

Recreational Trails Master Plan

CITY OF HAMILTON | MAY 2016



TABLE OF CONTENTS

Table of Contents	i-vi
Acknowledgments	vii
1.0 Study Introduction	1
1.1 A History of Trails in Hamilton	2
1.2 The Benefits of Trail Development	3
1.3 Trails and Health	5
1.4 The Organization of the Master Plan Report	6
2.0 The Trails Network	7
2.1 Understanding What Has Already Been Done: Recreational Trails Master Plan (2007)	8
2.2 The Trail Master Plan Update Process	8
2.2.1 Trails Master Plan Opportunities	10
2.2.2 Guidelines for Trail Development and Route Selection	10
2.2.3 Inventory of Existing Trails and Fieldwork Methodology	11
2.2.4 The Proposed Trail Network	11
a) Individual Ward Characteristics	11
b) 2007 Trail Initiatives	21
c) Proposed 2015 Trail Initiatives	25
2.3 Trail Design Construction Considerations	52
2.3.1 How to Use the Trail Guidelines	52
2.3.2 Trail Users and Needs	53
2.3.3 General Trail Design Parameters	55
2.4 Accessibility and AODA Requirements	55
2.5 Personal Security and CPTED	57
2.6 Trail Lighting and Trail Safety	57
2.7 Trail Hierarchy and Surfacing	58
2.7.1 Boulevard Multi-use Trails	64
2.7.2 On-road Trail Connections	64
2.7.3 Trail Development in Hydro Corridors	65
2.8 Trail Crossings	65
2.8.1 Minor and Major Roads	66
2.8.2 Active Railways	66
2.8.3 Bridges	67
2.8.4 Underpasses and Tunnels	67
2.9 Trail Structures	68
2.9.1 Gates and Barriers	68

2.9.2	Swing Gates	68
2.9.3	Bollards	68
2.9.4	Elevated Trail Beds and Boardwalks	68
2.9.5	Switchbacks and Stairs	69
2.10	Trail Signage	69
2.10.1	Signage Strategy and Typical Branding	70
2.10.2	Signage Types	70
a)	Gateway Signage	70
b)	Orientation and Trailhead Signage	71
c)	Trail Etiquette Signage	71
d)	Regulatory Signage	72
e)	Route Markers and Trail Directional Signage	72
f)	Interpretive Signage	73
g)	Urban Fitness Trails	73
2.11	Trailheads and Trail Amenities	74
2.11.1	Seating and Rest Areas	75
2.11.2	Bicycle Parking	75
2.11.3	Trail Closures and Rehabilitation	75
2.12	Public Art Along Trails	76
2.13	Trails in Natural Areas and Environmental Buffers	76
2.14	Creating New Trails in Established Neighbourhoods	77
2.15	Lease Agreement and Land Acquisition	77
2.16	Insurance, Liability, and Risk Management	77
2.17	Public Outreach and Trail Promotion	78
2.17.1	Community Based Social Marketing	79
2.17.2	Hamilton Trail Map, Signs, and Brochures	79
2.17.3	Trail Ambassadors	80
2.17.4	Partnerships	80
3.0	The Implementation Plan	81
3.1	The Trails Network Implementation Strategy	82
3.1.1	Establishing New Priorities	82
3.1.2	Scoring System for Establishing Implementation Priorities	82
3.1.3	Interdepartmental Collaboration	83
3.1.4	Comprehensive Implementation	83
3.2	Outreach, Promotion, and Potential Funding Sources	84
3.3	Managing Trails and Maintenance Expectations	85
3.3.1	Establishing a Trail Maintenance Plan	85
3.3.2	Maintenance Partnerships	86
3.3.3	Location and Trail Alignment Maintenance Considerations	86
3.3.4	Trail Surfacing Materials Maintenance Considerations	87
3.3.5	Winter Maintenance of Trails	87
4.0	Summary of Recommendations and Next Steps	88
4.1	Use of the Recreational Trails Master Plan	89
4.2	Future Studies	89
4.3	Recreational Trails Master Plan Review and Updates	89

Appendix A - Summary of Public Engagement Activities	91
A.1 – Engagement in Person	93
A.2 – Engagement Online	94
A.3 – Project Promotion	95
A.4 – Stakeholder Consultation	97
A.5 – Youth Engagement	97
A.6 – Public Consultation Results	99

Appendix B - Summary of Existing Policies and Plans	133
B.1 Federal Policies and Plans	134
B.2 Provincial Policies and Plans	134
B.3 Federal, Provincial, and Municipal Organizations	140
B.4 Hamilton Conservation Authority	143
B.5 City of Hamilton	143

References	154
-------------------------	------------

List of Trail Network Maps

Ward 1 Map	29
Ward 2 Map	30
Ward 3 Map	31
Ward 4 Map	32
Ward 5a Map	33
Ward 5b Map	34
Ward 6 Map	35
Ward 7 Map	36
Ward 8 Map	37
Ward 9 Map	38
Ward 10 Map	39
Ward 11a Map	40
Ward 11b Map	41
Ward 11c Map	42
Ward 12a Map	43
Ward 12b Map	44
Ward 13a Map	45
Ward 13b Map	46
Ward 14a Map	47
Ward 14b Map	48
Ward 15a Map	49
Ward 15b Map	50
Ward 15c Map	51

List of Figures

Figure 1 East Hamilton Waterfront Link Pedestrian Bridge (The Red Bridge) (Photo credit: City of Hamilton)	1
Figure 2 Bayfront Park trail (Photo credit: Seferian Design Group)	2
Figure 3 Having access to trails encourages an active lifestyle	

	(Photo credit: City of Hamilton)	4
Figure 4	Chedoke Radial Recreational Trail (Photo credit: Seferian Design Group) ...	7
Figure 5	Asphalt trail along the Chedoke Radial Recreational Trail (Photo credit: Seferian Design Group)	20
Figure 6	Many trails in Hamilton are routed through scenic and natural areas (Photo credit: Seferian Design Group)	20
Figure 7	Asphalt trail in the T.B. McQuesten Community Park (Photo credit: Seferian Design Group)	52
Figure 8	Tunnel with lighting along the Red Hill Valley Trail under King St E, south of the Red Hill Bowl sports fields (Photo credit: Seferian Design Group)	58
Figure 9	Solar lighting along Mountain Brow Boulevard (Photo credit: Seferian Design Group)	58
Figure 10	Examples of Different Trail Classifications (Photo credits: Seferian Design Group)	61
Figure 11	Multi-use boulevard trail along the south side of Strachan St. W. between Bay St. N. and James St. N. (Photo credit: Seferian Design Group)	64
Figure 12	Multi-use boulevard trail along York Blvd. adjacent to Harvey Park (Photo credit: Seferian Design Group)	64
Figure 13	Some hydro corridors provide excellent opportunities for trail development (Photo credit: Seferian Design Group)	65
Figure 14	Various bridge structures along Hamilton trails (Photo credits: Seferian Design Group)	67
Figure 15	Trail bollards along the Great Lakes Waterfront Trail at Van Wagners Beach Blvd. (Photo credit: Seferian Design Group)	68
Figure 16	Dundurn Stairs (Photo credit: www.thegymonlocke.com)	69
Figure 17	Gateway signage at Bayfront Park (Photo credit: Seferian Design Group) ...	70
Figure 18	Chedoke Radial Trailhead signage (Photo credit: Seferian Design Group) ..	71
Figure 19	Trail etiquette signage (Photo credit: Seferian Design Group)	71
Figure 20	Trail etiquette signage at Bayfront Park (Photo credit: Seferian Design Group)	71
Figure 21	Caution signage example (Photo credit: Seferian Design Group)	72
Figure 22	Directional signage example at entrance to the Red Bridge (Photo credit: Seferian Design Group)	72
Figure 23	Directional signage example at the Eramosa Karst Conservation Area (Photo credit: Seferian Design Group)	72
Figure 24	On-road directional signage (Photo credit: Seferian Design Group)	72
Figure 25	Interpretive signage panel in the Eramosa Karst CA (Photo credit: Seferian Design Group)	73
Figure 26	Fitness circuit signage (with QR codes) in T.B. McQuesten Community Park (Photo credit: Seferian Design Group)	73
Figure 27	QR example on Urban Fitness Trail signage (Photo credit: City of Hamilton)	73
Figure 28	Red Hill Valley Trailhead signage (Photo credit: Seferian Design Group)	74
Figure 29	Washroom facility at the Dundas Driving Park (Photo credit: Seferian Design Group)	74
Figure 30	Parking lot at Armes Lookout along Mountain Brow Boulevard (Photo credit: Seferian Design Group)	74
Figure 31	Many trails throughout the city offer seating, trash receptacles, lighting,	

	and other trail amenities (Photo credit: Seferian Design Group)	75
Figure 32	Cultural icon magnet created for project marketing (Photo credit: City of Hamilton. Artwork designed by Dave Kuruc)	78
Figure 33	Trail signage can provide excellent opportunities for donor recognition and sponsorships (Photo credit: Seferian Design Group)	78
Figure 34	Eramosa Karst CA trail map signage (Photo credit: Seferian Design Group)	79
Figure 35	The City of Hamilton has numerous trail partners, including the Bruce Trail Conservancy (Photo credit: Seferian Design Group)	80
Figure 36	Bayfront Park trails gateway feature (Photo credit: Seferian Design Group)..	81
Figure 37	Interpretive kiosks, like this one in the Eramosa Karst CA, are a great way to promote trails (Photo credit: Seferian Design Group)	86
Figure 38	Winter maintenance is not available on all trails (Photo credit: Seferian Design Group)	87
Figure 39	Bayfront Park Trail (Photo credit: Seferian Design Group)	88
Figure 40	Public Information Centre #1 at the Hamilton Environmental Summit (Photo credit: Seferian Design Group)	91
Figure 41	Public consultation meeting at the Hamilton Environmental Summit on April 22, 2015 (Photo credit: Seferian Design Group)	92
Figure 42	Trail Table Talk notes (Photo Credit: City of Hamilton)	93
Figure 43	Trail games played by children during a public consultation event (Photo Credit: City of Hamilton)	94
Figure 44	Cover page for the online survey (Photo Credit: Seferian Design Group)	95
Figure 45	Promotional post card created to advertise how the public could provide feedback on the master plan throughout the duration of the project (Photo Credit: City of Hamilton)	95
Figure 46	Poster to advertise the project was posted at six (6) Municipal Centres and the Hamilton Public Library Central location (Photo Credit: City of Hamilton)	96
Figure 47	The City of Hamilton's Corporate Twitter account was used to promote the project and encourage public feedback. (Photo Credit: City of Hamilton)	96
Figure 48	Love Your City - Love Your Trails logo created for the project (Photo Credit: City of Hamilton. Logo Design: Dave Kuruc)	96
Figure 49	Grade 9 Geography students presenting their findings to City staff (Photo Credit: Pauline VanderVelde)	97
Figure 50	The students created a 3D model of the road, intersections, and area to scale (Photo Credit: Pauline VanderVelde)	98
Figure 51	Presentation and research materials created (Photo Credit: Pauline VanderVelde)	98
Figure 52	Poster created by Grade 9 Geography students (Photo Credit: Pauline VanderVelde)	99
Figure 53	Let's Talk Trails sticker voting sheet example used at the TrailHead Ontario 2015 Conference on June 7, 2015 (Photo Credit: Seferian Design Group)	103
Figure 54	Tew's Falls (Photo credit: Hamilton Conservation Authority)	133
Figure 55	SoBi bike station along the Chedoke Radial Recreational Trail (Photo Credit: Seferian Design Group)	152

List of Tables

Table 1	Summary of Public Consultation Activities	9
Table 2	Summary of Individual Ward Characteristics	12
Table 3	Summary of 2007 Trail Initiatives	21
Table 4	Summary of 2015 Trail Initiatives	25
Table 5	Optimal Trail User Operating Guidelines	55
Table 6	CPTED Principles	57
Table 7	Trail Hierarchy and Surfacing	59
Table 8	Trail Surfacing Advantages and Disadvantages	62
Table 9	Summary of Public Consultation Meetings	92
Table 10	Summary of Stakeholder Consultation	97
Table 11	Summary of Let's Talk Trails Table Sticker Voting Results	103
Table 12	Summary of Let's Talk Trails Table Comments	106
Table 13	Summary of Online Survey Results	109

ACKNOWLEDGEMENTS

The 2015 City of Hamilton Recreational Trails Master Plan Update project team would like to express their appreciation to the following individuals that contributed to the development of this report, as well as the many other City staff, agencies, stakeholders, and members of the public who through their input, contributed to its development.

City of Hamilton Project Team Members

Leila Fazel Todd, BSc, MLA, OALA, CSLA
Landscape Architect
Landscape Architectural Services

Cynthia Graham, MLA, OALA, CSLA
Supervisor
Landscape Architectural Services

Daryl Bender
Project Manager
Alternative Transportation

Jarrad Johnston
Technician
Landscape Architectural Services

Consultant Project Team Members

Brad Smith, BLA, OALA, CSLA, ASLA
Senior Landscape Architect and
Project Manager

Sarah Lynn Saari, BLA, OALA, CSLA, ASLA
Landscape Architect

Carolina Schmitz, B. Arch.
Landscape Designer and
LEED Green Associate

Jeff Bonnett, BA, Dip. Applied Arts
Landscape Designer

Anita Geier, BComm, DipBA, CPSI
Office Controller

The 2015 City of Hamilton Recreational Trails Master Plan Update project team would also like to thank *O'Connor Mokrycke Consultants* for their work and dedication to the original 2007 City of Hamilton Recreational Trails Master Plan report.



*Figure 1: East Hamilton
Waterfront Link Pedestrian
Bridge (The Red Bridge)*

1.0 STUDY INTRODUCTION

The public demand for high quality connected trail systems is increasing as the City of Hamilton continues to grow. Trails within the City of Hamilton facilitate city-wide travel and are an important resource in connecting parks, recreational centres, schools, commercial sites, cultural and institutional centres, transit facilities and residential neighbourhoods. In 2007 the Recreational Trails Master Plan was approved by Council and since its inception has been a framework for the City for implementing the trail network. However, as the City and surrounding communities grow and new infrastructure is developed there is a need to revisit and update the Recreational Trails Master Plan. This City-wide update addresses trails and trail infrastructure and will make recommendations for new connections throughout the City, for active transportation and recreation for residents and visitors alike.

The update of the Recreational Trails Master Plan was developed with the review and comments of trail users, Hamilton's trail partners and organizations, the public, government agencies and City Departments. The Recreational Trails Master Plan was based on an overall vision and report goals identified at the beginning of the project to successfully implement a connected and continuous trails network. These goals are supported by a number of objectives which were used to establish the content of the master plan update:

Planned: Trails will be considered an integral component of all community planning and development.

Connected: Trails will serve to connect the urban and rural communities of Hamilton, both internally and externally, and will link key destinations. Improved wayfinding will be incorporated into the trails network.

Diverse: The trail system will be designed to appeal to a wide range of users, abilities and interests.

Inspiring: Trails will promote and encourage use and enjoyment of the City's natural, cultural and recreational features.

Accessible: Where possible, the trail system will provide opportunities for four-season use, and will include a core network of trails that are accessible to people of all ages and abilities.

Safe: Safety, security and user comfort will be considered in the design and management of the trail system.

Sustainable: The trail system will be developed and managed in a manner that preserves the environment, is financially responsible, and encourages opportunities for partnership and stewardship.

In order to guide the future development of Hamilton's trail system in a manner consistent with Federal, Provincial and Municipal legislation and policy, this updated Recreational Trails Master Plan includes recommendations that aim to accomplish the following:

- Integrate components of the existing recreational trail system, including those planned in the 2007 report;
- Propose new (2015) trail initiatives and incorporate them with 2007 trail initiatives. This will help to alleviate gaps in the overall trails system;
- Integrate new trail accesses, routes, and crossings with existing conditions and planned City infrastructure projects (e.g. Highway 403, Lincoln Alexander Parkway, Red Hill Valley Parkway, waterfront, Niagara Escarpment, GO transit stations);
- Complement the City's transportation system to support multi-modal mobility
- Encourage inter-regional trail connections;
- Strengthen partnerships with other trail organizations and groups;
- Continue to build upon physical, economic, sustainable, and environmental design standards;
- Further develop maintenance and management standards;
- Identify new trail amenities to provide a better user experience;
- Priority recommendations for implementation and development; and
- Integrate off-road trails with the planned on-road cycling networks to better address broader community land use and transportation goals and objectives.

The goal of the Master Plan is to guide the development of a connected, comprehensive, accessible and sustainable multi-use trails network throughout the City of Hamilton and to surrounding communities to improve health and wellness for pedestrians, cyclists and trail users

1.1 A History of Trails in Hamilton

Multi-use trails within Hamilton have been routed through parks, hydro corridors, natural areas, communities, and provide linkages through and between schools, surrounding communities, woodlots, community centres, parks, and to bridges over highways (e.g. Red Hill Valley Parkway, QEW, Lincoln Alexander Parkway).

The existing trail network within the City has provided a strong fabric of multi-use trails that complement the on-road routes identified in the

City's Transportation Master Plan. The planning process for new trail initiatives included a thorough review of the existing network and in total over 87 kilometres of new trails have been proposed. Proposed initiatives are to connect and provide users access to parks, schools, planned neighbourhoods, conservation areas, the waterfront, transit stations, the escarpment, and work together with existing trails and trail initiatives to alleviate gaps within the network. New initiatives are discussed in greater detail in Section 2.2.4.

Based on the online survey data from the public consultation process (see Appendix A), trails in the City of Hamilton are primarily used for hiking (40.74%), walking and jogging (41.40%). Below is a brief list of some of the City's major trails:

City of Hamilton Trails

- Battlefield Creek Trail
- Breezeway Trail/Confederation Park
- Chedoke Radial Recreational Trail
- Cootes Drive Trail
- Desjardins Recreational Trail
- Escarpment Rail Trail
- Hamilton Harbour Waterfront Trail
- Harvey Park Trails
- Park corridor trails between T.B. McQuesten Park (Upper Wentworth) to Upper Ottawa Street
- Pier 4 Park Trail
- Red Hill Valley Trail
- Great Lakes Waterfront Trail
- East Mountain Trail Loop



Figure 2: Bayfront Park trail

Hamilton Conservation Authority Trails

- Lafarge 2000 Trail
- Dofasco 2000 Trail
- Hamilton to Brantford Rail Trail
- Chippawa Rail Trail (Hamilton to Caledonia; completed)
- Dundas Valley Trails
- Valens Lake & Christie Lake Conservation Area Trails
- Eramosa Karst Conservation Area Trails
- Spencer Creek Trail
- Valens Lake & Christie Lake Conservation Area Trails
- Heritage Trail through the Westfield Heritage Village

Additional Major Trails

- 63km's of main Bruce Trail (footpath) and 26km's of intersecting Side Trails within Hamilton
- Over 70kms of registered Trans-Canada Trail within Hamilton

Hamilton's trail system provides opportunities to participate in varying levels of physical activity and enjoy distinctive natural and cultural features. The trail network enables residents and visitors to enjoy and appreciate the City's built and natural environments. These connections contribute to achievement of the City's goals related to current Municipal land use, sustainable development, transportation, and economic development goals. Many trails within the City include both natural and cultural heritage components that contribute to the overall user experience of trails. Trails within Battlefield Park for example allow the user to experience cultural elements such as the Battlefield Monument and Battlefield House Museum.

Pedestrians and cyclists account for a high proportion of trips generated within downtown Hamilton (Active Transportation Benchmarking Program, 2014). Multi-use trails, together with the on-road system, provide viable and valuable alternatives to automobile usage throughout the City. In an effort to seamlessly integrate the trail system, the City has continuously and strategically partnered with other agencies, including the Hamilton Conservation Authority, Bruce Trail Conservancy, and the Royal Botanical

Gardens to integrate and promote a city-wide trail system. The Recreational Trails Master Plan will continue to build on the relationships with various trail partners and organizations to implement the trail system.

1.2 The Benefits of Trail Development

ACTIVE2010 (2005) is the Province's strategy to increase levels of physical activity among Ontarians for personal health benefits, and to reduce overall health care costs. The Ontario Trails Strategy is a long-term plan prepared in 2005 as part of the ACTIVE2010 Strategy. It establishes strategic directions to assist in the planning, management, promotion, and use of trails in Ontario, and was developed in collaboration with other Provincial ministries and a wide range of stakeholders. The Ontario Trails Strategy (2005) focuses on all single and shared-use outdoor designated trail networks in urban, rural and wilderness settings that are used for recreation, active living, utilitarian and tourism purposes including but not limited to:

- Trails with natural (e.g. hiking, cross-country skiing) or treated surfaces (e.g. bicycle greenways, paths or lanes)
- On-road bicycle routes
- Walkways, boardwalks and sidewalks
- Trails located on transportation and utility corridors
- Access roads (e.g. for forestry and mining) designated for trail use
- Trails that are integrated with public transit services
- Waterway routes (e.g. along designated Canadian heritage rivers)

The Ontario Trails Strategy (2005) also identifies a number of potential benefits to communities that can be realized through trails and trail-related activities such as:

Support for Active Living

- Having access to trails encourages an active lifestyle.
- Almost half of Canadians age 12 and over report being physically inactive and 26% of youth between the ages of 12 and 17 are overweight or obese (Statistics Canada, 2005).
- It is likely that urban residents may utilize trails for unstructured fitness and recreation



Figure 3: Having access to trails encourages an active lifestyle

including walking, cycling and jogging, all of which are well suited to outdoor trails.

- As an example, 30 minutes of brisk daily walking is all that is needed for improved fitness levels, and health benefits (Ontario Trails Strategy, 2005).
- The Ontario Trails Council states that with “access to safe and affordable recreation, people can prevent and manage health afflictions such as high blood pressure, diabetes, heart disease and stroke, and circulatory and respiratory problems” (Ontario Trails Council, 2016).

Social Benefits

- Trails can help build the social fabric of a community, physically connecting neighbourhoods and outlying communities together, and encouraging casual interactions. Several city trails, such as the Red Hill Valley Trail, have been developed in a collaborative manner with community volunteers and local sponsors.
- By linking shopping, entertainment, workplaces, and parks, trails can help to promote alternative transportation, and contribute to economically and

environmentally sustainable and liveable communities.

- Accessible to people of all income brackets, age groups, and cultures.
- Trails provide unstructured recreation that can be enjoyed in solitude, by families, and as group activities.
- Trails are available to all ages and the associated activities (e.g. bird watching, walking, cycling, cross-country skiing, etc.) can be relatively inexpensive in comparison to other recreation activities that have user fees or require expensive equipment.
- With appropriate design, many urban trails can be made physically accessible to a wide range of skills and abilities.
- Many trails can be used in all seasons, through a variety of activities.
- Trails offer leisurely opportunities to appreciate and enjoy nature, and the surrounding community.

Environmental Benefits

- Trails support both urban and rural recreational lifestyles and can support broader environmental and ecological

objectives through the protection of greenspace corridors.

- By rationalizing and re-routing random and informal paths, designed trails can serve to keep users away from sensitive environmental areas.
- The use of trail maps and interpretive signage can help to enhance appreciation and awareness of nature and promote environmental stewardship.

Economic Benefits

- Trails promote a high quality of life for communities and indicate a desirable city to both live and operate a business.
- Trails can be used to connect key destinations such as natural areas and parks, cultural heritage features, or other community amenities and in doing so can encourage visitation by both local residents and tourists.
- Trails can create both jobs directly and indirectly through construction as well as relating to tourism and visitation. This might include restaurants, lodging, food, and beverage.
- Many trail users purchase local goods to support their trail activities (e.g. bikes, jogging gear, hiking shoes, etc.) These purchases contribute to the local economy through jobs and taxes.
- The ACTIVE2010 Ontario Trails Strategy states that “a home near a trail can offer a pleasing view, quieter streets, recreational opportunities and a chance to get in touch with nature”.
- Property values on or adjacent to trail networks increase and generally sell for 5-32% more than those farther away (Dunbar, 1999).

1.3 Trails and Health

The ACTIVE2010 Ontario Trails Strategy states that trails provide accessible, widely available, and low-cost opportunities to meet the physical activity needs of most Ontarians. Regular physical activity plays a role in the prevention of several chronic diseases such as cardiovascular disease, diabetes, cancer, hypertension, obesity, depression, and osteoporosis (Warburton, 2006). In Canada, only 15% of adults and 7% of children and youth participate in enough physical activity for optimal health and development (Colley, 2011a, 2011b). This

is complicated by the fact that that Canadians who are classified as overweight or obese have increased over the last 30 years. For the City of Hamilton, this has been significant with adult rates surpassing the Ontario population rate, 59.8% versus 50% (2007/08), respectively (City of Hamilton, 2010). In 2007/08, adolescents 12-17 years of age were classified as overweight or obese in 14.4% of Hamilton youth versus 18% of Ontario youth (City of Hamilton, 2010).

Trails help connect people of all ages to the places they live, work and play, and they provide an ideal setting for walking, bicycling and other modes of recreational physical activity and active transportation (Troped, 2011). People who reported walking, hiking, or bicycling on a trail at least once a week are twice as likely to meet physical activity recommendations (Rodriguez, 2009). In most cases, living near trails or having trails in one’s neighbourhood has been associated with people being 50% more likely to meet physical activity guidelines (Rodriguez, 2009). Furthermore, connectivity of roads, sidewalks, bike paths, and trails are positively associated with increased levels of physical activity and decreased levels of obesity (Frank, 2007).

Trails provide other important health benefits as well:

- Associated with lower rates of obesity and type 2 diabetes (Glazier, 2007)
- Promotes mental health (National Recreation and Park Association, 2010)
- Reduces health inequities (Provincial Health Services Authority, 2009; Active Living Research, 2011; Coen, 2006)
- Promotes social interaction (Henrik, 2009 and Gees, 2006)

Lastly, research suggests that community trails are a cost-effective means for promoting physical activity and potentially reducing medical expenses. Using data from the National Medical Expenditure Survey, a study in the USA found that for every \$1 spent on trails, there was almost \$3 in savings in direct medical costs (Troped, 2011). With physical inactivity and obesity costing the Greater Toronto and Hamilton Area \$4 billion each year including \$1.4 billion in direct medical costs, (Medical Officers of Health in the GTHA, 2014) investing in trails has the potential for significant savings.

1.4 The Organization of the Master Plan Report

The Recreational Trails Master Plan has been developed with the objectives of linking to external trail networks; improving access to trails; improving connectivity throughout the City; encouraging alternative transportation; enhancing recreational and health benefits; and promoting awareness and use of existing trails. The goal of the Recreational Trails Master Plan Update is to create a document that addresses route planning, trail standards, and the development of priorities. The structure of the master plan report has been organized to reflect the intent that it be utilized as a working tool. Sections are organized as follows:

1.0	Study Introduction
2.0	The Trails Network
3.0	The Implementation Plan
4.0	Summary of Recommendations and Next Steps
Appendix A	Summary of Public Engagement Activities
Appendix B	Summary of Existing Policies and Plans
Trail Network Maps	
Figures	
Tables	

Overall the master plan report focuses on several key areas including:

- Guiding the development of a comprehensive multi-purpose trail system;
- Identification and classification of recreational off-road trails in accordance with their use and character;
- Collaborative trail management and development standards that meet varying commuting needs and opportunities in a manner consistent with municipal land use, transportation, cultural heritage and sustainable development policies;
- Design methods intended to create trail gateways and scenic vistas to enhance a positive public image of the City of Hamilton and to improve the local user and tourist experience;

- Economic impacts of trails including expansion and redevelopment of the commercial core;
- Preservation and conservation of wooded areas and sensitive ecological habitat;
- Significant natural features such as the wetlands streams will be protected by new trail development;
- Consideration of applicable City of Hamilton policies, by-laws, documents, guidelines and recommendations which include but is not limited to:
 - Hamilton Official Urban and Rural Plans
 - Transportation Master Plan
 - Secondary Plans
 - Zoning By-Law(s)
 - Pedestrian Mobility Plan
 - Active Transportation documents
 - Transportation Demand Management documents
 - Accessibility Design Guidelines
 - The Cultural Plan (“Love Your City”)
- Trail facilities developed to serve expanding residential communities; and
- Trail safety and security in the community associated with trails. The level of service provided will be appropriate to the needs of both the rural and urban residents.

Figure 4:
Chedoke Radial
Recreational
Trail

2.0 THE TRAILS NETWORK



The main goal in developing the Recreational Trails Master Plan Update was to establish key strategic priorities that will facilitate a continuous and connected trail system to accommodate recreational and commuter travel. The project approach to develop the master plan update included extensive public consultation and a rigorous and comprehensive review of the existing network and associated facilities. The public and stakeholder consultation process is discussed in greater detail within *Appendix A: Summary of Public Engagement Activities*.

Each consultation event formed a key component of the project and ultimately led to the development of this document. In order to create an updated master plan report we must first review what was previously completed in 2007.

2.1 Understanding What Has Already Been Done: Recreational Trails Master Plan (2007)

The City of Hamilton Recreational Trails Master Plan (2007) is a comprehensive document which prescribes a multi-use, recreational trail system throughout the City of Hamilton. This system links both the current and proposed off-road as well as on-road systems into a fully integrated, City-wide based network. This document is intended to guide the development and management of trail systems, throughout the City from the present into the future, providing clear direction and assist with decision making.

