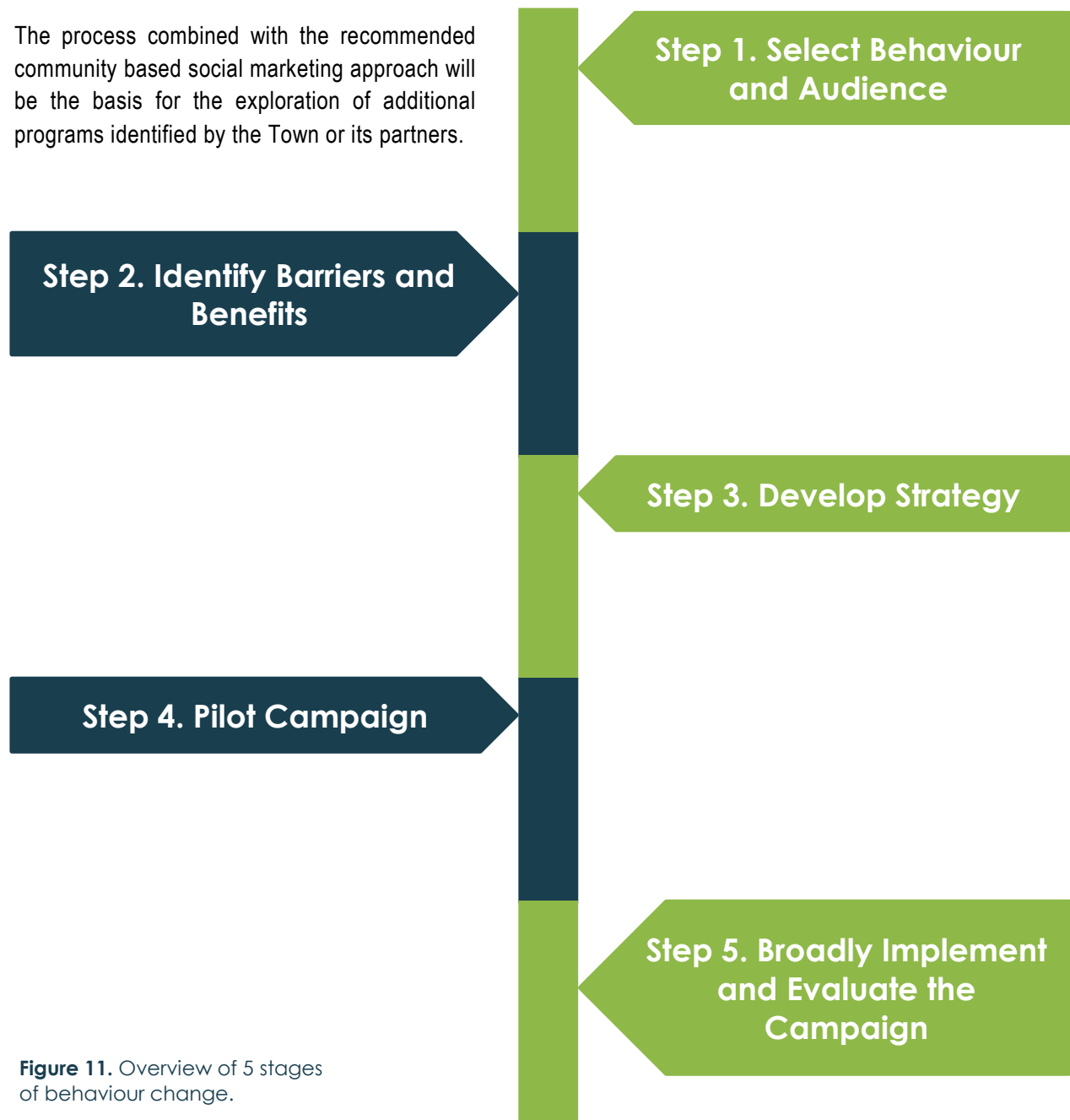


Figure 11. Overview of 5 stages of behaviour change.

The objectives and assumptions.

The Halton Hills ATMP has been developed to encourage all forms of active mobility for different trip types by people of all ages and abilities. While each of these types of active mobility provide community benefit, the focus of culture shift action plan, is on providing more residents with better access to active mobility for utilitarian purposes. This means giving more residents the skills and the confidence to make their daily trips – to the grocery store, to their friends' houses, to places of worship or to work and school – through active means. Similar to the overall project, some key assumptions have been built into the development of this action plan. They are outlined below.

- For Halton Hills to shift its culture, the Town will need to make additional investments in the necessary resources that facilitate this shift. The programs and projects presented here represent a scaling up of the existing work being done to change behaviours in the Town. Importantly, these additional efforts cannot be added to the workload of existing staff members without reducing their ability to focus on other needs. In practical terms, to facilitate a level of culture change as outlined in this Chapter, it is recommended that the Town undertake the creation of an Active Transportation / Transportation Demand Management Coordinator in the near term.
- Encouraging utilitarian active mobility is best done in the areas where there is a higher density of population and destinations. This means that the initiatives outlined in this chapter are most effectively deployed within Halton Hills' town centres. Acton and Georgetown represent the areas with the highest potential for utilitarian AT, whereas levels of recreational and tourism-based AT can extend to all areas of the Town equally.
- Programs that already exist and have a track record of success in Halton Hills should be scaled up. With the existing capacity and know-how already in place, stakeholders can scale these programs up to reach a broader audience. Investing additional resources in these existing programs will have more rapid payoff compared to investing in the creation of new programs.
- AT is an equalizing form of transportation. When people feel safe and comfortable walking, cycling or wheeling, they can access the amenities, services and jobs they need without incurring additional expenses related to automobile ownership. AT helps youth build independence, seniors maintain their independence and provides affordable transportation and recreation opportunities for other vulnerable populations.
- AT is a supporting feature of a successful public transit system. Walking and cycling serve as complimentary transportation modes, especially for first and last-mile trips. When transit agencies prioritize active connections to their stations and transit hubs, transit ridership benefits.
- Residents of Halton Hills want to reduce their carbon footprint. Halton Hills has long been a leader in sustainability and greenhouse gas emissions initiatives and shifting to a lower carbon transportation system can serve as the next phase of those actions.

Programs require investment...why is it important to invest in education and encouragement?

Communities that invest in efforts to shift culture see stronger returns on their investment in new infrastructure, and the amount of resources that are required for the “soft” efforts outlined in this chapter are often orders of magnitude less than is being invested in new “hard” infrastructure costs.

A growing number of communities are beginning to realize the value of investing in active transportation programming – and it is not hard to understand why this trend is accelerating when you examine the available data. Communities that have strong staffing levels and a dedicated annual budget for programming initiatives, on average, see nearly double the growth in active mode share compared to communities with similar levels of infrastructure investment but without the same level of programmatic support.

The “tipping point” for effective programming seems to be in the range of \$1.00 to \$2.00 per capita of investment in promotional programming on an annual basis, exclusive of resources spent on staff time. Below this level of expenditure, it is challenging to make programs that reach a broad set of the population and have the ability to change individual opinions on a large scale. This Chapter will present a range of options for programming that falls within that range, since it appears to be the range where communities can achieve strong success for a relatively limited investment.

3.2 Culture shift considerations.

To realize the goals and objectives, Halton Hills will need a coordinated, sustained effort to reach out to more of the public. It will need a focus on demographics within the community who have not traditionally been engaged in active transportation.

This includes reaching out and supporting community champions who can model the desired behaviour and set an example for their peers and neighbours. Pulling together these ingredients will not be a short-term project – but the results of the efforts will enable deeper cultural changes, and a stronger overall trajectory for AT in Halton Hills moving forward.

As noted above, the active transportation culture shift action plan is based on the local context, experiences and successes of the Town of Halton Hills. It also adapts from the best practices of municipalities of a similar scope and scale.

The following sections provide an overview of the culture shift challenges and opportunities that have been identified for Halton Hills as well as the ingredients of successful education and encouragement programs.



Image 1. A Bike Minds storytelling event

Image 2. Image 1: "Friday Night Rides" in Windsor, Ontario, draw dozens of riders each week for a slow, social ride around town



Challenges and opportunities.

In order to craft an action plan that can address the needs of the community, it is vital to clearly identify the challenges and opportunities that are present when it comes to promoting active transportation within the context that it is being developed and recommended. For Halton Hills, a set of challenges have been identified along with potential opportunities. The intent is to have developed an action plan which addresses these challenges and leverages the opportunities.

Challenge #1: Commute Percentage

With 68% of employed residents in Halton Hills leaving the Town every day for work, there is no doubt that many of the trips to and from work that people make every day are not easily doable on foot or by bike.

Opportunity a. TDM

Halton Hills is well served by higher order public transit, with GO Train Stations in both Acton and Georgetown. Significant portions of the Town's population live within a short walk (under 1km) or a short bike ride (under 3 km) of these transit hubs, creating the potential of an increase in multi-modal transportation.

Other TDM Measures, including telecommuting, also have the potential to ensure that more Halton Hills residents spend time being active.

Opportunity b. local trips

While many residents do leave each day for work, the daily commute only represents one out of every five trips taken each day. The remaining trips often begin and end within the community. Within Georgetown and Acton, where the majority of the population lives, all of those daily trips are of a short enough distance that they are easily done either on foot or by bike. By instituting effective cultural shift programming in addition to the novel infrastructure to support walking and cycling, the Town can begin to shift trips within these compact town centres.

Challenge #2: Existing Attitudes and Habits

People are creatures of habit – even when those habits don't make logical sense. In few places is this truer than when analyzing travel behaviour. When it comes to trips that are easily walkable – 1 km or less, it is estimated that nearly 60% of those trips are taken by car. People using private cars for short trips causes increased congestion, demand for parking and GHG emissions, and makes the urban environment less welcoming for people walking or cycling.

Opportunity. CBSM

Community Based Social Marketing (CBSM) and behaviour change. CBSM for Halton Hills would focus on empowering community agencies and local champions to create change within their communities by modelling the kinds of behaviour that the Town would like to see, promoting their own actions and providing the tools for their neighbours to do the same. With Town Centres that are compact and self-contained, Halton Hills is well positioned to encourage more members of the community to undertake some of their daily activities – walking to the grocery store, riding their bike to the post office etc. – using active means. A more detailed exploration of CBSM and Behaviour Change, particularly in light of the CoVID-19 Pandemic of 2020, can be found in section 4 of this chapter.

Challenge #3: Message Fatigue

Often when a message fails, it is because the message is focusing on telling people what they should do, rather than focusing on how best to integrate those changes into your life.

There is a need to keep messaging interesting, relevant and surprising, which can be challenging.

Opportunity. Segmented Messages

Segmentation of audience is one of the most important principles of behaviour change when it comes to active transportation. When communities attempt to use a “one-size-fits-all” approach to promoting walking or cycling, the results are often not as strong, since the messaging tries to be everything to everyone, but often ends up not serving any demographic particularly well. By identifying your key target demographics, you create an opportunity to engage in a more meaningful way with their concerns, but in order to do so, you must first be willing to ask that demographic what barriers they are facing, what concerns they have and how you, as a municipality or a stakeholder, can best address them. The best way to address message fatigue is to ensure that the message you are delivering to your target demographics are specific, relevant and useful to them. Once you have identified their concerns, you can go about crafting those messages.

Challenge #4: Volunteer Burnout

In many communities, the work of supporting Active Transportation is done extensively by a group of passionate, dedicated volunteers. Whether it is an advocacy organization, a local non-profit or an advisory committee, volunteer labour is vital. While volunteers should be an integral part of a community's efforts, an over-reliance on volunteerism puts the gains a community is making – particularly regarding programming – on shaky ground. Volunteers can move on, burn out or simply become less engaged as life circumstances change, and that can lead to previously successful programs fading away and the loss of institutional knowledge regarding promoting walking, wheeling and riding.

Opportunity. Staff

When volunteers are supported by dedicated active transportation staff within a municipality, the efforts of those volunteers can go much further. A dedicated staff person can build effective relationships with community stakeholders, can liaise with other departments within the municipality and can create the conditions for volunteer labour to be most effective. With Halton Hills' dedicated volunteer groups – from local hiking groups to the Active Transportation Advisory Committee to service clubs – having a staff person who can coordinate actions, create connections between groups and ensure continuous improvement in the Town's existing programming and infrastructure efforts would be a valuable investment.

Challenge #5: Winter and Adverse Weather

Winter presents myriad challenges for walking, cycling and wheeling, including ice buildup, snow clearing and inhospitable weather. Natural surface trails are very difficult to maintain for walking or cycling, which results in a more fragmented active transportation network, and providing complete snow removal in the community for active transportation infrastructure may be seen as prohibitively expensive.

Opportunity a. Network

An effective way to continue to promote AT in the winter is the designation of a priority winter-maintained network. This network should connect to key destinations and encompass some of the most heavily utilized infrastructure. Set clear expectations about clearing – ideally aim to have the priority network cleared to the same standard and in the same timeframe as arterial roadways.

Opportunity b. Promote

Many Canadians take pride in our approach to winter demonstrating a spirit of embracing winter. Yet when it comes to walking or cycling, many Canadians shy away. A promotional campaign underlining the fundamental “Canadian-ness” of embracing the outdoors in the winter and how active transportation can be a part of that could be a fun and playful way to encourage more residents to continue to remain active through the colder months.

Ingredients of a Successful Program.

From a review of literature and best practices, several key considerations were identified to aid Halton Hills in creating effective behaviour change programs. By utilizing as many of these “ingredients” as possible in every program that is delivered in Halton Hills, the Town raises the chances that more residents will make permanent, positive changes to their travel behaviours. The elements of successful behaviour change programs can act as a guide as programs and projects are developed, refined and adapted to suit Halton Hills’ context, and can ensure that each new strategy meets the needs of the community it aims to serve. These ingredients can help the Town to identify the appropriate format, structure and scale of successful culture change initiatives moving forward.

**Adapted from “What Enables Cycling and Safe Cycling Behaviours?”
Enabling Change, 2010**

Noticeable and newsworthy

Make the behaviour visible in the landscape, frequently encountered in the media and experienced through events.

Delightful

Generate pleasure and positive word-of-mouth by surprising viewers, breaking stereotypes and using humorous, whimsical, unpredictable and quirky images and events.

Sociable

Emphasize events where people meet people in a welcoming atmosphere.

Participatory

Provide opportunities to experience the behaviour in a safe, sociable, friendly, and well-managed environment.

Inclusive

Diverse imagery creates role models for those less likely to participate, such as young women, mothers, seniors and those of different cultural backgrounds.

**Adapted from “Integrated strategies to accelerate the adoption of cycling for transportation”
Savan et. Al, 2017**

Strategic Segmentation of the Target Population

Efforts should target populations most likely to change their behaviour, including changes in life events

Identify & Remove Barriers

Strategies should identify and focus on reducing both internal and external barriers to the minimum.

Use CBSM Tools

Provide tools to allow people to move from intention to action, such as commitment strategies & prompts.

Sustain Behaviour Change

Strategies should be in place to maintain the behaviour change, rather than just an initial push.

Ongoing Social Support

Modeling behaviour, creation of social hubs and community involvement

**Adapted from “Walking Takes You Places”
Heart & Stroke Nova Scotia’s Walkabout Program, 2011**

Self-Monitoring

Provide tools to allow people to monitor their own behaviour and activities.

Policy Support

Support through policy, grants, and awards.

Social Support

Use groups and peer support to encourage the new behaviour.

Community Mobilization

Visibly champion the behaviour through community and workplace leaders, and community events.

3.3 Halton Hill's action plan.

The active transportation culture shift action plan has been developed to achieve the goals and objectives identified and confirmed for the Town of Halton Hills. To do so, the Town will need a coordinated, sustained effort to reach out to more of the public. It will need a focus on demographics within the community who have not traditionally been engaged in active transportation, and it will require the support of community champions who can model the desired behaviour and set an example for their peers and neighbours. Pulling together these ingredients will not be a short-term project – but the results of the efforts will result in continuous cultural changes, and a stronger overall trajectory for Halton Hills moving forward. Together these efforts form a proposed long-term culture shift action plan.

The intent of the action plan is to present options that have been identified for the Town of Halton Hills specific to creating culture change around active transportation. Acknowledging that these efforts take time and resources to implement, the action plan has been developed based on a four-tier approach. The tiered approach is developed off an assumption that the completion of the first tier would provide the Town of Halton Hills with sufficient education and encouragement action to achieve the majority of the desired outcomes. Building on those foundational efforts through subsequent tiered actions, however, would have significant benefit to the community and a more expedited achievement of goals and objectives. The four tiers include the following:

1. **Foundational actions** meaning those aspects of the plan that are required in order to ensure progress.
2. **First Steps** are efforts that were identified as priorities through the process of developing the Halton Hills ATMP. These actions may build on efforts already underway within the community or represent “quick wins” – actions that can take place with relatively little outlay of new resources.
3. **Going Further** include those which require bringing new capacity for community outreach online in Halton Hills. These programs can have significant impacts in terms of encouraging behaviour change but might take more of a concerted effort to see them come to fruition.
4. **Leading the Way** efforts are those that would demonstrate a strong commitment to behaviour change in Halton Hills. These efforts would require more resources – particularly in the form of human resources – compared to the programs in the previous sections, but the potential impacts of these programs are also significant.