In 2007, the City of Hamilton completed the former Recreational Trails Master Plan (prepared by O'Connor Mokrycke Consultants). The master plan was adopted by Council and included:

- Completion of a comprehensive multi-purpose trail system;
- Identification and classification of recreational off-road trails in accordance with their use and character;
- Collaborative trail management and design development guidelines;
- A proposed network of off-road and on-road routes;
- Network implementation recommendations;
- Suggestions to raise awareness about Hamilton trails, encourage trail use and educate users on trail usage and etiquette;

- Trail maintenance recommendations; and
- Implementation of applicable City of Hamilton Official Plan and Transportation Master Plan policies and recommendations.

The 2007 plan has been the guiding document for City trail development for the past nine years. A number of soft and hard infrastructure projects have been realized throughout the City of Hamilton based on the implementation strategies identified within the document.

2.2 The Trail Master Plan Update Process

This report update proposes a wide variety of trail projects of differing sizes and complexity throughout the City of Hamilton. Some projects require further design and analysis, while others are smaller expansions or upgrades to existing trails or trail amenities. The Hamilton Recreational Trails Master Plan was updated between March 2015 and May 2016. All trail initiatives within the 2007 report were updated and new initiatives were added to the report. The planning process for new trail initiatives included a thorough review of the existing network and in total 55 trail initiatives were proposed totaling over 87 kilometres of new trails city-wide. New initiatives are discussed in greater detail in Section 2.2.4. Extensive public involvement, that helped to shape and guide the master plan update, included:

- Eight (8) public consultation meetings between April and September 2015;
- Stakeholder meetings between April and September 2015;
- Trail questionnaires, issued in both paper and electronic format;
- Key agency liaisons and discussions;
- Input from City of Hamilton Cycling Advisory Committee and various City Department staff;
- Online survey available April 2015 to October 2015
- Online promotion
- Feedback email for general comments
- A new strategy in consultation was applied for this city-wide project: bringing the project to people rather than bringing people to the project.

Table 1: Summary of Public Consultation Activities

Timeline: April 2015 - September 2015

Public Information Session #1 - Wednesday, April 22, 2015 - Hamilton Environmental Summit, Royal Botanical Gardens

Public Information Session #2 - Thursday, May 21, 2015 - Building Momentum Hamilton, Tim Hortons Field

Public Information Session #3 - Saturday, June 6, 2015 - Let's Talk Trails Table (Chedoke Stairs)

Public Information Session #4 - Sunday, June 7, 2015 - TrailHead Ontario 2015 Conference and Community Trails Day, McMaster University

Public Information Session #5 - Friday, July 10, 2015 - Let's Talk Trails Table (Hamilton Farmer's Market)

Public Information Session #6 - Sunday, August 9, 2015 - Festival of Friends, Ancaster Fairgrounds

Public Information Session #7 - Friday, August 21, 2015 - Let's Talk Trails Table (Bayfront Park)

Public Information Session #8 - Thursday, September 24, 2015 - Ward 13 Dundas Town Hall

Stakeholder Consultation - staff consulted with eight project stakeholders over the course of the project including the Royal Botanical Gardens, Hamilton-Burlington Trails Council, Bruce Trail Conservancy, Hamilton Cycling Advisory Committee, Halton Conservation Authority, Hamilton Conservation Authority, Niagara Escarpment Commission, and the Ontario Federation of All-Terrain Vehicles.

Let's Talk Trails Questionnaire - a 13 question paper questionnaire was created for the first public consultation event (Hamilton Environmental Summit). A total of 33 participants completed the questionnaire as well as marked up existing city trails mapping with comments.

Online Survey - a 10 question online survey was created using Survey Monkey and promoted through various methods. A total of 309 responses were received between April 2015 and September 2015.

Project Promotion - project information was posted on the City of Hamilton website and through the corporate Twitter account which included a project description, project updates, information regarding public consultation, and a link to the online questionnaire. The project was also promoted by placing posters at Municipal service centres.

Let's Talk Trails Tables - staff hosted three Let's Talk Trails tables which were stations located at high traffic venues used to gather feedback from the public. At each event an information booth was set up to provide the opportunity for visitors to answer specific questions via sticker dot voting to determine priorities. Visitors could also write their general comments about trails in Hamilton on a large sheet of a paper.

Key steps have been expanded to reflect work previously completed as part of the 2007 Recreational Trails Master Plan and analysis of this work to inform the development of this master plan report. The steps used to develop this document included:

1. Collecting and assembling relevant background data and information
2. Reviewing and refining route selection guidelines
3. Reviewing previously developed trails network initiatives and identifying potential new routes
4. Reviewing existing trail initiatives by conducting comprehensive field investigations and site visits
5. Preparing trails network mapping
6. Preparing route priorities and implementation strategies
7. Finalizing updated trail networks with refined trail initiatives

2.2.1 Trails Master Plan Opportunities

The 2007 Recreational Trails Master Plan established trail design principles. Several of those design principles have been expanded upon below as opportunities relevant to this Recreational Trails Master Plan:

- Multi-purpose recreation trails generally service varying skill levels. In order to encourage higher activity levels among Hamilton's residents Hamilton's trails are oriented to less experienced trail users where possible;
- Promoting recreational trails as alternative modes of transportation and mixed land uses can bridge the gap between urban form and health. This can create healthy and sustainable communities to combat increased commuting time and physical inactivity attributed by sprawling urban form;
- Urban and rural recreational trails address different needs and opportunities;
- Public safety should be addressed in multiple ways. The trail design standards address the needs of specific users and varying skill levels. Conflicts between users may require some trails be single purpose and seasonal, while others be multiple use and all weather trails. Where multiple uses exist or are anticipated, surface treatment and width standards should be addressed accordingly;
- Hamilton is unique within the regional context

balancing the relationship between the built environment and the natural geography of the Niagara Escarpment bisecting the City, Cootes Paradise and a large industrial sector on the Harbour. The trail system should maintain the balance between built and natural settings through its guidance in strengthening the overall trail network;

- The Recreational Trails Master Plan Update should function as one component to create a sustainable trail and cycling network. In order to do this, the Plan should collaborate with both Public and Private sector groups that promote sustainability;
- Trails should not only be used for recreation (e.g. exercise) and commuting (e.g. transportation). They should also function as a linkage to community facilities, such as parks, community gardens, etc.; and
- Wayfinding should be an integral part of the trail design to improve safety, navigability and educational opportunities.

2.2.2 Guidelines for Trail Development and Route Selection

Trails within the City facilitate city-wide travel and are the primary resource in connecting parks, recreational centres, schools, commercial sites, cultural and institutional centres, transit facilities and numerous residential neighbourhoods. One of the key 2007 Recreational Trails Master Plan deliverables was the development of design guidelines and standards for trail facilities throughout the City.

The design guidelines, identified in Section 4.0 of the 2007 Recreational Trails Master Plan, were a thorough development of trail classification and standards which reflected the desire for a more diverse system of on-road and off-road facilities. The 2007 document identified a trail hierarchy which comprised of three different trail types. Facility types were also noted for each of the different trail classification. This Recreational Trails Master Plan Update discusses and expands upon those classifications and guidelines to reflect current industry standards and best practices. This information can be found within Section 2.3.

As the City of Hamilton undertakes the task of implementing the trail network and proceeds with detailed design for key linkages, there may be some scenarios where alternate routes, not

originally identified in this report update, are a more feasible alignment. There may also be scenarios where opportunities offered by unopened road allowances, hydro corridors, abandoned rail corridors, open space, future roadway improvements, partnerships and funding initiatives become available.

The existing trail system has its strengths and this Recreational Trails Master Plan Update represents an opportunity to assemble, investigate and prioritize opportunities that link together the existing trails system and to extend trails to connect to a regional system.

2.2.3 Inventory of Existing Trails and Fieldwork Methodology

An initial step in the development of the Master Plan Update was the documentation and assessment of 2007 trail initiatives. It is important to understand the infrastructure which is currently in place, and to ensure that the Master Plan Update is built upon what has already been completed.

One of the primary goals of the Master Plan Update was to develop a connected and continuous network of trails and to provide linkages between the City's urban and rural areas. A detailed desktop and field review of all 2007 trail initiatives and recommended new trail initiatives was undertaken. Fieldwork was completed for all fifteen Wards over several weeks between July and October 2015. To assist in reviewing each site, current available GIS mapping and the Hamilton Bikeways, Trails and Parks Map were studied.

Fieldwork consisted of qualitative written observations, noting existing trail or route conditions, features and photographing all sites. Site photographs were taken with either an S.L.R. or digital camera using a 50mm equivalent lens. Sites were visited either on foot, by mountain bike, by car or a combination for efficiency purposes. Prior to commencing fieldwork, draft initiative sheets and mapping were developed based upon available data. The 2007 Master Plan report mapping was updated to reflect the current mapping prior to fieldwork. Once all fieldwork was completed the mapping was further updated. Potential alignments were reviewed with aerial photographs where available and verified in the field.

Analysis of Fieldwork

One goal of the report was to review opportunities for expanding and improving trails on a city-wide basis. While the primary focus was on off-road multi-purpose recreation trails, opportunities to improve on-road links were also considered. In this regard, sites were considered using a number of criteria including, but not limited to, general location, degree of difficulty rating, classification, trail gradient, accessibility rating, ownership, and links to other trails.

These are summarized by ward, noting ward number and initiative number. Existing and new trail initiatives are summarized in Table 3 and Table 4.

2.2.4 The Proposed Trail Network

The City of Hamilton is situated in close proximity to many environmentally and culturally interesting places and already has trails that offer a diverse range of experiences. Some trails are disconnected from others and a priority for trail development is to fill in the missing local links and expand the network to reach beyond its current coverage.

The Recreational Trails Master Plan Update is based on a hierarchy of trail types that reflect type of use, location, and environmental considerations. Throughout the process many other opportunities were identified for the creation of trail segments connecting new neighbourhoods to the network, and extending the local trail system to link other municipalities and areas of environmental and cultural significance. These trails are to be considered in long term planning processes and should continue to be investigated and implemented as opportunities arise.

a) Individual Ward Characteristics

The trail network includes trail planning in all fifteen City Wards. The Recreational Trails Master Plan is divided into the individual City Wards (Maps 1 to 15) for the purposes of describing the trail system projects by individual Ward in greater detail. Table 2 summarizes the individual characteristics, built and natural features, and recreational trail design opportunities within each Ward.

Table 2: Summary of Individual Ward Characteristics

Ward 1: Chedoke-Cootes	
Description	<ul style="list-style-type: none"> • Urban ward, situated in the west end of Hamilton below the Niagara Escarpment and west of Downtown • Located within the Hamilton Conservation Authority and Conservation Halton watersheds • Bordered by the Niagara Escarpment to the south, Queen Street to the east, Hamilton Harbour and Cootes Paradise to the north, and a green corridor running from Cootes Drive and Ancaster Creek. • Divided by Highway 403 corridor running from the north-east to south-west.
Built and Natural Features	<ul style="list-style-type: none"> • Contains portions of the Hamilton-Brantford Rail Trail, Chedoke Radial Recreational Trail (and Chedoke Stairs), Bruce Trail, and Hamilton Harbour Waterfront Trail • Hamilton Harbour • Cootes Paradise • The Niagara Escarpment and Bruce Trail • McMaster University • McMaster Innovation Park • Chedoke Civic Golf Course • Dundurn National Historic Site • Hamilton Military Museum • Royal Botanical Gardens • Trans-Canada Trail
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Connection from Cootes Drive to Osler Drive (Main Street West) and to McMaster University. • Connection from Longwood Road through Churchill Park to Sterling Street. • Connection from Macklin Street N. under Highway 403 through Kay Drage Park/ Cathedral Trail to Christ the King Cathedral. • Connection from Mountain Avenue and Hillcrest Avenue to Beckett Drive. • Connection beside Chedoke Municipal Golf Course along Beddoe Drive and Studholme Road. • Trail (bridge) connection over railway line connecting Locke Street to the Hamilton Harbour Waterfront Trail, south of Bayfront Park. • Connection through CN Yard (within City easement) to Stuart Street.
Ward 2: Downtown	
Description	<ul style="list-style-type: none"> • Urban ward situated in the centre of the city below the Niagara Escarpment • Smallest ward, and is located within the Hamilton Conservation Authority watershed
Built and Natural Features	<ul style="list-style-type: none"> • City Hall • Jackson Square • Gore Park • Bayfront Park • Pier 4 Park • First Ontario Centre • Hamilton Farmer’s Market • Whitehern Historic House & Garden • West Harbour GO Station

	<ul style="list-style-type: none"> • St. Joseph's Hospital • Art Gallery of Hamilton • Hamilton Place • The Niagara Escarpment and Bruce Trail • Trans-Canada Trail • Cannon Street cycle track
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Boulevard trail connection along southern side of Strachan Street between James Street and Ferguson Avenue. Portion of trail pending completion. • Connection from Queen Street (Beckett Drive) to John Street S. crossing under James Mountain Road. • Boulevard trail connection along Burlington Street from Bay Street (Pier 4 Park entrance) to Ferguson Avenue/ Eastwood Park. • Connection from Hunter Street East to Escarpment Rail Trail • Caroline Street North Connection through Central Park (Central Park Master Plan)
Ward 3: Hamilton Centre	
Description	<ul style="list-style-type: none"> • Urban ward situated in the lower city below the Niagara Escarpment and east of Downtown • Located within the Hamilton Conservation Authority watershed • Approximately 1/3 of Ward is comprised of industrial and commercial land including U.S. Steel Canada and ArcelorMittal Dofasco • The Escarpment Rail Trail is situated on the Niagara Escarpment
Built and Natural Features	<ul style="list-style-type: none"> • Hamilton General Hospital • Hamilton's Children Museum • St. Peter's Hospital • Tim Hortons Field • Gage Park • The Niagara Escarpment and Bruce Trail • Trans-Canada Trail • Industrial and Port facilities • Rail infrastructure • Compact residential fabric
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • On-road connection along Burlington Street from Ferguson Avenue and Eastwood Park to Gage Avenue. • Boulevard trail connection along Ottawa Street S. from Lawrence Avenue trail connection to Pipeline Trailhead (parking lot at Main St. E. and Gage Park). • Trail (bridge) connection over CN tracks with connection to Escarpment Rail Trail. Investigate alternative connection south of Gage Park.
Ward 4: East Hamilton	
Description	<ul style="list-style-type: none"> • Urban ward situated in the lower city below the Niagara Escarpment • Located within the Hamilton Conservation Authority watershed • Almost ½ of Ward is comprised of industrial and commercial land including ArcelorMittal Dofasco • The Escarpment Rail Trail and Red Hill Valley Trail border the Ward

Built and Natural Features	<ul style="list-style-type: none"> • Hamilton Museum of Steam and Technology • Centre on Barton • Pipeline Trail • The Niagara Escarpment and Bruce Trail • Trans-Canada Trail • Red Hill Valley • Hamilton Harbour and Windermere Basin • Industrial and Port facilities • Rail infrastructure
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Connection from Woodward Avenue to Globe Park through the Museum of Steam and Technology and Red Hill Valley trails. • Connection on hydro corridor from Barton Street to Lawrence Avenue with connection to Pipeline Trail. • Connection from Barton Street to Museum of Steam and Technology (Proposed Pipeline Trail). • On-road connection Roxborough Park along Glengrove Avenue to connect to future Red Hill Valley trail bridge. • On-road connection along Burlington Street from Ottawa Street N. to Parkdale Avenue N. • Upgrade existing Pipeline Trail from Main Street and Ottawa Street to Barton Street East and Strathearne Avenue
Ward 5: Red Hill	
Description	<ul style="list-style-type: none"> • Urban ward situated in the lower city below the Niagara Escarpment • Located within the Hamilton Conservation Authority watershed • Includes the beach strip up to the Canal Bridge and the ship canal which separates the cities of Hamilton and Burlington • The Escarpment Rail Trail and Red Hill Valley Trail border the Ward
Built and Natural Features	<ul style="list-style-type: none"> • St. Joseph's Community Health Centre • Eastgate Square • Confederation Park • Beach Strip • King's Forest Public Golf Course • Greenhill Valley • Queen Elizabeth Way (QEW) • Lincoln Alexander Parkway • Red Hill Valley Parkway • The Niagara Escarpment and Bruce Trail • Trans-Canada Trail • Breezeway Trail and the Great Lakes Waterfront Trail • Numerous waterfalls • Battlefield Creek and Stoney Creek Valley
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Lake Avenue Park connection. • Hydro corridor trail connection west of Cochrane Road to Greenhill Avenue, Rosedale Park and Kings Forest Golf Course. • Connection along closed road allowance/boulevard from Bruce Trail to Battlefield Park and west to Greenhill Avenue. • Trail (bridge) over Red Hill Valley Parkway connecting Eugene St. and Glengrove Avenue (Ward 4). • On-road connection along Centennial Parkway from future GO Station (Confederation) to Confederation Park and westerly to Kenora Avenue. • Connection through Sam Manson Park to Nash Road. • Upgraded trail connection across Quigley Road south of King Street E. • Connection at existing lift bridge to Great Lakes Waterfront Trail.

Ward 6: East Mountain	
Description	<ul style="list-style-type: none"> • Urban ward situated in the east end of Hamilton Mountain on the Niagara Escarpment • Located within the Hamilton Conservation Authority watershed • Divided by the Lincoln Alexander Parkway and includes the interchange with the Red Hill Valley Parkway
Built and Natural Features	<ul style="list-style-type: none"> • Mount Albion Conservation Area • Mount Albion Falls • Kimberly Stairs The Niagara Escarpment • Mohawk Sports Park (Bernie Arbour Stadium) • The Niagara Escarpment and Bruce Trail • East Mountain Trail Loop • Solomon Trail • Mountain Brow Trail • Chedoke Radial Recreational Trail • Trans-Canada Trail • Lincoln Alexander Parkway
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Boulevard trail connection along Stone Church Road to Albion Falls bridge over Red Hill Valley Parkway. • Boulevard trail connection along Upper Ottawa Street from park corridor trails south of the Lincoln Alexander Parkway to Stone Church Road. • Trail link from Pritchard Road to Eramosa Karst Conservation Area (Upper Mount Albion Road). • Connection along Mountain Brow Blvd. from Mohawk Road E. to Limeridge Road. • Connection from Mount Albion Pedestrian Bridge to redhill parking lot at terminus of Mud Street.
Ward 7: Central Mountain	
Description	<ul style="list-style-type: none"> • Urban ward, situated in the centre of Hamilton Mountain on the Niagara Escarpment • Located within the Hamilton and Niagara Peninsula Conservation Authorities watersheds • Divided by the Lincoln Alexander Parkway
Built and Natural Features	<ul style="list-style-type: none"> • Limeridge Mall • Sackville Hill Senior's Centre • Sam Lawrence Park and Mountain Brow Park • T.B. McQuesten Park • Solomon Trail • The Niagara Escarpment and Bruce Trail • Juravinski General Hospital • Lincoln Alexander Parkway • Mount Hamilton Cemetery
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Connection along hydro corridor from Limeridge Mall to future hydro corridor trails in Ward 11. • Boulevard trail connection along Rymal Road E. from Upper James Street W. to Upper Sherman Avenue. • Trail connections (on-road and off-road) from Upper James Street through neighbourhoods and parks to connect to Billy Sherring Park.

Ward 8: West Mountain	
Description	<ul style="list-style-type: none"> • Urban ward, situated in the west end of Hamilton Mountain on the Niagara Escarpment • Located within the Hamilton and Niagara Peninsula Conservation Authorities watersheds • Divided by the Lincoln Alexander Parkway
Built and Natural Features	<ul style="list-style-type: none"> • Chedoke Radial Recreational Trail • William Connell Park • Mohawk College of Applied Arts and Technology • Chedoke Hospital • St. Joseph's Healthcare Campus • Lincoln Alexander Parkway • The Niagara Escarpment and Bruce Trail • Numerous waterfalls • Portions of the Tiffany Creek and Twenty Mile Creek watershed
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Trail connection from Tivoli Drive to Mohawk Road W. through Olympic Park. • Connection from Garth Street through reservoir to William Connell Park trails. • Connection from Upper James Street to William Connell Park. • Boulevard trail upgrade along Fennel Avenue W. through Mohawk College and Hillfield Strathallan College campuses.
Ward 9: Heritage Stoney Creek	
Description	<ul style="list-style-type: none"> • Urban and rural ward that straddles the Niagara Escarpment and is situated in the east side of Hamilton • Located within the Hamilton and Niagara Peninsula Conservation Authorities watersheds • 1/5 of the Ward is located below the Escarpment
Built and Natural Features	<ul style="list-style-type: none"> • Town of Stoney Creek • Battlefield House Museum and Park • Heritage Green Sports Park • Devil's Punch Bowl Conservation Area • The Niagara Escarpment and Bruce Trail • Felker's Falls Conservation Area • Eramosa Karst Conservation Area
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Trail link from Pritchard Rd. to Eramosa Karst Conservation Area (Upper Mount Albion Rd.). • Connection from Mud Street W. to Green Mountain Road through the Heritage Green Sports Park. • Trail link from escarpment and waterfalls to First Road W. • Trail development from Heritage Green Sports Park to Echo Valley Drive. • Upgrade to existing trail from Ridge Road to Mountain Avenue S.
Ward 10: Stoney Creek	
Description	<ul style="list-style-type: none"> • Urban ward situated below the Niagara Escarpment with an industrial and commercial corridor south of the QEW • Located within the Hamilton Conservation Authority watershed

Built and Natural Features	<ul style="list-style-type: none"> • Mohawk College STARRT Institute • Lake Ontario shoreline and Great Lakes Waterfront Trail • The Niagara Escarpment and Bruce Trail • Queen Elizabeth Way (QEW)
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Boulevard trail connection along Dewitt Road from Ridge Road to Dundee Drive. Connection allows pedestrian access to the brow (two way cycling). • Connection from Millen Road to Third Private Road with cycling to Dewitt Road (two way cycling).
Ward 11: Glanbrook, Saltfleet, Winona, Binbrook	
Description	<ul style="list-style-type: none"> • Primarily a rural ward with five pockets of urban development (Binbrook, Mount Hope, Twenty Road, Summit Park, and Winona) • Located within the Hamilton, Niagara Peninsula, and Grand River Conservation Authorities watersheds • Majority of Ward 11 is located on top of the Escarpment
Built and Natural Features	<ul style="list-style-type: none"> • Fifty Point Conservation Area • Binbrook Conservation Area (NPCA) and Lake Niapenco • Vinemont Conservation Area • Chippewa Rail Trail (Trans-Canada Trail) • Dofasco 2000 Trail • John C. Munro Hamilton International Airport • Queen Elizabeth Way (QEW) • Lake Ontario shoreline and Great Lakes Waterfront Trail • The Niagara Escarpment and Bruce Trail
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Hydro corridor trail connection from Glancaster Road Chippewa Rail Trail. • Hydro corridor trail connection from Chippewa Rail Trail and Nebo Road to Fletcher Road. • Connection from Binbrook Road E. to Highway 56. • Boulevard trail connection along Ridge Road from Dewitt Road to Devil's Punchbowl Conservation Area. • Barton Street Pedestrian Promenade development. • Connection from Jones Road to future Collector Road C. • Connection along Twenty Road from Glover Road to Trinity Church Road. • Connection along Upper James Street from hydro corridor trail north of Twenty Road W. to Chippewa Road E. (Greenbelt Route). • Connection from White Church Road to Airport Road W. • Connection along White Church Road from Upper James Street to Glancaster Road. • Connection from Fairgrounds Community Park to Binbrook Sports Complex with connections north to future development and south to Fletcher Road parkette. • Future connection from Summerlea West Park to Fletcher Road parkette. • Connection from Highway 56 to NPCA entrance. • Connection from Swayze Road to Cemetery Road along Highway 56.

Ward 12: Ancaster	
Description	<ul style="list-style-type: none"> • Mix of urban and rural uses • Located within the Hamilton, Niagara and Grand River Conservation Authorities watersheds
Built and Natural Features	<ul style="list-style-type: none"> • Redeemer University College • Part of the Dundas Valley Conservation Area • Iroquoia Heights Conservation Area • Tiffany Falls Conservation Area • Meadowlands Conservation Area • Fieldcote Museum • Ancaster Fairgrounds • Ancaster village core • Meadowlands Power Centre • Ancaster Business Park • Highway 403 • Lincoln Alexander Parkway • The Niagara Escarpment and Bruce Trail
Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Trail link connecting Filman Road along Bruce Trail and Filman Road Side Trail. • Upgrade to on-street bike lane from Mohawk Road to Bruce Trail. • Meadowlands Trail System from Highway 403 to Garner Road. Multiple sections to complete system, connect natural areas, stormwater ponds, neighbourhoods and future hydro trails. • Meadowlands hydro corridor trail connection from Tiffany Creek to hydro corridor trails east of Southcote Road • Boulevard Trail along Glancaster Road from Garner Road to Twenty Road • Hydro corridor trail connection from Glancaster Road (east) to hydro corridor west of Trinity Road. • Trail connection from Shaver Estates Park (Weldon Lane and Myers Lane) to Tollgate Drive. • Trail connection from Shaver Estates Trail to Hamilton Drive. • Trail connection from Hamilton Drive to Panabaker Drive. • Connection west of Highway 6 from hydro corridor trails to White Church Road and Glancaster Road.
Ward 13: Dundas	
Description	<ul style="list-style-type: none"> • Urban and rural ward • Located within the Hamilton and Halton Conservation Authority watersheds
Built and Natural Features	<ul style="list-style-type: none"> • Dundas Valley Conservation Area • Borer's Falls Conservation Area • Historic village core of Dundas • Large section of the Royal Botanical Gardens • Cootes Paradise • The Niagara Escarpment and Bruce Trail • Hamilton-Brantford Rail Trail

Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Connection from Governors Road east to Main Street Staircase and east to Thorpe Street. • Connection from Osler Drive and Spencer Creek Trail east to Edwards Memorial Park. • Upgrade to old rail bed and foot path from Bond Street to west end of Cascade Park. • Dundas Valley Trail Link, Governor’s Road to King Street West. Upgraded or second trail adjacent to Bruce Trail. • Connection through hydro corridor from Valley Road and York Blvd. to Valley Community Centre Park. • Connection along Old Guelph Road from York Blvd. to Royal Botanical Gardens entrance. • Upgrade existing path to formalize a connection from Highland Park Drive to Trans-Canada Trail through Sanctuary Park. • Trail (bridge) connection over railway line from the Bruce Trail to Spencer Gorge Wilderness Area.
--	---

Ward 14: Wentworth

Description	<ul style="list-style-type: none"> • Primarily a rural ward • City’s largest ward • Contains many small rural communities • Located within the Hamilton, Halton and Grand River Conservation Authority watersheds
--------------------	---

Built and Natural Features	<ul style="list-style-type: none"> • Hamilton-Brantford Rail Trail • Lafarge 2000 trail • Westfield Heritage Village • African Lion Safari • Christie Lake Conservation Area • Crook’s Hollow Conservation Area • Valens Conservation Area • Spencer Gorge Conservation Area and waterfalls • Beverly Swamp Conservation Area • The Niagara Escarpment and Bruce Trail • Highway 403 • Highway 5 and Highway 6 • Contains communities of Greensville, Lynden, Jerseyville, Freelon, Valens, Hayesland, Strabane, Westover, Kirkwall, Sheffield, Rockton, Troy and Copetown
-----------------------------------	---

Recreational Trail Design Opportunities	<ul style="list-style-type: none"> • Connection from Harvest Road parking lot to Highway 5. • Connection from 10th Concession West east to Valens Road and Valens Reservoir. • Cycling connection along west side of Highway 6 from Carlisle Road to Edgewood Road. • Connection along Highway 8 from Concession 5 to Beverly Community Park.
--	---

Ward 15: Flamborough

Description	<ul style="list-style-type: none"> • Mix of rural and urban • Located within the Hamilton and Halton Conservation Authority watersheds • Borders the City of Burlington
--------------------	--

<p>Built and Natural Features</p>	<ul style="list-style-type: none"> • Spencer Gorge/Webster’s Falls Conservation Area and waterfalls • Progreston waterfalls • Mountsberg Conservation Area • Borer’s Falls Conservation Area • Dundas Peak • Joe Sam’s Leisure Park • Contains communities of Waterdown, Carlisle, Freelton, Millgrove, and Mountsberg • Highway 5 and Highway 6 • The Niagara Escarpment and Bruce Trail
<p>Recreational Trail Design Opportunities</p>	<ul style="list-style-type: none"> • Borer’s Creek trail connection from Highway 6 to Rock Chapel Golf Centre and through residential neighbourhoods to the east. • Connection from Mosaic Drive northeast through future neighbourhoods to Centre Road. • Connection from Borer’s Creek Trail to new communities planned to the north. • Trail connection from hydro corridor to Parkside Drive to Robson Road. • Loop trail through new community south of Highway 5 with connection to hydro corridor trails. • Hydro corridor trail connection from Arrowhon Natural Area to Mountain Brow Road. • Connection from King Road along Mount Brow Road. • Connection from Fallsview Road E to Borer’s Fall Conservation Area parking lot along Rock Chapel Road. • Connection from Northlawn Avenue to Parkside Drive. • Connection from Chudleigh Street to Dundas Street E. • Connection through future planned communities from Mosaic Drive to Highway 6.

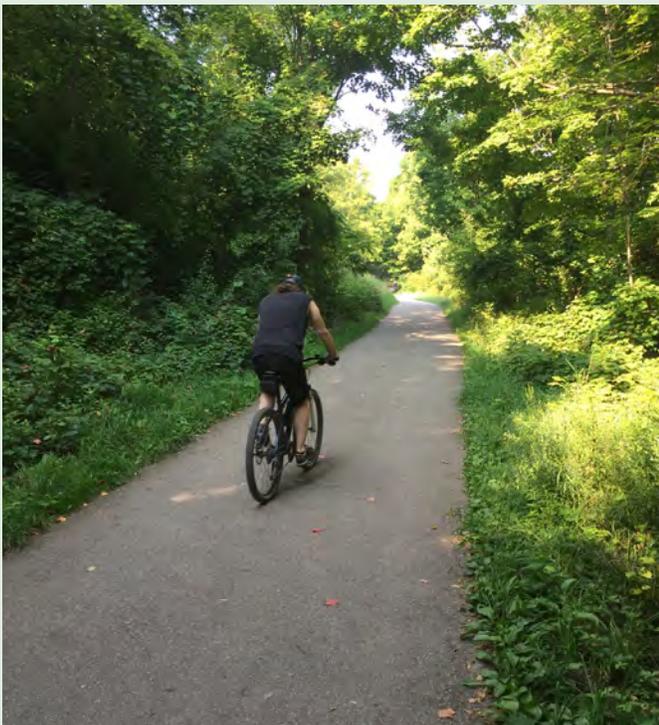


Figure 5: Asphalt trail along the Chedoke Radial Recreational Trail

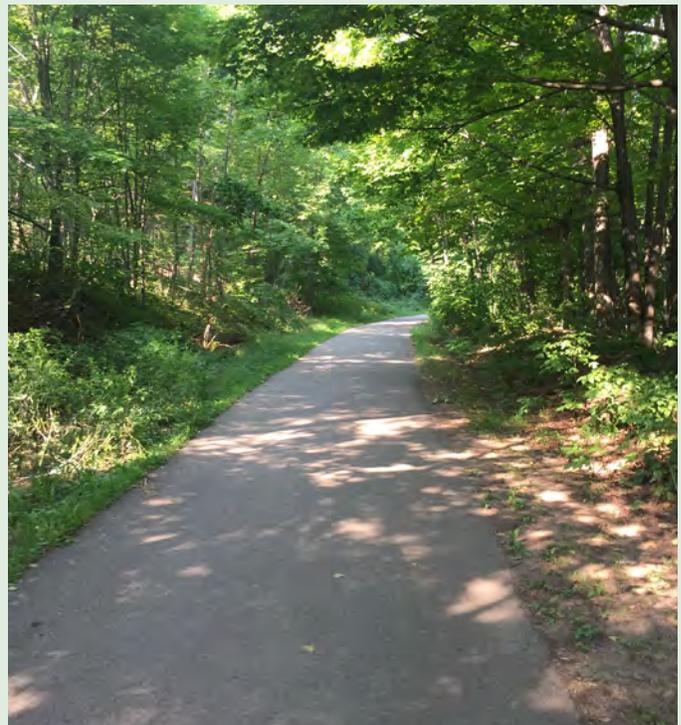


Figure 6: Many trails in Hamilton are routed through scenic and natural areas

b) 2007 Trail Initiatives

The table below summarizes all 2007 trail initiatives, including an update on their status, location, and trail amenity recommendations.

Table 3: Summary of 2007 Trail Initiatives			
Ward	Init.	Status	Trail Initiative Name
Ward 1	1	Proposed Multi-Use Trail	Ancaster Creek Trail
	2	Proposed Multi-Use Trail	Churchill Park Trail
	3	Removed - Unable to construct trail along water as per RBG recommendations	
	4	Removed - Unable to construct trail along water	
	5	Completed - York Blvd. Trail (Bike Route) Link	
	6	Proposed Multi-use & Upgraded Trail	Kay Drage Park Trail
	7	Proposed Multi-use Trail	Chedoke Rail Trail Extension
	8	Completed - Alignment follows Chedoke Rail Trail	
	9	Proposed Multi-Use Trail	Beddoe Drive Link
	10	Completed - Longwood Road and Aberdeen Avenue Bike Route	
	11	Completed - Victoria Park Link (2007)	
	12	Completed - York Blvd. Road (Bike Route) Link	
	13	Completed - Dundurn to Burlington Bike Route	
Ward 2	1	Completed - Pier 4 to Pier 8 Link	
	2	Proposed Blvd. & Upgraded Trail	Strachan Street Trail
	3	Completed - Barton Street to Dock Road Bike Route	
	4	Proposed Upgraded Trail	Chedoke Rail Trail, Claremont Link
	5	Removed - Not required as initiative within 2015 Trail Master Plan Update	
Ward 3	1	Completed - Gage Park Trail	
	2	Removed - Maple Avenue Bike Route, alternatives considered	
	3	Proposed On-road Route	Burlington Street Link

Ward	Init.	Status	Trail Initiative Name
Ward 3	4	Removed - Trail connection through private industrial lands	
	5	Removed - Trail connection not feasible	
Ward 4	1	Completed - Windermere Basin Loop	
	2	Completed - Woodward Avenue Connector (Bike Route)	
	3	Proposed Multi-Use Trail	Museum of Steam and Technology Link
	4	Proposed Multi-Use Trail	Hydro Corridor, Barton Street to Lawrence Avenue
Ward 5	1	Removed - No improvements required to existing natural footpath	
	2	Completed - QEW/ Van Wagners Beach Road Link	
	3	Removed - Unable to build trail along CN corridor on CN lands.	
	4	Proposed Multi-use & Upgraded Trail	Glenburn Court-Battlefield Creek Trail
	5	Removed - Not required as initiative within 2015 Trail Master Plan Update	
	6	Proposed Multi-Use Trail	Hydro Corridor, Lawrence Avenue to Greenhill Avenue
	7	Removed - No improvements to existing natural footpath	
Ward 6	1	Completed - Arbour and Anchor Road Trails (2012 - 2014)	
	2	Proposed On-road Route	Mud Street, Mountain Brow Boulevard
	3	Completed - Mount Albion Trail Extension (2006)	
	4	Proposed Blvd. Trail	Upper Ottawa Street, Stone Church Road Link
Ward 7	No Existing Trail Initiatives were planned within Ward 7		
Ward 8	1	Removed - Unnecessary trail connection through Mohawk College/St. Joseph Healthcare property	
	2	Proposed Multi-Use Trail	Olympic Park, Twin Pad Arena Link
	3	Completed - West Fifth St, Tyrone Dr. to Brantdale Ave. (Bike Route)	
	4	Removed - Boulevard trail connection no longer required due to planned cycling lane infrastructure along Rymal Road W	

Ward	Init.	Status	Trail Initiative Name
Ward 8	5	Proposed Multi-Use Trail	William Connell Park Link
Ward 9	1	Proposed Blvd. Trail	Valley Park Link
	2	Proposed Multi-Use Trail	Heritage Green Link
	3	Proposed Multi-Use Trail	First Road West Link
	4	Completed - Escarpment/ Felkers Link (East Mountain Trail Loop)	
Ward 10	1	Completed - Frances Avenue Link (Bike Route)	
	2	Completed - North Service Road Link (Bike Route)	
	3	Completed - Lakeview Drive Link (Bike Route)	
Ward 11	1	Completed - North Service Road Link (Bike Route), Jones to McNeilly	
	2	Completed - North Service Road Link (Bike Route), McNeilly to Winona	
	3	Completed - Baseline Road Link (Bike Route), Winona to Fifty Road	
	4	Completed - North Service Road Link (Bike Route), Fifty to Baseline	
	5	Completed - Baseline Road, North Service Road to Fifty Point	
	6	Removed - Not required as initiative within 2015 Trail Master Plan Update and trail is no longer within Cycling MP	
	7	Proposed Multi-Use Trail	Hydro Corridor, Glancaster Road to Chippewa Rail Trail
	8	Proposed Multi-Use Trail	Hydro Corridor, Chippewa Rail Trail to Fletcher Road
	9	Removed - Future hydro corridor connection not high priority for development within City	
	10	Proposed On-road Route	Binbrook Road-Highway 56 Link
	11	Removed - Future hydro corridor connection not high priority for development within City	
Ward 12	1	Removed - trail maintained by HCA and not on City of Hamilton property	
	2	Proposed Multi-Use Trail	Filman Road Link - North Segment
	3	Removed - trail not on City of Hamilton property	
	4	Removed - trail access was removed therefore no trail access upgrade is required.	

Ward	Init.	Status	Trail Initiative Name
Ward 12	5	Proposed On-road Route	Filman Road Link - South Segment
	6	Completed - Wilson Street Link (Bike Route)	
	7	Proposed Multi-Use Trail	Meadowlands Trail System Link
	8	Proposed Multi-Use Trail	Meadowlands Hydro Corridor Link
	9	Proposed Blvd. Trail	Glancaster Road Link
	10	Proposed Multi-Use Trail	Hydro Corridor, Trinity Road to Glancaster Road
Ward 13	1	Removed - Not feasible within RBG lands and removed at their request	
	2	Proposed Multi-use & Upgraded Trail	Spencer Creek, Main Street and Thorpe Street Link
	3	Completed - Governor's Road (Bike Route)	
	4	Proposed Multi-Use Trail	Spencer Creek, Mercer Street and Governor's Road Link
	5	Proposed Multi-use & Upgraded Trail	Cascade Trail Link
	6	Proposed Foot Path	Dundas Valley Link
Ward 14	1	Proposed Multi-Use Trail	Christie Link Loop
	2	Removed - Future hydro corridor connection not high priority for development within City	
	3	Removed - Future hydro corridor connection not high priority for development within City	
	4	Proposed Multi-Use Trail	10th Concession West, Valens Link
	5	Completed - Middletown Road/ Safari Road to Strabane (Bike Route)	
Ward 15	1	Proposed Multi-Use Trail	Borer's Creek Trail Link

Ward	Init.	Status	Trail Initiative Name
Ward 15	2	Proposed Multi-Use Trail	Flamborough YMCA Trail Link
	3	Proposed Multi-Use Trail	Waterdown Pipeline Trail Link
	4	Completed - Trail alignment on the north end of Joe Sam's Park along Concession 5 E is not required.	
	5	Proposed Multi-Use Trail	Parkside Drive-Robson Link
	6	Proposed Multi-Use Trail	Kerns Road-Waterdown South Link
	7	Proposed Multi-Use Trail	Highway 5-Mountain Brow Link
	8	Completed - Main Street Link (Bike Route)	
	9	Removed - Not required as initiative within 2015 Trail Master Plan Update	
	10	Completed - Carlisle Trail Loop (Bike Route)	
	11	Completed - Campbellville Road Link (Bike Route)	

c) Proposed 2015 Trail Initiatives

The online survey identified trail linkages and connectivity as a high community priority. Trail connectivity strategies within the City of Hamilton should focus on removing previously identified gaps, overcoming barriers, and providing trail linkages to existing neighbourhoods and newly planned communities. An integrated loop trail system has the potential to be a valued community asset in addition to economic promotion.

The management and maintenance of trails is a large commitment and undertaking, however can arguably be the most important aspect of trail development. An improved comprehensive inventory of trails that describe in greater detail the length, difficulty, level of accessibility could be clearly identified and marked on trail route signage. Continued development of improved guidelines and policies for trail management that address innovative development methods, context sensitive solutions, trail safety, and strict development regulations in natural areas is on-going. The table below summarizes all 55 proposed trail initiatives, location, and trail amenity recommendations.

Table 4: Summary of 2015 Trail Initiatives			
Ward	Init.	Trail Type	Trail Initiative Name
Ward 1	14	Proposed Multi-Use Trail	Locke Street Rail Bridge
	15	Proposed Multi-Use Trail	Stuart Street Rail Link
Ward 2	6	Proposed Blvd. Trail	Burlington Street Boulevard Trail
	7	Proposed Multi-Use Trail	Hunter Street-Escarpment Rail Trail Link

Ward	Init.	Trail Type	Trail Initiative Name
Ward 2	8	Proposed Multi-Use Trail	Central Park Master Plan Trail
Ward 3	6	Proposed Blvd. Trail	Ottawa Street South Boulevard Trail
	7	Proposed Upgraded Trail	Ottawa Street South-Bruce Trail Link
Ward 4	5	Proposed Multi-Use Trail	Proposed Pipeline Trail (Museum of Steam and Technology to Mahony Park)
	6	Proposed On-road Route	Glengrove Avenue-Red Hill Valley Link
	7	Proposed Blvd. Trail	Burlington Street East Boulevard Trail
	8	Proposed Upgraded Trail	Existing Pipeline Trail (Main Street to Strathearne Avenue)
Ward 5	8	Proposed Multi-Use Trail	Battlefield Park-Bruce Trail Link
	9	Proposed Multi-Use Trail	Eugene Street-Red Hill Valley Link
	10	Proposed On-road Route	Centennial Parkway Link
	11	Proposed Multi-Use Trail	Sam Manson Park Trail
	12	Proposed Multi-Use Trail	Eastport Drive Lift Bridge Link
Ward 6	5	Proposed Blvd. Trail	Eramosa Karst C.A. Boulevard Trail
	6	Proposed Blvd. Trail	Mountain Brow Boulevard Trail
	7	Proposed Multi-Use Trail	Mount Albion Link (East Mountain Trail Loop)
Ward 7	1	Proposed Multi-Use Trail	Limeridge Mall Hydro Corridor Trail

Ward	Init.	Trail Type	Trail Initiative Name
Ward 7	2	Proposed Blvd. Trail	Rymal Road East Boulevard Trail
	3	Proposed Multi-Use & Blvd. Trail	Park Trail Connections (Upper James Street to Limeridge Mall Hydro Corridor Trail)
Ward 8	6	Proposed Multi-Use Trail	Upper James Street-William Connell Park Link
	7	Proposed Blvd. Trail Upgrade	Fennel Avenue Boulevard Trail
Ward 9	5	Proposed Multi-Use Trail	Heritage Green Sports Park Link
	6	Proposed Upgraded Trail	Devil's Punchbowl Link
Ward 10	4	Proposed Blvd. Trail	Dewitt Road Boulevard Trail
	5	Proposed Multi-Use Trail	Cherry Beach Road Link
Ward 11	12	Proposed Blvd. Trail	Ridge Road Boulevard Trail
	13	Proposed Multi-Use Trail	Barton Street Pedestrian Promenade
	14	Proposed Multi-Use Trail	Jones Road Link
	15	Proposed Multi-Use Trail	Twenty Road Link
	16	Proposed Multi-Use Trail	Upper James Street Link
	17	Proposed Multi-Use Trail	White Church Road West-Airport Link
	18	Proposed Multi-Use Trail	White Church Road West Link
	19	Proposed Multi-Use Trail	Fairgrounds Community Park Link
20	Proposed Multi-Use Trail	Summerlea West Park-Fletcher Road Parkette Link	

Ward	Init.	Trail Type	Trail Initiative Name
Ward 11	21	Proposed Multi-Use Trail	Highway 56-NPCA Entrance Link
	22	Proposed Multi-Use Trail	Swayze Road-Cemetery Road Link
Ward 12	11	Proposed Multi-Use Trail	Shaver Estates Trail
	12	Proposed Multi-Use Trail	Tollgate Drive Link
	13	Proposed Multi-Use Trail	Hamilton Drive Link
	14	Proposed Multi-Use Trail	Hydro Corridor-White Church Road Link
Ward 13	7	Proposed Multi-Use Trail	York Road-Valley Community Centre Park Hydro Corridor Trail
	8	Proposed Multi-Use Trail	Old Guelph Road Trail
	9	Proposed Multi-Use Trail	Sanctuary Park Link
	10	Proposed Multi-Use Trail	Spencer Gorge-Bruce Trail Link
Ward 14	6	Proposed On-road Route	Highway 6 Cycling Link
	7	Proposed Blvd. Trail	Highway 8 Boulevard Trail
Ward 15	12	Proposed Multi-Use Trail	Mountain Brow Road Link
	13	Proposed Multi-Use Trail	Rock Chapel Road Link
	14	Proposed Multi-Use Trail	Northlawn Avenue-Parkside Drive Link
	15	Proposed Multi-Use Trail	Chudleigh Street Link
	16	Proposed Multi-Use Trail	Mosaic Drive to Highway 6 Link



Figure 7: Asphalt trail in the T.B. McQuesten Community Park

2.3 Trail Design Construction Considerations

A trail network travels through a variety of landscapes and offers a range of physical challenges, good wayfinding techniques, accessible options, connectivity, and has supporting facilities and services. Trail design and maintenance directly impact the decisions of a user to return and utilize the trail network. Better quality trail design and construction will attract users and alleviate long-term maintenance measures.

Trail users vary widely in terms of age and physical ability, and expectations of what the trail experience should be. A cohesive, innovative, and high quality trail is a strong community asset where user experience, enjoyment, and safety are maximized.

2.3.1 How to Use the Trail Guidelines

The following trail development and maintenance guidelines are intended to apply to City-owned multi-use recreation trails. These guidelines have been developed to assist with making informed decisions about trail design and implementation. The guidelines provide general information about trail users needs and abilities. Summary tables have been included to highlight key design recommendations and considerations in addressing features associated with various trail types.

The standard recommendation typically aims to achieve trail design standards that illustrate acceptable conditions based on widths, accessibility, safety, and maintenance. Trail standards may change based on site-specific locations and conditions.

The information presented within these guidelines is based on currently accepted trail design practices (Trails for All Ontarians Collaborative, 2006) and experience gained during initial years of trail implementation. The guidelines are not intended to be prescriptive but rather should be treated as a reference to be consulted during the planning, development, and construction of each individual project. The guidelines do not include all trail design standards for all locations, nor should they replace sound engineering judgment. Multi-use recreation trails connected to or through City parks are intended to utilize the applicable trail style and standard. These guidelines are not meant to be detailed solutions to site-specific problem areas. Specific and detailed site inventory should be undertaken as part of the analysis for any trail development within the City. Where trails are operated by a Hamilton trails partner, the standards applied will be those developed and approved by that external partner; however, the partner will be encouraged to utilize the appropriate City standards to ensure integration of both systems.

2.3.2 Trail Users and Needs

Based on the online survey data from the public consultation process, trails in the City of Hamilton are primarily used for hiking (40.74%), and walking and jogging (41.40%). Trail user characteristics and preferences are critical in the development and implementation of the trail network. Within the City the potential trail users can include pedestrians, cyclists, in-line skaters, and users with mobility aids. This plan recognizes that many users with mobility assisted devices utilize trails where surface types and grades permit. The design and trail classification in this plan considers and provides opportunities for these user groups. The following sections briefly describe each user, their typical use of trails, and the general trail design parameters that should be considered. Based on the survey data, cyclists and pedestrians walking and jogging constitute approximately 68.4% of all urban trail users in Hamilton.

a) Pedestrians

Pedestrians are generally divided into sub-categories such as:

- Walkers;
- Hikers;
- Joggers and Runners.

Walkers

Walking is typically enjoyed by a wide range of individuals of all levels of physical activity and health. Walkers represent a variety of interests and motives including leisure, relaxing, socializing, exploring, connecting with nature, meditation, fitness, or dog walking. 85% of Canadians walk for leisure and recreational reasons. 82% of Canadians confirmed that they would ideally like to walk more often than they currently do (Health Canada, 1998). Trails can provide Canadians of all ages with this opportunity.

The ACTIVE2010 Strategy (2005) recommends that all adult Ontarians walk a minimum of 30 minutes daily or participate in some other equivalent activity. A 2001 study found that 28% of Ontarians cited a lack of pleasant places to walk or bicycle as a barrier to participation in physical activity (Canadian Fitness and Lifestyle Research Institute, 2001). The top five reasons for walking as a mode of transportation in Canada are (Health Canada, 1998):

- exercise and health (62%)
- pleasure (30%)
- practicality and convenience (24%)
- environmental concern (10%)
- saving money (9%)

In addition to using sidewalks, parking lots and urban plazas, the utilitarian walker typically will use trails that are convenient, well designed, and properly maintained. Where no sidewalks are provided and there are no road shoulders, the Ontario Highway Traffic Act allows pedestrians to walk on the edge of the roadway, facing oncoming traffic (Ontario Highway Traffic Act, 1990).

Walking trails need to consider users who may have sensory, cognitive or ambulatory difficulties, as well as:

- Walkers with baby strollers;
- Walking aids (e.g. medical scooters etc.);
- Walking as rehabilitation or therapy;
- Walking in pairs or groups (e.g. school groups, nature walks);
- Walking for utilitarian or transportation purposes; and
- Expect more amenities (e.g. benches, etc.).

Hikers

Hikers may challenge themselves to cover longer distances. They may also walk on shoulder sections of rural roadways, which are considered less safe and less interesting to the majority of leisure walkers. Hikers may utilize trails for:

- Day trips that range from several kilometres in length;
- More interested in the natural environment;
- More skilled at navigation;
- Self-sufficient and expect fewer trail amenities (e.g. benches, rest nodes); and
- Typically more attracted to challenging terrain and rural areas.

Joggers and Runners

Sharing more profile characteristics with distance hikers than with leisure walkers, runners and joggers' primary trail use motives are fitness and exercise. Their use of on-road and off-road trails is typically distance-orientated (e.g. jog for 5km, 10km, 15km, etc.) and they tend to use trails at higher speeds than leisure walkers and hikers.

b) Cyclists

The City of Hamilton cycling network includes dedicated bicycle lanes, cautionary on-road bicycle routes, multi-use paths, and on-road routes. Hamilton's Cycling Master Plan report (2009) discusses efforts to link on-road cycling routes with the off-road trail network stating that cyclists utilize both off-road trails and on-road facilities depending on their intended origin and destination. However, when cyclists use or cross a public roadway they are considered vehicles by law and are expected to follow the same traffic laws as motorized vehicles (Ontario Highway Traffic Act, 1990) and it should be noted that cycling on sidewalks is illegal in Hamilton.

The mechanical efficiency of bicycles allows users of all ages to significantly increase their travel speed and distance, allowing them to experience trail corridors differently. Road bikes are built to perform differently than mountain bikes; as such, the trail conditions and standards for both types of bikes differ. Mountain bikes can more easily navigate stonedust surfaces and natural ground trails, where road bikes typically require asphalt trails or pavements. Fitness levels and motivation of the individual cyclist vary as well. Although cyclists have the right

to access the extensive existing public roadway system, with the exception of QEW, Highway 403, Lincoln Alexander Parkway, and the Red Hill Valley Parkway, many inexperienced cyclists feel unsafe sharing the road with automobiles (Hamilton Transportation Master Plan, 2007). In Hamilton, cycling mode shares are much higher in Downtown than in the lower density suburban areas for utility walking and cycling trips (Hamilton Transportation Master Plan, 2007).

c) In-Line Skaters, Skateboarders, and Non-motorized Scooters

Not all trails in Hamilton are intended to accommodate in-line skating, skateboarding, and non-motorized scooters. In-line skaters and skateboarders prefer smooth, hard surfaces, and dislike loose sand, gravel, fallen branches, and puddles as these can be significant hazards. Although skateboarders and non-motorized scooter users can quickly become pedestrians by dismounting, they too are vulnerable to significant grade changes and require considerable maneuvering space.

d) Wheelchairs (Motorized and Non-motorized)

The Accessibility for Ontarians with Disabilities Act (AODA) is proposing many changes in order to improve accessibility for persons with a disability, including access to trails. Community members may rely on motorized and non-motorized wheelchairs. The ability of a wheelchair to negotiate a trail will depend upon both the type of trail, and existing terrain, and wheelchair. Where terrain allows accessible trails are to be developed, there may be a need to obtain input from stakeholders to determine the trail surface and width required prior to implementation.

e) All-Terrain Vehicles, Dirt Bikes, and Snowmobiles

All-Terrain Vehicles (ATV), dirt bikes, and snowmobiles are recreational vehicles that are used year-round. More than 100,000 snowmobiles access the Ontario Federation of Snowmobile Clubs' trail network each season (Ontario Federation of Snowmobile Clubs, 2005) and the Ontario Federation of All-Terrain Vehicle Clubs has 10 clubs, 6 chapters and over 2,100 km of mapped trails across Ontario (The Ontario Federation of All-Terrain Vehicle Clubs, 2005). Although the trails survey demonstrated results

that users would like ATV trails built, it should be noted that ATV's, dirt bikes, snowmobiles, and motorized vehicles that are not for accessibility purposes are prohibited from travelling along municipal roads and trails within the urban portion of the City of Hamilton. Secondly, there are certain risks associated with riding ATV's, dirt bikes, snowmobiles, and motorized vehicles, if municipal by-laws are not respected and safety precautions are ignored. Disobeying the municipal by-law could potentially cause harm to pedestrians if they encounter a motorized vehicle while using the trail.

2.3.3 General Trail Design Parameters

Careful consideration should be given to the physical, aesthetic, and environmental protection requirements for each trail type in the network. In many instances the physical design criteria related to operating space, design speed, stopping distance, alignment and clear zones are often governed by the needs of the fastest or most common user group on the trail network. Stopping sight distances for trails are typically governed by the distance required for cyclists since pedestrians can typically stop almost immediately regardless of trail configuration.

Trail user operating space is a measurement of user horizontal space required and often includes additional distances to the trail surface - commonly known as clear zones. Table 5 describes optimal operating spaces for different trail uses and is based on the recreation trail design standards and guidelines for the Trans-Canada Trail (2006).

Trail User Type	Recommended Width
One way travel (two pedestrians)	1.8m
One way travel (one cyclist)	1.2m
Two way travel (two pedestrians)	2.4m
Two way travel (two cyclists)	3.0m

2.4 Accessibility and AODA Requirements

The Accessibility for Ontarians with Disabilities Act (Government of Ontario, 2005) states that “the people of Ontario support the right of persons of all ages with disabilities to enjoy equal opportunity and to participate fully in the life of the province.” The stated goal of the AODA is “to make Ontario accessible for people with disabilities by 2025”. Approximately one in eight Canadians suffer from some type of physical disability. Mobility, agility, and pain-related disabilities are by far the most common types, each accounting for approximately 10% of reported disabilities nationally (Social Development Canada, 2010). Disability increases with age: from 3.3% among children, to 9.9% among working-age adults (15 to 64), and 31.2% among seniors 65 to 74 years of age. Disability rates are highest among older seniors (75 and over), with fully 53.3% in this age group reporting a disability (Social Development Canada, 2010).

Within the AODA, Bills 118 and Bill 125 recognize the need to provide for accessibility standards, improve opportunities and facilitate the removal of barriers in order to enable persons with disabilities to fully participate in the life of the province (Government of Ontario, 2005). The Accessibility Standards for the Built Environment and the Integrated Accessibility Standards (O. Reg. 191/11) are standards that apply to new trail development. The intent is to help remove barriers in buildings and outdoor spaces for people with disabilities. The standard applies to new construction and extensive renovation. The guidelines and criteria set out in these documents apply to the development of recreational multi-use trails and sidewalk facilities, but are not mandatory for the design of on-road cycling facilities.

AODA criteria which must be considered include: operational experience, width, longitudinal or running slope, cross slope, total slope, surface, changes in ground level and signage. When designing and implementing trail facilities, reference to the guidelines outlined in the Integrated Accessibility Standards is recommended. Referring to these standards will ensure all user groups needs are accommodated and satisfy the requirements of the AODA to the greatest extent possible, given the context of each trail's location,

the surrounding environment and trail type experience desired. Sections 80.6, 80.8, and 80.9 of the Integrated Accessibility Standards provide technical requirements for recreational trails, which includes:

- Minimum clear width 1.0m
- Minimum head room clearance of 2.1m above trail
- Surfaces are to be firm and stable
- Maximum longitudinal slope of 10%
- Maximum cross slope of 2%
- High tonal or textural changes to distinguish edges
- Standards also address changes in ground level, openings in the surface, edge protection (e.g near water); and
- Signage shall be easily understood and detectable by users of all abilities. It is important to ensure that signage, mapping, and messaging clearly communicates accessible trails, enabling users to make informed personal decision about which pathways to use.

Trails for All Ontarians Collaborative (2006) provides an in depth discussion of the application of Universal Trail Design principles. Universal Trail Design is a concept that takes into consideration the abilities, needs, and interests of the widest range of possible users. It requires planning and developing a range of facilities that can be experienced by a diversity of users of all abilities. Principles of Universal Trail Design can be summarized as follows:

- Equitable use: provide opportunity for trail users to access, share and experience the same sections of trail rather than offering separate facilities;
- Flexibility in use: provide different trail user options to accommodate for a variety of user experiences;
- Simple, intuitive, and perceptible information: whether conveying trail information through signage, maps or a web site, communicate using simple, straightforward forms and formats with uncomplicated graphics and/or text;
- Tolerance for error: design trails and information systems to minimize exposure to hazards, and indicate potential risks or challenges that may be encountered by users;
- Low physical effort: trails may provide

for challenge but should not exceed the abilities of the intended users; where appropriate, rest areas should be made available; and

- Size and space for approach and use: trails and amenities should provide trouble free access, comfort and be user friendly.

Trails should be designed to be accessible to all levels of ability, where possible and practical. It must be recognized however, that not all trails throughout the system can be fully accessible. Steep slopes are one of the most significant barriers for individuals with physical disabilities. Designing trails to be within the threshold (5%) for universal access will not only overcome this barrier but it will also help to reduce potential trail surface erosion.

The following recommended by the Trails for All Ontarians Collaborative (2006) are some additional considerations for making new and existing trails accessible:

- Designers should consult current municipal standards available;
- Where trails require an accessibility solution that is above and beyond what is normally encountered, the City of Hamilton's Access and Equity Committee should be consulted early on in the process to determine the practicality and desirability of designing a fully accessible trail;
- Should a fully accessible trail be appropriate, the accessibility representative must be consulted during the detailed design process to ensure a suitable design is developed. Where a fully accessible trail is not achievable the accessibility representative must be consulted to confirm a suitable alternative ; and
- Work collaboratively with the City of Hamilton's Access and Equity Committee to consider developing signage that clearly indicates trail accessibility conditions, that allows users with mobility-assisted devices to make informed decisions about using a particular trail prior to traveling on it.