A summary of the proposed actions listed by category is presented on the following page.



Foundational Actions.

- Part 1: capacity, connections, audiences and branding
- Part 2: marketing campaigns
- Part 3: monitoring and reporting

First Steps.

- All “Foundational Action”
- Marketing Campaigns
- Enhanced Active Transportation Wayfinding, including signed and branded loop routes
- Active School Travel Efforts
- Active Transportation forum / speaker series
- Community Walks and Rides, including Jane’s Walks
- Incentive program at retailers and special events
- Expanded availability of bike rodeos and bike maintenance workshops

Going Further.

- All Actions listed in “First Steps”
- Bike Parking inventory and partnership program
- Enhanced cycling education and awareness campaigns
- Enhanced bike valet offerings
- Pop-up and demonstration projects



Leading the Way.

- All Actions listed in “Going Further” plus:
- Expanded support for Active School Travel Planning programs
- New TDM Policies and supports
- 55+ Cycling Education Workshops
- Bike Share / Micro mobility feasibility study

Foundational actions.

Part 1. Capacity, connections, audiences and brand

Action #1:

Expanding Capacity

The first, and most important step, of this Action Plan is to ensure that there are sufficient staffing resources within the municipal structure to move the programs outlined in this chapter forward. Depending on the Town's desired outcomes and level of effort, it is recommended that there be between 0.5 and 2.0 FTE (full time employee) dedicated specifically to the Active Transportation Master Plan and its implementation.

This staff resource will be vital in bringing new programs forward, building strong relationships between stakeholders and serving as the "face" of Active Transportation within the Town.

In addition, this staff person will be able to identify funding sources and complete grant applications, potentially bringing in additional resources to the Town to help implement Halton Hills' active transportation goals. While elements of this chapter are feasible without additional staffing resources, it is challenging to envision a future where Halton Hills achieves significant levels of behaviour change without deploying additional resources, so this hire should be considered a prerequisite to the remaining actions outlined in this section.

Action #2:

Strengthening Connections

Once staffing levels have been expanded, the Town will be in a good position to strengthen the communications between the existing stakeholders already working on active transportation within Halton Hills.

The Working Group that resulted in the creation of this plan should be maintained and expanded. The working group should assist in the implementation of the plan. It should also be expanded to include more representation from external stakeholders like Halton Region, local community groups and service clubs and members of the Town's Active Transportation Committee. This AT committee currently includes representation from Halton Public Health and the Town's Planning, Parks and Recreation, and Engineering departments.

Quarterly meetings can provide stakeholders with an opportunity to keep each other informed regarding upcoming plans and projects, connect to seek assistance with upcoming promotions and provide feedback on some of the Town's programs to help encourage more active transportation. Ensuring that there is a discretionary budget for the AT / TDM Coordinator to deploy in order to assist stakeholders to scale up a project or provide some additional giveaways for events can also significantly boost local capacity to deliver events.

Action #3:

Know your Audience(s)

Strategic segmentation is key to the creation of an effective strategy to affect behaviour change. While there has been some elements of audience identification performed in association with the development of the ATMP, the Town will need to engage in a more in-depth analysis of the populations within Halton Hills who are most likely to begin changing their habits, which will require additional market research activities.

Once the specific audiences that are most likely to change their behaviours have been identified, programs can be rolled out that address the specific needs and desires of those populations, making the programs much more likely to succeed. Market research professionals will be able to assist Halton Hills to further refine the characteristics of their target audience.

Once Halton Hills has a more clearly defined audience for its campaigns, the Town can use that knowledge to craft a brand and specific marketing messages that will resonate with the key demographics this chapter seeks to reach. It is suggested that the Town create a series of focus groups that include members of the target demographic to test and refine key aspects of the messaging, especially the brand identity and high-level messaging that can be used to market walking and cycling for more short trips within Halton Hills.

Action #4:

Building a Brand

Foundational to the ongoing promotional efforts to encourage more walking, wheeling and riding in Halton Hills will be the establishment of an overall Town identity or "brand" as it relates to active transportation. This can help to promote the Town as a place where transportation options are readily available, improve the visibility of the ongoing communications efforts and serve as an attractive feature to businesses who value transportation choice for their employees.

A dedicated brand can be an effective tool to market existing infrastructure and can create a shared identity that can be utilized to encourage people in Halton Hills to participate.

Many of the potential elements of an active transportation brand for Halton Hills have already been identified within this Plan – consider repurposing the various elements to continue to strengthen the identity of the Town's active transportation efforts, and ensure that the brand provides residents with a strong sense of the goals, the rationale and the benefits that can come with an increase in the levels of active transportation in Town.

Foundational actions.

Part 2. Marketing campaign

While the Brand should be cohesive and consistent, it should also have space for segmented messaging – especially messaging that markets walking and messaging that markets cycling within the community. The marketing campaigns will serve as a base for behaviour change efforts in the Town. The campaigns will aim to produce a wide-scale change in perception and attitudes towards active transportation in Halton Hills and can help to “plant the seed” of change in residents. These marketing campaigns are anticipated to be “wide but shallow” campaigns – aiming to reach as many different populations within Halton Hills as possible, even if only on a superficial level. The goal is to show walking and cycling as easy, fun and above all normal activities that can be done by a diverse set of people. These marketing campaigns will lay the foundations for programs that are more “narrow but deep” – programs that target specific demographics and provide more in-depth support for people as they endeavor to make their travel patterns more sustainable. The Broad marketing programs to support more residents to think about walking and cycling are outlined in more detail below.

Action #1: Marketing Walking

Walking is the most fundamental form of transportation for human beings – virtually every trip begins and ends on foot. Whether people are walking to their car, to a transit stop or to their bike, walking is the most universal form of transportation – yet it is often taken for granted by municipalities. The simplicity and universality of walking is what makes it so challenging to market, yet so vital to support for a municipality. Walking is a form of transportation that is accessible residents who do not have access to a car – children, seniors, people who cannot afford a car and more – providing independence, freedom and access to the services and amenities those populations require.

Marketing walking can be as simple as highlighting the physical, psychological and social benefits that come from walking – elevating it from an unseen activity to one that is highly desirable and beneficial. As with all the high-level marketing objectives identified in this chapter, any form of media campaign to promote walking should be integrated with opportunities for face-to-face contact and other supporting programs to encourage behaviour change, provide unexpected and enjoyable encounters with walking, and facilitate a shift in attitudes and values around walking.

Halton Hills would be the funder/co-funder, input on messaging/design, primary distribution agent for all materials while other partners would include Active Transportation Committee, Halton Region Public Health, Business Improvement Areas, Farmers’ Market, Halton Tourism, Heart and Stroke Foundation, Halton Hills Trails groups. Some examples are included below.

Listen to your legs – Scotland: This fun, simple messaging campaign focuses on our bodies’ implicit need to move, and on the importance of walking for short trips. Outdoor advertising, radio, digital campaigns and more were combined with in-person campaign events and a digital app called “Journeys”, which provided residents with information about their calories burned, carbon emissions and mood impacts associated with increased levels of walking.

Walk Oakland Map: A printed map showing walkways, bikeways, landmarks, civic destinations such as schools and libraries, neighborhood names, historic networks of paths, major transit routes, and street grades in Oakland, California generated significant interest in walking. Residents gained a stronger understanding of the routes and amenities available to them, and more people began walking as a result.

Action #2: Marketing Cycling

In many communities, including Halton Hills, cycling is still largely seen as a recreational pursuit but not something that can be used as a means of regular transportation. When it comes to marketing cycling, the key idea that Halton Hills will need to focus on is making cycling a “normal” activity in Town. Normalizing cycling using marketing campaigns will be foundational to ensure behaviour change in Town. Showing seniors and students taking a bike to get groceries, highlighting physicians who use their bikes to get to their office or the local hospitals, showing local elected leaders using their bikes to go about their daily tasks. Campaigns should emphasize the joy that can be realized by cycling – how a trip to the grocery store can become an enjoyable trip with the family rather than simply another weekly chore, for example. Campaigns should also focus on the cycleable nature of everyday trips in Halton Hills – focus less on encouraging people to bike to work, and more on encouraging residents to try taking the bike to the post office, their local place of worship, the local café or other local amenities. Both Georgetown and Acton have a high density of destinations for daily trips, which can be leveraged to develop effective encouragement campaigns.

Halton Hills would be the funder/co-funder, input on messaging/design, primary distribution agent for all materials while other potential partners would include Active Transportation Committee, Bike-It Subcommittee, Halton Region Public Health, Business Improvement Areas, Farmers’ Market, Halton Tourism, Heart and Stroke Foundation, Halton Hills Trails groups. Some examples are included below.

Bike Gangs of Windsor-Essex: Delivered by Bike Windsor-Essex: this campaign featured images of “Bike Gangs” – children with bikes, University Students, Auto Workers – all designed to emphasize the humanity of people on bikes. This campaign was highly visible and laid the groundwork for an effective social media campaign that followed.

No Ridiculous Car Trips – Malmo, Sweden: This Award-Winning campaign was delivered for several years centred around the idea of reducing the number of “ridiculous” car trips being taken in Town – trips that are so short that it doesn’t make sense to drive, but people often still make the trip via car simply out of habit. The campaign featured “living billboards” in popular areas of Town, flyers stuck to car windows encouraging people to try walking or cycling for short trips, incentives and giveaways like bike lights and seat covers for cyclists and a prize of a bicycle for the person who submitted the most ridiculous car trip, along with a pledge to stop taking that journey by car.

Action #3: Marketing by Wayfinding

In addition to traditional marketing techniques – posters, billboards, newspaper and radio ads, social media ads etc. – Wayfinding can also serve as an effective tool for marketing walking and cycling by assisting residents and visitors alike to find their way around. Effective active transportation wayfinding can also help to encourage people to take short trips on foot or by bike by providing information about routes to popular destinations and an estimate of the amount of time it would take to walk or bike there at an average pace.

People, especially those who are only familiar with traveling in a community by car, often significantly overestimate the amount of time it takes to walk or bike to a destination. Creative, communicative wayfinding signage can help to change those perceptions and encourage new travel patterns. Wayfinding systems can utilize a route “system identifier” system, similar to how public transit routes are identified. This would help make walking for transportation a more visible form of mobility and to provide new users the information they need to navigate their communities on foot or by bike confidently.

Wayfinding signage and branded maps can help Halton Hills establish an identity for some of the loop routes that are proposed as part of this Plan. Routes should be well signed, clearly identified and should explain what user type the route is designed to serve. For example, a local route through Georgetown that uses low-volume residential streets and trails is likely to serve a very different segment of the population than a rural cycling route that utilizes low-volume country roads – so be sure to clearly communicate what each loop is aiming to accomplish.



Image 3. The “I Bike CPH” Brand in Copenhagen is strongly associated with that City’s Cycling Culture

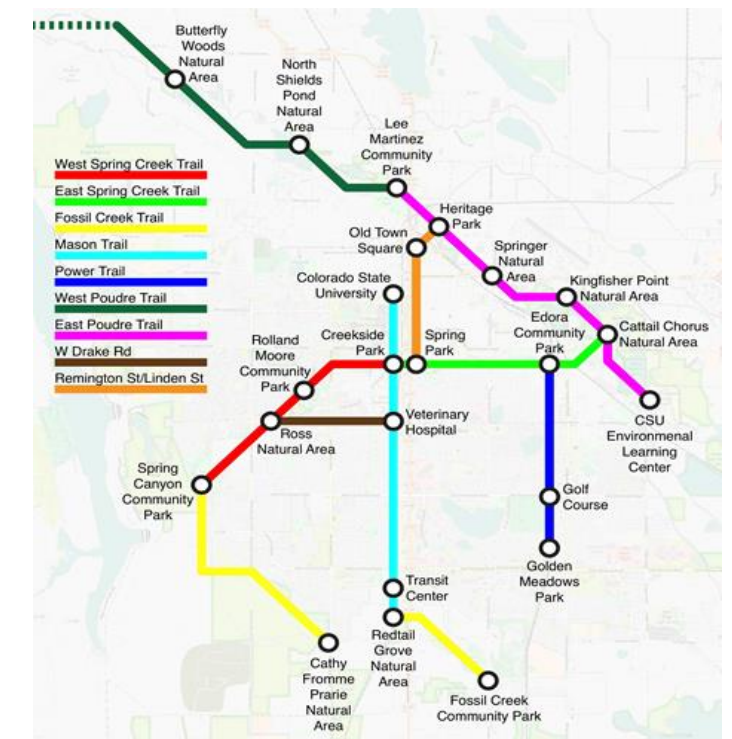


Image 5. An example of a color-coded, “system-identifier” active transportation map from Fort Collins, Colorado

Foundational actions.

Part 3. Monitoring and Reporting

The final element that is foundational to the success of any culture change program is a clearly defined program to monitor, evaluate and report on the successes and challenges faced by the program. While it is very difficult to report on the impact of culture change initiatives in isolation, especially when the Town is undertaking some substantial infrastructure changes as outlined in other sections of this Plan, monitoring and evaluation efforts should still be included to assess how programs identified in this chapter are contributing to overall attitudinal shifts in Halton Hills as it relates to walking and cycling for transportation. It is also important to note that the programs presented in this chapter represent the delivery of a multi-pronged approach to behaviour change, so it will be difficult to examine the role of any one particular aspect of the program in isolation.

However, this does not mean that the Town should not be engaging in data collection around the culture change activities identified here. While it will be difficult to attribute specific impacts to specific programs, by tracking changes in attitudes and behaviour over time, it will be possible to assess the overall impact of the Town's culture change programs and will help to guide where future programs and projects can be targeted to continue providing the maximum benefit to the community. When it comes to creating strategies to monitor the efficacy of the programs outlined as part of the ATMP, it will be important for the Town to identify which existing data sources can be analyzed (e.g. - Transportation for Tomorrow Survey Data) and which novel sources of data will need to be collected to properly analyze how behaviours and attitudes are changing. The following is a suggested framework for monitoring success, as adapted from the City of Vancouver's Active Transportation Promotion and Enabling Plan (2012).

Perceptions

- Awareness of programs and campaigns
- Media coverage (number and nature of online and print articles and discussions)
- Social media reach
- Stories/testimonials of program participants
- Responses to annual survey (representative sample) related to attitudes towards active transportation

Behaviours

- Responses to survey on the frequency of active transportation trips
- Participation levels (# or %) in specific programs
 - Stories/testimonials of program participants
 - % mode share of active transportation
 - # trips made through active means
 - # of collisions involving people using active transportation

To effectively evaluate how the programs and policies contained in the A.T.M.P. are impacting behaviours and attitudes in Halton Hills, consider establishing mechanisms to collect:

- Representative survey data from residents concerning their attitudes towards active transportation and their behaviours relating to active transportation – e.g. - the number of active trips they have made in the past week. Maintain the language and questions within these surveys in the long term to allow longitudinal data collection
- Information about the total number of active trips being made along key corridors in Halton Hills, possibly through the installation of permanent bicycle and pedestrian counters.
- Information about how participants in pilot programs change their attitudes and behaviours compared to a control group within the community
- Testimonials and personal stories from residents and visitors about their experiences with active transportation in Halton Hills
- Monitor reductions in motor vehicle trips to access local schools, including school drop off zones, as an indication of growing AT use among students
- More qualitative data regarding the transportation preferences of residents – for example, do people prefer their current mode of transportation, or is it something they feel like they must do for other reasons.
- Demographic data within surveys to determine how well the Town's programs are reaching the desired target audiences
- Information about what mode of transportation is being replaced by walking and cycling trips – for example, are people choosing not to take transit and taking their bike instead, or are residents swapping car trips for active ones?
- Program evaluation feedback from participants. What challenges were unexpected? What could have been improved? What aspects should be repeated and strengthened?

As the Town enhances its data collection efforts, consider producing annual or semi-annual reports to highlight the town's accomplishments in implementing the A.T.M.P. Working to communicate the Town's ongoing successes in walking, cycling and wheeling is important to communicate the long-term impacts of the Town's projects with its residents. This open and transparent form of sharing successes has been done in communities around the world – from Copenhagen's Bicycle Account to Calgary's Bicycle Yearbook. While Halton Hills' reports don't need to be as comprehensive as those documents, it is still beneficial to provide updates to show the benefits that active transportation is bringing to the community.

The First Steps.