City of Hamilton Barrier-Free Design Guidelines (Version 1.1, 2006)

The City of Hamilton has historically been proactive in accommodating the needs of persons with disabilities. In 2001, the Province

of Ontario passed the Ontarians with Disabilities Act (AODA) with a new piece of legislation enacted to address accessibility issues in 2005. The AODA defines a barrier as: "anything that prevents a person with a disability from fully participating in all aspects of society because of his or her disability, including a physical barrier, an architectural barrier, an informational or communications barrier, an attitudinal barrier, a technological barrier, a policy or practice; (obstacle)."

In response to the AODA the City of Hamilton established the Advisory Committee for Persons with Disabilities. The Committee recommended that the City's Barrier-Free Design Guidelines be updated. Recognizing that the Guidelines are almost 10 years old, and that augmentative and support equipment for persons with disabilities has changed over that timeframe. The Hamilton Guidelines identify barriers and obstacles, and presents design requirements that, consistent with the Ontario Building Code (O.B.C. 1997), should be considered as a minimum requirement for all City of Hamilton projects.

2.5 Personal Security and CPTED

Principles of Crime Prevention through Environmental Design (CPTED) should be applied to help address trail use security issues, particularly in locations that are: infrequently used, isolated, or have previously encountered security issues. To the extent possible, trails should be designed to allow users to feel comfortable, safe, and secure. Several design aspects that take into account CPTED principles when designing and implementing trails are (Crowe, 2002):

- The user should have the ability to obtain help when using trails. Signs should inform users of where they are along the trails system and include local emergency contact information for fire, police, and ambulance services;
- Good visibility for natural surveillance by other people and trail users by locating routes through well-used, lit public spaces;
- Provide escape routes from isolated areas at regular intervals;
- Design adequate sight lines and sight distances for users;
- Provide trailhead parking and transit access in highly visible areas;
- Minimize routing of trails close to woodlot

edges, water features, dams, and places where danger typical occurs;

- Design underpasses and bridges so that users can see the end of the features as well as the areas beyond; and
- Place caution signage if dangerous and isolated areas are unavoidable and indicate those areas on overall and individual trail signage mapping.

Table 6: CPTED Principles

The four main underlying principles of CPTED are (Crowe, 2002):

- 1. Natural Access Control**
- 2. Natural Surveillance**
- 3. Territorial Reinforcement**
- 4. Maintenance**

2.6 Trail Lighting and Trail Safety

The National Bicycle and Pedestrian Clearinghouse (1996) found that numerous studies have clearly documented that trails do not contribute to an increase in crime and vandalism. If anything, because most trails area populated with happy users and managed by public agencies, they are generally safer and cleaner than the corridor prior to development.

Where applicable, trail lighting on high-use trails and stairs has been utilized. Lighting placement is subject to level of service, location, and risk management. Trail lighting is often an expensive and somewhat controversial trail development subject. Very few municipalities make the decision to light their entire trail system for numerous reasons which include:

- Installation costs;
- Scale and scope of lighting a specific route;
- Location of power supplies in remote areas along the trail network;
- Staffing time and material cost to properly monitor and maintain lamp fixtures and replace broken and burned out bulbs on a regular basis;
- Vandalism;
- Energy consumption;
- Perceived safety and CPTED principles;

- ‘Dark sky’ concerns and excessive light pollution, especially in those areas that are residential and adjacent to natural areas;
- Potential detrimental effects on flora and fauna, especially light pollution in natural areas such as woodlots; and
- Human eye inability to adapt to high contrasts resulting from brightly lit and dark shadowed areas adjacent to one another.

Lighting the entire trail system is not recommended, however there may be certain locations where lighting attractions and facilities (e.g. major parks or heavily used routes to major destinations) might extend use and enjoyment. Trail lighting along a route needs to be made on a site-specific basis.

An option for reducing lighting costs is to use solar powered and LED lighting. Solar and LED lighting solutions can increase safety and security while providing an environmentally responsible option with minimal natural environment disruption. Solar lighting can also eliminate the cost of running electrical wire from nearby transformers and eliminates the destruction caused by digging trenches for underground wiring, where possible.

2.7 Trail Hierarchy and Surfacing

This Recreational Trails Master Plan discusses three (3) main classes of off-road multi-use recreational trails within the City network hierarchy. The City’s Cycling Master Plan addresses all on-road cycling routes. Some multi-use trails along street right-of-ways exist and more are planned. They are identified herein, but are implemented as traffic projects. Table 7 discusses the three main classes of trails in Hamilton as well as their characteristics.



Figure 8: Tunnel with lighting along the Red Hill Valley Trail under King St E, south of the Red Hill Bowl sports fields

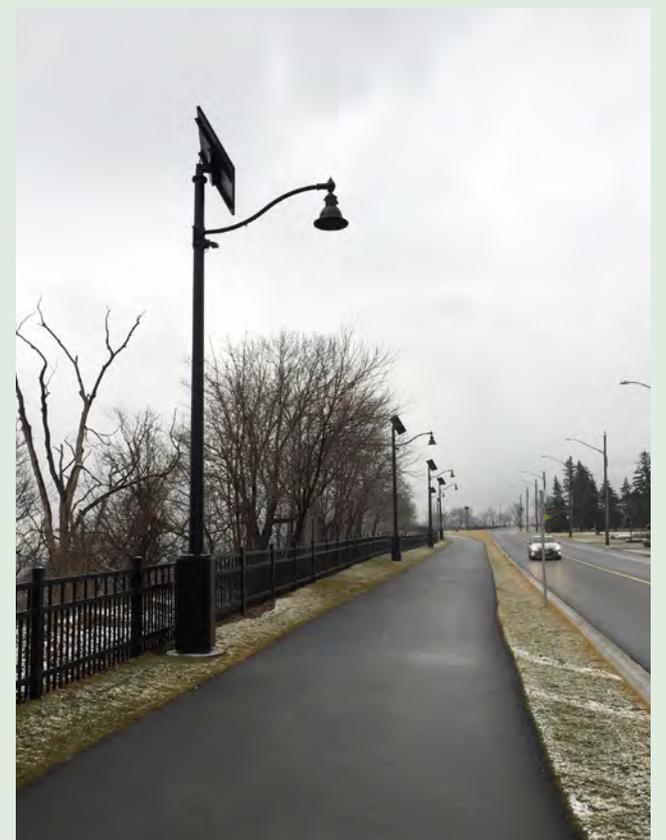


Figure 9: Solar lighting along Mountain Brow Boulevard

Table 7: Trail Hierarchy and Surfacing

1. TYPE 1, CLASS A – Multi-Use Recreation Trail

<p>Description and Connectivity</p>	<ul style="list-style-type: none"> • City-wide functions and important transportation and commuter routes connecting communities, neighbourhoods, parks, community facilities, commercial sites, institutions and residential areas • 4-season potential transportation corridor with opportunities for significant connectivity through the City • Provide access to major destinations throughout the City • Some connect to surrounding municipalities
<p>Typical Location</p>	<ul style="list-style-type: none"> • Ideally located outside of the road right-of-way in continuous linear corridors • Can be located within the road right-of-way
<p>Design Characteristics</p>	<ul style="list-style-type: none"> • Trail width of 5.0m - 6.0m • Asphalt surfaces • Accommodates two-way traffic • Designed to meet or exceed minimum accessibility requirements • Preferred 4-season maintenance for year-round walking, cycling, transportation and recreational uses • Typically designed to highest standards relative to other trail hierarchy types to accommodate high use volumes, destination-oriented traffic, widest range of use abilities and important links to major community facilities • Year-round connections between areas of housing, employment, transit, commercial services, retail, community facilities and other destinations • Supports pedestrian convenience and walkability and a range of active transportation opportunities
<p>Hamilton Examples</p>	<ul style="list-style-type: none"> • Great Lakes Waterfront Trail • Hamilton Harbour Waterfront Trail • Cootes Drive Trail • Glenside Trail

2. TYPE 1 & 2, CLASS B – Multi-Use Recreation Trail

<p>Description and Connectivity</p>	<ul style="list-style-type: none"> • City-wide function and available as a transportation route during the spring, summer and fall seasons and possibly winter • Local routes within City-owned parkland between points of interest and neighbourhood park facilities • Maintenance access routes within parks and around storm water management ponds
<p>Typical Location</p>	<ul style="list-style-type: none"> • Ideally located outside of the road right-of-way in continuous linear corridors (off-road) • Within City-owned parkland • Some locations, particularly in developed neighbourhoods, they provide short connections between off-road segments • On urban arterial, collector or rural roads where there is ample right of way between the edge of the road (curb for urban cross section and shoulder for rural cross section) and the limit of the right of way to maintain a minimum separation between the road and the trail (boulevard multi-use pathways)

<p>Design Characteristics</p>	<ul style="list-style-type: none"> • Typically 3.0m - 4.0m wide • Trail surface can be compacted granular or asphalt. Hard surfaces will be situation dependent • Site-specific locations may be boardwalk or other (e.g. tar and chip) to respond to site conditions • Accommodates two-way traffic volumes • Generally maintained for 3-season use; winter maintenance should be considered for school routes • Meets minimum accessibility requirements whenever possible. Uses may be limited by the nature of the trail location, trail alignment, width and surface type. • Designed for moderate to high volume usage and wide range of users
<p>Hamilton Examples</p>	<ul style="list-style-type: none"> • East Mountain Trail Loop • Red Hill Valley Trail • Chedoke Radial Recreational Trail
<p>3. TYPE 3, CLASS C – Recreation Trail</p>	
<p>Description and Connectivity</p>	<ul style="list-style-type: none"> • Trails designed for recreational purposes that may include the use of private and public lands • Created by the City or volunteer group that has an established arrangement with the City where the trail is on public land, or with the land owner where the trail is located on private land
<p>Typical Location</p>	<ul style="list-style-type: none"> • Established woodlots • Natural areas • Typically not connected to Class A or Class B trails
<p>Design Characteristics</p>	<ul style="list-style-type: none"> • Width will vary, but typically 1.0m - 2.0m depending on location • Natural earth/native soil surface; some locations they require a granular surface or boardwalk • Accommodate two-way travel with maneuvering required • Provide limited access, with no special accommodations made for specific user groups (e.g. bicycles, strollers, mobility-assisted devices) • Minimal maintenance (dictated by municipal by-laws, natural area management plan, etc.) • Typically does not meet minimum accessibility requirements
<p>Hamilton Examples</p>	<ul style="list-style-type: none"> • Valley Inn Road trail • Jackson Heights Park trail

Figure 10: Examples of Different Trail Classifications



6.0m wide multi-use asphalt trails (Class A) in Bayfront Park



Packed granular (Class B) Red Hill Valley Trail



The Bruce Trail through Hamilton is an excellent example of a natural surface trail (Class C)

Several options for trail surface materials exist, each with its set of advantages and disadvantages, relating cost, availability, efficiency of installation, seasonal accommodation, maintenance requirements, and compatibility with various trail users groups. Table 8 illustrates the most commonly used trail surfacing materials along with some

advantages and disadvantages. No single trail surface material is appropriate in all locations. Material selection during the design stage must be considered on a site-specific basis, location, and anticipated user group. Within Hamilton and surrounding municipalities, asphalt is the most commonly used hard surface trail material with stonedust the most extensively accepted granular surface.

Table 8: Trail Surfacing Advantages and Disadvantages

Trail Type	Advantages	Disadvantages
Asphalt	<ul style="list-style-type: none"> • Smooth, consistent surface • Adapts well to surrounding grades • Easily negotiated by a wide range of trail user groups • Relatively easy installation by skilled trades • Easy and durable for winter maintenance 	<ul style="list-style-type: none"> • Moderate-high installations costs • Full base excavation required that can potentially harm tree roots • 15-20 years typical lifespan depending on installation quality • Improper base preparation can often lead to long-term maintenance problems • Cracking can occur near the edges. Grass and weeds can invade cracks and speed deterioration
Stonedust (and other granular materials)	<p><u>Stonedust and Limestone Screenings:</u></p> <ul style="list-style-type: none"> • Mixture of fine particles and small diameter crushed stones • Levels and compacts very well and creates a smooth surface that accommodates a wide variety of trail users • Easy to spread and re-grade when surface deformities develop • Inexpensive <p><u>Pit Run:</u></p> <ul style="list-style-type: none"> • Mixed granular material containing a wide range of particle sizes from sand to cobbles • Excellent for creating a strong sub base • Relatively inexpensive <p><u>Granular 'B':</u></p> <ul style="list-style-type: none"> • Similar characteristics to Pit Run • Regulated particle sizes • Excellent for creating strong, stable and well drained sub-bases and bases • Relatively inexpensive 	<ul style="list-style-type: none"> • Full base excavation required that can potentially harm tree roots • Considered moderately permeable surface • Not recommended or appropriate for trail surfacing as it creates an unstable surface and does not meet AODA requirements. • Not recommended or appropriate for trail surfacing in an urban environment to meet AODA requirements.

Trail Type	Advantages	Disadvantages
Stonedust (and other granular materials)	<u>Granular 'A':</u> <ul style="list-style-type: none"> • Similar characteristics to Granular 'B' • Smaller maximum particle sizes • Excellent for trail bases • Can be appropriate for trail surfacing in rural areas and woodlots. • Easy to spread and re-grade when surface deformities develop <u>Clear stone and/or Pea Gravel:</u> <ul style="list-style-type: none"> • Crushed and washed granular • Uniform particle sizes, no sand or fine particles included • Excellent bedding course for trail drainage structures • Can be excellent base for asphalt trails 	<ul style="list-style-type: none"> • Potential risk for erosion on slopes • User difficulty negotiating the surface due to particle size ranges and uneven particle sorting that can occur over time with surface drainage • Not recommended or appropriate for trail surfacing as it creates an unstable surface and does not meet AODA requirements.
Wood Chips and Wood Shavings	<ul style="list-style-type: none"> • Bark or wood chips • Excellent for 3 season use and for low winter activity • Particle sizes range from fine to coarse depending on product • Supple feel and natural appearance • Aesthetically appropriate for woodlot and natural area settings • Very low cost • Easy to install • Permeable 	<ul style="list-style-type: none"> • Unmaintained. Trail type is considered a foot path • Deteriorates over time • Material source must be carefully researched to avoid unintentional importation of invasive species • Difficulty negotiating surface due to range in particle sizes and uneven sorting of particles that can take place over time with surface drainage • Weed growth
Earth Surface (Natural Ground)	<ul style="list-style-type: none"> • Desirable and cost-effective for use on tertiary trails • Blends visually with surroundings • Generally does not require additional material • Very inexpensive 	<ul style="list-style-type: none"> • Unmaintained. Trail type is considered a foot path • Potential risk for erosion on slopes • Difficulty negotiating surface due to range in particle sizes and uneven sorting of particles that can take place over time with surface drainage • Existing soil conditions can pose problems (e.g. poorly drained and permanently wet soils generally do not make good trail surfaces) • Not good for wet seasons or winter conditions
Wood (e.g. bridges, boardwalks)	<ul style="list-style-type: none"> • Highly attractive • Renewable material that creates a solid and level travel surface • Permeable • Can allow for continual trail access over debris, steep areas, wet areas, and seepage areas 	<ul style="list-style-type: none"> • Permits and approvals due to likely location in wet areas • Costly installation • High maintenance costs



Figure 11: Multi-use boulevard trail along the south side of Strachan St. W. between Bay St. N. and James St. N.



Figure 12: Multi-use boulevard trail along York Blvd. adjacent to Harvey Park

2.7.1 Boulevard Multi-use Trails

Bicycles are recognized as vehicles, as defined in the Ontario Highway Traffic Act (HTA) R.S.O., 1990. As such, they can operate on public roadways with the same rights and responsibilities as motor vehicles. Bicycles however, are not permitted on controlled access freeways such as the QEW, Highway 403, Lincoln Alexander Parkway, and the Red Hill Valley Parkway or any roadways designated for 'no cycling' by a municipal by-law. The HTA contains a number of policies relating to bicycles, including bicycle lanes on municipal roadways, vehicles interacting with bicycles, and regulating or prohibiting bicycles on certain highways.

The Ministry of Transportation recently addressed many of the policies which pertain to cycling and trail development through Ontario's Cycling Strategy, Bill 31, and the Ontario Traffic Manual Book 18. Possible changes and recommended amendments will continue to be considered by the Ministry. As the provincial law is updated, the City should be aware of how the changes will impact the implementations for enforcement of safe cycling and trail development city-wide.

Boulevard multi-use trails can be used when boulevard characteristics are suitable and should be developed on a site-specific basis. Intersecting roadways are of particular concern as motor vehicles may not be anticipating the speeds at which some users of boulevard trails may be traveling.

Where boulevard trails are implemented on one or both sides of a road, it is reasonable to assume that they can accommodate pedestrians, therefore it is not recommended to install both a trail and sidewalk on the same side of a street. All boulevard trails should be clearly marked (e.g. shared use signage; etiquette) so that users are aware the trail is not pedestrian only. Using a standard application of asphalt instead of concrete helps to convey shared use.

2.7.2 On-road Trail Connections

Where public lands are not sufficiently wide and access agreements for trails on private lands are not feasible, it may be necessary to provide connecting links for trails as a combination of sidewalks for pedestrians and on-road bike facilities for cyclists. Pedestrians, scooters, in-

line skaters, and users with mobility-assisted devices are expected to use sidewalks in urban areas and road shoulders in rural areas. Cyclists (typically as per local by-law) are required to use roads. Bicycles are required to obey all of the same rules and regulations as automobiles when operating on public roadways. Signage requirements and development standards for on-road bicycle systems should be developed within the City in conjunction with the Ministry of Transportation (MTO) Bikeways Planning and Design Guidelines, the Transportation Association of Canada (TAC) Bikeway Traffic Control Guidelines (Second Edition, 2012), and the Ontario Traffic Manual Book 18 – Cycling Facilities.

Within the City of Hamilton, accommodations for cyclists are jointly provided by on-road and multi-use trails; both form an integral connection.

2.7.3 Trail Development in Hydro Corridors

The City of Hamilton contains numerous hydro corridors located within various city wards. Hydro corridors are examples of linear connections that provide excellent opportunities for trail development and continue to be considered for the development of trails in Hamilton. In urban and rural settings hydro corridors have sufficient length with sufficient easements to provide direct connections to a variety of destinations. When designing trails in hydro corridors compatibility with adjacent land uses must be considered.

Many rural towns, destinations, and parklands can be connected within Hamilton using hydro corridors. Hydro corridors are a great way to facilitate long distance trail travel. Preceding detailed trail development, the local utility agency as well as Hydro One should be consulted.

2.8 Trail Crossings

Trail crossings of roadways can often be quite dangerous. One of the most challenging aspects of trail design is accommodating trail users when crossing roads. Several design options can be implemented to alleviate the hazardous aspects of trail crossings including:

- Grade separated crossings (bridges and underpasses);
- Directing trail users to cross at existing signalized or stop-controlled intersections;
- Utilizing mid-block pedestrian signals; and
- Utilizing mid-block crossing locations with pedestrian islands or refuges.

Within the City of Hamilton, trail crossings would likely require modifications for multi-use trails to accommodate cyclists as expecting cyclists to dismount and become pedestrians is not ideal.

Mid-block Crossings

Mid-block crossings facilitate crossings to places that people want to go but that are not well served by the existing traffic network. Both



Figure 13: Some hydro corridors provide excellent opportunities for trail development

existing and projected pedestrian volumes should be investigated when assessing the need for a mid-block crossing.

Guidelines for the typical design elements for a mid-block crossing are as follows (Traffic Engineering Council Committee, 1998):

- Refuge islands are typically a minimum of 6m in length
- Refuge island width should be at least 1.8m wide, but 2.4m is preferred to accommodate wheelchairs in a level landing 1.2m wide plus 0.6m wide detectable warning devices on each side. The 2.4m width will also accommodate bicycles in the refuge
- Curb ramps are provided to allow access to the roadway and island for wheelchair users, and detectable warning devices (0.6m in width) should be placed at the bottom of the curb ramps
- The pathway on the island is constructed of concrete, not asphalt. The visually impaired can better detect the change in texture and contrast in colour supplemented by the detectable warning devices to locate the refuge island
- Appropriate tapers are required to diverge traffic around the island based on the design speed of the roadway
- The pathway on the island can be angled so that pedestrians are able to view on-coming traffic as they approach the crossing
- Illumination should be provided on both sides of the crossing

2.8.1 Minor and Major Roads

Trail crossings of minor roads should include the following:

- Open sight triangles at crossing points;
- Trail access barriers;
- Consideration of signage along roadways in advance of crossing points to alert motorists of trail crossings;
- Consideration of signage along trails to alert trail users of upcoming roadway crossings;
- Alignment of crossing points to achieve perpendicular crossings of roadways for shortest crossings and optimal sightlines;
- Curb cuts on both sides of roads.

Pavement markings, to delineate crossings, should not be considered at uncontrolled trail road intersections as users are required to wait for traffic gaps before crossing these locations to avoid a false sense of security. Pavement markings should be designed to adhere to Highway Traffic Act (HTA) regulations, including Ontario Traffic Manual Book 15 and Book 18 for uncontrolled intersections.

2.8.2 Active Railways

Railway crossings can be extremely dangerous for all trail users and therefore extra caution should be applied to assure their safe design. When at grade railroad crossings are necessary, non-motorized crossings should be at a right angle to the tracks, this can be achieved by either separate paths or widened shoulders. It is strongly recommended that appropriate traffic control devices be installed at intersections of railway tracks and trails. These include:

1. Pavement markings;
2. Signage; and
3. Lift gates.

Trails Adjacent to Canadian National (CN) Right of Way (Canadian National Railway, 2010)

To help ensure the safety of railway operations and users of a trail, CN requires that trails running parallel to the railway should be a minimum of fifty (50) feet (15.24m) from the track centreline. Where the railway right of way is on an elevated embankment, the trail should not be closer than either thirty-five (35) feet (10.67 m) from the foot of the embankment or fifty (50) feet (15.24 m) from the centerline of the track, whichever is greater. Additional setback distances may be required to accommodate future track expansion. For further detail please refer to the CN guidelines.

Trail Crossings across CN Right of Way (Canadian National Railway, 2010)

Trail crossings of active railway lines must be designed, approved, and implemented in conjunction with Canadian National Railway (CN) and should be consistent with Draft RTD-10 Road or Railway Grade Crossings: Technical Standards and Inspection, Testing and Maintenance Requirements (2002) available from Transport Canada.

The detailed design of trails that cross, are adjacent to, or otherwise utilizes CN property must consider all factors that could potentially affect the safety of trail users. Any encroachment on CN's right-of-way, no matter how well protected, can increase user risk. From a railway perspective, CN will not knowingly increase the public safety risk by any degree where it is unnecessary to do so. Equally critical is the safety of railroad operating and maintenance personnel who function in proximity to these installations. Trails constructed within CN right of ways will require approval from CN and must be designed in accordance with their policies. In order to increase user safety, it is recommended that where an informal rail crossing has been established that a formalized trail crossing be created.

2.8.3 Bridges

Throughout the City-wide trail system, there are and will be crossings of drainage ditches, creeks, highways, or shallow ravines. Where possible, trail network should make use of existing bridges that are located in suitable areas, including pedestrian bridges, vehicular bridges and abandoned railway bridges.

New bridge structures should be designed on a site-specific base. The Canadian Highway Bridge Design Code (CHBDC) specifies requirements for the design evaluation, and structural rehabilitation design of highway bridges in Canada (CHBDC, 2002). The code also includes provisions for the design of pedestrian bridges for trails. Designing for a bridge along a trail often requires an Environmental Assessment (EA) to determine the optimal location and this can be a lengthy process. The following are general design considerations for bridge structures:

- Prefabricated steel truss bridges are often practical, cost effective solutions;
- Railings should be required if bridge height exceeds 0.6m above the surrounding grade, and should be designed with rub rails to prevent entanglement of bicycle pedals and handlebars;
- Site-specific construction of bridges may be suitable for short crossings;
- When considering barrier free bridge accesses, appropriate hardened surfaces should be employed on trail approaches. Also, bridge deck boards should be suitably

spaced to allow for ease of passage by mobility-assisted devices; and

- It is recommended that deck boards run perpendicular to the travel paths.

2.8.4 Underpasses and Tunnels

Underpasses should be wide enough to accommodate all trail users whether they are walking, hiking, cycling, in-line skating, in a wheelchair or other forms of transportation. Where feasible, it is suggested that trail widths through underpasses be equal to or greater than that of approaching trails. Tunnels and underpasses are also areas that typically attract illegal and dangerous activities. Trails through tunnels and underpasses should consider all aspects of trail safety, lighting, and CPTED guidelines to ensure users feel safe and secure.

Figure 14: Various bridge structures along Hamilton trails



Van Wagners Beach Blvd. trail bridge at entrance to Red Hill Valley Trail



Arbour Road pedestrian bridge

2.9 Trail Structures

2.9.1 Gates and Barriers

Many trail types typically include some form of gates or access barriers to control user activity, movement, and safety. Access barriers are intended to allow free flowing passage by permitted trail user groups and prohibit entrance by others. Trail barriers typically require mechanisms to allow service and emergency vehicles access, especially in storm water management pond areas. Depending on site conditions, it may be necessary to provide additional treatments between access barrier ends and limits of trail right of ways. Additional treatments can consist of plantings, boulders, fences, or barrier extensions. There are many designs for trail access barriers in use by different trail organizations and municipalities. Although each municipality is different, trail access barriers can generally be grouped into three categories:

1. Offset Swing Gates;
2. Single Swing Gates; and
3. Bollards.

2.9.2 Swing Gates

Offset swing gates are similar to single swing gates, except that their barriers are paired and offset from one another. Although they can be effective in limiting access by unauthorized users, some groups including cyclists (especially cyclists pulling trailers) and wheelchair users, can have difficulty negotiating offset swing gates if there is inadequate spacing between gates.

Single swing gates are primarily used in urban locations, they combine ease of opening for service vehicles (especially around storm water management areas), with the ease of passage of bollards.

2.9.3 Bollards

Bollards are the simplest and least costly barrier and range from permanent, direct buried wood or metal posts, to more intricately designed cast metal units that are removable by maintenance personnel. Often on a site-specific basis a collapsible bollard is considered in the design of a trail. Typically an odd number of bollards (usually one or three) are placed in trail beds in order to create a centreline to define two directions of travel for trail users to follow. Although removable bollard systems provide



Figure 15: Trail bollards along the Great Lakes Waterfront Trail at Van Wagners Beach Blvd.

flexibility to allow service vehicles access, they can be difficult to maintain as the metal sleeves or pins placed below grade can be damaged by equipment, water, and moisture and can become jammed with trail bed gravel, debris, and ice.

2.9.4 Elevated Trail Beds and Boardwalks

Elevated trail beds and boardwalks can be used where trails pass through sensitive environments such as marshes, wetlands, swamps, woodlands or to by-pass congested urban areas. In natural areas, without implementing features like this, trail users will tend to walk around features and gradually over time create wider and more obstructive trails on the natural environment.

Low profile boardwalks have been successfully employed by trail managers across Ontario, especially by organizations like the Bruce Trail Conservancy. Where trails are in high profile locations, where it is necessary to provide fully accessible trails and users other than pedestrians, or where trail surfaces must be greater than 0.6m above the surrounding grade, more sophisticated boardwalk designs and installations are necessary. This is likely to include engineered footings or abutments, structural elements and railings these should be designed by a trained professional (e.g. structural engineer, landscape architect). Low profile boardwalks may also require an engineered footing.

2.9.5 Switchbacks and Stairs

In many situations access is required to connect trail areas separated vertically by topography. Pedestrian, motorized and some self-propelled users are capable of ascending grades of 30% or more whereas the AODA requires grades to not exceed 8% for accessibility. Where trails ascend or descend at more than 8% grades it may be important to consider alternative slope ascending methods. Two alternatives to consider that have been implemented in the City of Hamilton are switchbacks and stairs (e.g. Chedoke stairs, Dundurn stairs).

Switchbacks are constructed with turns of approximately 150 degrees and are used to decrease trail grades. Properly constructed switchbacks provide outlets for runoff at regular intervals, thus reducing erosion potential. Implementing switchbacks typically require grading, signage, and barriers (rub rails). Switchbacks can be difficult to implement in wooded areas without significant impacts to surrounding trees and vegetation.



Figure 16: Dundurn Stairs

In the City of Hamilton, along steep slopes of the escarpment often stairs are the only solution. Following Niagara Escarpment Commission's approval if a new set of stairs is implemented, a bike trough is a standard element. Where there are existing stairs without a trough, they will be upgraded dependent upon the life span of stairs following a complete assessment.

2.10 Trail Signage

Trail signage is one critical aspect to unify trail systems, improve wayfinding, and introduce themes for simplified route identification. Signage assists with wayfinding, trail connectivity, and trail stewardship. A standardization method to developing and structuring trail signage should include a hierarchical approach for improving overall wayfinding. Other municipalities have taken this approach using a variety of methods including:

- Establishing an overall concept theme or innovative method for signage;
- Creating uniform design standards to reflect hierarchical structure for signage, including materials and fabrication, design fundamentals (colour, balance, unity), graphics, mounting structures, and orientation; and
- High quality, durable (including resistance to ultraviolet radiation), vandal resistant quality materials and finishes.