While the “Foundational Actions” provide a series of programs that aim to properly segment the population and create the background marketing tools that will reach the entire community, programs presented in the “First Steps” section below scale them down to the individual level. Effective Culture shift programs rely on both population-scale attitudinal and behaviour changes and on individual shifts in attitudes to gradually shift social norms and create lasting change. Combining strategies has a far greater impact on behaviour change than any one activity performed in isolation. By developing a suite of tools rather than a few programs operating on their own, the Town provides residents with multiple avenues to be engaged, leading to higher uptake and a higher rate of behaviour change. The proposed activities should be considered as an integrated suite of activities that are connected as much as possible through consistent branding and marketing across the same municipal communication channels. These actions were drawn from an examination of best practices and stakeholder consultation, as well as an evaluation of current programs operating within Halton Hills.

Action #1: Active School Travel

Establishing Active School Travel programs for all elementary schools in Halton Hills is an effective way to promote active transportation to the younger generation. It is a method for creating lifelong habits of walking and cycling and should be a focus of the town as it aims to create a stronger culture of active travel in Halton Hills. Increasing the number of children walking and cycling to school often relies on parents – their understanding of the safety and suitability of routes around the schools, for example – so effective programs must also be targeted at parents as well as students. Experience from the Ontario Active School Travel Program shows that the most significant factor in determining the success of a School Travel Planning process is the inclusion of a dedicated staffing resource to liaise with schools, deliver programming and provide support to administration to deliver events and promotions. It is suggested that the Town of Halton Hills hire a School Travel Planning Facilitator (See a model Job Description [here](#)) to perform School Travel Planning work with schools all throughout the Town. By the end of 2022, all students within the Town should have access to safe routes to walk, bike or wheel to school and expanding access to cycling education. The Ontario Active School Travel group has prepared an extremely comprehensive guide to launching your own School Travel Planning project, which can be found [here](#).

Many organizations in Halton Hills, including the HRPS and Halton Region Public Health, have existing relationships within schools, and are in frequent contact with staff and administration at most schools in Halton Hills for a variety of programs and events. Those connections could be expanded to include more emphasis on cycling education in schools to help to ensure that all students know the rules of the road, and how to operate a bicycle safely. Other suggestions for encouraging more active school travel in Halton Hills include:

- Installing Bike Repair stations at all high schools in Halton Hills
- Hosting Trips for Kids events taking students on mountain bike trips
- Providing support for after-school bike clubs
- Supporting and leading biking and walking school buses

Potential Town Role:

Co-funder, supervisory role for School Travel Planning Coordinator, design and implement traffic calming around schools

Potential external partners:

Halton Region Public Health, Halton Region Economic Development, School boards, Halton Regional Police Services

Action #2: Promotional Events

Halton Hills is already home to a number of “foot-in-the-door” type promotional events that occur on an annual basis and provide residents with the opportunity to give walking or cycling a try. The popular Bike It To Market and Bike It To Leathertown Festival events are good examples of providing residents with new opportunities to try cycling again, and they form a foundation for moving forward to create a wider variety of similar events throughout the Town all year round. These types of social, enjoyable, easy to access rides provide the opportunity to give walking or cycling a try again, especially for those who are in the Contemplation or Planning phase of the behaviour change process. Hosting a wider variety of themed rides throughout town, creating a mobile Neighbourhood BikeFest “Kit” that could be deployed in various neighbourhoods, hosting a bike/walk to work day breakfast – these are all suggestions that could bolster the opportunities for residents to have a positive experience with walking or cycling that wouldn’t normally be available to them.

Delivering these promotional opportunities all year round and at recurring events is important to keep active transportation in people’s minds. By increasing the number of promotional events that residents are exposed to, it increases the likelihood that social norms will shift, and that individual actions will begin to change. Essentially, the more people in Halton Hills see the Town supporting and promoting active transportation and the more they see their neighbours participating in enjoyable events featuring walking and cycling, the more people are likely to change their own assumptions and behaviours. Be sure to also capture images and video at as many events as possible to be able to share via Newsletters, Social Media Channels and other communications to help normalize the practice of walking and cycling in Town. These events are also a good opportunity to gather contact information from residents that are new to walking and cycling, to collect testimonials for emotionally resonant reporting techniques and to spread the word about some of the Town’s other work to promote active transportation.

Potential Town Role:

Co-funder, promotion of partner events, creation of “kits” and templates for community events.

Potential external partners:

Halton Region Public Health, BIAs, Neighbourhood Associations, Service Clubs, Active Transportation / Bike-It Committees

Example:

Jane’s Walks are informative, community led walks inspired by the teachings of the late, great urbanist Jane Jacobs. Jane’s Walks invite people to come out and share stories, learn history and see their community at a more human scale.

Action #3: Community Rides

One of the most common, and easiest to deliver, methods of connecting to individuals and encouraging behaviour change is the hosting of regular community walk and ride event. While community bike rides are much more common than community walks, that is not to say that a walking program is not without a significant level of merit as well in Halton Hills. Community walks and bike rides provide residents with the opportunity to engage in an enjoyable, social activity while also exposing them to the possibilities that exist for getting around Halton Hills actively. Key ingredients for a successful community walk or ride program include:

- Regularity – walks or rides should be held on a regular basis – whether that be monthly, biweekly or even weekly. Having the events occur at predictable intervals ensures that residents can engage with the events - even if they miss one, there is another event coming up.
- Visibility – do your best to “brand” the walks or rides as much as possible. Have walk leaders carry a sign encouraging passers-by to join the walk or learn more about it, create a mobile billboard that can be towed on a trailer behind the leader of a community bike ride etc. The best advertising for these types of events is having people see them “in the wild”, or having information spread by word of mouth.
- Accessibility – these are not training events – they are social events. Rides and walks should be done at a pace that is family friendly and allows for socialization. Ride and walk distances should also be a length that is manageable for first-time riders, inexperienced walkers or young children. Ensure that routes have a shortcut built in if they are longer so that people can still join up with the larger group if they don’t feel up to completing the entire route.
- Socialization – the idea of community walks and rides is to provide people with an opportunity to meet their neighbours and explore their community – and that means introducing people to businesses and gathering places in their neighbourhoods as well! Ensure that each event ends in a place where attendees can gather and socialize – a local café, a park or even a local brewery!

Potential Town role:

Co-funder, provide insurance for ride and walk leaders as necessary, promote events on Town communications feeds, print and distribute promotional materials

Potential external partners:

Halton Region Public Health, BIAs, Neighbourhood Associations, Service Clubs, Active Transportation / Bike-It Committees

Inspiration:

SmartTrips – Ten Toe Express and NeighborWalks in Portland, Oregon

Windsor-Tecumseh Slow Ride

Action #4: AT Forum & Storytelling Series

Bringing a group of stakeholders or residents together to discuss how AT can be improved, to share best practices and to hear one another’s stories is an effective way to begin to shift group norms and create stronger connections between local stakeholders in Halton Hills. As the projects outlined in this Plan begin to move into the implementation phase, the Town should plan for opportunities to connect and coordinate, as well as to inspire action. Each of these types of events serves a slightly different purpose, but they all work towards the same goal – shifting attitudes and behaviours to encourage behaviour change.

Forum

This type of gathering would be one that is primarily targeted at the decision-makers and engaged stakeholders within the community. It would be an opportunity to discuss existing plans and projects, share best practices and uncover common goals and values. With so many stakeholder groups already involved in the promotion and support of active transportation in Halton Hills, this type of event should feature facilitated discussions and activities designed to create new connections between stakeholders, identify how each stakeholder can support the planned and existing projects in Town, and identify gaps in resources that may need to be filled to ensure success.

Speaker Series

A speaker series could involve hosting, virtually or in-person, acknowledged experts in the field of walking and cycling. These events would aim to provide inspiration from other communities around the world who are reaping the benefits of enhanced active transportation programs, and to inform the Town on best practices as it moves forward with its own plans and projects.

Storytelling Series

A storytelling event focuses not on experts from outside the community, but on the lived experiences of the people who call Halton Hills home. These events provide an opportunity for residents to hear real-world examples of how their neighbours’ lives are being improved thanks to active transportation. They can also help to catalyze significant shifts in attitudes towards active transportation. Consider recording stories (with the storytellers’ permission) and posting the videos on the Lets Talk Halton Hills website to further expand the reach of these events.

Potential Town role:

Funder and organizer

Potential external partners:

Halton Region, Halton Region Public Health, Active Transportation Committee / Bike-It Subcommittee, Bike Minds, Bike retailers, local businesses

Inspiration:

Bike Minds Storytelling series

Action #5: Expanded Bike Rodeo & Maintenance

Halton Hills already has some good offerings of Bike Rodeos at schools through partnerships with the Halton Regional Police Service, but there is an opportunity to expand those offerings by training additional people to assist in the delivery of Bike Rodeos so that they can be offered at each school in Halton Hills on an annual basis. In addition, consider offering Bike Rodeos as part of existing community events like the Leathertown Festival. The more opportunities children have to learn how to ride a bike safely, the better!

In addition to scaling up the availability of Bike Rodeos in Town, there is also the potential to increase people's skill level and comfort in performing basic bike maintenance by providing additional bike maintenance workshops. Providing residents with the skills and the confidence to do basic bike maintenance, like changing a tire or putting a chain back on when it has slipped off, can mean the difference between an otherwise perfectly rideable bike sitting unused to it being out on the road and the trails. Partnering with a local bike shop to deliver these sessions is also encouraged as they are spaces where residents, especially those in your target demographics, are already congregating.

Potential Town Role:

Funder (to pay bike mechanics to deliver training, pay bike rodeo instructors etc), liaison between bike rodeo instructors and schools

Potential external partners:

HRPS, Halton Region Public Health, Local Bike Shops, Active Transportation Committee / Bike-It Subcommittee

Action #6: AT Incentive Programs

When aiming to encourage behaviour change, sometimes a small push can go a long way. Even a relatively minor token of appreciation – a small discount on a purchase, a free coffee or priority entry to a community event – can make people feel like their decision to walk or bike is valued and worthy of continuing.

Additional investment should be put into the Town's Bike Valet offerings to provide benefits to residents who choose to ride – discounted entry to events, additional sample tickets at food and beverage events, VIP access etc. Partnerships should also be established with local businesses and BIAs to offer small tokens of appreciation to people who show up on foot or by bike and encourage businesses to track how many people are reporting arriving at their business using active means to get a better sense of how active transportation is growing in Halton Hills.

Potential Town Role:

Provide incentives at town-run events, promote incentive program

Potential external partners:

BIAs, Chamber of Commerce, Local Businesses



Image 6. #BikeGangsofWindsor Campaign for Cycling Education and Awareness

Going Further.

The programs and projects presented in this next section represent a “scaling up” of the effort being exerted to change culture and behaviour within Halton Hills. The actions listed in this section represent an increase in the level of effort and engagement at both the community-wide and the individual level and are likely to result in a higher level of behaviour change than the programs listed in the “First Steps” section alone.

Action #1: Establish Bike Parking Partnerships

One of the gaps identified throughout the ATMP process was the lack of partnerships with local stakeholders to ensure an adequate provision of bike parking across Halton Hills. Through an existing inventory of its current bike parking supply, as well as stakeholder input the Town has identified a lack of safe, secure bike parking as a barrier to cycling, especially at destinations like grocery stores and local businesses. Addressing this deficiency requires an awareness of where gaps exist and establishing a plan to fill those gaps and expand bike parking all over the community.

Bike Parking Partnerships

Relying on the inventory of bike parking, the Town can work towards filling the priority gaps by following the example of communities like Thunder Bay or Burlington, where large quantities of APBP Bike Parking Standard-compliant bike racks were purchased and made available at a reduced cost to businesses. By purchasing bike racks in bulk, the municipalities were able to offer wholesale pricing to partners, reduced the amount of work that businesses had to do in order to have safe, secure bike parking at their location and helped to ensure that the priority gaps in the bike parking network were filled. Given Halton Hills’ relatively compact urban form, the number of new bike parking spaces required is fairly low. Adding capacity for 20-50 bikes per year, however, would have a significant impact in closing many of the priority gaps that exist.

Potential Town Role:

Coordinate stakeholder input, fund the purchase of new racks and assist with installations on private property for local businesses

Potential external partners:

BIAs, Chamber of Commerce, Service Clubs, School Boards

Example:

Thunder Bay’s bike parking partnership

Action #2: Pop-up / Demonstration Project Tool-kit

When it comes to some of the changes to how space is allocated and how some of the roads within Halton Hills operate, seeing is believing. Often times, resistance to a project - especially one that alters how a public resource like a roadway is configured – stems from a fear about how the project might impact the operation of the corridor. By introducing pop-up or demonstration projects where the proposed modifications are undertaken using temporary, inexpensive materials, the Town can help to demonstrate the value of a proposal. This, while ensuring that any potential challenges are mitigated where possible and provide residents the opportunity to experience novel infrastructure for themselves, helping to reduce the social barriers to implementation.

Consider utilizing tools from the Better Block Foundation or The Tactical Urbanism Guide, in partnership with neighbourhood groups, BIAs and other interested parties, to try out some temporary installations as an opportunity to test how these modifications could benefit walking, wheeling and cycling in Halton Hills.

Potential Town Role:

Fund creation of tools, provide streamlined permitting if necessary, for temporary changes

Potential external partners:

Neighbourhood Groups, BIAs, Service Clubs, Active Transportation Committee.

Action #3: Enhanced Bike Valet Services

Halton Hills' experience delivering Bike Valet has shown a strong demand for the service when it is delivered in a regular, predictable fashion. The success of Bike Valet at the 'Bike It To Market' and 'Bike It To Leathertown' events has shown that the Town is well-positioned to deliver a more robust bike valet program that can be hosted at events all year round. It is recommended that bike valets be hosted all year round, at weekly farmers markets, as an opportunity to connect directly with residents about active transportation and introducing them to other programs and projects that the Town is working on. Such should be staffed by individuals who are well-versed in the Town's programs, potentially lead by the AT/TDM Coordinator once hired. Bike Valet ought to be included as either an option or a requirement on special events permits so that event organizers are encouraged to consider ways to mitigate their events impacts on parking and traffic. When planning bike valet events, special care should be taken to ensure that the bike valet is in a location that is highly visible and desirable. Ideally bike valets should provide the feeling of gaining access to VIP parking and should incentivize new usage by virtue of their proximity to the event, where possible. It is important to view bike valets as much more than simply parking bikes at an event. Used properly, bike valets provide an opportunity to engage with people cycling at an individual level, to promote cycling and active transportation in Town and, to make people cycling feel appreciated and welcomed at Town events. Bike valets are as much a marketing tool for cycling as they are a mechanism for parking bikes –and should be funded accordingly.

Potential Town Role:

Funder, Require Bike Valet for Special Events in Town, Help recruit volunteers

Potential External Stakeholders:

BIAs, Service Clubs, Active Transportation Committee, High Schools (for volunteer hours)

Action #4: Enhanced Marketing and CBSM Programs

With additional budget, the Town could expand its efforts to reduce the number of single occupant vehicle trips by engaging in a larger number of targeted Community Based Social Marketing (CBSM) activities. Additional budget would allow for a higher level of exposure for the town's marketing campaign, and additional resources to track how attitudes around active transportation are changing. In particular, additional budget for marketing could help to deliver tactics like travel diaries, exploratory interviews and annual representative community surveying to help better track the impact of the Town's ongoing active transportation efforts.

Potential Town Role:

Funder

Potential External Partners:

Halton Region, Halton Region Public Health, Active Transportation Committee



Image 7. "School Streets" initiative in Toronto, ON



Image 9: An example of the bike racks provided at cost to businesses in Thunder Bay, Ontario

Leading the Way.

The programs identified represent Halton Hills taking a leadership role in promoting Active Transportation among its peer communities in North America. While these programs have the potential to create significant behaviour shifts, they may also require a relatively significant outlay of resources. The investments here would likely result in a high level of behaviour change, especially when combined with the additional efforts listed in the “First Steps” and “Going Further” sections of this Chapter.

Action #1: Support for Active School Travel

Scaling up efforts to support Active School Travel Planning would involve expanding the resources made available to schools, especially as it relates to staff to help with active school travel plans, delivering promotional materials and hosting bike rodeos. The town could also ensure that there was a higher level of investment and support for infrastructure improvements to enhance safety around schools.

In addition to providing additional resources for school travel planning efforts, Halton Hills could also consider supporting the delivery of School Streets programs around schools in the community. These programs close streets immediately adjacent to schools during drop-off and pick-up times to ensure safety for students walking or cycling to school. Consider providing schools with the resources necessary to make School Streets programs a reality to enhance the walking and cycling environment around schools in Halton Hills.

Potential Town Role:

Funder, Provide permitting

Potential External Partners:

School Boards, Halton Region Public Health

Inspiration:

School Streets in Hackney, UK

Action #2: New TDM Policies & Supports

Transportation Demand Management (TDM) is based on the understanding that the most cost-effective way to improve the transportation system is to use the limited resources available in a more effective way. That leads to shifts in economic incentives for parking use, additional support for carpooling, transit and active mobility and a reallocation of resources towards reducing single-occupancy vehicle use. Typically, TDM Policies are best introduced as a suite of actions – trying to lean too heavily on any one action typically does not yield the same level of success as a holistic, broad-reaching strategy. For Halton Hills, the Town’s capacity to deliver effective TDM Programs hinges largely on their ability to work with local employers. In doing so, the Town would be able to connect to the residents who work within the community, to build effective programs with regional and inter-municipal transit agencies, and to provide the necessary incentives to encourage residents to choose active and sustainable modes of transportation for their trips within the community. Some of the suggested TDM Measures that could be introduced would include:

- Stronger curbside management policies – higher parking fees, decreased availability of free parking on-streets, particularly in commercial and downtown areas
- Increased support for multi-modal transportation – bonuses or financial incentives for commuters who walk or bike to transit hubs rather than drive. This would then be followed by a gradual phasing-in of carpool-only free parking spaces and then the introduction of paid parking at some lots to disincentivize unnecessary car travel to and from GO Stations.
- Reduce / eliminate parking minimums for new construction to permit businesses and residential construction to create more TDM-oriented developments
- Incentive programs for people who walk or bike for routine activities in Halton Hills

TDM Policies largely reflect the fact that free parking is an incentive to drive alone, and that incentive has negative implications for walking, cycling and transit use in a community. By working towards a system where parking is priced adequately, while also supporting more sustainable travel modes that offer an alternative to this higher cost, TDM Policies can help to shift travel behaviour in some very significant ways.

Potential Town Role:

Funder, lead delivery agent

Potential External Partners:

Metrolinx, Local employers, BIAs

Action #3: 55+ cycling workshops

One of the fastest growing demographic cohorts of new and or interested active transportation participants are older adults. Seniors have different desires and also face unique challenges, including reduced mobility, which is often overlooked. Providing Seniors with a comfortable space to learn about cycling and trail use basics, including trail etiquette, basic bike handling skills and basic bike maintenance, can go a long way towards making new riders or trail users feel confident. Initially, sessions should be hosted within popular public settings, such as local libraries with the eventual goal of hosting more tailored 55+ cycling education courses in the future. A suggested curriculum for a similar course can be found in the appendices of this Chapter.

Potential Town Role:

Funder, provide training for instructors

Potential External Partners:

Service Clubs, 55+ Centres, Public Libraries

Inspiration:

Thunder Bay's 55+ Cycling Education Courses



Image 8. An Instructor leads a "55+ Cycling Education Program" in Thunder Bay, Ontario

Action #4: Bikeshare Feasibility Study

For a community like Halton Hills, a small-scale bike share / micro mobility program has the potential to significantly expand the availability of active transportation to a higher share of the population. Bike Share systems have evolved very rapidly in the past 5 years and are now flexible enough to accommodate cities of any shape or size. For a great primer, be sure to see the latest version of the Bikeshare Planning Guide, updated in 2018 to reflect the changing nature of bike share systems. While these systems can require a relatively high level of initial investment, the experiences from communities like Carmel, Indiana or Arlington, Virginia shows that when bike share is well integrated into regional transit, it can serve as a very effective first and last mile solution. Additionally, with new vendors entering the market, it is also possible for a community to invite a bike share system to operate within their community at no cost to the municipality, although this leaves the community vulnerable to the loss of that system unexpectedly if the vendor decides to leave. For Halton Hills to undertake a Bike Share or Micro mobility system, the following steps are recommended:

1. Issue an RFP for a Bike Share Pilot project.
 - For the pilot to be successful, it is suggested that you concentrate the service in an area where potential ridership is high – areas like Downtown Georgetown and Acton would be ideal places for the Bike Share pilot to begin.
2. Undertake a pilot project to evaluate the success of the Bike Share project
 - Ensure that the pilot provides sufficient operational time to adequately capture trends over multiple cycling seasons, potentially by having the program run for 18-24 months
3. Expand the Bike Share Pilot to a full, permanent system based on the results of the Pilot
 - Once the Pilot period is over and the results are analyzed, roll out a full Bike Share system across areas of Halton Hills based on the demand and the potential for cycling in those areas. If Bike Share is paired with a network of high-quality cycling infrastructure, experience has shown that it can have transformational impacts on the cycling culture of a community.
 - Remember that Bike Share works best when station density is high – so focus on providing a quality service over a smaller area rather than trying to overextend the reach of the system and risking spreading it too thin. Better to have a successful program over a smaller area that can grow than a failing system over a large area!

Potential Town Role:

Funder, provide training for instructors

Potential External Partners:

Service Clubs, 55+ Centres, Public Libraries

3.4 Culture recommendations.

The following is a summary of the recommendations related to the proposed culture shift action plan.

3.1

The active transportation committee in partnership with the Bike-it committee should review the action plan with staff and decision makers to determine the appropriate course of action.

3.2

A dedicated staff person should be identified to lead the implementation of the AT plan specifically focusing on education and encouragement efforts.

3.3

A promotion and awareness dedicated webpage should be developed to provide active transportation related information to members of the public and should be monitored and maintained for accuracy.

3.4

A dedicated pool of funding to the amount of \$20,000 should be allocated to the implementation of the action plan annually for the next 5 years.

3.5

External partnerships should be encouraged and leveraged to ensure that there are opportunities to build upon existing initiatives and expand upon new opportunities.

3.6

The Town, in partnership with applicable public health agencies, should identify quick win initiatives to implement in the short-term, including the “Every Meter Counts” Program. Specific staff requirements should be based off funding allocated within item 3.4

3.7

Maintain and continue to foster the educational relationship established with local high schools and pursue opportunities for engagement with geography teachers and classes at least twice a year. Consider expanding to local elementary and middle school age groups



Chapter 4.0

The Growth Lens.

The active transportation master plan (ATMP) is a long-range functional master plan which therefore includes recommendations that support the implementation of specific municipal services and infrastructure. As the Town of Halton Hills continues to grow and move towards reaching their own growth and development targets, it is important to identify a complementary process / means of ensuring that the transportation infrastructure is implemented in a continuous and connected manner.

An effective long-range functional master plan should be clear as it relates to what is being recommended and while providing the municipality with flexibility on when and how to facilitate implementation. Typically, a phasing strategy is developed which recommends a timeline for implementation which reflects wider community growth and development goals. Though it doesn't project on a year by year basis, a phasing strategy is most often broken into stages which represent a consistent threshold of years. This provides staff and decision makers with a foundation for annual capital planning and programming.

The Halton Hills ATMP recommends a phasing strategy in five-year intervals assuming initiation in 2020. It provides recommendations on short, medium and long-term projects as well as some of the planned "quick win" projects that have already been identified within the Town's capital plans. The phasing plan assumes a 10+ year timeline; however, there is flexibility in this approach and it is up to the municipality – staff, decision makers and partners – to review and confirm the timeline for implementation on a segment by segment basis as well as from a strategic connecting linkages perspective.

Chapter 4.0 provides an overview of the proposed implementation timeline and phasing plan for proposed on and off-road improvements recommended in Chapter 2.0 as well as the education and encouragement action plan recommended in chapter 3.0. The phasing plan is further supported a set of implementation supportive recommendations for adoption by the Town which have been developed based on current practices, best practices, lessons learned as well as input gathered as part of the ATMP process from staff and stakeholders.

4.1 Growth approach.

Implementation can be one of the most challenging aspects of a master plan. It is critical to provide sufficient supports to facilitate implementation of the proposed ATMP infrastructure as well as programs and initiatives. Supports can include processes, implementation tools as well as roles and responsibilities. Based on information gathered through the ATMP process, recommendations have been made for the Town to support implementation of the ATMP through a comprehensive and flexible phasing plan made up of short, medium and long-term infrastructure improvements. Approximately 247 kilometres of on-road improvements and 157 kilometres of off-road improvements are proposed for implementation in the Town of Halton Hills – as identified in **Chapter 2.0**. To implement these facilities in a manner that is cost-effective and manageable for the Town and consistent with planned and anticipated project, as well as community priorities, three phasing horizons – defined as phases - were identified. The proposed phasing plan was identified based on:

- a considerable amount of input from staff including representatives from public works as well as parks and recreation reflecting the Town’s 10-year capital plan which was adopted and is the foundation upon which projects are identified;
- the ATMP principles and foundations identified in Chapter 1.0, the priorities of community members and key stakeholders based on input received through the planning process; and
- the phasing for active transportation improvements being undertaken by the Region, surrounding municipalities and other organizations.

To the right is a high-level overview of the implementation horizons and the intents, purposes and rationale of the types of projects that were identified within each phase.

Short

- 0-5-year timeline starting in 2021
- Include “quick win” projects either previously identified in capital or part of other large-scale assignments
- Consistent with trails strategy timelines
- Strategic connections within Georgetown and Acton

Medium

- 6-10-year timeline
- May require an update during this time to reflect progress
- Project require additional assessment and evaluation with a greater focus on higher order separated facilities
- Focus on linkages on rural roads between major communities

Long

- 10+-year timeline
- Off-road trail connections which require additional planning approvals and property acquisition
- Major development projects including roads in subdivisions
- Major investments in rural areas include north-south and east-west corridors with paved shoulders

+ Aspirational

- No specific timeline
- Conceptual projects that are desired though unrealistic to be implemented in the short, medium, or long-term
- Projects requiring substantial investment in feasibility assessments, land acquisition/property easements

The following tables provide an overview of the proposed on-road and off-road phasing by on-road facility type and off-road trail type in the short-, medium-, and long-term time horizons. The proposed on-road and off-road phasing is illustrated on Map 3a and 3b, respectively. The proposed phasing breakdown reflects the active transportation master plan goals and objectives, with the AT network being phased in a way that

attempts to equitably balance the assumptions across the Town. Please note that the project identified along regional corridors have not been identified as part of the on-road improvements phasing plan nor are the quick win projects and those that that require additional study and investigation. The quick wins and aspirational projects will be described in more detail in **section 4.2.**

On-road improvements.

<u>Facility Types</u>	<u>Short-term</u>	<u>Medium-term</u>	<u>Long-term</u>
Multi-use Pathway (Boulevard)	2.36 km	6.96 km	3.93 km
Cycle Track	2.77 km	-	2.93 km
Buffered Bike Lane	0.36 km	3.02 km	1.21 km
Buffered Paved Shoulder (Existing Platform)	-	-	3.13 km
Buffered Paved Shoulder (No Platform)	-	-	9.37 km
Bike Lane	15.72 km	3.6 km	1.64 km
Paved Shoulder (Existing Platform)	4.05 km	4.42 km	9.42 km
Paved Shoulder (No Platform)	-	11.03 km	9.79 km
Signed Route	23.29 km	11.36 km	47.53 km
Urban Shoulder	-	-	1.03 km
Bicycle Friendly Corridor	-	0.87 km	0.62 km
	Short-term total	Medium-term total	Long-term total
	48.55 km	41.26 km	90.61 km

256.67 km

of on-road improvements in 10+ years

Off-road improvements.

<u>Facility Types</u>	<u>Short-term</u>	<u>Medium-term</u>	<u>Long-term</u>
Type 1 Trail Primary	0.78 km	5.20 km	-
Type 2 Trail Secondary	6.74 km	24.61 km	12.24 km
Type 3 Trail Tertiary	1.51 km	5.64 km	18.79 km
	Short-term total 9.04 km	Medium-term total 35.45 km	Long-term total 31.03 km

157.12 km

of off-road improvements in 10+ years

As noted above, the proposed phasing plan that has been identified for the Town of Halton Hills is not meant to be prescriptive. It should not be viewed as a timeline commitment that must be adhered to by staff and Council. The phasing is intended to be used as the foundation for future decision making. The information is meant to be reviewed by Town staff on an annual basis to ensure that it continues to align with strategic priorities and planned capital expenditures. On an annual basis municipal staff engage in discussions to determine planned projects. As discussions are initiated and capital projects are confirmed, the proposed phasing should be used as a reference and a resource. The information contained within **Sections 4.1** and **4.2** and the details of proposed projects contained within the network management tool (**see Section 4.3**) should be used to supplement these discussions to provide justification for the implementation proposed on and off-road improvements.

For the phasing breakdown to be relevant, it must be reiterated through other functional plans, including the Official Plan and Secondary Plans. At the time that these policy documents are reviewed, reconsidered or revised and as secondary plans are generated, the recommendations found within the ATMP should be integrated. The route alignment and proposed facility type should be reviewed and confirmed using the proposed implementation process noted in **Section 4.3**.

4.2 Quick wins and aspirations.

The proposed phasing plan includes two types of unique projects that require some additional description and / or investigation.

The first of the projects are “quick wins” which represent capital projects that were previously identified within the Town’s 10-year capital programs for both public works (on-road improvements) and parks and recreation (off-road improvements).

Though “quick wins” imply a short timeline for implementation, they span the full 10-year program, thus spanning both the short and medium-term horizons of the phasing plan.

21.57 km

quick-win projects

The second are critical but aspirational links that require a significant amount of additional investigation to confirm whether an active transportation connection is considered feasible. These projects have not been included within the phasing information above.

On the following page a more detailed overview of the proposed projects and corridors including key considerations and preliminary recommendations (where appropriate).

2021	Paved Shoulder – 22nd Sideroad (5 th Line – Highway 7)
	Bike Lane – Barber Drive (Mountainview Road South – Danby Road)
	Maple Creek Parkette (<1km Type 2 Trail)
	Bike Lane – Tanners Drive (Churchill Road North – Queen Street)
2022	Creditview Heights (Type 1 Trail)
	Harding (Type 2 Trail)
2023	West Branch (Type 2 Trail)
	Buffered Bike Lane - Argyll Road (Mountainview Road South – Tenth Line)
2024	Cedarvale (Type 2 Trail)
	Bike Lane – Tanners Drive (Churchill Road South – Queen Street)
2025	Buffered Bike Lane – Argyll Road (Eighth Line – Mountainview Road South)
	Buffered Bike Lane – Queen Street (Churchill Road – Tanners Drive)
2026	Bishop (Type 3 Trail) – after 2025
	Glen South (Type 3 Trail) – after 2025
2027	Bike Lane – Delrex Boulevard (Maple Avenue – Mountainview Rd. S)
	Multi-use Pathway - Wallace Street (Mill Street East – McDonald Boulevard)
2028	Bike Lane – Delrex Boulevard (Mountainview Road S – Guelph Street)
	Bike Lane – Princess Anne Drive (Trafalgar Road – Halton Hills Drive)
2029	

Table 7. overview of proposed quick-win projects

Aspirational projects.

Aspirational projects involve connections and corridors identified as part of the active transportation network which require a considerable amount of additional study and investigation. In some locations, the corridor is considered so complex in its current state that while optimal from a network connectivity and continuity perspective, the cost required to implement remains overly prohibitive. The following is an overview of the four aspirational projects that will be investigated further as part of the ATMP implementation process.

Project #1.

Main Street, Acton

Main Street, spanning across the built-up portion of Acton, has been identified as an aspirational project. Due to a constrained right-of-way, additional study will be needed to identify the most appropriate active transportation facilities that could be accommodated along this corridor. Issues that would need to be considered include grading and addressing existing retaining walls, impacts to private property, and truck traffic using this corridor to pass through Acton. If implemented, Main Street would provide a spine route through the built-up area of Acton.

Project #2.

Main Street North, Georgetown

Main Street North extends from Ontario Street to Main Street South in Georgetown. This corridor features four lanes of traffic and a number of residential driveways that front onto Main Street North. Additional analysis will be required to determine the most appropriate active transportation facility, while considering a number of constraints, such as existing utility poles, driveways, and a narrow boulevard.

Project #3.

Guelph Street, Georgetown

Guelph Street in Georgetown has been identified as an aspirational project, extending from Main Street North to Maple Avenue. Guelph Street includes many residential, commercial, and institutional driveways, as well as a constrained bridge crossing at Silver Creek. Vehicle volumes and speeds will influence the most appropriate active transportation for this stretch of Guelph Street.

Project #4.

Highway 7 Corridor (Acton-Georgetown)

The Highway 7 corridor is a provincial highway and under the jurisdiction of the Ministry of Transportation (MTO). The Town therefore does not have the authority to propose active transportation facilities on this corridor. Additional study will be required to identify the preferred active transportation facility, based on the traffic volumes and speeds, truck traffic, and the available right-of-way space that can accommodate future active transportation facilities. If implemented, the Highway 7 corridor would provide a direct link between the built-up areas of Acton and Georgetown.