Signage serves many important functions including:

- Informing users of their responsibilities while on the network;
- Providing information regarding safety (e.g. maximum travel distances, upcoming hazards, junctions, and crossings);
- Providing trail user etiquette instructions;
- Wayfinding;
- Fitness and well-being (including QR codes);
- Specifying information about routes, nearby services, and trail-related events; and
- Providing interpretation of local historical, cultural, natural, and other resources.

As the City of Hamilton trail system advances and is implemented, new signage will be required to introduce and provide additional information on trails. This includes, but is not limited to trail;

style, use, accessibility, degree of difficulty, length, directional information, and interpretive signage. All signage developed in the City must adhere to applicable AODA guidelines.

2.10.1 Signage Strategy and Typical Branding

Trail themes and branding can add local flavour to individual trails or loops, creating an overall unique trail network quality. Themes also unify trail network routing, signage, facilities, and features. It is recommended that the City of Hamilton logo, trail destinations, and key distances be included on all signage types. It is important that any locally branded signage incorporate and support regional, provincial, and national trail marks where trails route through Hamilton (e.g. Great Lakes Waterfront Trail, Greenbelt Route, Trans-Canada Trail) to ensure continuity for trail users.

A brand can also be used to draw visitors and trail users to different attractions and destinations along the trail or within the City (e.g. Love Your City, Love Your Trails). A brand will not only promote trail system use but it can also draw new visitors to local activities and venues. Common trail branding measures can include:

- A design that is timeless, in-scale, and visually integrated with the landscape without creating unnecessary clutter;
- An overall theme or innovative technique (instead of text) such as colour coding routes or a symbol or graphic concept to illustrate degree of difficulty and establish physical fitness ratings, similar to alpine downhill ski symbols (e.g. blue circle, green square, black diamond);
- Clearly, concisely, and consistently communicate information related to identification, direction, regulation, and operation of the trail; and
- Ensuring night visibility by using reflective materials in locations where low light and night usage is anticipated.

It is important that all multi-use trail signage be integrated with on-road bike signage.

2.10.2 Signage Types

The design and construction of networks should incorporate a hierarchy of signs each with a different purpose and message to trail

users. Hierarchy of signage types are typically organized into a group of signs with unifying design and graphic elements, materials, and construction techniques. The unified system becomes immediately recognizable by trail users and can strengthen the branding element. Below are a group of signage types:

a) Gateway Signage

Gateway signage, typically the largest type of signage, is intended to set the tone for the entire trail system and is usually located at trail entrances along key routes into the City from adjacent municipalities (e.g. Great Lakes Waterfront Trail from Burlington to Hamilton). Gateway signage is utilized to create a sense of welcome, arrival, and safety. It also presents an opportunity to establish trail use conventions, punctuate historic significance, and establish theme. It incorporates trail amenities such as benches, trash receptacles, and information and directional kiosks.



Figure 17: Gateway signage at Bayfront Park



Figure 18: Chedoke Radial Trailhead signage

b) Orientation and Trailhead Signage

Orientation and trailhead signs are characteristically located at key destinations such as attractions, and major network junctions. Trailheads are an important part of the trail network and trailhead signage should provide orientation to trail network through mapping, additional network information (trail distances, key features), and rules and regulations for the overall network. Trailheads can also serve as a landmark for trail users. In some municipalities orientation signage has also been used as an opportunity to sell advertising space and assist with trail funding and cost sharing. In Hamilton, the Red Hill Valley trails contain numerous trailheads.

c) Trail Etiquette Signage

Trail etiquette signage should be posted at public access points to clearly articulate permitted trail uses, regulations, and laws that apply to the specific routes and the overall trail network. Signage should include trail etiquette, safety, and emergency contact information. Trail etiquette signage can also include friendly reminders to trail users (e.g. “Please stay on the Trail”, “Stoop and Scoop”). At major and minor trailhead locations, this information can be incorporated into trailhead signage. In other areas this information can be integrated with trail access barriers and bollards.



Figure 19: Trail etiquette signage



Figure 20: Trail etiquette signage at Bayfront Park

d) Regulatory Signage

Regulatory signs are required throughout the trail network to improve trail user safety. Regulatory signage typically informs users of dangerous areas (e.g. deep water, steep slopes), sensitive or protected areas (e.g. wetlands, woodlots), and other items such as invasive plants (e.g. poison ivy, giant hogweed) and private lands. Where traffic control signs are required (e.g. stop, yield, curve ahead, etc.), it is recommended that recognizable traffic control signs be used in conjunction with the Ministry of Transportation for Ontario's (MTO) guidelines and standards for on-road routes.



Figure 21: Caution signage example

e) Route Markers and Trail Directional Signage

Route markers and trail directional signage should be located at regular intervals throughout the trail network (e.g. every 500m, 1000m, etc.) at trail junction points and key intersections. The purpose of route marker signage is to provide users with orientation and simple visual graphics alerting them that they are on approved network routes. More recently route marker signage and trail direction signage have included innovative wayfinding techniques such as QR Codes and distances to local cultural attractions and resources (e.g. bike shops, B&B's, hardware stores, restaurants, etc.).



Figure 22: Directional signage example at entrance to the Red Bridge

Figure 23: Directional signage example at the Eramosa Karst Conservation Area

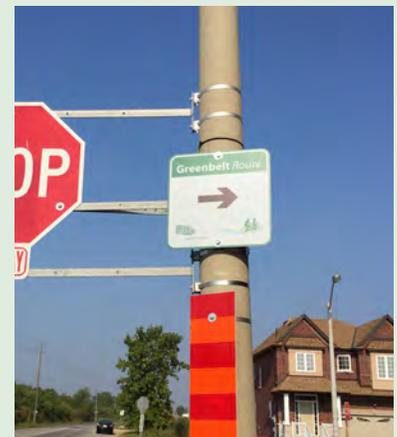


Figure 24: On-road directional signage

f) Interpretive Signage

Interpretive signs are typically placed at locations along trails that signify a historical feature, environmental feature, or feature that is culturally significant to Canadian or local heritage. They are highly graphic, easy to read, and must be designed on a site-specific basis. This type of signage should be strategically located in highly visible locations to minimize vandalism potential. Interpretive signage can also be used to improve education and trail stewardship initiatives along trail routes to reiterate proper trail etiquette, detail safety precautions, rules, and regulations for specific trails. The Bruce Trail contains numerous locations where interpretive signage is present.



Figure 25: Interpretive signage panel in the Eramosa Karst CA

g) Urban Fitness Trails

Several City of Hamilton parks contain urban fitness trails with fitness stations and signage. This new way to exercise allows trail users to use their smartphone to scan codes, watch instructional videos and follow the trail for a full workout at any level. If users do not have a smartphone, the fitness instructions are also displayed on the signs at each fitness station.

The City of Hamilton’s QR urban fitness trails are located in 10 parks. Each trail features seven QR signs that take the participant through a full workout, from warm up to cool down, with beginner, intermediate and advanced options.

Current QR Urban Fitness Trail Locations include:

- Bayfront Park - 200 Harbour Front Drive, Hamilton
- Chedoke Radial Recreational Trail - (golf course entry) 563 Aberdeen Avenue, Hamilton
- Fairgrounds Community Park - 305 Fall Fair Way, Binbrook
- Joe Sam’s Leisure Park - 752 Centre Rd, Waterdown
- Meadowlands Park -160 Meadowlands Blvd, Ancaster
- Newlands Park - 137 Lynbrook Drive, Hamilton
- T.B. McQuesten Community Park - 1199 Upper Wentworth St. Hamilton
- Southampton Estates Park - 185 Thames Way, Mount Hope
- Lake Pointe Park - Springstead Ave & Westhampton Way, Winona
- Strabane Park - 1315 Brock Rd (7th Concession and Brock Rd.), Flamborough



Figure 26: Fitness circuit signage (with QR codes) in T.B. McQuesten Community Park

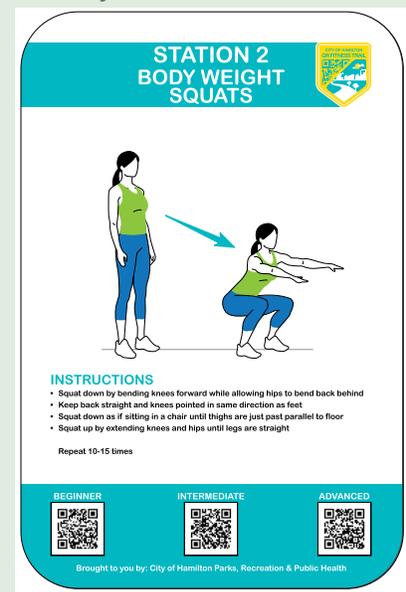


Figure 27: QR example on Urban Fitness Trail signage

QR Fitness Trails provide free alternative fitness opportunities, guided routines by certified trainers, a family-friendly exercise experience, three skill level options, and enjoyable outdoor recreation. QR Trails established in Hamilton are funded by the Ministry of Tourism, Culture and Sport through the Sport and Recreation Communities Fund.

2.11 Trailheads and Trail Amenities

Major trailhead areas are typically located at key community destinations (e.g. community centres). They are highly visible and assist with setting the tone for the trail system. In some locations it may be possible to share trail amenities with other community facilities or other partners (e.g. schools, trail clubs, Conservation Authority, recreational facilities). Minor trailheads are located at secondary entrances and typically include smaller parking and trail facilities. A well-designed major or minor trailhead usually incorporates the following features:

- Regular and accessible (handicapped) parking with an appropriate number of spaces in relation to the anticipated level of trail use, with flexibility to increase space numbers where warranted by future demand;
- Simple access to and from trails;
- Trail access barriers;



Figure 28: Red Hill Valley Trailhead signage



Figure 29: Washroom facility at the Dundas Driving Park



Figure 30: Parking lot at Armes Lookout along Mountain Brow Boulevard

- Ample room to load and unload equipment;
- Bicycle parking facilities;
- Appropriate trail signage types (including overall trail network map);
- Trail information kiosk (can be incorporated with trail signage);
- Waste receptacles;
- Lighting (site-specific); and
- Spaces for informal activity, seating, and or picnic areas (more often associated with a major trailhead).

2.11.1 Seating and Rest Areas

Seating and rest areas along the trail provides opportunities for trail users to simply rest, relax, and take a break. Typically young children, older adults, and users with disabilities need to rest more frequently. Benches are the most common form of seating, but walls of appropriate height and width, large flat boulders, and sawn logs are some alternatives depending on trail settings (e.g. logs might be more appropriate



Figure 31: Many trails throughout the city offer seating, trash receptacles, lighting, and other trail amenities

in rural settings or adjacent to natural features). Where rest areas are planned, the design should consider a 1m wide level area with a curb or other appropriate wheel stop for mobility-assisted devices in accordance with current AODA standards. Staging areas, trail nodes, and heavily used trails typically require a higher density of seating opportunities (e.g. heavily used trails may have seating at approximately 500m intervals).

2.11.2 Bicycle Parking

Bicycle parking should be placed adequately along trail routes to allow users to confidently secure their bicycles while pausing to enjoy nearby attractions, walking along trails, or activities when they reach their intended destination. Key locations for bicycle parking can include trailheads, major trail nodes, trail junctions, and lookouts. Generally bicycle parking facilities should:

- Be placed along key trail routes, junctions, and destinations;
- Enable bicycles to be securely locked to devices without being damaged;
- Be placed in public view;
- Maintain clear zones;
- Present no hazards to cyclists and pedestrians;
- Be easily accessible from roads or trails; and
- Be arranged so that parking maneuvers will not damage adjacent bicycles.

2.11.3 Trail Closures and Rehabilitation

Trails within the City of Hamilton will be constantly evolving and as a result it might be necessary to permanently or temporarily close sections of trails. Reasons for temporary trail closures can include flooding, culvert washouts, and general trail construction. Whenever possible trail users will be notified in advance of trail closures by appropriate signage (often posted at trailheads) and alternate routes that can be taken to avoid the closures. Another method for informing trail users of trail closures could be notifications on the City of Hamilton Corporate Twitter page.

Permanent trail closures may be required at some point in the life cycle of trails, especially in the case of trails located in woodlots and other natural settings. When closing a section of trail permanently it is recommended that the

surrounding landscape be rehabilitated to match existing conditions. Often this may involve seeding with a native seed mixture or plantings trees and shrubs.

2.12 Public Art Along Trails

Trails can be a platform for public art and used to highlight the natural and cultural elements within the city. The City of Hamilton Public Art Master Plan (2008) describes a vision for public art in Hamilton and identifies and prioritizes potential sites and opportunities for new public art projects within the city. Within the report public art priority sites along trails were identified, specifically along Waterfront Trails, Red Hill Valley Trail, and the Pipeline Trail.

The Pipeline Trail Master Plan (2015) identified four sites for public art along the trail:

1. The western Trail Head, which is located immediately adjacent to the intersection of Ottawa and Main Streets.
2. Urban node at Kenilworth Avenue.
3. Entrance to Andrew Warburton Park.
4. The northern terminus at the Museum of Steam and Technology.

The public art at each of the above sites is educational and tells a story to the trail user about the rich cultural history of the city. All four of the above locations have been incorporated into the Public Art Master Plan. The City has identified over 200 sites within the Public Art Master Plan for public art and will continue to investigate public art in conjunction with trail development.

2.13 Trails in Natural Areas and Environmental Buffers

Routing trails through natural areas is a critical component to the trail network and provides users the opportunity to get close to nature, explore the outdoors, interpret nature, and find relief from the often busy urban environment. Trails in natural areas need to balance public access to significant features and protection of the environment and sensitive ecological elements.

When designing trails through natural areas it is important to consider that development and site alternations may not be permitted in specific

areas (e.g. Provincially Significant Wetland, significant coastal wetlands, and significant habitat of threatened and endangered species) and additional studies (e.g. Environmental Impact Statement, Tree Protection Plan) may be required prior to the trail design stage.

Where trails are to be located in natural areas it is important that they be sited and designed appropriately and that the area be monitored for effects of inappropriate use or overuse. If trails are not carefully planned, designed, constructed, and maintained people will create their own trail routes sometimes in sensitive locations where it would be preferable not to have trails at all. The ACTIVE2010 Ontario Trails Strategy (2005) discusses that by leading users along well-worn paths, trails keep users away from more sensitive features that might not be able to withstand traffic. Well-developed trails provide environmental buffers, such as boardwalks and bridges that protect delicate wetlands while allowing users to experience varied plant and animal wildlife. Proper planning, design and construction of trails, coupled with public education can go a long way to achieving balance between use and protection. Prior to routing trails within or through natural areas, the appropriate conservation agency partner and applicable City Departments must be consulted.

When designing trails through natural areas and environmental buffers it is important to consider the following:

- Avoiding areas identified as sensitive and endangered habitats;
- The ecological significance and sensitivity of the natural area and appropriate mitigation and design measures;
- Consider alternate routes throughout the design process;
- Education opportunities and viewing lookouts;
- Specific construction recommendations, including guidelines to minimize disturbances;
- Current best management practices to prevent vegetation damage;
- Timing restrictions for construction (e.g. Migratory Birds Convention Act);
- Develop guidelines for trail restrictions and trail closures, including timing or seasonal restrictions where sensitive species are present or sensitive activities occur; and

- Appropriate signage
- Part 2 Development Criteria of the Niagara Escarpment Plan (NEP). As part of the condition of approval for requiring an NEC development permit, the NEC circulates their notice of decision to surrounding residents within 120 metres of the proposed development. Before a permit is issued the NEC allow a mandatory 14 day appeal period during which time the approval may be challenged. This regulatory matter will override any public process held prior to the development permit application.

2.14 Creating New Trails in Established Neighbourhoods

Creating trails within established neighbourhoods can be one of the most challenging aspects of implementing this master plan. Often, it may be necessary to seek additional public input for trail development. Where new trails are being implemented or significant improvements are being made to existing trails within or nearby existing communities, differing levels of consultation (e.g. public, Conservation Authority, NEC, etc.) may be required to advance the project through the detail design and implementation stages. The level of consultation required for individual projects will depend on project location, design approvals required, scope, complexity, and whether the project is identified in the Recreational Trails Master Plan initiatives or other planning policies such as the Urban and Rural Official Plans.

2.15 Lease Agreement and Land Acquisition

Within the overall trail system, a concerted effort has been made to implement proposed trails within public (City) ownership or on public property. In some circumstances with trail development, the ownership within particular alignments will need to be verified to confirm whether or not lands are currently privately owned (e.g. RBG, HCA, Hydro One, etc.), have lease agreements, or are privately held. There are many ways to acquire land for trail development, including:

Private

Land can be purchased outright by either non-profit or a public entities. This option may be the simplest, but it can prove costly. It could

also require reaching agreements with multiple landowners, particularly if the trail corridor is routed through private lands.

Easements

An easement is a right to use another person's real estate for a specific purpose; in this instance trail development. Easements can be negotiated with private landowners as well as with public entities, such as the City or utility companies. Because the land is not being purchased, the cost is typically less than a purchase agreement.

Land Donations and Land Lease

A landowner can donate property to an agency or organization. Tax credits may be available for land donated for conservation purposes. In the case of a land lease, the land is rented from the landowner for a set amount of time. Leases can come from a variety of sources, including railroads, utility companies and the City.

Purchase and Lease Back

The City could explore purchasing property and lease it to the previous owner for a specified period of time. This arrangement may include use restrictions and may be useful if the landowner wants to sell the land but wishes to continue using it, such as for grazing animals.

Eminent Domain and Expropriation

Property, or parts of property, can be forcibly taken from the landowner for use by the general public. This method is not recommended because it can create resentment toward the trail by the former landowners.

2.16 Insurance, Liability, and Risk Management

Insurance, liability and risk management concerns will be considered during the design, construction and maintenance phases and will include consultation with Risk Management and Legal Services. The responsibility of the City of Hamilton as owner of the lands is defined in the Occupier's Liability Act. The Act allocates a common duty of care owed by all property owners to anyone entering onto the property to ensure that the entrant is reasonably safe while on the premises. In order to encourage public entities to open their land for recreational use, immunity is provided for recreational landowners

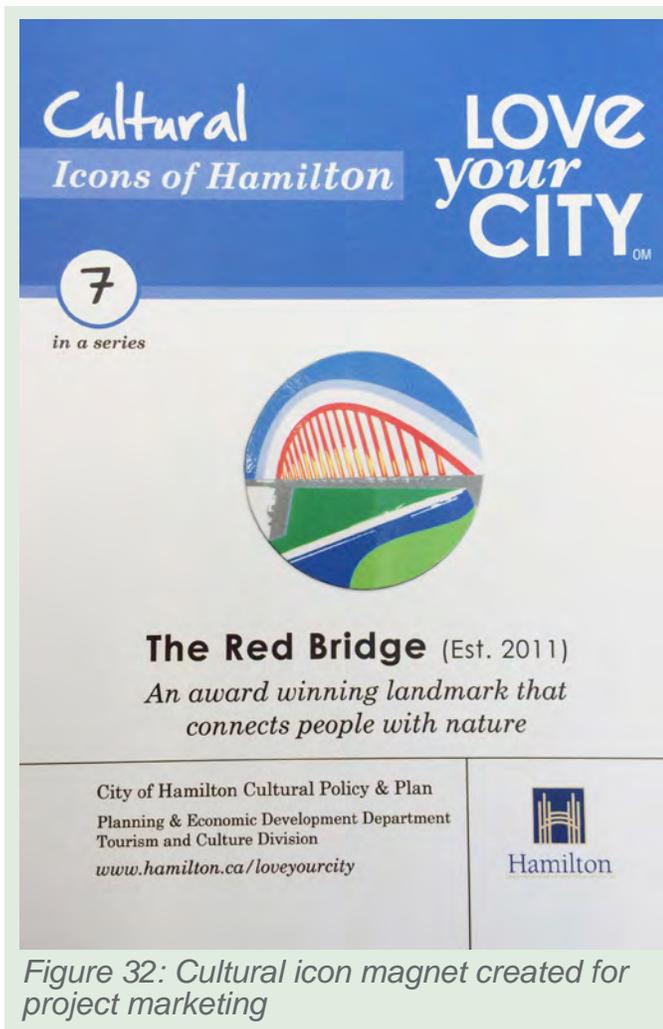


Figure 32: Cultural icon magnet created for project marketing

by allowing them a “reduced duty of care” in which “a person who enters (the) premises shall be deemed to have willingly assumed all risks” (Occupier’s Liability Act, 1990). In order to qualify for this reduced duty of care the following criteria apply:

1. The entry must be for the purpose of a recreational activity;
2. The premises are recreational trails reasonably marked by notice as such.

The option to provide lighting on trails must be taken into careful consideration as a lit trail may create the perception that it is safe to walk at night. Users who would not normally use an unlit trail may be lulled into a false sense of security and use a trail that is lit. Refer to Section 2.5 for personal security and CPTED and Section 2.6 for trail lighting and safety.

During design it will be determined if the trail lighting is a reasonable precaution to take in terms of ensuring trail users navigational safety. For instance, if the trail serves as a necessary link between two points, which is frequently used as a means of traveling (as opposed to recreational use), then it is reasonable to provide lighting on that trail to ensure safety to the user and prevent injury caused by tripping and falling.

2.17 Public Outreach and Trail Promotion

The Recreational Trails Master Plan also focuses on the promotion of trail use and trail activities. Promotion can include education, outreach and stewardship initiatives which are used to raise awareness of the health, environmental, social and economic benefits of investing in trail infrastructure. Promoting the trail network should be encouraged. The following sections outline some successful methods that adjacent municipalities have used to promote their trails network.



Figure 33: Trail signage can provide excellent opportunities for donor recognition and sponsorships

2.17.1 Community Based Social Marketing

Community-Based Social Marketing (CBSM) is one approach to achieving broad sustainable behavior in communities. It combines knowledge from psychology and social marketing to leverage community members' action to change behavior. CBSM is more than education: it is spurring action by a community and for a community. Using CBSM techniques can lead to increased trail awareness and use. Key CBSM tools can include:

- Prompts: remind individuals to engage in trail use;
- Commitments: have individuals commit or pledge to engage in trail use;
- Norms: develop community norms that trail use is the right thing to do; and
- Vivid communications tools with engaging messaging and images.

CBSM tools for the City to continue employing are:

- Increasing community engagement, volunteer opportunities, partnerships,

education and communication strategies that enhance development and operations of the trail system;

- Using community events to talk to residents one-on-one or in community groups;
- Having staff attend community events to promote trails, developing a portable display system to use at events would be beneficial;
- Using various media types to deliver updates on trail implementation and to launch public information campaigns on education and stewardship (e.g. share the trail, keep dogs on leashes, trail etiquette, etc.);
- Displaying trail information in brochures and marketing pamphlets at various approved locations throughout the city that are vivid with engaging messages and images; and
- Creating prompts to remind residents about the trail system and its benefits. Prompts can include maps, brochures, water bottles, stickers, car magnets, key chains etc. Prompts can be giveaways at events or used for fundraising.

2.17.2 Hamilton Trail Map, Signs, and Brochures

Interpretive programs and signs, brochures, and education programs, offer endless opportunities to raise trail awareness. Providing positive guidance towards responsible trail use is an integral part of managing trails.

In Hamilton there are two types of trail mapping: printed and online digital maps and maps on trail signage. Maps inform users about routes and provide the occasion to educate users through messages of trail etiquette. Maps can be updated with the release of new additions as the system grows, making the initial investment pay for itself over time. Other opportunities may also be available to produce a regional based map in conjunction with trail groups (e.g. Hamilton Burlington Trails Council). Hamilton has developed their own online mapping specific to trail use and all cycling infrastructure. The City has a production of mapping and is updated bi-annually.



Figure 34: Eramosa Karst CA trail map signage

2.17.3 Trail Ambassadors

Many municipalities have successfully implemented trail ambassador programs. These often involve teaming a City staff member with summer students or similar groups. Students attend events and functions organized by businesses, agencies, camps, and related recreation programs, and promote the trail network within the City of Hamilton. Trail ambassadors travel the trails and hand out brochures, provide assistance, and monitor conditions.

Trail ambassadors are available to the public and can gather important data on user satisfaction. As the trail system in Hamilton grows and depending on available funding the City of Hamilton should explore the merits of an ambassador program. In the interim, training maintenance staff (as is currently done), to observe trail conditions as part of their role is an effective way to assist.

2.17.4 Partnerships

Developing partnerships with businesses, local developers, and other agencies that provide services to large sectors of the community should continue and be advanced. In many municipalities there is a strong interest in partnering with agencies to promote trails and their use as a healthy lifestyle choice.

Partnerships can comprise jointly produced promotional and educational literature in magazines, materials distributed through offices, or links to agency websites. Several of Hamilton's trail partners include the Royal Botanical Gardens, Hamilton Conservation Authority, Trans-Canada Trail Association, McMaster University, Hamilton Cycling Club, Hamilton Naturists Club, the Hamilton Waterfront Trust, the Hamilton Burlington Trails Council and the Bruce Trail Conservancy. Each organization operates using different planning and administrative standards regarding trails.

Partnerships with trail associations, school environmental groups and community organizations should be encouraged for planting programs, trails development, Earth Day activities, walking and running events, Smart Commute initiatives. Contribution of staff for these events is a simple, cost effective way to promote the trail network and can provide visibility through media coverage.

It is mutually beneficial for the City of Hamilton and other agencies to recognize partnership efforts. Media recognition is a positive way of showing appreciation for partnership contribution, furthermore it is a simple and cost effective way to raise trail awareness and encourage use. When contributions are made that improve trail conditions such as; the provision of trail amenities or creation of links across private properties, partners should be recognized for their contribution through donor signs and plaques. Many trails within adjacent municipalities and across Canada have been implemented this way. Public awareness and education are of paramount importance in responsible trails use, reduction in user conflicts and the prevention of environmental damage, and should be part of the marketing and promotion of recreational uses.



Figure 35: The City of Hamilton has numerous trail partners, including the Bruce Trail Conservancy

Figure 36: Bayfront Park
trails gateway feature



3.0 THE IMPLEMENTATION PLAN

The City of Hamilton Recreational Trails Master Plan offers a proposed network of trails and a set of recommendations to recognize, realize and share in the economic, health, transportation and environmental benefits that a trail system offers. The below sections discuss network implementation, a scoring system for establishing priorities for development, promotion, and trails maintenance.

3.1 The Trails Network Implementation Strategy

The implementation of the Recreational Trails Master Plan will be accomplished through both short and long-term actions. The development of the trail network will be achieved only through a collaborative effort with other trail agencies and stakeholders. The success of this plan requires champions and leadership to move from the plan and design stage to the funding and implementation stage. Section 3.1.3 discusses interdepartmental collaboration in greater detail. The formal relationships between individuals and organizations and their operational practices are important factors in determining whether trail initiatives are implemented successfully. Where planned trail initiatives are in the Niagara Escarpment Plan (NEP) the Niagara Escarpment Commission (NEC) must be consulted prior to development.

3.1.1 Establishing New Priorities

Throughout the project many opportunities were identified for the creation of trail segments connecting new neighbourhoods to the network, and extending the local trail system to link other municipalities and areas of environmental and cultural significance. These trails are to be considered in long-term planning processes and should continue to be investigated and implemented as opportunities arise (e.g. negotiated with new residential development plans, or in collaboration with other partners). This section recommends the following criteria in planning the development of the trail system:

- Field Observations
- Developing and redeveloping the trail network in highly utilized locations;
- Establishing main corridors connecting important community destinations (e.g. schools, community centres, major sports fields, etc.);
- Developing key City and Regional trail connections;

- Working with development charges and developer build scenarios;
- Developing Community Trail loops;
- Taking advantage of the re-development of lands;
- Linking trail sections to frequently visited destinations throughout the City;
- Allowing off-road trail access to current and planned transit nodes and stops;
- Establishing new subdivisions spine trail routes as part of the subdivision planning and design approval process; and
- Scheduling implementation with planned Provincial, Regional, and Local capital projects to take advantage of possible cost savings.

Over the long term when establishing priorities for new trail construction or improvements there are a number of factors that are considered, including (in no order of priority):

- Visibility and profile of the trail segment;
- Status of approvals and ease of construction;
- Contribution to existing route connectivity;
- Availability of capital budget;
- External partnerships and funding opportunities, such as grant programs; and,
- Timing of new development; and
- Ability to include trail development with road improvements (boulevard trails, cycle lanes, widened paved shoulders).
- Evident need expressed by the community.

3.1.2 Scoring System for Establishing Implementation Priorities

The Recreational Trails Master Plan is intended for phased implementation of trail initiatives. The Implementation Plan takes into account all trail initiatives within each Ward and identifies specific initiatives as having priority for implementation.

In the determination of what trail segments are recommended to proceed in, a series of 10 criterion are applied to the list of trail initiatives. This aids in ranking the order by which trail initiatives will be investigated. For the trail initiatives that rank equally further considerations will be made based on the available funding and consultations with the Ward Councillor.

This is a dynamic system that staff regularly reviews to ensure that the priorities are implemented accordingly. Staff continues to act on opportunities for trail development as they arise, including negotiation of easements, implementation through subdivision agreements, or utilizing partnerships. Consequently, some projects may be advanced ahead of others.

3.1.3 Interdepartmental Collaboration

Trails serve important recreational, transportation, and public health benefits and the delivery of an effective network will require continued interdepartmental collaboration among City departments. At the start, plan implementation and coordination is the responsibility of a staff member. Although one group oversees the design and construction of trail initiatives, they will also require ongoing communication with, and support from other City of Hamilton departments, various committees, partners, local agencies, and trail related organizations. One staff member may lead the project but many are responsible for trail development which incorporates trail and other related initiatives including maintenance, education, enforcement, funding, and promotion.