Table 8. Long range on-road aspirational projects

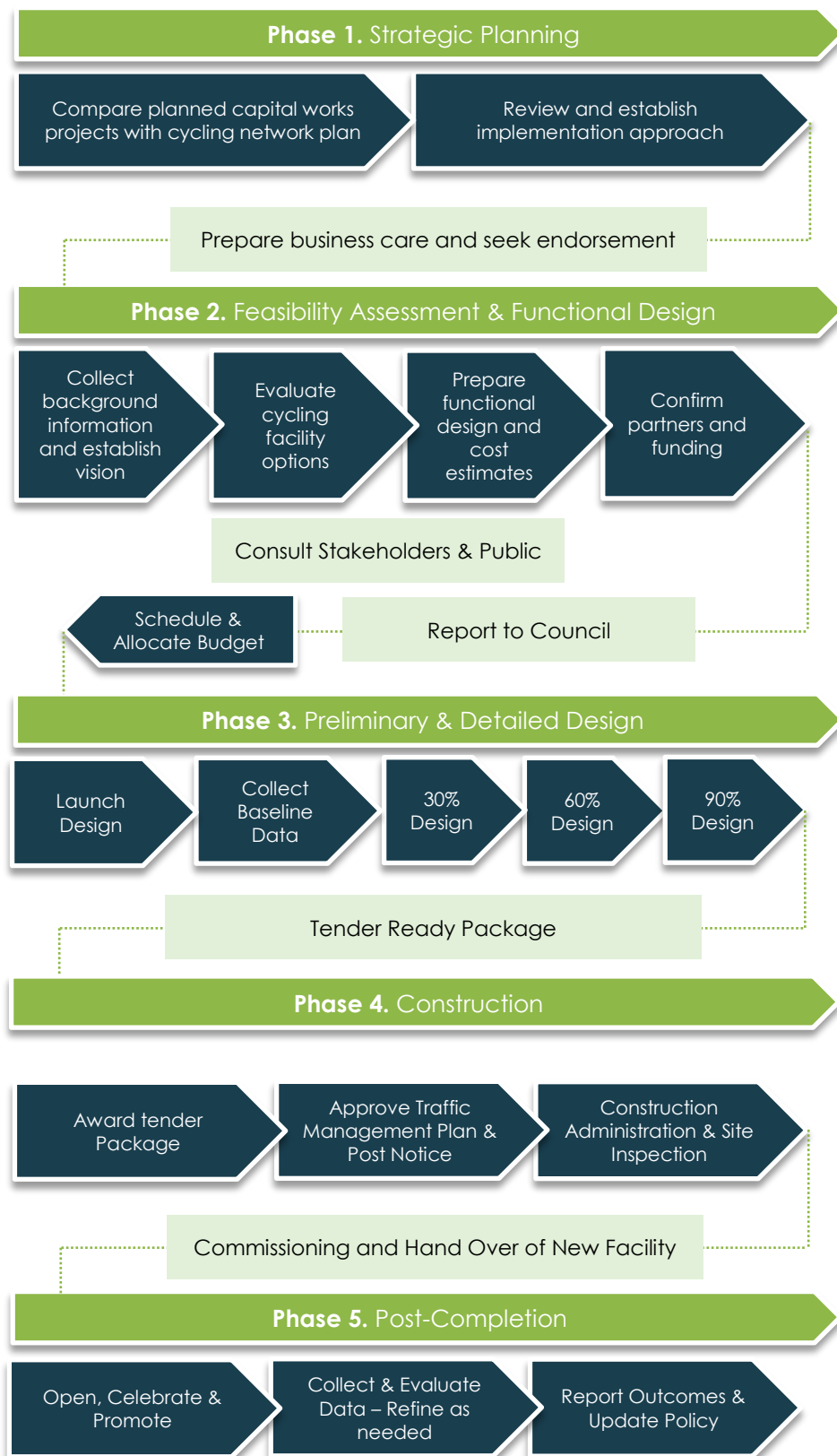
4.3 Implementation processes & tools.

The proposed phasing strategy spans more than 10 years. This timeline can be difficult to comprehend because of the significant potential for demographic, cultural, climate and political changes that can take place over the time period. To ensure that there is ongoing commitment to the implementation of proposed on and off-road improvements, it is important that there is a consistent and common understanding of the process that will be used to facilitate implementation.

In the 2010 cycling master plan, a five-step network implementation process was identified in **Section 5.0**. This process has been the foundation upon which infrastructure has moved from recommendation through to design and construction. Since 2010 this process has been reviewed, refined and adapted to reflect a more streamline approach and one that is consistent with the typical planning and engineering processes. It is as aligned with accepted guidelines and standards – specifically those listed in Ontario Traffic Manual Book 18: Cycling Facilities.

A revised implementation process and approach has been identified and is presented in **Figure 12** with details provided on the following page.

Figure 12. Five Step Implementation Process



Details & considerations...

Phase 1. Strategic Planning

- Project is selected in fulfillment of the network and priorities outlined within the adopted master plan.
- Project is articulated under a respective statement of community values to inform a locally adaptive approach.
- Project is scheduled in coordination with other major capital projects to minimize expenses otherwise spent on other municipal priorities.

Phase 2. Feasibility Assessment

- A complete understanding of the local community's existing conditions, both physical and cultural, gathered e.g. motor vehicle volumes, pedestrian and cyclist volumes, collisions, frequency of trucks and buses, parking supply and demand, etc.
- The project location is visited and experienced from the perspective of an AT user.
- A robust public consultation strategy is devised to gain a greater depth and spread of public knowledge.
- A feasibility study is undertaken, with consideration given to: existing bikeway design guidelines, available road widths, utilities infrastructure, topography, costs and potential revenue sources. Results of which are then detailed in a formal report.

Phase 3. Design

- The project's detailed design is then developed, incrementally, towards three progressive stages of percentage completion: 30%, 60% and 90%/100%.

30% Detailed Design

- Builds upon the pre-functional design, illustrating the project at a higher-level plan view. Defining details include: the location of parking, travel lanes and, cross sectional designs - particularly where the facility's alignment are most constrained.

60% Detailed Design

- Involves a more refined concept and a respective construction phasing schedule. Defining details include: Curb radii, traffic signal layouts, landscaping plans and signage layouts.

90%/100% Detailed Design

- Provides a draft 100% submission, including all details necessary to construct the proposed project. Defining details include: item specifications, quantities, cost estimates, a complete drawing package, all necessary permits and licenses, a utility relocation plan, arborist plan and post construction monitoring program.

Phase 4. Construction

- Project is tendered out and implemented in accordance with it's approved detailed design
- Construction related activities are tailored to the conditions of the project site.
- Construction contingency plans are devised to proactively manage unexpected circumstances and minimize the potential extent of schedule and cost impacts.
- Daily construction activities are routine monitored to ensure compliance with specified guidelines and instructions.

Phase 5. Post-Completion

- Facility is fully constructed and opened to the public following a momentous ribbon-cutting ceremony.
- Facility is routinely evaluated based on its ridership, comfort, safety and accessibility. Suggested data collection methods include installing automatic bicycle counters and distributing user satisfaction surveys.
- Responsive to the results of its preliminary evaluation, the facility is incrementally modified through design interventions or the adoption of new supportive policies.

On-road infrastructure process.

Large scale infrastructure projects require the completion of an Environmental Assessment under the Municipal Class Environmental Assessment (MCEA) Act. Depending on the scale of the project – primarily determined by the cost – a project is required to complete at a minimum, two of the five phases of the MCEA. Through the completion of the active transportation master plan, the Town of Halton Hills has sufficient documentation to demonstrate that the technical and consultation requirements of these phases have been completed. With the adoption of the master plan, the Town of Halton Hills is committed to completing further assessment and evaluation of potential environmental impacts as a project proceeds through the implementation process to determine appropriate next steps as it relates to the MCEA process. As noted, the phases that are required be completed are determined based on the schedule of project which is determined based on the anticipated or expected budget of the assignment. Two of the four schedules are considered “pre-approved” which means that the proposed project does not require significant changes to the roadway or where the traffic impacts have been studied and mitigated. A description of the four schedules is provided below:

- Schedule A and A+ projects (pre-approved) the requirements would be met if it were to have been identified through a master planning process;
- Schedule B projects which have a value of \$2.4M or less; and
- Schedule C projects which have a value of over \$2.4M.

Since the completion of the 2010 Cycling Master Plan, a number of changes / updates have been made to the MCEA Action in favour of active transportation infrastructure improvements with the goal of streamlining the implementation of walking and cycling infrastructure. In addition to Schedule A and A+ projects, the following are examples of projects that are now considered pre-approved under the MCEA process:

- Normal or emergency operations and maintenance of linear facilities now include multi-use trails;
- Projects where the recommended improvement does not require significant changes to the roadway or where traffic impacts have been studied and mitigated;
 - Construction or removal of multi-use trails within existing or protected rights-of-way; and
 - Construction and removal of multi-use trails including water crossings outside existing rights-of-way.

Based on preliminary costing of proposed projects – identified in **Chapter 6.0** – there are some on-road improvements which have been identified which would require additional steps to be completed using the Environmental Assessment Process.

Schedule B & C projects.

While the majority of the proposed projects are deemed to be either a Schedule A or A+ there are some that – due to the price and/or the conditions of the roadway may warrant the completion of a schedule B or C Municipal Environmental Class Assessment (MECA). An initial assessment of projects which could possibly warrant the completion of a schedule B or C MCEA was undertaken based on the preliminary costing (see chapter 6.0 for details). A summary of those projects is presented below. They include projects that have higher order infrastructure which may require road widening, or projects that require a significant investigation of the corridor.

<u>Road Name</u>	<u>Facility</u>	<u>Start Point</u>	<u>Length</u>
Guelph Street	Further Study	Main Street South	1.04 km
Guelph Street	Further Study	Hall Road	2.14 km
Main Street N (A)	Further Study	Acton N Boundary	1.51 km
Main Street S (A)	Further Study	Mill Street East	0.71 km
Main Street N (G)	Further Study	Hyland Avenue	1.36 km
Regional Road 25	Further Study	25 Side Road	0.83 km
15 Side Road	Buffered Paved Shoulder	Town Boundary	9.37 km
32 Side Road	Paved Shoulder	3rd Line	11.03 km
Sixth Line	Paved Shoulder	Steeles Avenue	9.79 km
Highway 7	Further Study	Acton E Boundary	9.7 km

Considering phases 1 and 2 have already been completed through the master plan. As the Town moves forward with implementation the project schedule should be reviewed and confirmed prior to completion of following MCEA steps. The following is an overview of the remaining 3 steps that could need to be completed.

Schedule B

- Prepare notice of study completion to review agencies and the public
- Opportunity for order request to Minister within 30 days
- Order either granted or if not, proceed with phases 3, 4 and 5 of the MCEA process.

Schedule C

- **Phase 3:** Prepare alternative design concepts for preferred solutions including the identification of alternatives, inventory of impacts, consultation and determine environmental significance;
- **Phase 4:** Completion of the environmental study report with opportunities for 30-day public review; and
- **Phase 5:** The completion of drawings and tender documents prior to construction.

Off-road infrastructure process.

Within the proposed off-road improvements there are two categories – the design of new trails and the retrofit of existing trails to align with the vision of the Ontario Trails Strategy with the goal of maximizing the sustainability and universal design of all trails within Ontario (source: Ontario Guidelines, 2006). Through the development of the Town's internal trails strategy, a clear set of new trails and improvements have been identified and a preliminary list of priorities have been selected. This however, is a long-term strategies and trail priorities will need to be reviewed, revised and adapted.

When proceeding with trail prioritization and following the adoption of the A.T.M.P. it is important to identify and utilize a clear set of consistent criteria to support future planning and development. The criteria recommended below have been identified based on best practices from the City of Hamilton and the Ontario Trails Council and should be reviewed and confirm by Town staff prior to application.

- Field investigations and observations;
- High use locations i.e. goat paths along existing or missing linkages;
- Linkages to key community destinations e.g. schools, downtown cores, community centres, natural areas, etc.)
- Missing links to major local or regional trail connections;
- Alignment and connection with wider development applications;
- Utilizing development charges and developer partnerships to facilitate build;
- Access to existing or planned transit routes or connections;
- Establishing trails within new communities as part of the subdivision planning and design approvals process; and
- Alignment with planning provincial, regional and local capital projects.

The criteria supports the identification of trail priorities to help inform annual capital budgeting. Once a new trail has been identified for implementation, several factors need to be considered as Town staff proceed to next steps. These considerations include but are not limited to:

1. Visibility and profile of the trail;
2. Status of approvals and ease of construction;
3. Availability of capital budget;
4. External partnerships and funding opportunities (see **Chapter 6.0**);
5. Timeline of new development or applications;
6. Alignment with wider capital projects such as road improvements;
7. The regulatory requirements and approvals of key technical agencies specifically the conservation authority; and
8. Need or interest demonstrated by the community through public outreach and stakeholder input.

The criteria and the considerations presented above are meant to inform future discussions and decision making around new trail development within Halton Hills.

Trail Design Framework

With the adoption of the new trail hierarchy as identified in **Chapter 2.0**, there may be locations along the existing trail network where improvements could be warranted to ensure that the intent, purpose and design of the trail align with the wider network. These types of projects are referred to as trail retrofits. Trail retrofits have not been identified as part of the ATMP but may be a future initiative undertaken by the Town as the trails network continues to expand.

Should the Town decide to proceed with these reviews and updates, a transition plan may be the most effective tool. A transition plan would allow the Town to gain an even more detailed understanding of the current state of the trails network and develop a realistic strategy to move towards the goals of sustainability and universal design where appropriate. As adapted from the Guidelines and Best Practices for the Design, Construction and Maintenance of Sustainable Trails for all Ontarians, **Figure 13** identifies a process to facilitate the development of this plan.



Figure 13. Overview of trail design and implementation process

Pedestrian infrastructure process.

The recommended sidewalk improvements identified within **Chapter 2.0** have not yet been phased. Sidewalk infrastructure improvements tend to be identified on a case by case basis based on inquiries or requests from members of the public. The priority improvement areas identified for consideration by the Town will require additional investigation and prioritization following the adoption of the ATMP. To support this exercise, the Town should adopt a sidewalk prioritization program to support annual selection of sidewalk improvements within the urban areas of the Town i.e. Acton and Georgetown.

The resources provided to the Town through this master plan include a more comprehensive database of missing sidewalk linkages and a preliminary set of recommendations of “high-needs” areas where significant missing links have been identified. In these locations the implementation of critical sidewalk connections could have a significant impact on the overall connectivity for pedestrian activity.

Using this information, along with input from members of the public and stakeholders, the Town should adopt a ranking framework to support the identification and prioritization of sidewalk improvements and implementation. The process combines best practices from small to medium-sized municipalities and integrates context-specific considerations.

The ranking uses criteria to evaluate potential linkages. For each corridor that is assessed, there is the potential to achieve up to 100 points (the maximum potential score). The score is determined based on the rating system which has been developed based on information that would be made available by the Town and / or its partners or clear context specific considerations which would be gathered through field investigations. A sample scorecard to complete this evaluation is presented in **Figure 14**.

The following are the recommendations related to the implementation and application of the pedestrian ranking tool:

- Moving forward, Town staff would review and revise the tool as needed and would assume its application to inform annual capital decision making related to sidewalk infrastructure improvements and rationalization.
- Town staff – specifically public works staff – will be required to complete the investigation of the potential sidewalk linkages on an annual or bi-annual basis to ensure the existing conditions in the GIS database is up to date and reflective of the implementation status.
- As potential requests for improvement arise, the tool would be applied and a decision would be made based on the results.
- Town staff are encouraged to work in partnership with members of the AT committee to supplement staff efforts to complete investigation or could utilize their efforts to further investigate locations for potential improvements.

	Criteria	Rating System	Points	Rank
Pedestrian Safety	Road Classification (pick one)	Arterial	10	
		Collector	5	
		Local	2.5	
	Walking Alternatives (pick one)	No space to Walk in Blvd.	7.5	
		Some space (min 1.5m)	5	
		Existing sidewalk (1 sd.)	2.5	
Street Lighting	No = 2.5; Yes = 0	0 or 2.5		
Roadway Hazards (pick all that apply)	Horizontal Curvature	2.5		
	Vertical Grade	2.5		
	Confirmed Speeding	2.5		
Pedestrian Trip Generators	School system, within 500m (pick all that apply)	Elementary	10	
		Secondary	4	
		Post-Secondary	1	
Pedestrian Trip Generators	Generators associated with Vulnerable Populations (2.5 pts within 1000m and 5 pts within 500m)	Seniors Facility	2.5 or 5 (score each within 15 max)	
		Hospital or Health Clinic		
		Assisted / Community Housing		
		Other (specify)		
Pedestrian Trip Generators	Community Attractions (2.5 pts within 1000m and 5 pts within 500m)	Mall / Retail Centre	2.5 or 5 (score each within 15 max)	
		Community Centre		
		Major Employment		
		Park		
		Other (e.g. Library, specify)		
Connectivity & Latent	Existing and predicted daily pedestrian usage (pick one)	Heavy (more than 50)	2.5	
		Light (less than 50)	1	
	Direct Connection to Existing Systems (Pick all that are applicable)	Sidewalk System	5	
		Off-road trails	2.5	
		In boulevard trails	2.5	
		On Transit Routes	5	
	Worn Pathway in	Yes	5	
	Requests by Residents	Yes	5	
Total (maximum 100)				

Figure 14. Sample Sidewalk Prioritization Scoring Framework

Implementation management.

Implementation is a multi-faceted and at times complex exercise. A lot can change over the course of 10+ years including internal factors such as staffing, technology and process as well as external factors such as key partners and stakeholders, conditions and experience.

To support the implementation of the proposed infrastructure improvements that have been identified as part of this ATMP it is important to identify, recommend and adopt tools. Processes, steps to guide how to proceed from planning through to design and implementation frameworks (as outlined above), can be effective and efficient with the development and adoption of proper implementation tools.

Not all individuals involved in the implementation process for the ATMP. will have the same access to software or the same roles and responsibilities – see more details on proposed roles and responsibilities in **Chapters 3.0** and **6.0** of the ATMP. The implementation of the active transportation master plan will require the coordination and collaboration of a number of municipal departments as well as external stakeholders.

To facilitate a consistent and coordinated effort, it is important to provide flexible tools to support the management of implementation. By identifying, adopting and sharing these tools it will allow the maximum number of people to not only be involved in the process but will allow for more streamlined communication of information, updates based on progress that is made and adaptation should staff or recommendations be altered.

For the Halton Hills active transportation master plan, there are two tools that have been developed to support the management of infrastructure implementation. The following is a description of these tools and their proposed application.

GIS Database

The GIS database contains up-to-date information on the entire AT network, including proposed routes, facility types and phasing. The database was developed using information provided by Town staff and integrates more detailed information that was gathered as part of the ATMP process.

Following the completion of the ATMP, the Town should continue using the GIS database to track implementation of the AT network. The database can be used to manage municipal assets and communicate project outcomes. It should be updated as new projects are delivered, and changes are made to the network, phasing and project details.

Excel Data-table

An Excel spreadsheet has been created containing the same information as the GIS database. The spreadsheet is meant to be a tool for those who do not have access to GIS software, and will also be responsible for supporting the implementation of the ATMP. As the GIS database is managed and updated, the Excel spreadsheet should be updated as well.

Due to its flexible formatting, the Excel database contains additional costing information for each of the proposed routes. This can be used as an additional resource to inform annual budgeting and decision-making for Council, other municipal departments, and external stakeholders.

4.4 Growth recommendations.

The following is a summary of the recommendations related to the proposed implementation strategy.

4.1

The proposed phasing strategy should be reviewed and adopted as the preferred timeline for implementation for on and off-road AT improvements.

4.2

The phasing strategy should be reviewed on an annual basis to inform capital and operating plans on an annual basis.

4.3

The aspirational projects should be pursued further to determine the viability of the active transportation improvements. The outcomes should be documented

4.4

The on-road improvement process should be used by the public works department at the time any recommended project is identified for implementation to determine the appropriate next steps.

4.5

The off-road improvement process should be used by the recreation and parks department at the time any recommended project is identified for implementation to determine the appropriate next steps.

4.6

The sidewalk improvement process should be used by the public works department to inform the sidewalk prioritization process and to respond to requests as they are submitted.

4.7

The proposed phasing strategy should be reviewed on an annual basis and updated to reflect the implementation of the proposed AT network and updates to the timeline identified for implementation.

chapter 5.0

The sustainability lens.

The active transportation master plan (ATMP) will be adopted with the intent of utilizing the content and recommendations to guide active transportation planning, design and implementation for the next 10+ years until such a time that the Town proceeds with an update or redevelopment of the plan. With the adoption of the active transportation master plan, this functional master plan document now becomes the blueprint and “roadmap” for on and off-road active transportation improvements – both infrastructure and education / encouragement initiatives.

Sustainability means that there are processes, protocols and practices in place that ensures that the implementation of the active transportation master plan is consistent, coordinated and efficient. It means that the plan has the necessary information to provide guidance to those involved in the implementation of the plan while also being able to adapt with change that may occur over the next 10-years.

Sustainability in the context of active transportation in the Town of Halton Hills means that there is now one central source of information for the planning, design, implementation and promotion of walking, cycling and self-propelled forms of transportation all with the intent of creating considerable behaviour and cultural changes.

Chapter 5.0 recommends a three-part approach to creating a sustainable master plan including recommended active transportation supportive policies, roles and responsibilities for internal staff and external partners, maintenance as well as monitoring and evaluation of change. Together these form a “sustainability strategy” for the active transportation master plan to ensure that commitments are made, kept and fulfilled.

5.1 Sustainability strategy.

A lot can change in a 10-year timeline; staff, stakeholders, vision, priorities, etc. can all shift significantly year to year. Having a consistent and documented approach to achieving the overall vision of the ATMP and continuously shaping the community is critical to establishing a sustainable approach to implementation. There are three core components of a sustainable and successful active transportation master plan:

Policies.

The foundation upon which long-term planning changes are made within a community. The Town's policies need to be reviewed and at times revised to ensure that there is sufficient support for active transportation. The ATMP provides an understanding of the current state of municipal policies and provides recommendations on how existing policies could be enhanced to provide greater planning support for active transportation. It also outlines recommendations for potential improvements to existing policies and emerging areas of consideration based on the Town's strategic priorities.

Roles & partnerships.

First, internal roles including an understanding and clear communication of “who does what” so that if there are significant staff changes, the knowledge and process can be handed to the next individual responsible; and second, external roles which include partners from allied agencies or other existing or potential partners that could support the implementation of the master plan or coordinate to share experiences and lessons learned during the process.

Maintenance.

The practices and protocols to ensure that what is implemented through this master plan remains in high-quality, working condition where users feel safe and comfortable no matter the time of year, the age of the facility or location of the route. Guidance on aligning with provincially accepted standards and adapting the town's practices and equipment to reflect the changes that need to be made to encourage active transportation is also provided to inform future internal discussions between staff and external discussions with colleagues from comparable municipalities.

Monitoring.

An approach to support the assessment and understanding of the experience and the outcomes associated with implementing the active transportation master plan. A strategy to understand the impact of the changes will help to determine if changes need to be made or if the desired outcomes are achieved.

5.2 Supportive Policies

The growth that the Town of Halton Hills is experiencing is driven primarily by the planning policies that have been adopted at the local, regional and provincial level. Growth within the Town of Halton Hills is occurring both within the built up / urban areas as well as in the designated greenfield areas contributing to an increase in the number of individuals commuting to and from other municipalities within the GTHA.

To create long-term planning changes and to achieve the provincial directives that have been provided, there should be policy updates and amendments made along with new policies to address some of the key emerging trends. The following section provides an overview of recommended policy trend considerations as well as recommendations on which policies to review and how in order to ensure that there is sufficient strength for active and sustainable community development and supportive transportation, mobility and recreation systems.

Complete streets.

- The concept of complete streets are based on the principle that streets be tailored to specific considerations and feature treatments that encourage a greater sense of comfort and safety for everyone. They are meant to be designed and operate to allow for safe access by all potential users including pedestrians, cyclists, motorists, transit users, etc. depending on the content and function of the street.
- The key to complete streets is that their design accommodates people of various ages and abilities but does not necessarily mean that all modes can be accommodate within the space that is being designed.
- Complete Streets can be implemented in both urban and rural environments and support streets as public spaces and destinations rather than just transportation corridors. Context specific considerations help to improve applicability.
- There are a number of core elements associated with effective complete streets policies including the identification of design applications for a range of stakeholders as well as coordinated efforts to manage trade-offs

Policy Recommendation:

A complete streets policy should be prepared either as part of a wider transportation master plan or as a stand-alone document building upon the recommendations found within technical memo #1.

E-Bikes.

- A more detailed definition of where e-bikes are and regulations on where it is appropriate to use them (within the Province of Ontario) have been defined and adopted. These regulations provide municipalities with some challenges on where and how they should be permitted.
- When updating municipal policy, consideration should be made to:
 - Allow the use of e-bikes by police and emergency services in the line of duty so these can be used for use for patrols and emergency access;
 - Allow the use of e-bikes by municipal staff while performing duties, should the municipality wish to use e-bikes for some duties in the future rather than full sized service vehicles or gators; and
- Monitor evolving best practices related to e-bikes, including any changes in legislation at the provincial level given this is an emerging issue that many municipalities are challenged to resolve.
- There should be additional consideration for how e-bikes can be integrated and accommodated into the design of cycling infrastructure. Though restricted on the pathway system, there should be consideration for defined locations where e-bikes may be permitted both on and off-road and a complementary education program the public on how to do so safely and comfortably.
- Where possible e-bikes should be considered as future cycling amenities are designed i.e. bicycle parking, bike share, fix-it stations, etc.

Policy Recommendation:

Municipal by-laws that either permit or restrict uses of active transportation infrastructure should be reviewed and updated to clarify the specific locations and applications of e-bikes consistent with provincial legislation and best practices.

Liability.

- As bicycles are considered a vehicle under the Highway Traffic Act it means that if cycling facilities are improperly designed, constructed or maintained the Town may be exposed to some level of liability.
- On-road facilities typically fall into the same liability category as roadways and sidewalks, as do off-road facilities that permit cycling.
- Because of past case law, cycling facilities would be considered under many of the same basic immunities as other Highways. This further reinforces the importance of adhering to provincial and national design guidelines and standards as they provide the greatest legal protection.
- The following considerations should be incorporated into day to day risk management:
 - Improve the physical environment and increase public awareness of user rights and obligations;
 - Design facilities in compliance with best practices;
 - Design facilities in compliance with applicable laws and regulations;
 - Monitor on and off-road facilities through regular patrols and document physical conditions;
 - Avoid use of the term “safe” or “safer” for active transportation facilities;
 - Maintain proper insurance coverage.

Policy Recommendation:

In consultation with legal advisors’ municipal staff should review current processes and practices to ensure that there are no preventative elements that hinder the ability to implement and design AT facilities. When reviewing road classification, consider how design guidelines and policies should be enhanced or improved to reduce personal injury or impact.

Accessibility.

- The Accessibility for Ontarians with Disabilities Act (AODA) promotes the goal of making Ontario accessible for people with disabilities by 2025. The Accessibility Standards for the Built Environment applies to pathways, trails and sidewalks with the overall goal of designing spaces that remove barriers to buildings and outdoor amenities.
- When designing off-road pathways facilities, the Town should refer to the Built Environment Standards to ensure that the needs of all user groups are accommodated.
- The requirements of the AODA must be met to the greatest extent possible, given the context of each route location, the surrounding environment and type of trail experience that is desired. Sections 80.8 and 80.10 provide the technical requirements for multi-use recreational pathways.
- The communication of information in addition to the design of infrastructure should strive to provide alternatives and options that are reflective of accessibility requirements including wayfinding and signage along AT routing but also the education and encouragement information.

Policy Recommendation:

Where possible the design related accessibility principles should be integrated into guidelines and standards including but not limited to select trail standards through the adoption and application of the trail hierarchy.

New development.

- Planning for active transportation facilities is a critical component of the land development process. When a new development is being designed, developers should be expected to work through a process to create an appropriate network within their development area that reflects the intent of the ATMP.
- Many developers understand and acknowledge the value of integrating AT facilities into their projects. The added value that these features provide can have a positive effect on home sales and neighbourhood desirability.
- When integrating AT into new development areas developers should consider topography, drainage, slopes, soil conditions, plant and animal communities, microclimates and human comfort, historic / cultural resources, public education and significant views and vistas.
- The implementation of AT facilities within new development areas connecting to existing and proposed routes should be considered a priority within planned development areas and future development areas and communication with the developers prior to or during the site plan application process should be pursued.

Policy Recommendation:

The Site Plan development and approvals process should be reviewed and updated (as needed) to reflect the implementation of new facilities. Connections should be made that are reflective of density, variety, hierarchy and character.

The consideration of AT facilities as part of the development process; conceptual / layout plans, detailed design drawings, development agreement requirements and inclusion under the development charges by-law should be explored. Site plan requirements should be reviewed to provide maximum benefit while considering the experience gained in past developments.

In addition, pedestrian infrastructure in new residential, industrial or commercial areas should be requested in accordance with the Town's Engineering Design Standards or as determined by Town staff to provide direct or indirect linkages for pedestrians.

Intensification.

- Intensification can be challenging given the intermediate disruption of construction and perceived impacts to neighbourhood character however, is required within the urban areas of Halton Hills, as mandated under the provincial Places to Grow Act.
- The implementation of new AT routes and facilities or the enhancement or existing facilities within urban areas and surrounding hamlets is important to ensure that the transportation planning reflects the land-use planning existing and emerging trends.
- Opportunities for active transportation improvements within the built-up areas typically occur within the road right of way or within the boulevard but require consideration for the reallocation of space.
- Though planned improvements are identified within a strategic planning document they may prove to be more challenging when they get to the point of detailed design and construction and will require a considerate and collaborative consultation process.

Policy Recommendation:

Where new on or off-road improvements are being implemented or enhancements are being made to an existing route or facility, there should be consideration for additional consultation and engagement with local residents and stakeholders as part of the implementation (see **chapter 4.0** for details). The level of consultation should be determined based on the project location, required design approvals, scope / complexity, identification in the ATMP or other strategic planning documents and / or past support or issues raised by the community. Four levels of consultation should be considered:

1. Notification – for projects proposed on Town-owned lands produce a public notice
2. Neighbourhood meetings – for projects approved through the master plan but not yet tendered.
3. Focus group sessions – an outcome of a neighbourhood meeting where revisions to the design concept are made to move forward with approvals
2. Broad Consultation for EA – where a project triggers an EA study and consultations are completed to meet EA requirements.

Policy enhancements.

The active transportation master plan is part of a structure of planning policy tools that help to guide decision making related to active transportation for the Town of Halton Hills. The ATMP is a functional master plan in a traditional planning policy structure which means that it provides a more in-depth “look” into a specific municipal servicing topic. Functional master plans are part of a tiered approach to policies starting with provincial statutes to localized land-use controls. Each tier has a different impact and role on how active transportation is addressed by the Town.

Policies are the most powerful tool to create meaningful and long-term planning changes. As such, it is important to ensure that the policy reflects the priorities and directions of the Town related to active transportation. A key term search is a widely accepted policy review tool to determine the effectiveness of policy documents and to determine if there is a need improvement. A key term search starts with the identification of a hierarchy of terms.

The intent of the policy effectiveness evaluation is to identify and prioritize the frequency of the primary terms (highest importance and thus need for inclusion) to understand where improvements can be made, while the secondary and tertiary terms reflect broader which support cycling goals and should be considered generally through policy updates and improvements.

As part of the development of the ATMP, a key term search was utilized to gain a better understanding of the potential areas of policy improvement. The results of the search are provided in technical memo #1. This information coupled with input gathered from engagement with staff, stakeholders and the public were

used to identify recommended areas of improvement within the existing policy structure which are presented on the following page.

Official plan.

- Adopt the ATMP vision and objectives or integrate key themes into guiding principles.
- Integrate AT considerations into other complementary sections of the policy.
- Consider the role land-uses play in encouraging recreational and commuting trips.

Transportation Master Plan.

- Incorporate consistent recommendations.
- Include ATMP mapping as schedules.
- Align phasing with other capital infrastructure improvements.

Secondary plans.

- Use the proposed routing in the ATMP to identify routes within secondary plan areas.
- Achieve wider connectivity through integration of networks within the secondary plan area to the AT network.
- Identify opportunities for site specific enhancement though localized amenities.
- Where possible identify complementary land uses to encourage AT trips.

By-laws.

- Continue to enhance and encourage active transportation infrastructure as eligible projects under the DC Bylaw.
- Restrict on-street parking in locations where there are on-road cycling facilities and ensure no cycling on sidewalks.
- Update the zoning by-law to address the provision of e-bikes and bicycle parking.

Roles & partnerships.

The implementation of the ATMP will require a considerable amount of effort to facilitate implementation. The leadership, collaboration and commitment demonstrated by Town staff, members of committees to Council and decision makers as part of the development of the ATMP should continue to be encouraged with similar roles and responsibilities maintained to facilitate efficient and effective implementation. In the 2010 Cycling Master plan, a recommended reporting structure was identified and adopted to facilitate the implementation of the master plan and its recommendations.

Presented in **Figure 15** of the previous master plan, this structure still remains applicable from a roles and responsibilities perspective. It clearly articulates the Town staff to will lead the various components of the strategy as well as the technical agencies that need to be involved in decision making. That said, as is the theme of the majority of the ATMP, this new guiding document is not just a cycling plan and quite a bit has changed in the past 10 years. As such, the reporting structure has been updated slightly.

Figure 15. Proposed reporting structure for ATMP implementation



What are the roles and responsibilities?

Clarity around who does what can be the difference between an effectively and efficiently managed active transportation master plan and one that “stays on the shelf”. There are a number of recommendations that have been identified through this plan and the work to implement those recommendations will be a collaborative effort. Based on the reporting structure noted above, the following assumptions related to roles and responsibilities for internal staff have been made and are recommended for adoption.