3.1.4 Comprehensive Implementation

The Recreational Trails Master Plan is an evolving and dynamic plan. The timing and details, particularly the location of recommended routes and facility types will evolve through detailed technical reviews. It should be noted that the extensive efforts that established the overall network and trail direction must be respected when contemplating trail modifications. The following process, which has been used by adjacent municipalities, is recommended and will assist City departments (i.e. Public Works, Public Health, Planning and Economic Development, Community and Emergency Services) to collaborate together, share information, and facilitate implementation.

a) Preliminary Review

The first step is to communicate implementation opportunities. One of the key tasks is to monitor capital works forecast and recognize projects that have potential for incorporating trail development. Major aspects of this step are communication and collaboration. The review should:

- Compare trail initiative timing to short, mid, and long term implementation priorities identified in the Recreational Trails Master Plan;
- Investigate preliminary cost estimates and possible funding sources;
- Assess whether the nature of the project should include a trail (for those infrastructure projects where trails may not have been previously contemplated); and
- Inform the appropriate sections whether or not a feasibility assessment should be undertaken to confirm implementing the proposed trail as part of the project.

b) Feasibility Assessment

If a trail is confirmed through the above preliminary review process then a feasibility assessment should be undertaken which typically includes:

- Confirming route feasibility based on:
 - Reviewing the Recreational Trails Master Plan
 - Supporting route selection
 - Planning and design criteria
 - Conducting an off-road trail segments field check
 - Identifying other future issues
- Confirming present or close proximity to environmental features to help determine what Agency permit types may be required for boardwalks (e.g. Conservation Authorities, Department of Fisheries and Oceans Canada (DFO));
- Determining whether public consultation should be conducted and to what extent;
- Undertaking a trail functional design and estimating implementation costs, including construction and signage;
- Identifying less costly alternatives and how they may fit within the intent of the overall Recreational Trails Master Plan. This may include alternative parallel routes that meet the intent of the Recreational Trails Master Plan; and
- Recommending the approved course of action.

c) Detailed Design, Tender, and Implementation

Prior to construction, detailed design should be completed. This would involve design followed

by tendering and implementation. It is also possible that a decision not to proceed due to cost or other constraints may occur, the network should then be updated and an alternative route researched.

d) Monitoring and Maintenance

Trails should be monitored to ensure they function as designed. When necessary, trails should be modified and maintained to ensure continued safe use. Reducing long term maintenance requirements can be achieved by the following measures during trail construction:

- Remove stumps, roots and other materials which present safety concerns;
- Clearing limits should reflect trail type activity;
- Cut brush and tree stumps flush with the ground around trail tread surfaces and clear zones;
- Remove potential hazard trees and sharp protrusions in close proximity to trails;
- Cut back vegetation to adhere to vertical clear zones;
- Dispose of vegetative debris from trails construction and ongoing maintenance by removing brush or scattering materials in a proper manner (e.g. beside trail surface, down slope, etc.); and
- Plough and maintain key trails for year-round use pending available funding.

e) Plan Updates

The final part of the implementation process includes annually updating the Recreational Trails Master Plan network database and updating the general trail network as often as possible.

3.2 Outreach, Promotion, and Potential Funding Sources

Committing annual funding and staff resources are essential to the Recreational Trails Master Plan's success. An annual capital and operating budget should continue to be identified based on upcoming implementation objectives and opportunities. Over the last several years outside non-municipal funding sources have been available for active transportation, cycling, pedestrian and trail related projects. This is due in part to the growing importance of their relationship to multi-modal transportation

systems and overall community health benefits. Not for profit community organizations have access to other sources such as government or foundation grants or corporate funds that are not available directly to municipalities, and the continued involvement of local trail organizations and enthusiasts in trails development should be encouraged. Most available programs require co-payment from the municipality, and grants typically serve to boost, rather than replace municipal contributions. Outside funding opportunities may include some of the following organizations:

- Federation of Canadian Municipalities Green Municipal Fund;
- The Trans-Canada Trail Foundation;
- Corporate Environmental Funds, such as Shell and Mountain Equipment Co-op (MEC);
- Transport Canada's MOST (Moving on Sustainable Transportation) and ecoMobility (TDM) grant programs;
- Ontario Ministry of Environment Community Go Green Fund (CGGF);
- Ontario Ministry of Transportation Demand Management Municipal Grant program;
- The Ontario Trillium Foundation;
- Ontario Trails Council (OTC);
- Corporate donations;
- Service Clubs such as the Lions, Rotary and Optimists; and
- Private citizen donations, sponsorship or bequeaths, this can also include a tax receipt for the donor where appropriate.

There are a range of trail initiatives that have been identified for the City of Hamilton. These which are of interest to the community and local organizations will compete for available trails development funding. Potential municipal sources of funds are:

- Municipal capital budget (e.g. for new trail development, including signs, trailheads, rest areas and other amenities along the trail);
- Maintenance and operations budgets (e.g., for signage replacement and improvements);
- Economic development and marketing funds (e.g. for trail brochure, mapping);
- Road improvements programs; and
- Funding and grant programs.

3.3 Managing Trails and Maintenance Expectations

In addition to the capital costs of implementing the Recreational Trails Master Plan, trail operating costs typically include; on-going maintenance, annual progress reports, mapping and signage updates, educational outreach and promotional programs.

Trail maintenance costs vary based on the service level standard. Typically maintenance budgets are based on the number of kilometres and increase maintenance budgets is relative to the added length of new trail infrastructure. Annual maintenance can include drainage and storm channel maintenance, sweeping, debris clearing, trash removal, graffiti removal, weed control and vegetation management, grass mowing along shoulders, minor surface repairs, repairs to trail fixtures. It should be noted that asphalt trails typically have lower maintenance costs than granular surfaces in the first 10 years.

An absolute dollar value for maintenance costs was not calculated as the budget for maintenance will need to grow in an incremental fashion along with trail network growth. Similarly staffing needs could change annually as trail networks expand and mature. Operation costs will be established for each trail initiative once capital costs have been determined.

3.3.1 Establishing a Trail Maintenance Plan

Trail maintenance management is a large undertaking that requires continual commitment and is also one key aspect of trail development. In order to meet trail expectations the overall trail network must be developed in a logical and hierarchal manner with uniform principles and a detailed network cataloguing. Enhanced trail maintenance is crucial to supporting year-round usage, accessibility, surfacing and location, monitoring programs, and appropriate funding for long-term maintenance measures. Sound application of design objectives for locations, route alignments, grade change considerations, and addressing maintenance and management requirements during initial planning and development stages will help eliminate future maintenance issues. Successful trails promote community participation.

To strengthen community involvement and trail stewardship local partnerships should

be encouraged between private companies, developers, neighbouring municipalities, landowners, local governments, and advocacy groups. Partnerships are critical in creating community based resources that contribute to long-term success of a trail project. Research into other multi-use trails in Ontario suggests maintenance costs for trail segments within urban areas can be in the thousands per km per annum. These include trails in larger urban areas, and regional trails with higher volumes of users (e.g. upwards of 500 users per day). There is frequent discussion over whether granular-surfaced trails require higher or lower maintenance efforts than asphalt trails, when deciding what trail standard to build. It is suggested that routine maintenance costs are comparable for both types of surfacing. However, in areas where trails may be particularly vulnerable to flooding or washouts from nearby creeks, the cost of repairing granular-surfaced trails suggests that asphalt may be less costly when averaged over the long-term. Notwithstanding this, the reduced environmental impacts that are attributed to permeable surfaces should be considered when trail-building in natural areas. The ACTIVE2010 document suggests that trails help support environmental education and building a public commitment to environmental conservation (Ontario Trails Strategy, 2005).

It is recommended that an inspection manual be created to outline procedures for the short and long-term trails maintenance. This manual could include, timing and frequency of inspections, efficient methods for recording data, areas to record damages to trail infrastructure items (e.g. surfacing, drainage, structures, benches, amenities, lighting, etc.), and recommended measures for mitigation and repair. Implementing preventative maintenance and monitoring programs such as; regular site visits, replacing missing or damaged waymarkers and sign posts is a critical aspect of preventative maintenance. Trails are municipal assets and plans to move forward with the Recreational Trails Master Plan must be accompanied by a parallel effort to maintain trails in good condition. The general objectives of a trail maintenance and monitoring program are to:

- Provide safe, dependable and affordable levels of service;
- Reduce liability exposure;
- Preserve infrastructure assets;

- Protect natural environments;
- Enhance appearance and community health;
- Provide a reference framework against which to measure performance;
- Measure trail performance to enable adjustments and improvements to future trail implementation; and
- Provide the community with a reference for expectations.

3.3.2 Maintenance Partnerships

As previously noted, many of the trails within the Hamilton trails system are owned, operated or maintained by various trails partners. These partners include the Hamilton Conservation Authority, Bruce Trail Conservancy, Hamilton Burlington Trails Council, Royal Botanical Gardens, Waterfront Trust and Hydro One, Ontario Power Generation for hydro corridors.

Where trails cross partner properties, partners should discuss maintenance standards and attempt to achieve the highest quality and most consistent level of service throughout the broader trail network.

3.3.3 Location and Trail Alignment Maintenance Considerations

- Consider natural and artificial site drainage;
- Locate routes to maximize seasonal experiences;
- Consider site topography;
- Avoid highly erodible areas;
- Avoid frequent stream or creek crossings;
- Minimize extensive switchbacks and long straight stretches;
- Avoid protected areas, sensitive habitats, and endangered species;
- Minimize contact with incompatible trail activities;



Figure 37: Interpretive kiosks, like this one in the Eramosa Karst CA, are a great way to promote trails

- Avoid toxic and harmful plant species (e.g. poison ivy, giant hogweed, and buckthorn); and
- Consider native plant species in conjunction with non-invasive and low maintenance species

3.3.4 Trail Surfacing Materials Maintenance Considerations

- Develop annual maintenance trail guidelines based on hierarchical classifications;
- Surface material availability;
- Supply and install surfacing materials costs;
- Life-cycle cost of maintaining surfacing and amenities;
- Accessibility and barrier free requirements (e.g. asphalt is more 'accessible' than stonedust); and
- Surface material type and relative maintenance required (e.g. snow removal, weeds, etc.)

3.3.5 Winter Maintenance of Trails

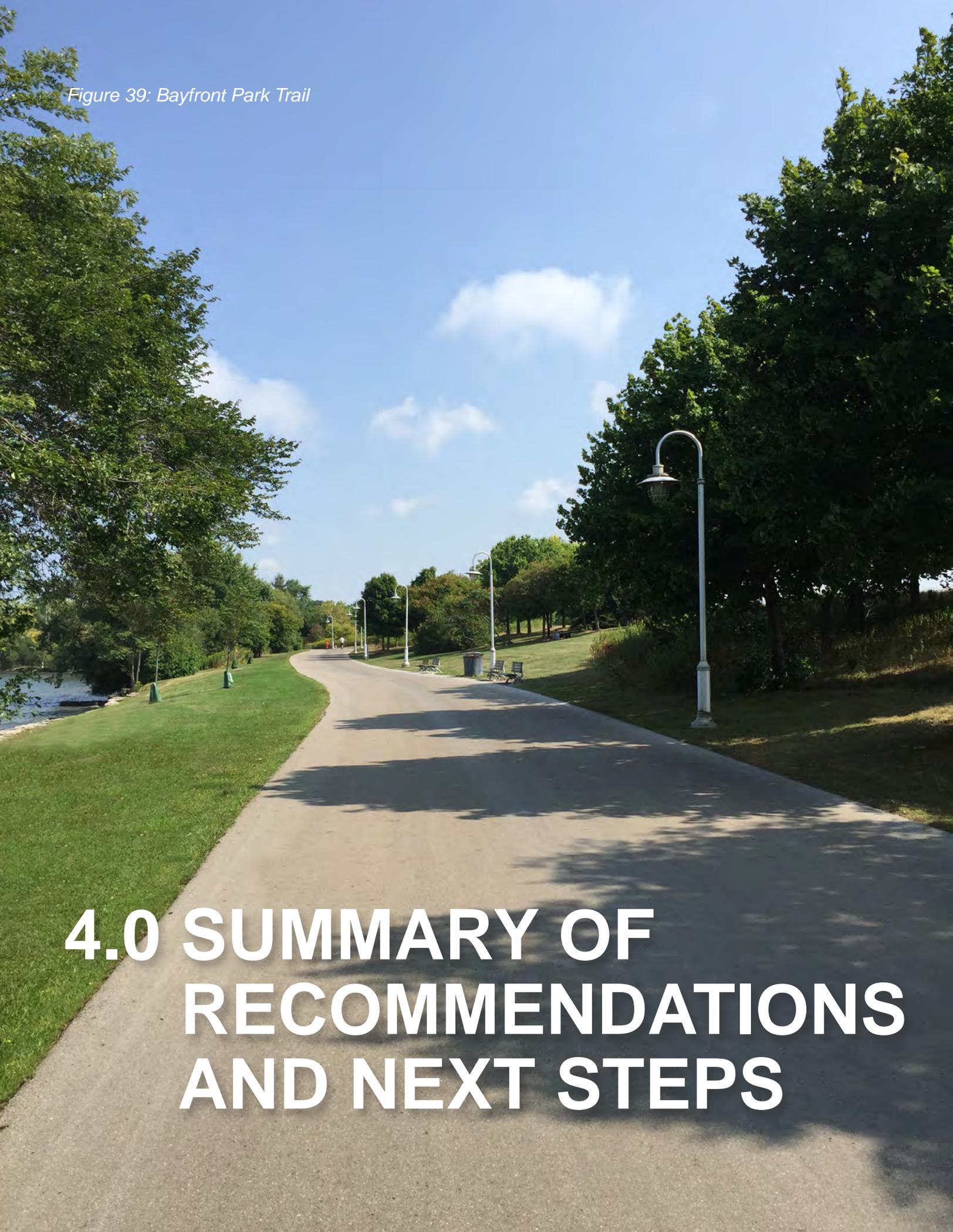
Trails within the City of Hamilton identified as winter maintenance candidates should be constructed to appropriate minimum standards which includes:

- Adequate surface drainage to prevent surface water ponding;
- Minimum width (not less than 3.0m) which allows for adequate access for maintenance equipment;
- Asphalt surfacing;
- No adjacent trail danger (e.g. a steep drop-off that could be a hazard and unsafe for equipment operators) and;
- Major connections between schools and those that are previously funded through operational budget



Figure 38: Winter maintenance is not available on all trails

Figure 39: Bayfront Park Trail



4.0 SUMMARY OF RECOMMENDATIONS AND NEXT STEPS

4.1 Use of the Recreational Trails Master Plan

The Recreational Trails Master Plan is the overarching strategic document that provides a framework for how current and future trail development needs will be addressed. The plan describes, anticipates and plans for the strategic development of trails throughout the city and guides the next steps towards improving and expanding the trails network to promote trails in Hamilton. The Recreational Trails Master Plan also provides the public with clear identification of the role and function of trails within the city; how trails are intended to operate, how they relate to and impact on the land uses that they serve.

One of the primary purposes of the Recreational Trails Master Plan is to guide trail-related decision making and development. The plan also provides the need and justification for trail infrastructure projects in the form of trail initiatives. Throughout the report, recommendations are made for various initiatives which are integrated to strengthen and improve the City's trail network and improve connectivity to surrounding communities. Section 3.0 The Implementation Plan takes into account all trail initiatives within each Ward and identifies specific priority initiatives for implementation.

4.2 Future Studies

There are certain aspects of the trail network that are beyond the scope of the Recreational Trails Master Plan Update. Different requests or recommendations came forward from the public or through stakeholder consultations that require further investigations and study prior to implementation. These are beyond trail initiatives that are recognized for all fifteen (15) wards. The following are a list of future studies and actions that are recommended as a result of discussions undertaken through the Recreational Trails Master Plan Update.

All-Terrain Vehicle (ATV) Trails – To investigate suitability and feasibility of developing ATV specific trails in City of Hamilton, a future study is recommended. Investigations would include the review of policies and procedures that need to be in place, research on the most appropriate area and route, consultation with the ATV community in Hamilton, and the establishment of design and construction guidelines.

Alleyways as Trails – Further studies and

collaboration among City departments are recommended to investigate where the use of alleyways as trail connections is feasible pursuant to connecting residents to schools, parks, and commercial areas.

Mountain Biking Trail Facility – A Mountain Biking Trail Facility was proposed in the 2007 Recreational Trails Master Plan study for William Connell Park in Ward 8. Through detailed design and assessment of the ecologically sensitive areas William Connell Park is in, this option was eliminated. During the process of Recreational Trails Master Plan Update, a need for a full recreational assessment of different areas of the City for Mountain Biking Trail Facility(s) was recognized. This is recommended for further investigation and collaboration with other City departments.

Regional Connectivity – Further investigations are recommended to identify large-scale connection between the City of Hamilton and adjacent municipalities.

Education and Promotion Opportunities for Trails – Future studies and collaboration with other City departments are recommended to identify a variety of subjects (e.g. User Conflict Resolution) about trails that would benefit from education and promotion, and to identify some of the most effective methods of communicating this to the residents of Hamilton.

Signage – Further investigations are recommended to address the needs of trails signage throughout the City, including compatibility with existing signage programs, and AODA requirements.

4.3 Recreational Trails Master Plan Review and Updates

The Recreational Trails Master Plan is not intended to be a static document. It must be reviewed as often as possible to ensure it meets the trail development needs of the City. Changing community expectations or growth and development patterns can necessitate a review of the Plan's primary recommendations.

The Recreational Trails Master Plan is intended to be used as a working tool which will allow City staff to review individual, phased trail initiatives

while integrating those trails within the context of the entire network at any given location. The Plan leads the way for future expansion of the trails network.

There are a number of recommended steps that should be considered in order to advance the Recreational Trails Master Plan:

- Following full adoption of the complete Recreational Trails Master Plan, issue a media release and public notice announcing the completion of the plan;
 - The Recreational Trails Master Plan should be posted in digital format on the City's website and also made available in hard copy as requested;
 - Systematically implement the recommended trail network initiatives;
 - Coordination and implementation of trails shall be included in related capital infrastructure projects and funding shall be included as a portion of the project budget;
 - Evaluate the effectiveness of preparing a pilot signage and wayfinding strategy for one key section of a certain trail;
 - Prepare a detailed City-wide wayfinding signage strategy for all trails;
 - Within 2 years facilitate the development of a digital map of the existing trail networks for publishing on the City website (the map shall be compatible with mobile device use);
 - Ongoing updates of the geographic information system database for both the existing and proposed trails are essential to ensure maps are current. Annual geographic information system (GIS) updates and reviews for accuracy are recommended;
 - Explore community based social marketing techniques and opportunities to work with local partners and other public agencies to promote the health and recreational benefits of the trails;
 - Explore and recommend methods that recognize individuals, businesses and organizations that make exemplary contributions to the development trails in the City of Hamilton;
 - Undertake a detailed analysis of lifecycle costs related to trails and prepare a report outlining findings and recommendations regarding the funding required to address these lifecycle costs for capital budget deliberations;
- Explore outside partnerships, cost-sharing and funding opportunities for the implementation of trails that are outside the responsibility of City of Hamilton; and
 - Have fun, and remember that trails improve public health, lifestyles, and contribute in a positive manner to the character of our city.

REFERENCES

- Active Living Research. (2011). Do all children have places to be active? Disparities in access to physical activity environments in racial and ethnic minority and lower-income communities. Research Synthesis. Robert Wood Johnson Foundation, San Diego State University.
- Active Transportation Benchmarking Program. (2014). City of Hamilton.
- Barrier-Free Design Guidelines. Version 1.1. (2006). City of Hamilton.
- Canadian Fitness and Lifestyle Research Institute. (2001). www.cflri.ca.
- Canadian Highway Bridge Design Code (2002). Canadian Standards Association.
- Canadian National Railway. (March 2010). CN Policy and Criteria for Trails Near Railway Right of Way (Rails with Trails).
- City of Hamilton. (2010). Health eating, healthy weight and physical activity in Hamilton. The PHacts, 2(3). Hamilton, ON: Applied Research and Evaluation Team.
- Coen, S., & Ross, N. (2006). Exploring the material basis for health: Characteristics of parks in Montreal neighbourhoods with contrasting health outcomes. *Health & Place*, 12:361-371.
- Colley, R., Garriguet, D., Janssen, I., Craig, C., Clarke, J., & Tremblay, M. (2011a). Physical activity of Canadian adults: Accelerometer results from the 2007 to 2009 Canadian Health Measures Survey. *Health Reports (Statistics Canada, Catalogue no. 82-003 XPE)*, 22(1).
- Colley, R., Garriguet, D., Janssen, I., Craig, C., Clarke, J., & Tremblay, M. (2011 b). Physical activity of Canadian children and youth: Accelerometer results from the 2007 to 2009 Canadian Health Measures Survey. *Health Reports (Statistics Canada, Catalogue no. 82-003-XPE)*, 22(1).
- Crowe, Timothy D. (September 2010). Crime Prevention Through Environmental Design. www.cptedontario.ca
- Dunbar, Peter G, (1999). The Economic Impact of the Georgian Trail on the Town of Collingwood.
- Frank, L., & Raine, K. (2007). Creating a healthier built environment in British Columbia. Prepared for Dr. John Millar. Provincial Health Services Authority.
- Gees, E. (2006). The Health Benefits of Parks. Published by The Trust for Public Land.

Glazier, R., Booth, G., Gozydra, P., Creatore, M. & Tynan, A. (2007). Neighbourhood Environments and Resources for Healthy Living — Focus on Diabetes in Toronto: Institute for Clinical Evaluative Sciences (ICES) Atlas.

Government of Ontario. (2005). The Accessibility for Ontarians with Disabilities Act. www.ontario.ca/laws/statute/05a11

Hamilton's Cycling Master Plan: Shifting Gears. Municipal Class Environmental Assessment. (2009). City of Hamilton & Ecoplans Limited.

Hamilton Transportation Master Plan. (2007). City of Hamilton.

Health Canada. (1998). Go for Green - Active Living and Environment Program. www.goforgreen.ca

Henrik, P. & Welled, B. (2009). Measuring the Economic Value of a City Park System. Published by the Trust for Public Land.

Medical Officers of Health in the GTHA (May 2014). Improving Health by Design in the Greater Toronto-Hamilton Area. Highlights Report May 2014.

Ministry of Health Promotion. (2005). ACTIVE2010 Strategy.

National Bicycle and Pedestrian Clearinghouse. (1996). Overcoming Opposition to Bicycling, Walking and Trail Development.

National Recreation and Park Association. (2010). Synopsis of 2010 Research Papers: The Key Benefits.

Niagara Escarpment Commission. (1990). NEPDA. Development Control. Chapter N.2, section.23.

Occupier's Liability Act. (1990). Government of Ontario.

Ontario Federation of All-Terrain Vehicle Clubs. (July 2005). www.ofatv.org.

Ontario Federation of Snowmobile Clubs. (July 2005). www.ofsc.on.ca.

Ontario Highway Traffic Act. (1990). Ministry of Transportation.

Ontario Trails Council. (2016). www.ontariotrails.on.ca/learn/trail-info/trail-facts

Pipeline Trail Master Plan. (October 2015). City of Hamilton.

Provincial Health Services Authority. (2009). Foundations for a Healthier Built Environment Summary Paper. Provincial Health Services Authority: British Columbia.

Public Art Master Plan. (August 2008). City of Hamilton.

Rodriguez D. (Summer 2009). Active Transportation: Making the Link from Transportation to Physical Activity and Obesity. A Research Brief. Princeton, NJ: Active Living Research, a National Program of the Robert Wood Johnson Foundation

Social Development Canada. (Spring 2010). Canadian Social Research Links. www.canadiansocialresearch.net/index.html.

Traffic Engineering Council Committee. (1998). TENC-5A-5, Design and Safety of Pedestrian Facilities: A Recommended Practice of the Institute of Transportation Engineers, Institute of Transportation Engineers, Washington, D.C.

Trails for All Ontarians Collaborative. (2006). Ontario's Best Trails: Guidelines and Best Practices for the Design, Construction and Maintenance of Sustainable Trails for All Ontarians. www.recpro.org/assets/Library/Trails/ontario_guidelines_bmp_design_construction_maintenance_sustainable_trails.pdf

Trans-Canada Trail. (2006). Recreational Trail Standards and Guidelines. www.tctontario.ca/library.html.

Troped P. (January 2011). The Power of Trails for Promoting Physical Activity in Communities. A Research Brief. Princeton, NJ: Active Living Research, a National Program of the Robert Wood Johnson Foundation.

Warburton, D., Nicol, C., & Bredin, S. (2006). Health benefits of physical activity: the evidence. *Canadian Medical Association Journal*: 174(6), 801-809.

Figure 40: Public Information Centre #1 at the Hamilton Environmental Summit



APPENDIX A SUMMARY OF PUBLIC ENGAGEMENT ACTIVITIES

Extensive public consultation informed the development of this master plan. The overall goal of the public consultation and stakeholder meetings was to provide a variety of consultation opportunities to engage a wide range of residents, trail users and stakeholders.

Through various forms of consultation opportunities, the public was able to comment on the existing trail network, suggest new trail connections, and provide direction on future trail development.

An integral component of the public consultation program was drawing on the knowledge of the people who live and work in Hamilton and its surrounding areas. It is their insight, energy, and enthusiasm that contributed to the momentum of the Recreational Trails Master Plan Update project.

Table 9: Summary of Public Consultation Meetings

1. **Wednesday, April 22, 2015** – Hamilton Environmental Summit, Royal Botanical Gardens
2. **Thursday, May 21, 2015** - Building Momentum Hamilton, Tim Hortons Field
3. **Saturday, June 6, 2015** - Let's Talk Trails Table (Chedoke Stairs)
4. **Sunday, June 7, 2015** - TrailHead Ontario 2015 Conference and Community Trails Day, McMaster University
5. **Friday, July 10, 2015** - Let's Talk Trails Table (Hamilton Farmer's Market)
6. **Sunday, August 9, 2015** - Festival of Friends, Ancaster Fairgrounds
7. **Friday, August 21, 2015** - Let's Talk Trails Table (Bayfront Park)
8. **Thursday, September 24, 2015** - Ward 13 Dundas Town Hall



Figure 41: Public consultation meeting at the Hamilton Environmental Summit on April 22, 2015

A.1 – Engagement in Person

A new strategy in consultation was applied for this city-wide project: bring the project to people rather than bringing people to the project. In the past it has been difficult to receive a high amount of engagement when centralizing the consultation in a certain location and at a certain time.

The public consultation series commenced with testing of a questionnaire with two focus groups at a workshop of the Hamilton Environmental Summit. Workshop attendees helped the process, by providing their comments on the trail system in Hamilton, as well as the appropriateness of the questions (Figure 41).

The City of Hamilton hosts large events every year, and these were seen as an opportunity to reach out to large groups of public that might not normally attend a public information centre. Details about these events were received from the Events, Tourism and Culture office and staff held a Recreational Trails Master Plan information booth at these events. Also, other areas of interest were heavily used trail routes based on the data available through the Active Transportation Benchmarking Program.

A list of all events and locations attended are described in Table 9.

The information booth was set up to provide the opportunity for visitors to answer specific questions via sticker dot voting to determine priorities (Figure 53) or visitors could write their general comments about trails in Hamilton on a large sheet of a paper (Let's Talk Trails table) (Figure 42). Hard copy questionnaires and cards with a link to the project website were available for hand out to provide information at a more convenient time and spread the word on the Recreational Trails Master Plan Update. A Trails Game was created to engage children at the booth as a fun way to learn about the parks and trails system in Hamilton (Figure 43).

A summary of the responses based on the sticker count is illustrated in Table 11. The analysis and discussions are included in section F. *Public Consultation Results*.

All comments provided by visitors at the Let's Talk Trails tables written on the large sheets of paper are communicated in Table 12.