- The Town is encouraged to identify an existing staff person or hire a new staff person to lead the implementation of the ATMP as per the recommendations identified in chapter 3.0;
- Similar to the successful Bike-it committee efforts should be made to pursue the development of a trails committee to support the implementation of off-road improvements the reports through to the active transportation committee;
- The on-road improvements of the ATMP will be implemented by public works while the off-road improvements will be led by the recreation and parks department;
- For matters related to education and encouragement, through the AT coordinator, efforts will be made to leverage input from the committee as well as external stakeholders;
- For any development related coordination, the public works lead and the recreation and parks lead will engage with planning and development; and
 - Council and members of the senior leadership team will be responsible for providing confirmation of annual budget allocation and decision making.

Partnerships.

Equally important to the internal roles and responsibilities are partnerships with external stakeholders and technical agencies who have supported active transportation within the Town of Halton Hills and who have a role in the implementation of critical components or initiatives. The following is a summary of those partners as well as the recommended role to support the implementation of the ATMP.

Halton Region.

Implementation and off-road active transportation infrastructure along regional roads which provide a spine network of north-south and east-west corridors connecting major communities in Halton Hills and provide support initiatives and programs to promote non-motorized travel to 2031.

Surrounding Municipalities.

Implement routes municipal roadways under the jurisdiction of surrounding municipalities that provide inter-municipal connectivity and connect to Halton Hills.

Ministry of Transportation Ontario (MTO).

The implementation of proposed active transportation linkages which impact provincial highways or cross provincial barriers and require approval by the Ministry of Transportation.

Halton Tourism.

Identify opportunities to enhance and promote active transportation tourism destinations and identify opportunities to highlight supportive businesses with the potential for a coordinated signage and wayfinding program region-wide.

Halton Region Police.

Monitor and enforce safe and proper cycling / pedestrian activities and provide the town with up to date information on collisions or related requests.

School boards.

Provide input on opportunities to partner with local schools who may be interested in participating in local events.

Conservation authorities.

Provide input on the potential connections which can be made into local conservation lands and opportunities to highlight local natural areas. The conservation authority also has other activities which they are required to undertake based on the Conservation Authorities Act Regulation (Section 28). Conservation Halton plays many roles in the planning review process, both as an advisory agency and regulatory agency, pursuant Ontario Regulation 162/06.

Regional stakeholders.

Regional stakeholders such as the Trans Canada Trail Association, Ontario Trails County, Green Communities Canada, The Centre for Active Transportation and Share the Road Cycling Coalition should be engaged as the ATMP to encourage and support education and encouragement opportunities and initiatives. .

Local interest groups.

Local advocacy groups are represented by Town residents of varying ages and abilities. These groups have first-hand knowledge of routes in Halton Hills and may identify opportunities for local events to promote active transportation.

5.3 Maintenance.

Maintenance of active transportation routes should be part of a commitment to provide high-quality routes and facilities to users in Halton Hills. Maintenance practices vary by municipality and the requirements are typically different for routes found within the road right of way and those found outside of the road right-of-way. The appropriate maintenance of active transportation facilities can leverage capital investments, support user safety and comfort while also increasing the lifespan of the infrastructure. As the Town continues to invest in active transportation infrastructure – both on and off-road - the maintenance practices and level of service will need to be adapted to address new facilities, expectations of the public and minimum standards. In principle, priority should be given to routes and roads where there is a high volume of automobile, pedestrian and cyclist traffic.

It is important to note that municipalities currently use the Provincial Minimum Maintenance Standards Ontario Regulation 239/02 to inform maintenance practices, including those for active transportation facilities (found within the road right-of-way). These standards are in the process of being updated by the Province. The Town should proceed to update its on and off-road route maintenance practices (consistent with the MMS) and assess the impact to operating budgets, equipment needs and resources. At the Provincial level, the Minimum Maintenance Standards (MMS) – recently updated - now provides greater guidance around the maintenance of active transportation infrastructure – specifically on-road cycling facilities and sidewalks. The following is a summary of the minimum recommended service levels for non-winter maintenance activities which has been adapted from OTM Book 18 (2020).

Type of maintenance.

Patrol and inspection to check conditions

Sweeping (10.2.1)

Surface discontinuities (10.2.21)

Cracking (10.2.2.2)

Potholes (10.2.2.3)

Surface Drop-off at shoulders (10.2.2.4)

Differential settlement (10.2.2.5)

Vegetation management (10.2.3)

Drainage improvement (10.2.4)

Signage (10.2.5) and
pavement markings
(10.2.6)

Service Level Criteria

3 times every 7 days to one every 30 days (O. reg 239/02 s. 3)

Scheduled sweeping weekly to monthly; deploy resources outside of scheduled sweeping as soon as practicable after becoming aware of debris (O. Reg 239/02 s.9)

Greater than 5cm height within 2 to 21 days after acquiring knowledge (O. Reg 239/02 s.16)

Greater than 5cm wide and 5cm deep (O. Reg 239/02 s.8)

600cm² by 8cm deep within 4 days (O. Reg 239/02 s.6)

Deeper than 8cm (O. Reg 239/02 s.7)

Change in level must be less than 6 mm (AODA)

Routing mowing including daylight triangles at intersections, annual trimming of bike path trees

Part of annual inspection; respond to issues as needed

Refreshed as needed

Separation maintenance.

The proposed active transportation network recommends the implementation of new cycling facilities, specifically a greater focus on separated cycling infrastructure including cycle tracks and buffered bike lanes. The cost to implement and maintain these facilities – specifically the physical and spatial features that separate the cyclists and pedestrians from the motorists - is greater than that of the most traditional cycling facilities. That said, it can also be argued that the impact that they have on creating safe and comfortable connections of interest to people of all ages and abilities would far out weigh the cost.

As the Town of Halton Hills moves forward with implementation of the proposed active transportation network and as new separated cycling facilities are constructed, maintenance practices will need to be adapted as will the tools and the equipment – depending on current practices and stock. The following table provides an overview of the types of physical delineators that could be implemented for improvements identified as cycle tracks, buffered bike lanes or buffered paved shoulders. Note that this does not include the cost for spatial separation i.e. painted lines as those are included in the information above.

Physical Delineator Type for Separated Facilities	Estimated Replacement Rate (Supplier)	Estimated Replacement Rate (WSP Estimate)
Flexible bollard mounted in asphalt	10% annual replacement rate	25% annual replacement rate
Flexible bollard mounted on precast concrete curb	5% annual replacement rate	10% annual replacement rate
Rubber curb delineator	N/A	20% annual replacement rate
Precast concrete curb	N/A	10% annual replacement rate
Planter Box	N/A	5-10% annual replacement rate

The Town of Halton Hills has not yet determined the design and application of physical separation for proposed separated on-road improvements as part of the active transportation network. The information contained within chapter 2.0 related to the benefits and drawbacks of various separation design options, combined with the information related to the maintenance of those options should be used to determine the most appropriate method of separation. This should be considered along with the overall intent and location of the route in addition to the design preferences and aesthetic of the Town.

Seasonal maintenance.

Canada is not a single season Country. One of the key reasons why people justify not walking or cycling is due to the weather and the impact that it has on the safety and comfort of active transportation choices.

With the adoption of the active transportation master plan and the implementation of active transportation infrastructure the Town of Halton Hills should proceed with identifying core connections within the Town which are identified for not only seasonal maintenance but for year-round maintenance to encourage greater commuter and recreational travel.

If the Town of Halton Hills selects to proceed with a winter-maintained network, it may be helpful to understand the community needs prior to development and adoption and educate and communicate with the community once the approach has been adopted.

The following are some recommendations as to how these routes would be identified:

- Through the AT committee and Bikeit Committee, the Town engage with the community specifically on winter cycling to determine if there is need or interest for a winter-maintained network;
- Town staff undertake additional research to better understand the winter maintenance practices and equipment used by other municipalities for comparable activities;
- Town staff in partnership with committee members and volunteers to identify routes which could be candidates for the winter cycling network.

Should the Town proceed with a winter maintained cycling network the following practices are recommended for consideration as per the guidelines identified in OTM Book 18 to help inform discussions regarding the anticipated level of service. For additional information associated with the maintenance of a primary cycling network please refer to the details provided in section 10.3.1 and 10.3.2 for a better understanding of not only practices but the equipment that would be needed.

	Priority Cycling Network (same as Class 1 Roadway)	Other Cycling Facilities
Snow clearing (10.3.1)	Maintain to the same standard as adjacent road; bare pavement within 8 hours of the end of the snow event or by 7 a.m. and 3 p.m. on a weekday	Maintain to 2.5cm within 24 hours
Ice Treatment (10.3.1)	Treat within 3 hours or by 7 a.m. and 3 p.m. on a weekday	Treat within 16 hours
Ice Prevention	Proactive anti-icing approach applied up to 24 hours prior to a storm event	Optional

Table 9. winter maintenance practices based on recommendations outlined in OTM Book 18 Table 10.7

5.4 Monitoring & evaluation.

To understand how implementation is progressing, it is critical to adopt and utilize a process to monitor and evaluate the successes, challenges, lessons learned and areas of improvement. The ultimate goal of the active transportation master plan is to make meaningful improvements to the infrastructure, programming, environment and behaviours related to or impacting active transportation within the Town of Halton Hills. A monitoring plan is an important components of the success of the ATMP. Establishing a set of consistent measures and a process to gather and evaluate those measures can help staff prioritize future projects, rationalize investments and allocate resources.

Municipalities that have adopted effective monitoring and evaluation strategies have been able to:

- Demonstrate the value of active transportation investments to citizen and elected officials;
- Track the success of a program or facility that has been implemented;
- Inform investments through data-driven measures of success;
- Comply with funding requirements from varying levels of government;
- Produce a better and healthier built environment for residents;
- Provide information to engage a broader set of stakeholders in a more tailored manner; and
- Capture the value of new and innovative datasets and data collection methods for active transportation.

The type of performance measures applied by municipalities can vary depending on desired outcomes and data available. As performance measures become more widely used, the need to incorporate them into municipal planning processes becomes critical, especially to help inform the annual budgeting process to leverage increased capital investments that support the implementation of the ATMP.

Table 10 outlines performance measures that the Town could consider using to document results of implementing the recommended active transportation network. The recommended performance measures are based on best practices and key indicators used by municipalities in Ontario. The first step towards development of the monitoring plan is to identify key stakeholders including but not limited to members of the AT committee and the bike-it committee that can collect and compile the necessary information to facilitate measurement.

Town staff are encouraged to track the measures on a yearly basis and create a report that summarizes the indicators as it relates to the goals and objectives of the ATMP.

This annual report could be used to demonstrate the meaningful improvements in cycling and other associated improvements and to publicly demonstrate return on investment. Through the life cycle of the strategy, the performance measures should be re-evaluated on a regular basis, and the data used to inform future improvements.

Performance measures.

Measures.	Metric.	Indicator.
Collisions	Number of collisions	#
	Traffic volume	#
	85 th percentile operating speed	#
	Perceived safety	Qualitative
Public Health	Individual activity levels	#
	Time walking or biking per day	#
	Air quality index	#
Facility Use	User counts	#
	Mode split	#
	Duration of trip	#
	Walking or cycling trips to school by youth	%
Equity / Coverage	Proximity to vulnerable populations	#
	Number of major destinations it connects too	#
Network	Number of on-road improvements added	#
	Number of off-road improvements added	#
	Number of sidewalk improvements added	#
Supportive Features	Number of bike parking spots	#
	Use of bike parking spots	%
	Number of new trail / route signed added	#
Investment	Capital allocation on active transportation projects	%
	Grant applications for active transportation projects	\$
Economic Development	Number of cycle tourists	#
	Number of trail tourists	#
	Customer by travel mode	%
	Revenue by travel mode	#
Promotion	Number of campaigns undertaken	#
	Creating of AT specific guides	Y/N
	Development of an online hub of AT information	Y/N
Enforcement	Drivers ticketed for unsafe road practices	#
	Sidewalk cycling tickets issued	#
	Citations for poor trail etiquette	#

Table 10. Proposed performance measures for consideration by Halton Hills

5.5 Sustainability recommendations.

The following is a summary of the recommendations related to the proposed sustainability strategy.

5.1

As policies are reviewed, revised and amended, the policy themes and considerations contained within the ATMP report.

5.2

Pursue the development of a complete streets policy document and / or a component of a TMP update as well as a supportive complete street design manual to address the design and implementation of complete streets.

5.3

Adopt the reporting structure and the defined roles and responsibilities as the active transportation related work plan associated with municipal staff.

5.4

Secure either a part-time or a full-time staff person to serve as the active transportation coordinator for the Town of Halton Hills. If a part time staff is selected, identify opportunities to reassess roles and responsibilities after 1st or 2nd year to determine if additional staffing is required.

5.5

Establish and develop a terms of reference for a trails advisory committee as part of the AT committee.

5.6

Review and revise current maintenance standards and practices to reflect (at a minimum) seasonal maintenance for AT infrastructure for existing and proposed routes as they are implemented.

5.7

Review current equipment to determine if there are investments that need to be made to the current fleet.

5.8

Identify a winter-maintained priority active transportation network and select routes based on input from the bike-it committee and staff.

5.9

Establish an approach and a set of performance measures to support the implementation of a monitoring and evaluation program specific to active transportation in Halton Hills.

5.10

Work with local committee members and stakeholders to support the acquisition of relevant data and information to support the monitoring and evaluation program.

Chapter 6.0

The Finance Lens.

Municipal planning, coordination, design, construction and monitoring requires budgetary and financial support. Municipalities need to invest in the changes they want to make to fulfill the vision and aspirations that they wish to achieve. While the active transportation master plan does not commit any municipal funds, it should provide sufficient information and detail to support annual decision making related to capital and operational budgeting.

Funding needed to facilitate the implementation of the active transportation master plan must come from a range of sources and should be flexible to the community priorities and interests that emerge. Municipal budgets are developed annually on a department by department basis. As the implementation of the active transportation master plan will be undertaken by many different municipal departments (see roles and responsibilities in Chapter 6.0), funding should also be tailored to this cooperative implementation approach. Whether the municipality finances AT through a separate annual budget or through other funding streams based on municipal priorities and interests, staff should continue to coordinate the implementation of the active transportation master plan (ATMP) up to budget making and approval. Financial sustainability is a key consideration and priority for the Town of Halton Hills. It should not be the sole responsibility of the town to fund the outcomes of the plan.

Chapter 6.0 provides a high-level overview of the anticipated costs associated with the implementation of this active transportation master plan including infrastructure, education and encouragement initiatives as well as maintenance. To finance the implementation of the proposed improvements and initiatives, a set of funding sources have been identified including internal and external methods which are meant to be monitored and maintained over the course of the 10+ year implementation horizon and beyond.

7.1 Financial approach.

The financial approach behind the implementation of the active transportation master plan should reflect and be consistent with the recommendations provided in **chapter 3.0** – the proposed education and encouragement action plan and **chapter 4.0** – the proposed infrastructure implementation plan.

A master plan is not meant to provide a comprehensive overview of specific construction and coordination costs associated with these recommendations. It is however, meant to provide a high-level overview of potential cost impacts which will need to be reviewed and confirmed once the Town determines when projects or initiatives proceed.

The information contained within a master plan should be used to help inform specific implementation priorities and timelines but should not determine whether a project proceeds. Costing information listed should be used to start the conversation around funding and budgeting options and alternatives – both internal and external.

The costing information that has been developed for the Halton Hills Active Transportation Master Plan was developed based on many input and assumptions. The following is a summary of those considerations:

- Costing was developed using unit prices gathered through the published experiences of other municipalities in Southern Ontario. Unit cost assumptions have been provided to municipal staff.
- These costs should be the foundation for annual budgetary discussions and decisions made by Town staff and be revised as needed to reflect up to date information.
- The costs are not meant to be prescriptive but provide a preliminary estimate of the potential implementation costs.
- The costing information has been embedded into the robust implementation management tool identified in **chapter 4.0** that practitioners can adjust based on new information that emerges closer to the time of implementation.
- The costs associated with the education and encouragement action plan is heavily based on best practices from past initiatives completed by comparable municipalities and may vary depending on community capacity and availability.
- The costs do not include voluntary efforts made by staff or supports “in kind” from community members and partners.
- Costs associated with the maintenance of physical infrastructure will vary depending on staff availability as well as weather conditions. The listed costing does not provide recommendations on the types of maintenance vehicles or tools that would be needed to facilitate seasonal maintenance for the AT network. Details on the approach are provided in **section 4.1.3**.