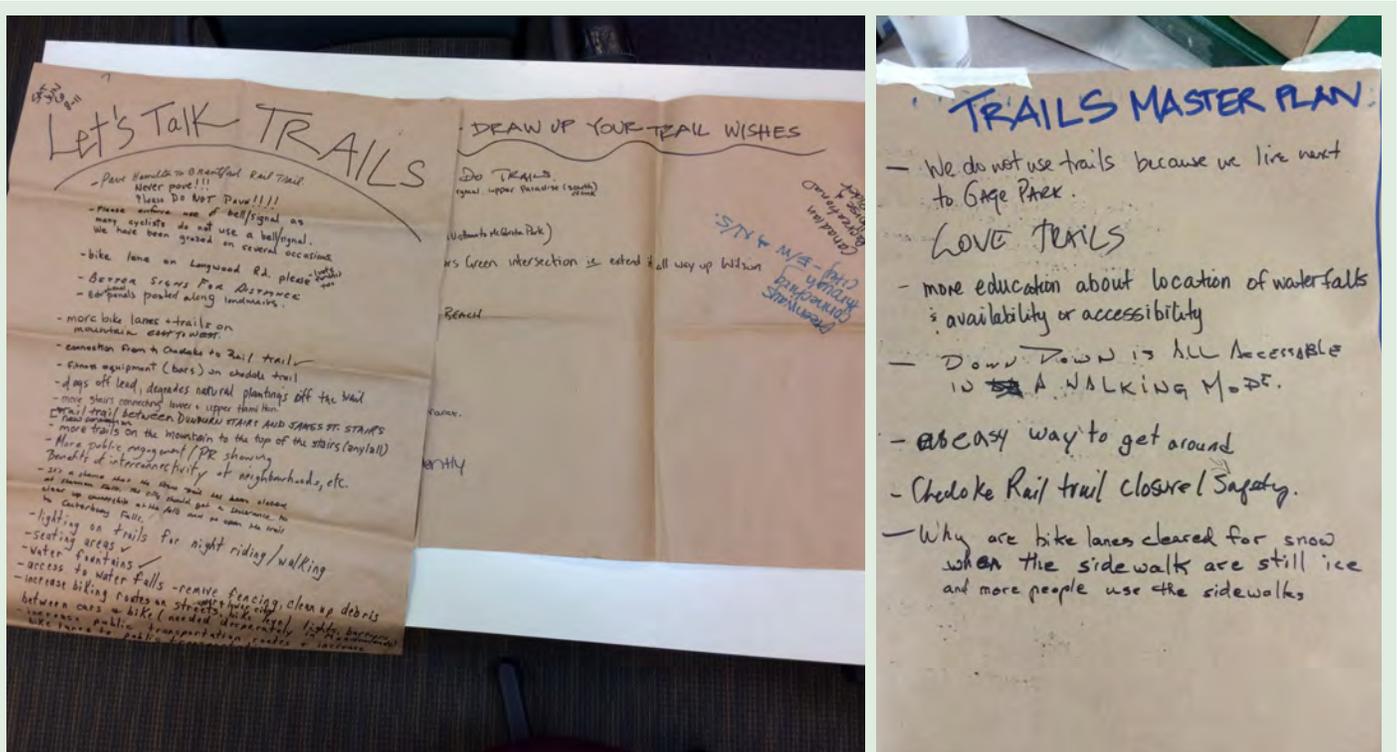


Figure 42: Trail Table Talk notes

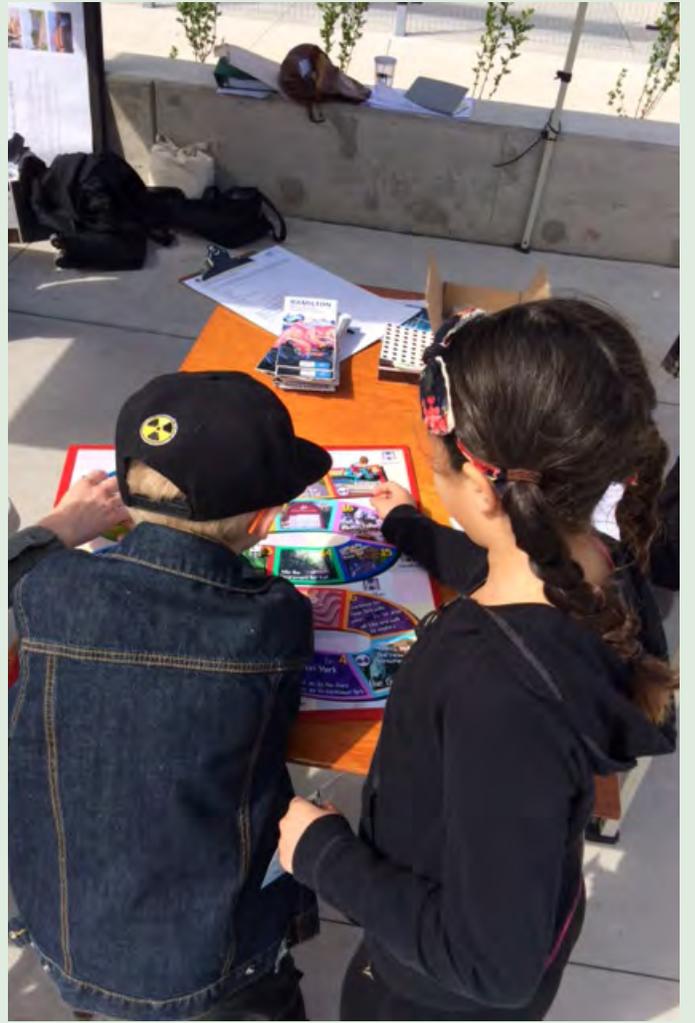


Figure 43: Trail games played by children during a public consultation event

Staff found this method of engagement very rewarding as it was the quality of conversation with the residents of Hamilton that made it worthwhile.

A.2 – Engagement Online

A project website was launched in April of 2015 at hamilton.ca/trailsmasterplan. This web page included the Recreational Trails Master Plan 2007 for download and view, a list of Public Consultation Events, a link to an online survey and a video describing the project goals and objectives.

Using Survey Monkey as a host, a ten (10) question survey was developed to collect and analyze recommendations and feedback from the public (Figure 44). This was available for six (6)

months, launching on April 27, 2015 and closing for comments on October 30, 2015. The survey gathered information on socio-demographics of respondents, current level of trail activities as well as input on potential improvement for trail infrastructure and connections.

A summary of the questionnaire results are included in Table 13. This includes an illustration of each individual question and corresponding responses.

The collected information provided the project team with important information regarding the public's thoughts on trails, connectivity, trail amenities and trail infrastructure throughout the City.

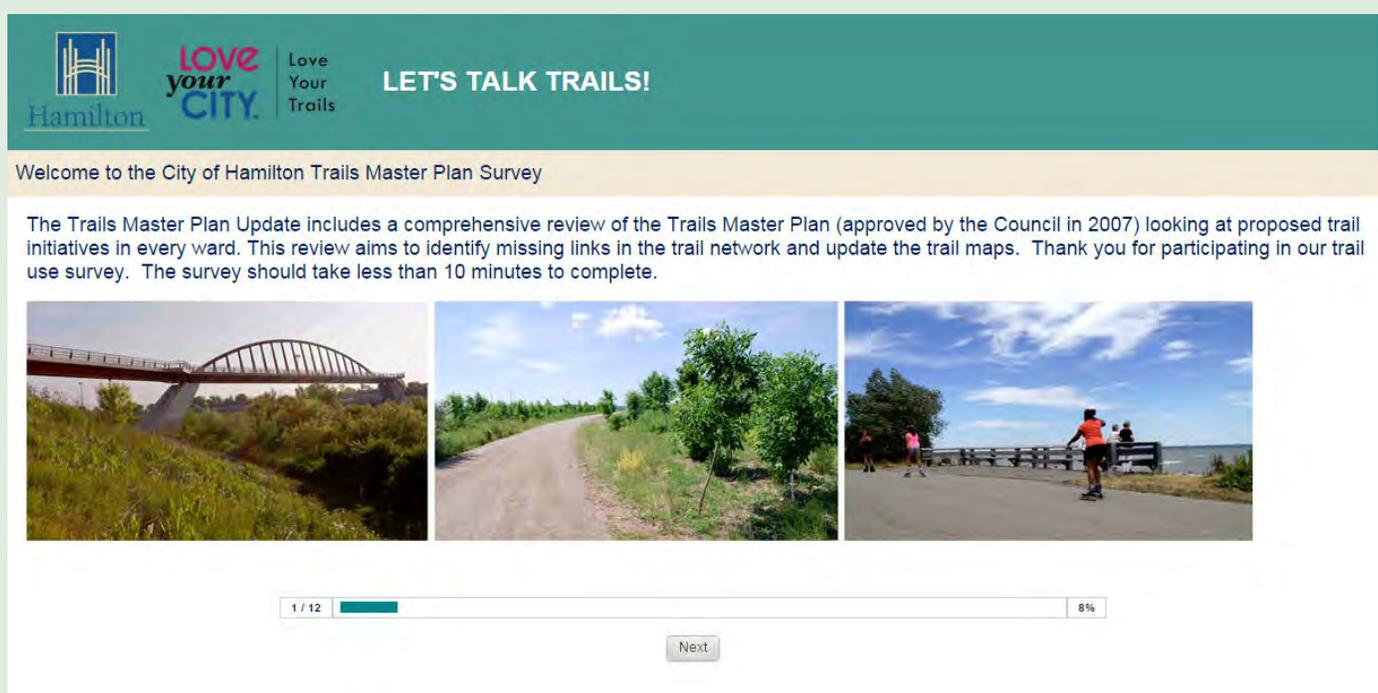


Figure 44: Cover page for the online survey

A.3 – Project Promotion

One of the challenges of completing a City-wide project is being able to create awareness about the project to all citizens of Hamilton. Various methods of communication were relied upon to bring attention to the Recreational Trails Master Plan Update and the opportunity to provide comments.

Staff launched this process by submitting an Information Update to the Mayor and all fifteen

(15) Ward Councillors. Next, a CHCH Inside City of Hamilton video was recorded and played on the local Hamilton network. This video provided additional information on the Recreational Trails Master Plan Update project.

Promotional post cards (Figure 45) were published in the local neighbourhood news including Sherman Hub News, The Herald, and Keith Neighbourhood News during July and August of 2015.



Figure 45: Promotional post card created to advertise how the public could provide feedback on the master plan throughout the duration of the project



Figure 47: The City of Hamilton’s Corporate Twitter account was used to promote the project and encourage public feedback.

Figure 46: Poster to advertise the project was posted at six (6) Municipal Centres and the Hamilton Public Library Central location.

A poster encouraging residents to use Hamilton trails and notifying them about the project (Figure 46) was posted at six (6) Municipal Centres (Ancaster, Dundas, Flamborough, Glanbrook, Hamilton City Hall and Stoney Creek) and at twenty five (25) Recreation Centres in the City of Hamilton. A large scale (26 x 88 inches) display was set up at the Hamilton Public Library Central location for the entire month of June 2015.

City of Hamilton Corporate Twitter Account tweeted twenty (20) times about the Recreational Trails Master Plan Update from May to October 2015. In total the tweets were seen 68,340 times, were retweeted 190 times, ‘liked’ 72 times and the links were clicked 448 times (Figure 47).

An advertisement was placed in the Dundas Community News for the meeting on September 24th at the Dundas Town Hall.

In October of 2015 an advertisement on the Recreational Trails Master Plan was placed on the City of Hamilton website available for viewing by the public and via the City’s intranet for internal staff residing in Hamilton.

A logo was created for the project Love Your City – Love Your Trails (Figure 48) that has been used consistently in all promotional aspects of this project.



Figure 48: Love Your City - Love Your Trails logo created for the project.

A.4 – Stakeholder Consultation

In addition to the public consultation meetings, additional meetings were held with various stakeholders which included local interest groups, trail advocacy groups, trail organizations, among others to discuss the master plan update. A list of all the stakeholder consultation meetings are described in Table 10.

Each stakeholder meeting included an overview of the project goals and objectives, a review of the 2007 Recreational Trails Master Plan trail initiatives, review and input into new trail initiatives as they related to each stakeholders investment and interests, and recommendations for potential policies, programs and outreach initiatives related to trails. Stakeholder input and recommendations were incorporated into the update of the Recreational Trails Master Plan including trail initiatives on the trail network mapping.

A.5 – Youth Engagement

In September of 2015, two groups of Grade 9 Geography students were introduced to the concept of Trail Planning in Hamilton (Figure 49). They started with intentions of working on an authentic proposal based on the Recreational Trails Master Plan for Hamilton in order to understand, learn and promote a plan for a Trail Initiative that they hoped all would use in future. There was a lot to learn about reading maps, legends, deciphering and understanding the information being presented in each map. They narrowed their focus to Ward 12 where their school is located and each student was assigned an area within Ward 12 to focus on. The group completed the trail survey questions and the results were tabulated and recorded.

In one class, one student encouraged others to shift the focus to the existing trail initiative that had been proposed for the Hydro corridor behind the school. They examined it on maps and hiked the area. In small groups, students brainstormed how to develop the area, what additions could be made to enhance the trail, ways the community could benefit from the plan, what needed to be done to proceed and budgeting costs. The other class concentrated on cycling infrastructure on Garner and Rymal Road and to join the efforts, time, and energy both classes focused on the latter. This change resulted in addition of new skill sets to this experience with more research

Table 10: Summary of Stakeholder Consultation

1. Tuesday, April 28, 2015 - Royal Botanical Gardens
2. Wednesday, May 27, 2015 - Hamilton-Burlington Trails Council
3. Monday, July 6, 2015 - Bruce Trail Conservancy
4. Wednesday, July 8, 2015 - Hamilton Cycling Advisory Committee
5. Tuesday, July 14, 2015 - Halton Conservation Authority
6. Thursday, July 30, 2105 - Hamilton Conservation Authority
7. Wednesday, August 5, 2015 - Niagara Escarpment Commission
8. Monday, August 10, 2015 - Ontario Federation of All-Terrain Vehicles

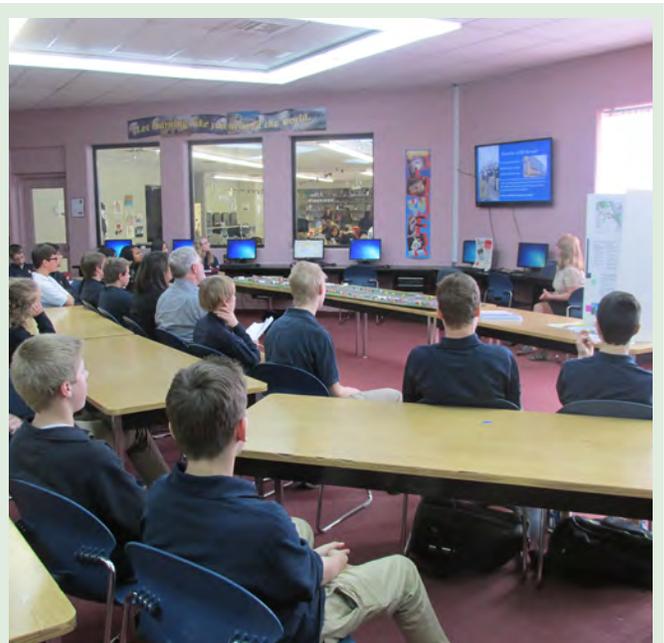


Figure 49: Grade 9 Geography students presenting their findings to City staff.



Figure 50: The students created a 3D model of the road, intersections, and area to scale

and new maps to consider. A school bus was booked to take both classes out along the entire stretch of road of study. During this site visit, students looked at road conditions, width, traffic concerns, cycling possibilities, and presence and absence of sidewalks. As they traveled students took pictures, videos and observed the road for their proposal. Back in the classroom, the driving question was, “How can we improve transportation for those living in and around the school?”

The students hiked back out to Garner and Rymal Road as a class and analyzed the road on foot this time. The students had to create a visual sample of the actual road, intersections and area in order to create a model to scale (Figure 50). A lot of brainstorming went into the process to decide how to build the model, what materials to use and what changes should be added. Using Google Earth, students placed the homes and buildings exactly where they are actually built in real life and added their 3-D buildings and trees made on the 3-D printer. With the model and presentation in full production, students worked in groups to answer several questions relating to the plan. Some worked on the research aspect behind the transportation and cycling plan and how it affects the community. The students learned to appreciate the work of urban planners because of the challenges they faced along the way. The learning curve was vast for the Grade 9 students. The ability to expand their knowledge and challenge the students was possible because of the authenticity of the project. The culminating activity for this plan included presentation to City of Hamilton staff. It was effective for both classes to share their project with the professionals and to have the chance to listen to their feedback. Students were impressed with the input, insight, questions and knowledge shared. It was also interesting to learn about their education paths before being employed with the City of Hamilton. It was a highlight to end the semester with the chance to share what the students had been focusing on throughout the semester. A key point shared was, “I hope that Garner/Rymal road changes while I’m still a student at this school!”

- Content provided by: Mrs. Pauline VanderVelde

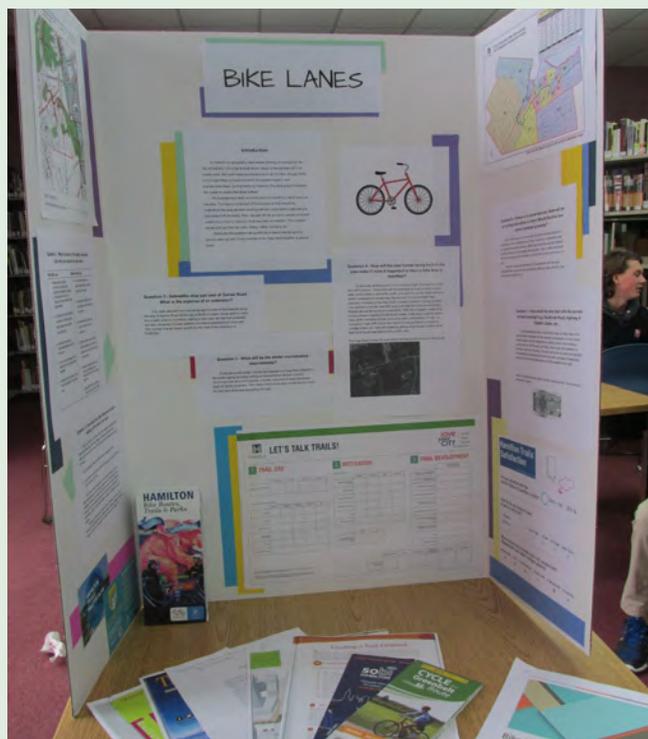


Figure 51: Presentation and research materials created

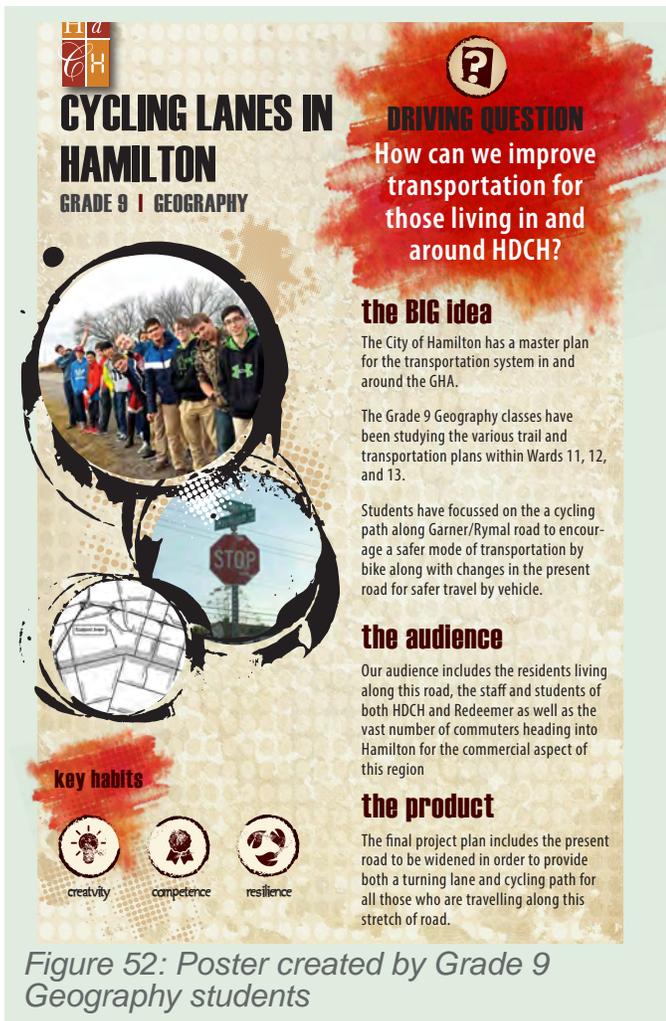


Figure 52: Poster created by Grade 9 Geography students

A.6 – Public Consultation Results

The sticker dot voting exercise completed during in-person engagement provided a series of information. Approximately 40% of respondents indicated that they travel less than 1km to access a trail. 34% of respondents travel between 1 to 5km to a trail entry. This expresses that trails are fairly available and close to the areas that the respondents live or work. City of Hamilton Official Plan recognizes 800m a walkable distance for neighbourhood parks. Using this as a measure of walkable distance, it is fair to say that trail users who completed the questionnaire are within a relatively walkable distance.

Our analysis shows that many individuals hike and cycle the trails of Hamilton a few times a month. Walking and jogging seem to be the activities that most respondents participate in on a more regular basis. This information provides us with valuable information for trail design and development.

When respondents were asked if they are satisfied with the current status of Hamilton trails, approximately 80% of individuals responded yes. This is a fairly large number of individuals who have expressed their satisfaction with trails in Hamilton.

In order to understand the reason behind trail use in Hamilton, the questionnaire provided a few options for the respondents to choose from. There is an evident trend in responses towards the use of trails in Hamilton for the enjoyment of natural environment and fitness and exercise.

A question inquired about the essence of trail connections and ultimate intentions in establishing a linkage. The results showed a clear relationship between the respondents' desire for trail connections that improve quality of life and health of City of Hamilton residents, provide access to natural areas, and connect open spaces and creates linkages. Accommodating areas to walk and cycle for recreation and connecting neighbourhoods to each other were considered additional significant purpose of trails.

When asked where should the City make new trail connections, most respondents selected in natural areas, to the waterfront, in neighbourhoods, and in urban areas.

Many requests and suggestions came forward from the in-person and on-line (survey questions 9 and 10) consultations. For ease of understanding the comments and addressing them, the comments have been grouped in different categories as illustrated in Table 12 and 13.

This section includes a discussion of these topics and includes strategies on how these requests can be addressed and implemented in future.

Accessibility

Some comments were focused on trails for all levels of ability and wheelchair access. Accessibility and AODA Requirements are a major component of trail design and development in the City of Hamilton where the natural environment allows. If a trail requires improvements and redevelopment, we ensure

that accessibility guidelines have been applied to the upgraded trail in areas that are possible. Due to the geographical and geological features present in Hamilton, not all City of Hamilton trails are accessible.

Amenity

Requests for more amenities along trails were expressed in the public consultation comments. City of Hamilton trails have free parking where available. Amenities such as drinking fountains, waste receptacles, and portable toilets bring additional staffing, operation and maintenance costs. It may be appropriate to consider some of the amenities (e.g. drinking fountain) at some of the highly utilized trails. The Active Transportation Benchmarking Program provides the supporting information about the feasibility for locating such amenities.

Cycling

Focus of the Recreational Trails Master Plan is not solely on cycling however, comments about cycling routes were evaluated. Most suggestions are already works in progress and otherwise comments were directed as suggestions through the Cycling Master Plan – Transportation Master Plan.

Different User Groups

Many requests came forward for All-Terrain Vehicles (ATV) specific trails to be established in Hamilton. The current City By-Law prohibits any motorized vehicles on trails. There are certain complexities associated with ATV use that requires further investigation. The scope of Recreational Trails Master Plan Update cannot accommodate the studies required for ATV Trails; therefore, this has been identified as recommended for a future study.

Education and Promotion

There are many requests for educational opportunities about trails and Hamilton's natural and cultural landscape. Maps are another component of this category. Various suggestions for onsite mapping and web and application based electronic mapping came forward from the public consultations. The City of Hamilton recognizes that this is a need for an evolving trail network in Hamilton. This request may be addressed through collaboration with different City departments or may require further

investigation for finding most appropriate methods. This is beyond the scope of Recreational Trails Master Plan Update, and has been identified as recommended for future study.

Importance of Trails

Many comments received from respondents were about the significance of trails in Hamilton and how trails are a valued amenity for Hamiltonians. It is very important for staff to have this information in support of trail development.

General Connectivity

When asked for suggestions on trail connections, some recommended connections that captured broad areas in the City or beyond. These comments have been considered in seven (7) sub-categories:

1. Regional Connections: These comments cover large-scale connections between the City of Hamilton and neighbouring municipalities. An example of this is the Regional Greenway Network recommended by the Hamilton Burlington Trails Council. They are slow-speed, low-volume streets where walking or bicycling are sometimes given priority. Designing streets as neighbourhood greenways reduces automobile speeds and cut-through traffic; provides safer bicycling and walking links; and makes residential streets calmer and quieter. Design elements can include signage and bicycle-friendly speed bumps, etc.

Regional Greenways may restrict motor vehicle access at some intersections. Inherent in the design of a Regional Greenway Network is a more comfortable walking and cycling experience as additional amenities such as benches, public art, and tree canopies are included.

This investigation is beyond the scope of Recreational Trails Master Plan Update and has been identified as recommended for a future study in *Section 4 – Summary of Recommendations and Next Steps*.

2. East and West Connections: Feedback through public consultation indicated a desire to create connections that allow for the opportunity to travel west to Dundas and Ancaster and east

in Stoney Creek. Creating these trails would require investigations including discussions with different landowners, studies of crossings and intersections, and finding the most appropriate corridors. An example of such vision is Dash Mash, which is the name for an unbroken upper and lower cross-city trail with goals of connecting existing major networks with places where people live, and addressing the active transportation barrier posed by the escarpment. This proposal requires many studies and discussions with Niagara Escarpment Commission. This is recommended as a component of the Regional Connections future study.

3. Escarpment to Waterfront Connection: Trails users requested more trail connections from the escarpment to the waterfront. North south connectivity has been implemented through other initiatives such as the Red Hill Valley Trail. Additional connections have been identified in the Recreational Trails Master Plan Update as proposed trail initiatives where a connection is possible, and waterfront access is feasible.

4. Rural Areas: Responses identified a lack of trails in rural areas. Trail development has been identified for growth areas in rural Hamilton within the urban boundary in the Recreational Trails Master Plan Update.

5. Alleyways: Public feedback inquired about the use of alleyways as trail connection opportunities, particularly in the lower city. While alleyways have potential to provide trail connections among neighbourhoods to connect residents to schools, parks, and commercial areas in the vicinity, the repurposing of alleyways for this use requires further investigation and has been identified as recommended for a future study.

6. Access Points to Major Trails: Trail users request more access points to major trails. Additional access points will be considered for various trails as a component of detailed design for new initiatives and during improvement of existing trails.

7. Downtown: Many requests came forward for better connectivity in downtown area. Due to the density of buildings, roads, and existing infrastructure in downtown area, connectivity relies upon the on-road network. There are limited opportunities for off-road multi-use trails.

In reference to cycling network any expansion to the on-road system is addressed in the Cycling Master Plan – Transportation Master Plan.

Maintenance

All site-specific maintenance concerns were communicated to Operation staff for investigation. The two main categories of concern that came forward from the public consultations were the availability of waste receptacles, and all year maintenance. Waste receptacles are placed in areas that can be accessed by staff and they are strategically placed to discourage illegal dumping. Winter maintenance on trails is available based on the material that trail is constructed of (i.e., asphalt), associated winter maintenance funding, and connections that trail segment provides to the larger system. During detailed design of trail segments as they move to implementation, the need for winter maintenance will be addressed.

Mapping

The City of Hamilton is progressively considering different methods of electronic and hard copy mapping for enhancement of communicating the trail system. Requests for on trail maps are addressed under Signage, and requests for electronic maps (e.g. Applications) are addressed under Promotion.

Natural Environment

Some comments expressed concern about the potential impact of trail development to the natural environment. All trail initiatives proposed in natural environment will be evaluated by the regulatory jurisdiction for that area (e.g. Conservation Authority). Sometimes Environmental Assessments are required. Reasonable care will be exercised prior to any trail development to ensure that the natural environment in Hamilton is protected.

Project Process

A series of comments were focused on the Recreational Trails Master Plan Update project and the survey. The feedback is much appreciated and will be incorporated in future trail planning and design projects as a result of the Recreational Trails Master Plan Update.

Promotion

A lack of awareness about Hamilton's trail network and its connection to the cultural and natural heritage was identified. Mapping, recreational, and educational programs and advertising in conjunction with other trail stewards in Hamilton could help to meet this need. Further investigation is required to find the most suitable method of promoting trails in Hamilton. This has been identified as recommended for a future study.

Safety

Safety of users including road crossings and motorized vehicle use was identified. Safety is the most important element considered in trail design and construction and will continue to be a primary goal of all trail initiatives.

Signage

There are three (3) themes associated with requests related to signage which came forward from the public consultation: navigation and wayfinding, education, and law and enforcement. Often trail users expressed interest in maps on trails in order to move through the trail system easier and be able to find sites of interest. Some existing maps on the trails are aging and require updating. Many trail users identified the need for educational and interpretive signs on various trails particularly in areas with significant natural features. Some users requested for more signs explaining trail etiquette to all trail users. More discussion about etiquette is addressed under User Conflict category.

Currently there are signs installed by City Operations staff at trail entrances and junctions that focus on littering and trail maintenance. Staff are also mindful of preventing sign pollution on trails. There is a signage program in place for the Downtown area. Further investigations are required to address the needs as identified for trail signage throughout the City, to ensure consistency among signage programs, as well as steps for implementation. This has been identified as recommended for a future study.

Site-Specific Requests

Many requests or comments were related to very specific site amenities or maintenance issues. The feasibility of these requests have been communicated to appropriate staff for investigation.

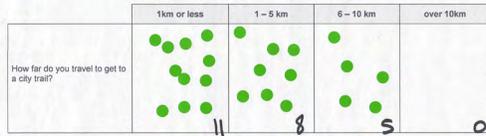
Site-Specific Connections

All suggestions and recommendations for new trail connections were reviewed. Some were recognized as work in progress for the Recreational Trails Master Plan or the Cycling Master Plan. Through a mapping exercise, some were identified as feasible new trail initiatives in the Recreational Trails Master Plan Update.

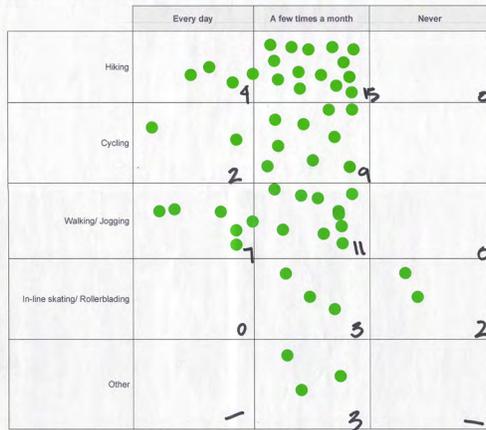
User Conflict

The most significant complaint that came forward from the trail system in Hamilton, both through in-person and on-line engagement, was user conflict. Walkers and hikers expressed disappointment with cyclists, cyclists with walkers, and some trail users with dogs and dog-owners, while they use the trails in Hamilton. All uses supported through City bylaws are recognized in the Recreational Trails Master Plan Update. Suggestions such as considering user specific signage, painting dividing lines on pavement, and educational initiatives have been made, and may be useful in some scenarios. These options will be considered on a segment by segment basis to address the unique and specific needs of that trail, as each segment proceeds to implementation. This is recommended to be investigated under Education and Promotion Opportunities for Trails and Signage.