The information contained on the following pages has been organized into three sections, the costs associated with on-road improvements, the cost associated with off-road improvements; and the implementation of education and encouragement initiatives as outlined in **chapter 3.0**. A breakdown of on and off-road costs by phase is provided on the following page

On-road.	<u>Short-term</u>	<u>Medium-term</u>	<u>Long-term</u>
Multi-use Pathway (Boulevard)	\$767,606	\$2,134,289	\$1,275,630
Cycle Track	\$1,038,796	-	\$1,099,433
Buffered Bike Lane	135,585	\$21,384	\$462,550
Buffered Paved Shoulder (Existing Platform)	-	-	\$704,799
Buffered Paved Shoulder (No Platform)	-	-	\$3,689,701
Bike Lane	\$80,889	\$34,752	-
Paved Shoulder (Existing Platform)	\$207,441	\$663,196	\$1,413,231
Paved Shoulder (No Platform)	-	\$2,895,166	\$2,569,213
Signed Route	\$136,899	\$31,467	\$59,765
Urban Shoulder	-	-	\$12,588
Off-road.			
Type 1 Trail Primary	\$151,372	\$1,820,957	-
Type 2 Trail Secondary	\$681,213	\$3,876,210	\$1,927,454
Type 3 Trail Tertiary	-	-	-

Figure 16. Summary of proposed on-road improvement costing

The proposed costing – specifically the unit costs - should be reviewed and confirmed on an annual or bi-annual basis to determine if the assumptions are still applicable or if there are any revisions that need to be made. Information sharing between departments as it relates to active transportation costing should be coordinated by the active transportation committee or the internal working group led by the active transportation staff designate.



Education and encouragement costing.

Halton Hills has an opportunity to establish itself as a leader among smaller and mid-sized municipalities in Ontario when it comes to promoting and supporting active transportation. While communities are focusing on building new physical infrastructure that accommodates active transportation, many are also supporting the social infrastructure necessary to promote behaviours and that value active mobility. For Halton Hills; whose ATMP intends to establish the Town as a place where walking, cycling and wheeling are commonplace, comfortable and enjoyable, investing in efforts to as achieve this cultural shift remains a necessary imperative.

First and foremost, before actions within this chapter are undertaken, the Town will need to increase staffing capacity dedicated towards active transportation. This will ensure that relevant projects receive the necessary attention to exhibit meaningful results. As a minimum, the addition of 0.5 FTE will be required to help market and administer the Active School Travel program. For a more comprehensive cultural shift, involving Active School Travel and other transportation demand management programs, an additional w 2 FTE is needed Through these staffing capacity increases, the remainder of the work plan can be put into place.

Costing details associated with the proposed action plan are presented on the following page. When broken down, the entire body of programs outlined in this chapter could likely be delivered on a budget of approximately \$86,000 annually, with an additional \$42,000 in start up costs. This would include items involving material development and distribution, market research and surveying efforts, the development of new relationships, incentives and financial compensation for instructors, lead volunteers and other community partners. Some of these costs (like the cost of purchasing bike racks) could also be repaid if the Town sells the racks to private businesses, driving costs down further.

From an evaluation of the most effective community based social marketing (CBSM) programs that support active transportation across North America, communities generally spend between \$1 and \$2 per capita. This figure puts the proposed costing recommended for Halton Hills to administer a similar CBSM program of its own.

For Halton Hills to become a community where walking, cycling and wheeling are more common, current attitudes, behaviours and social norms must change. This chapter has outlined a method to achieve those goals, based on conversations with key stakeholders in the community and applied best practices from cases all over North America. We are confident that Halton Hills' embrace these actions, in conjunction with the infrastructure improvements outlined in the remaining sections of this report, will position in to be a leader in active transportation for years to come.

	Cost	Annual
Foundational Actions.		
Part 1: capacity, connections, audiences and branding	\$10,000 (one time)	\$40,000 (total)
Part 2: marketing campaigns	\$25,000 (annual & one-time)	\$20,000 (one time) and \$20,000 in ongoing program costs
Part 3: monitoring and reporting	\$5,000 (annual)	
First Steps.		
Active School Travel	\$10,000 (annual)	
Promotional Events	\$5,000 (annual)	
AT Speaker Series	\$1,000 (annual)	\$21,000 annually
Expanding Bike Rodeo & Bike Maintenance Availability	\$4,000 (annual)	
Incentive Programs	\$0 (in-kind support)	
Going Further.		
Bike Parking Inventory & Partnership Program	\$5,000 (one time)	\$24,000 (total)
Pop-up / Demonstration Project Toolkit	\$5,000 (one time)	\$12,000 (one-time + expenditures)
Expanded Valet Services	\$4,000 (one-time + annual)	
Enhanced Marketing of Cycling & Walking	\$10,000 (annual)	\$12,000 (annual)
Leading the Way.		
School Streets Programs & Additional AST Support	\$15,000 (one-time + annual)	\$43,000 (total)
TDM Programs & Policies	\$25,000 (annual)	\$10,000 (one-time + expenditures)
55+ Cycling Workshops	\$3,000 (annual)	
Bike Share System	Cost to be confirmed	\$33,000 (ongoing)

Table 11. Summary of proposed education and encouragement action plan costing.

Maintenance costing.

The cost to implement the active transportation master plan does not only include the construction of infrastructure and implementation of education and encouragement tactics. As the network is built and interest is generated, there is also an expectation around the quality and frequency of maintenance of the active transportation infrastructure.

As sidewalk maintenance is already reconciled within the existing municipal services budget, it is the maintenance of off-road trails and on-road cycling infrastructure that requires further review and consideration. Current sidewalk maintenance should be expanded as missing links in the sidewalk network are filled to ensure that the pedestrian network remains connected, continuous and safe all year round.

When considering the maintenance of active transportation facilities, the following are typical practices that are utilized:

- Sweeping / cleaning;
- Surface repairs;
- Life Cycle Replacement
- Pavement markings & signage;
- Maintaining signage;
- Updating by-laws;
- Vegetation management;
 - Snow clearance / ice control; and
 - Drainage improvements and bicycle-friendly stormwater gates.

As the Town's AT network expands, the maintenance practices and level of service will need to be adapted to address the new standards, facilities and expectations of the public.

With the adoption of the ATMP Halton Hills should:

1. Review and, where needed, revise maintenance guidelines and standards adopted by the Town to align with the Minimum Maintenance Standards (see the details in **chapter 5.0**);
2. Explore and adopt the necessary by-law and policy revisions to allow for those routes to receive higher priority of maintenance;
3. Review current guidelines and standards compared to the fleet of maintenance vehicles and operational tools and determine whether investments need to be made to enhance both the practices and the tools;
4. If a staggered approach to maintenance is needed, priority should be given to routes and roads where there is a high volume of existing vehicular traffic as well as active transportation traffic or where the infrastructure that is being implemented may increase the demand or level of participation.

To inform annual operating budget decisions for the maintenance of active transportation routes and facilities within the Town of Halton Hills, a high-level list of possible maintenance costs has been provided as a resource for Town staff. These estimates have been developed based on information gathered from comparable municipalities; however, staff are also encouraged to reach out to municipalities to learn more about their practices, their tools, lessons learned and budget considerations and approaches.

Municipal references could include the following comparable municipalities: City of Hamilton, City of Ottawa, City of London, City of Toronto and the Cities of Brampton, Oakville and Burlington. In addition, the Town should refer to the guidelines contained within Ontario Traffic Manual Book 18 specifically the recommendations provided within section 10 of the guidelines.

The information presented in **Table 12** is meant to be a starting point to initiate and inform discussions between Town staff related to the asset management and maintenance of walking and cycling infrastructure throughout the Town. As needed, the Town should pursue additional internal discussions regarding municipal liability and insurance impacts with guidance from local experts as well as provincial and regional champions. In addition to the costs associated with the construction of active transportation facilities there should be consideration for defining a minimum grid system of specific routes or facilities where there is an expectation that year-round maintenance will be achieved.

	Cost	Facility Application
Painted Line Markings	\$2.5 / m	<ul style="list-style-type: none"> — All facility types except Off-Road Trail — Painted Line Markings are optional for In-Boulevard Multi-Use Paths
Cold Plastic Line Markings	\$5 / m	<ul style="list-style-type: none"> — All facility types except Off-Road Trail — Cold Plastic Line Markings are optional for In-Boulevard Multi-Use Paths
Painted Stencils	\$50 / each	<ul style="list-style-type: none"> — All facility types except Off-Road Trail and Urban Shoulder — Painted Stencils are optional for In-Boulevard Multi-Use Paths
Cold Plastic Stencils	\$275 / each	<ul style="list-style-type: none"> — All facility types except Off-Road Trail — Cold Plastic Stencils are optional for In-Boulevard Multi-Use Paths
Route Sign	\$260 / km	<ul style="list-style-type: none"> — All facility types — A signage and wayfinding strategy may be appropriate for Off-Road Trails
Sweeping Costs	\$2,400 to \$4,000 / km	<ul style="list-style-type: none"> — All on-road facility types

Table 12. Summary of typical maintenance costs as well as estimated costs for the proposed AT network

Using the high-level maintenance costs noted on the previous page, the recommended active transportation network as well as the phasing strategy were reviewed and a high-level set of maintenance costs for built-out of the AT network were identified. They are presented for the Town’s review and consideration in **Table 13**.

	Cost	Total Kms	Cost Estimate
Painted Line Markings	\$2.5 / m	164.97	\$824,836
Cold Plastic Line Markings	\$5 / m	164.97	\$1,649,672
Painted Stencils	\$50 / each	44.50	\$17,801
Cold Plastic Stencils	\$275 / each	44.50	\$97,906
Route Sign	\$260 / km	256.67	\$66,734
Sweeping Costs	\$2,400 to \$4,000 / km	68.87	\$330,576 - \$550,960

Table 13. Summary of high-level maintenance cost estimate for the proposed AT network



The costs noted above refer to the expected cost to maintain specific elements of active transportation facilities. As noted in **Chapter 5.0**, the Town of Halton Hills should consider additional maintenance practices to facilitate the use of active transportation infrastructure for commuting or recreational purposes in the winter as well as summer months.

For example, in the City of Toronto winter maintenance for on-road cycling infrastructure costs approximately \$7,000 per lane kilometre while in London it costs between \$6,750 and \$12,500.

The following is more detailed summary of typical winter maintenance costs for various facilities as identified by municipalities within Ontario.

Considering the shift in maintenance expectations by season and the impacts of those expectations on budget and effort, a municipality may select to pursue the identification and funding of a winter maintained active transportation network similar to the approach implemented by the City of Toronto, London, Vancouver, Calgary and Edmonton, among others.

Using the approach outlined in **Chapter 5.0**, the Town should pursue a minimum winter maintained active transportation network and should refer to the cost estimates outlined in this chapter as the develop annual operations budgets.

Facility Type	Estimated Cost / KM
In-Boulevard Multi-Use Path	\$86,114 - \$165,603
Cycle Track	\$74,125 - \$142,549
Buffered Bike Lane	\$59,645 - \$114,701
Bike Lane	N/A
Paved Shoulder	N/A
Signed Bike Route	N/A
Urban Shoulder	N/A
Bicycle-Friendly Corridor	N/A

Note that the maintenance costs for any facility that is not considered separated would be captured as part of the Town's regular road clearing costs.

Estimated winter maintenance costs for in-boulevard multi-use paths are assumed to be bi-directional and located on one side of the road only. Cycle Track and Buffered Bike Lane facilities are assumed to be uni-directional and located on both sides of the street.

All on-road facilities, with the exception of In-Boulevard Multi-Use Paths, Cycle Tracks, and Buffered Bike Lanes have the ability to be winter maintained using conventional road plows. Buffered bike lanes may also be winter maintained using conventional road plows if the facility is not physically separated and uses only a painted buffer space.

7.2 Funding options.

Since the adoption of the Cycling Master Plan in 2010 and Trails Plan in 2014, the Town has committed significant resources towards the implantation of on and off-road active transportation infrastructure. The implementation of this ATMP will require the Town to continue investing staff and financial resources to support the implementation of the recommendations as noted above.

Funding to build-out the proposed active transportation network and to pursue the implementation of a meaningful and impactful education and encouragement action plan will not only require a financial commitment from an internal perspective but also from an external perspective.

The implementation of the active transportation master plan will be a collaborative effort which not only requires time spent by staff and stakeholder but a monetary commitment from the municipality and its partners. The following is an overview of the internal and external funding opportunities that should be reviewed and considered as the Town proceeds with implementation of the ATMP.

Internal Funding.

Internal funding sources refer to monies that are dedicated or committed by the Town of Halton Hills as part of the annual budget process or through the setting and adoption of the 10-year capital program. In 2019, the 10-year capital plan was adopted for the Town of Halton Hills which identifies specific infrastructure projects anticipated to be completed between 2019 and 2029. These projects have been reviewed and where possible, active transportation improvements have been identified which align with the previously committed projects, identified as “quick-wins” in **Chapter 4.0**. Costing has not been identified for these projects as part of the active transportation master plan as monies are considered “previously allocated” and confirmed.

Annually, the details of the 10-year capital budget are reviewed and confirmed, which includes funding for the construction of new active transportation infrastructure. In addition, the Town annually approves their operating budget which provides funds for the maintenance of active transportation infrastructure – both existing or future implementation. Within the capital budget, on-road active transportation projects are typically listed by both the transportation and public works department, while off-road improvements are typically listed by the recreation and parks department.

Additional opportunities may arise through the planning and development department as it relates to planning of future developments and improvements that could be incorporated into those projects. Through these budget cycles and decisions, information contained within the active transportation master plan should be reviewed and used to inform the recommendation of active transportation improvements and maintenance.

Within the most recent capital budget, there are many budget line items that could be leveraged as additional internal funding to guarantee the implementation certain active transportation projects. These options are outlined below for all three of the municipal departments that were noted above:

Transportation & public works.

- Active Transportation enhancement program
- Active transportation improvements
- Class EA for master plan projects
- Collector / Arterial Asphalt Resurfacing Program
- Equipment replacement
- Infill sidewalk connections
- Signage
- Pavement management

Recreation & parks.

- Coordinated implementation with planned parks master plans or park revitalization projects
- Open Space Management
- Parks and Facilities signage
- Parks revitalization and renewal
- Pedestrian bridge replacement
- Trails system

Planning & development.

- Secondary Plan Review projects as identified for specific areas within the Town
- Official Plan Review
- Post 2031 Secondary Plans

It is important to note that this is not meant to be a commitment to utilizing funds from these sources for active transportation improvements as these suggested reallocations aren't necessarily all feasible. Instead, they provide opportunities to secure funding and provide AT project cost efficiency through achieving economies of scale. This approach can also mitigate the extent of public opposition often felt towards stand alone AT projects.

Maximizing coordination and collaboration has been a foundation of the active transportation master plan. This should continue to be maintained following adoption through to annual budget decision making.

External Funding.

In addition to the internal funding sources identified on the previous page, external funding opportunities should be explored regularly and pursued, whenever feasible, to offset the costs. The table below identifies external funding sources that could be explored to support the implementation of the ATMP to potentially reduce the amount of financial burden on the Town. An initial assessment of the applicability of these sources has been prepared. The information depicted presents the potential relevance or availability of funding to support the Town's implementation.

Government of Canada.

- Investing in Canada Program
- Investing in Canada COVID-19 Resiliency Stream
- Healthy Communities Canada Funding Initiative
- Green Municipal Fund
- Federal Gas Tax

Province of Ontario.

- Ontario Municipal Commuter Cycling Fund
- Province-wide Cycling Network Funding
- Provincial Gas Tax
- Ontario Trillium Fund
- Ontario Rural Economic Development Fund
- Tourism Development Fund

Local Funding.

- Service Club Support
- Corporate Environmental Funds
- Private Citizen Donation

Based on this assessment, the Ministry of Transportation Ontario (M.T.O) is considered to have the greatest potential for financial support over the implementation of active transportation infrastructure. MTO has indicated a potential willingness to fund AT infrastructure within corridors and connections that align with the province-wide cycling network. This includes along Ministry owned corridors or at infrastructure / barriers such as major highway overpasses.

In addition, the Ontario Cycling Strategy offers various cost sharing schemes with municipalities to fund new cycling infrastructure projects. Beyond the MTO, support should also be leveraged from the provincial Tourism Development Fund, given active transportation's role as a touristic enterprise. While not directly applicable, at the Federal level, the federal Public Transit Infrastructure Fund, a multi-billion-dollar fund for new public transit and active transportation projects should be pursued where appropriate.

At the Regional level, there may be opportunities for cost-sharing partnerships to be pursued with Halton Region through future master plan updates. Opportunities for Regional tourism to play a role in the implementation and promotion of active transportation routes and activity have become evident through recent initiatives.

The Town should continue to engage with the Region, Tourism Halton, public health and other regional agencies to pursue funding opportunities or collaboration related to the education and encouragement of active transportation.

7.3 Financial recommendations.

The following is a summary of the recommendations related to the proposed financial strategy.

6.1

The costing assumptions identified within the ATMP should be reviewed and revised as needed on an annual basis to ensure that the assumptions are in-line with accepted practice.

6.2

The high-level costing contained within the ATMP should be used to inform annual budget decisions for both the recreation and parks department as well as the public works department.

6.3

The cost estimates should be reviewed and confirm at the time that a project moves forward to implementation including the identification of additional costs beyond construction.

6.4

The maintenance costs should be reviewed and – along with information contained within chapter 5.0 – to update operating budgets for the Town on an annual basis.

6.5

External funding options should continue to be monitored by staff to determine if there are additional opportunities to financially support implementation.