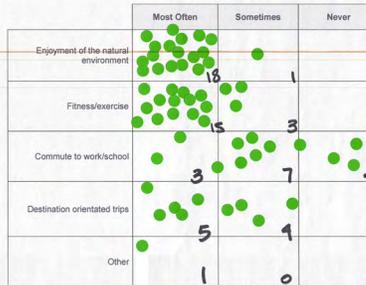
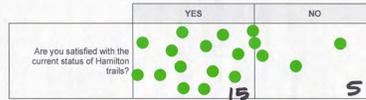
1 TRAIL USE



How often do you use trails for each use.



2 MOTIVATION



3 TRAIL DEVELOPMENT

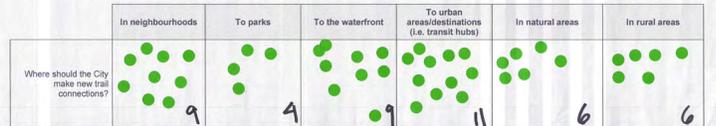
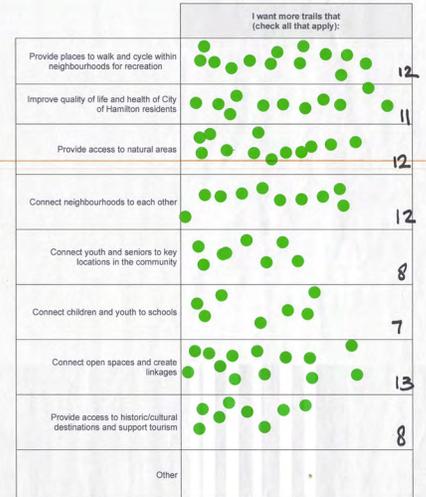


Figure 53: Let's Talk Trails sticker voting sheet example used at the TrailHead Ontario 2015 Conference on June 7, 2015

Table 11: Summary of Let's Talk Trails Table Sticker Voting Results

Question 1: How far do you travel to get to a city trail?

	1km or less	1-5km	6-10km	over 10km
Result Count	45	38	15	13
Percent	40.5%	34.2%	13.5%	11.7%

Analysis: Approximately 40% of respondents indicated that they travel less than 1km to access a trail. This shows that trails are fairly available and close to the areas that the respondents live or work. 34% of respondents travel between 1km to 5km to a trail entry. A relatively smaller number of people travel over 10km to access a trail in Hamilton.

Question 2: How often do you use trails for each use?			
	Everyday	A few times a month	Never
Hiking	6	74	0
Cycling	10	50	6
Walking/ Jogging	29	50	0
In-line Skating/ Rollerblading	0	7	26
Other	2	7	5

Analysis: For question 2 due to variety of choices available for respondents to make, it is not appropriate to calculate a percentage of responses. It is evident that many individuals hike and cycle the trails of Hamilton a few times a month. Walking and Jogging seem to be the activities that most respondents participate on a more regular basis.

Question 3: Are you satisfied with the current status of Hamilton Trails?			
	Yes	No	Analysis: When respondents were asked if they are satisfied with the current status of Hamilton trails, approximately 80% of individuals responded yes.
Result Count	51	13	
Percent	79.7%	20.3%	

Question 4: Why do you use trails?			
	Most Often	Sometimes	Never
Enjoyment of the natural environment	85	7	0
Fitness/exercise	77	12	0
Commute to work/school	10	24	24
Destination Oriented Trips	14	43	5
Other	5	2	1

Analysis: For question 4 due to variety of choices available for respondents to make, it is not appropriate to calculate a percentage of responses. There is an evident trend towards the use of trails in Hamilton for the enjoyment of natural environment and fitness and exercise.

Question 5: I want more trail that (check all that apply):	
	Responses (total dots)
Provide places to walk and cycle without neighbourhoods for recreation	55
Improve quality of life and health of City of Hamilton residents	59
Provide access to natural areas	58
Connect neighbourhoods to each other	52
Connect youth and seniors to key locations in the community	37
Connect children and youth to schools	35
Connect open spaces and creates linkages	57
Provide access to historic and cultural destinations and support tourism	39
Other	6
<p>Analysis: For question 5 due to variety of choices available for respondents to make, it is not appropriate to calculate a percentage of responses. There is an evident connection between the respondents' desire for trail connections that improve quality of life and health of City of Hamilton residents, provide access to natural areas, and connect open spaces and create linkages. Providing places to walk and cycle without neighbourhoods for recreation and connecting neighbourhoods to each other were considered additional significant purpose of trails.</p>	

Question 6: Where should the City make new trail connections?	
	Responses (total dots)
In Neighbourhoods	30
In Parks	13
To the Waterfront	32
To Urban Areas/ destinations (e.g. transit hubs)	30
In Natural Areas	33
In Rural Areas	12
<p>Analysis: When asked where should the City make new trail connections, most respondents selected in natural areas, to the waterfront, in neighbourhoods, and in urban areas.</p>	

Table 12: Summary of Let's Talk Trails Table Comments

Category	Comments
Accessibility	<ul style="list-style-type: none"> • Downtown is all accessible in a walking mode • Make trails more accessible to strollers and small children • Make trail accessible
Amenity	<ul style="list-style-type: none"> • Need better signage and sitting areas (that can't be destroyed by idiots) • Fitness equipment (bars) on Chedoke Trail • Lighting on the trails for night riding/walking • Seating areas • Water fountains • More outdoor exercise stops (equipment) like the park in Waterdown
Cycling	<ul style="list-style-type: none"> • More stairs with bike access • More bike lanes and trails on the mountain, east to west • Increase biking routes on streets (upper and lower city), bike level lights, barriers between cars and bikes (desperately needed in Meadowlands) • Increase public transportation routes and increase bike lanes to public transportation • Bike lanes in urban streets please! Upper Wellington, West 5th, Rymal, Upper Paradise (south of link) • Add bike/pedestrian path across the mountain East-West (Extend existing path from Ottawa to McQuesten Park) • Add bike path to Wilson Street in Ancaster beyond Fiddlers Green intersection (ie. Extend it all the way up Wilson) • Connect bike lanes to each other more consistently • Re-pave Cannon for a smoother bike lane • Connect bike trails to walking trails • North-South cycling connections to connect to waterfront trail and safe connections from rail trail to Cootes
Different User Groups	<ul style="list-style-type: none"> • Tourism – Horse trails • Canadian Recreational Horse and Rider
Education and Promotion	<ul style="list-style-type: none"> • More education about locations of waterfalls, and availability and accessibility • Educational panels posted along landmarks • Educational panels • Trail etiquette – more education (ie. Unleashed dogs, cycling, etc.) • More info., more easily accessibly about trails and their condition • More public engagement/PR showing benefits of connectivity of neighbourhoods etc. • Promote trails/educate the community for everyone to enjoy (Out-reach to lower income communities)
General Connectivity	<ul style="list-style-type: none"> • Use alleys as urban trails • Greenways connecting through city – East and West • More trails on the mountain and east end of the City. More access at the north end. • Up and Down the Escarpment • Connecting east and west, waterfront area and CN right of way • In wetlands as long as they are preserved, area a great location. Historic landscape through the escarpment for scenic walks would be nice, more things such as Dundurn castle

	<ul style="list-style-type: none"> • Focus on areas that have a reputation to attract the population of Hamilton for example around schools. • Downtown, its tough - would have to use bike lanes probably but more lanes will get people to the trails • Connect city routes to waterfront and escarpment and connect to neighbouring towns/cities. • Along the harbour, connecting the waterfront trail to Hamilton Harbour • Connect cultural heritage by a trail • New trails in mid way points of existing trails for convenient access • New trails to and from the escarpment • Upper to lower city
Importance of Trails	<ul style="list-style-type: none"> • We do not use trails because we live next to Gage Park • LOVE TRAILS • Easy way to get around • Trails and biking...another GREAT reason why I am leaving Toronto and moving to Hamilton! ...and bonus, great people! • Love the Bayfront Park trail
Maintenance	<ul style="list-style-type: none"> • Why are bike trails cleared for snow when the sidewalks are still ice and more people use the sidewalks? • Need regular garbage pickups on bike/walking/rail trails • Access to waterfalls – Remove fencing, clean up debris • Too much garbage and trash at the beach Confederation Park • Dog poop clean up • Too much goose poop. Trails aren't always connected to anything or end abruptly (i.e. waterfront trails ends at Williams @ Pier 8 + you end up walking around a big warehouse) • When not maintained in winter and when not cleared of debris and dirt/gravel it is difficult to use trails. • Linkage from Ancaster Community Centre to Heritage Trails exist but difficult to navigate by bike with children, perhaps existing trails need grooming?
Natural Environment	<ul style="list-style-type: none"> • Dogs off lead degrades natural plantings off the trail • Trails in Hamilton are adequate. Any further increase in pathways could disrupt current animal/bird habitats. • Think about nature, don't like what happened with RHV
Other Comments	<ul style="list-style-type: none"> • Need a café/restaurant at Gage Park • Provincial funding for municipalities to do trails
Safety	<ul style="list-style-type: none"> • Chedoke Rail Trail closures/safety
Signage	<ul style="list-style-type: none"> • Better signs for distance • More signage
Site-Specific Requests	<ul style="list-style-type: none"> • Wish there were more entry points to the Rail Trail. They are well used! • Pave Hamilton to Brantford Rail Trail • NEVER PAVE!!! • Please do not pave!!! • Bike lane on Longwood Road please • I vote for this too! • Don't pave any more of the Chedoke Trail • We need water fountains at Wentworth and Kennelworth stairs • It's a shame that the Bruce Trail has been closed at Sherman Falls. The city should get a severance to clear up ownership at the falls and re-open the trail to Carterbury Falls

	<ul style="list-style-type: none"> Remove “No Parking” signs along York Road in Dundas at RBG Trail entrance Love Bayfront for commute 24/7, 365
Site-Specific Connection	<ul style="list-style-type: none"> More trails to access escarpment – water fountains at top and bottom of stairs Need a trail from Gage to Time Hortons Field More stairs connection lower and upper Hamilton New connection: Rail Trail between Dundurn stairs and James St. stairs More trails on the mountain to the top of the stairs (any/all) Connection from Chedoke to Rail Trail Trails to existing falls Connect West Harbour Waterfront Trail to Hamilton Beach Connection from Strathcona neighbourhood to Waterfront Trail at Locke or nearby – a bridge across the tracks Along waterfront (between Pier 8 and Stoney Creek) along Burlington Street. Can those big express bridges be turned into “Highline” style trails, public spaces like New York? Hamilton Harbour Trail (go around) Industrial Heritage trail Eastport Drive Beach strip to West Harbour through lower Hamilton
User Conflict	<ul style="list-style-type: none"> Please enforce use of bell/signal as many cyclists do not use a bell/signal. We have been grazed on many occasions I am a naturalist. I do NOT like sharing MY trail with people on bicycles.

** On Friday, August 21st due to high wind at Bayfront Park, staff found it impossible to hold this survey panel up on an easel and the discussions were limited to talking with the public and asking them to provide written comments on the large sheets. The above results exclude Friday, August 21st.*

Table 13: Summary of Online Survey Results

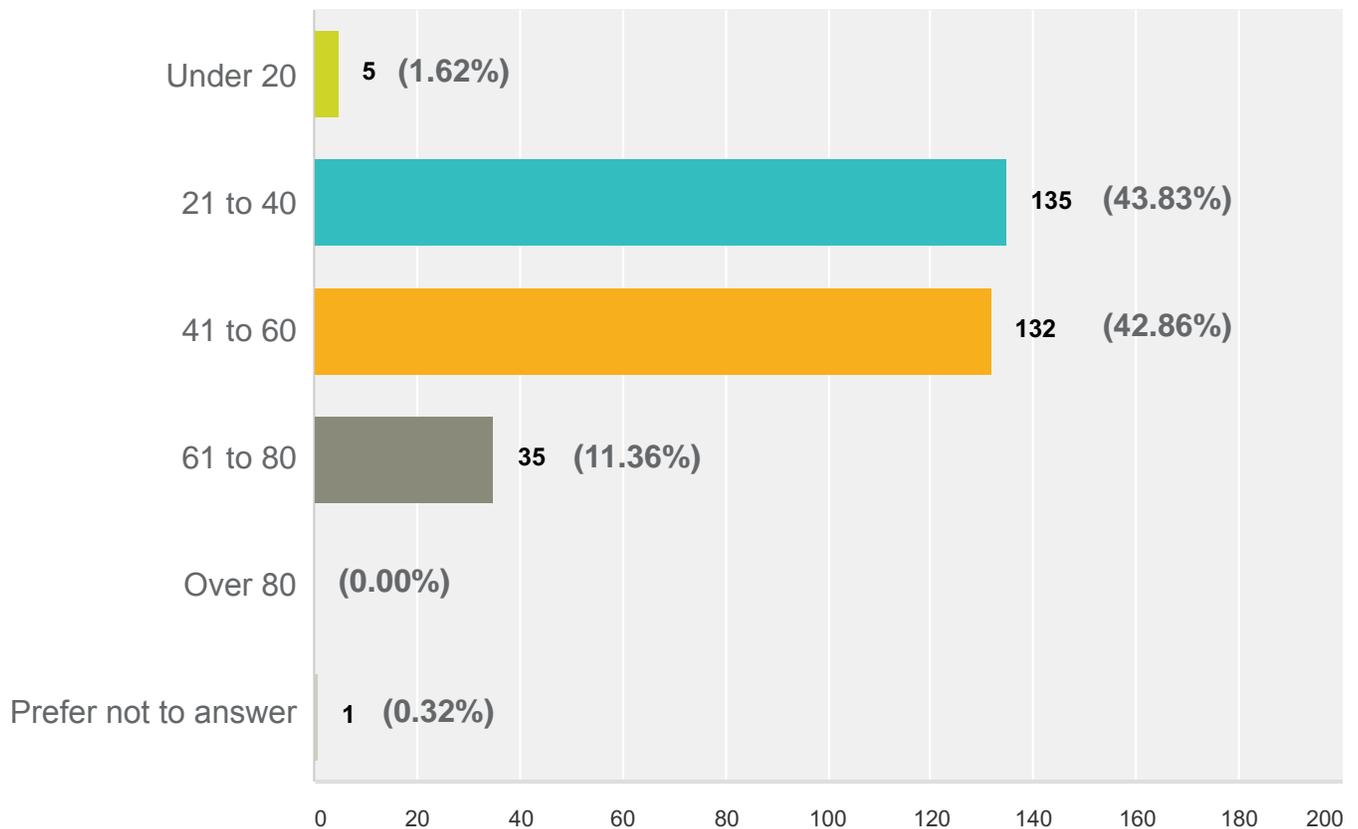
Question 1: Where do you live? (ward or neighbourhood):

Answered: 306 Skipped: 3

Question 1 Summary: Approximately 90% of the people who responded lived in the City of Hamilton (city-wide).

Question 2: What is your age?

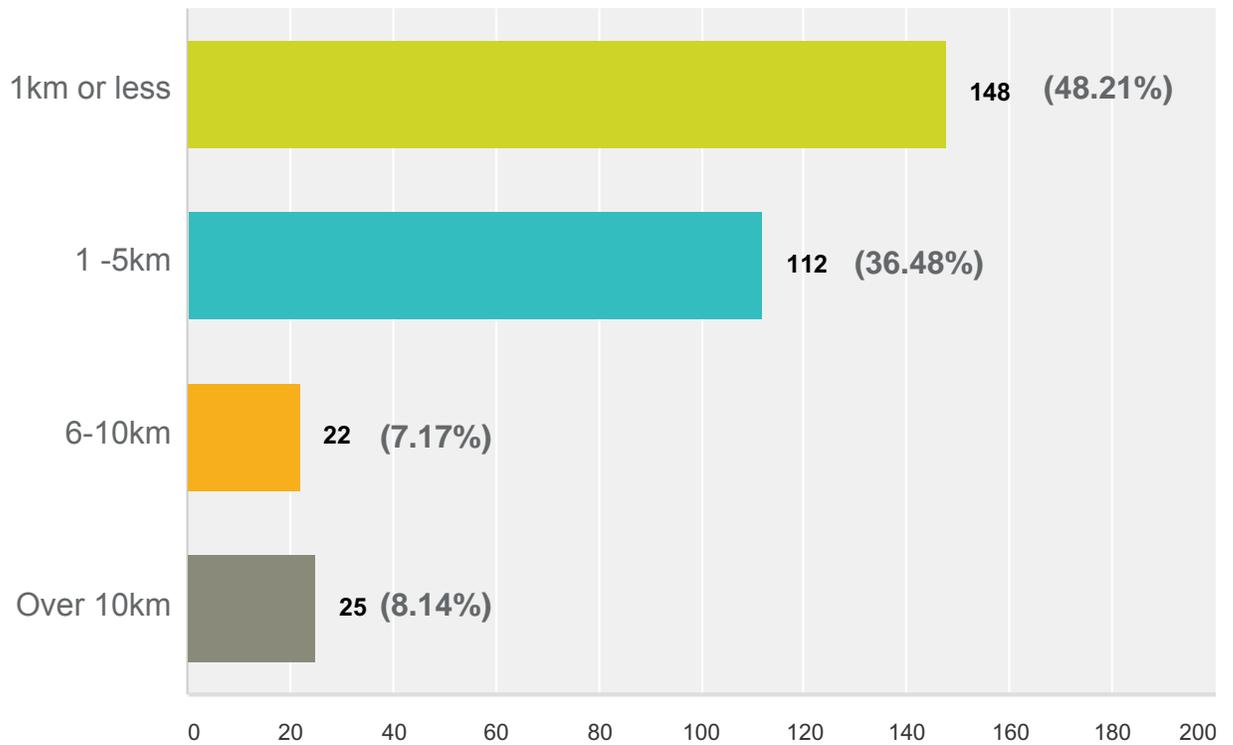
Answered: 308 Skipped: 1



Question 2 Summary: The majority of survey respondents (87%) were between the ages of 21-60.

Question 3: How far do you travel to get to a city trail?

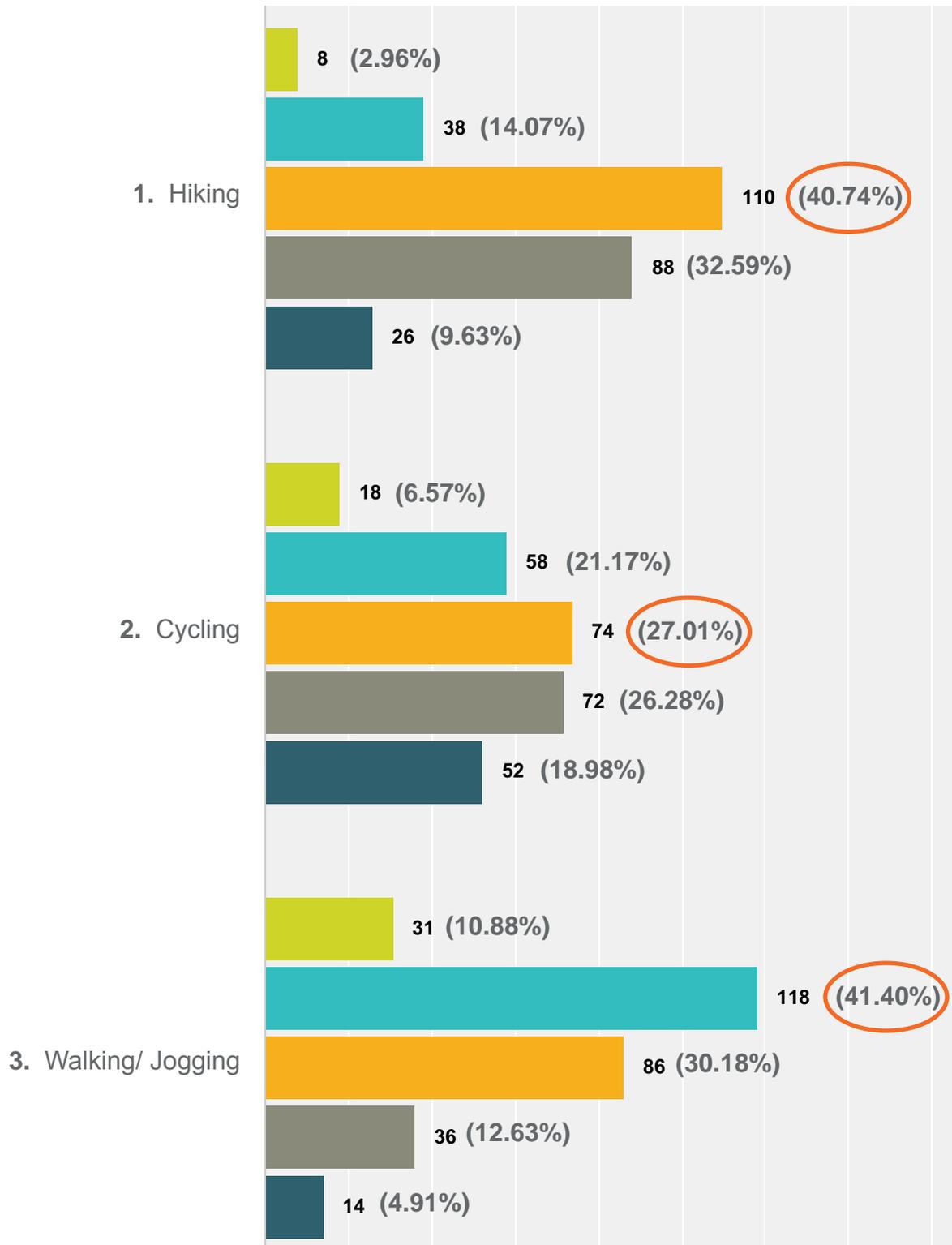
Answered: 307 Skipped: 2

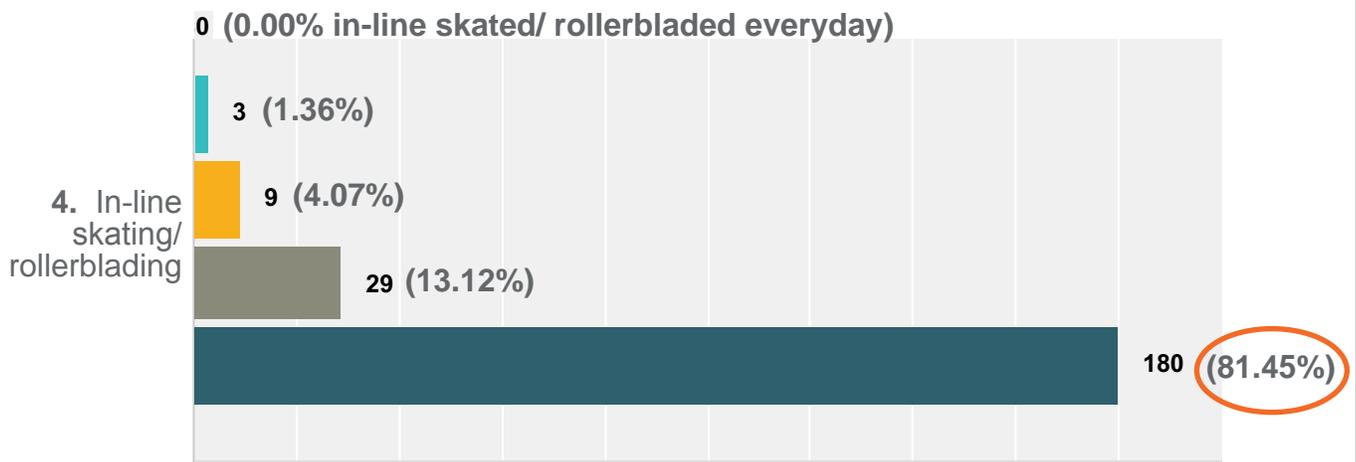


Question 3 Summary: Approximately 48% of respondents indicated that they travel 1km or less to access a trail. 36% of respondents travel between 1km to 5km to a trail.

Question 4: How often do you use trails for each use:

Answered: 305 Skipped: 4





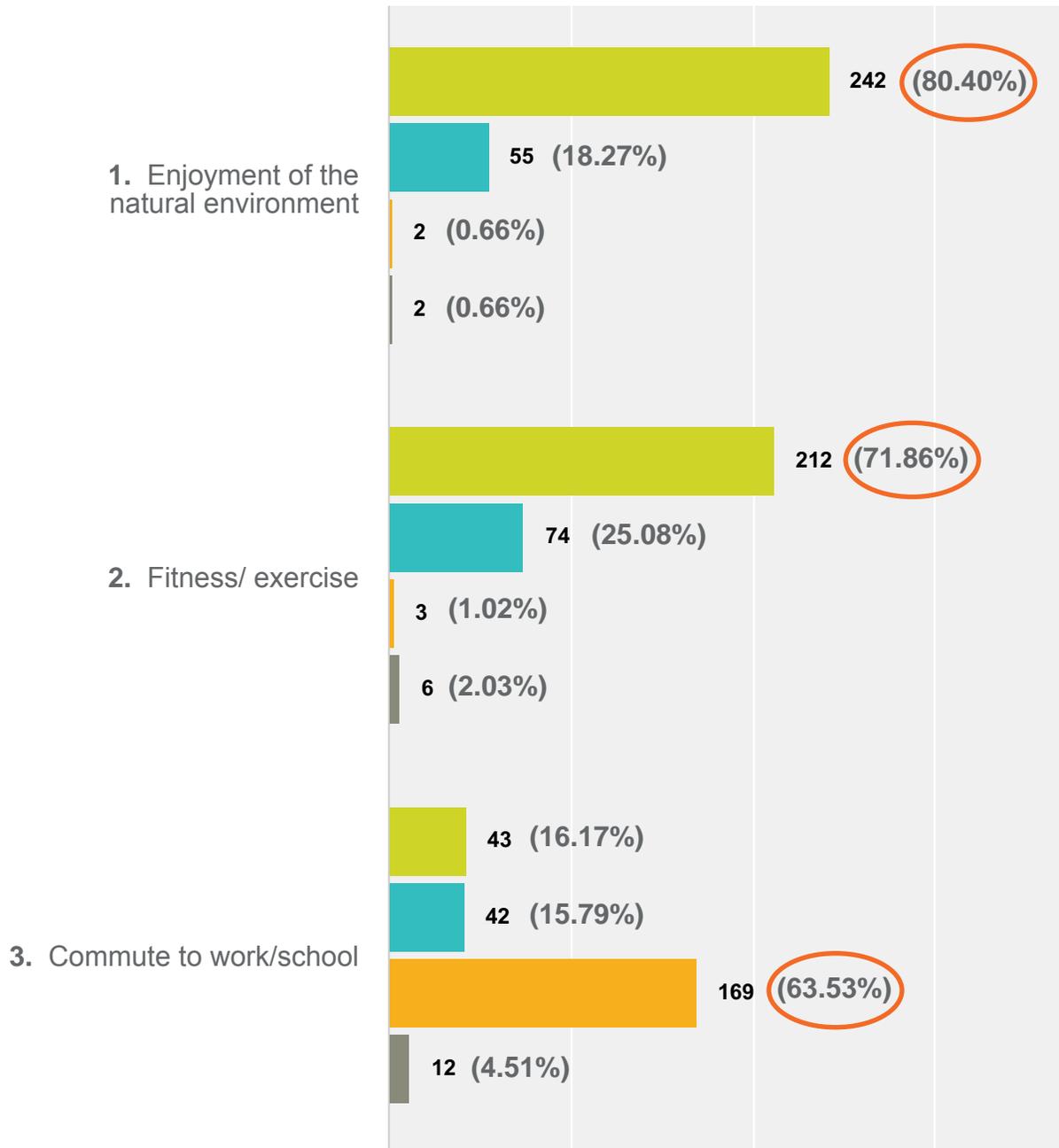
Legend:

- Every day
- A few times a week
- A few times a month
- A few times a year
- Never
- Highest Percentage

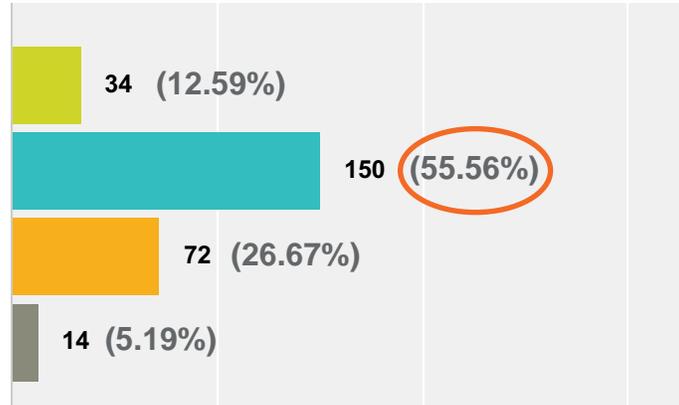
Question 4 Summary: The majority of residents use the trail network to hike and cycle a few times a month. Approximately 41% of residents use the trail network to walk and jog a few times a week. A high percentage (81%) of residents never use the trails for rollerblading.

Question 5: Why do you use trails?

Answered: 307 Skipped: 2



4. Destination orientated trips



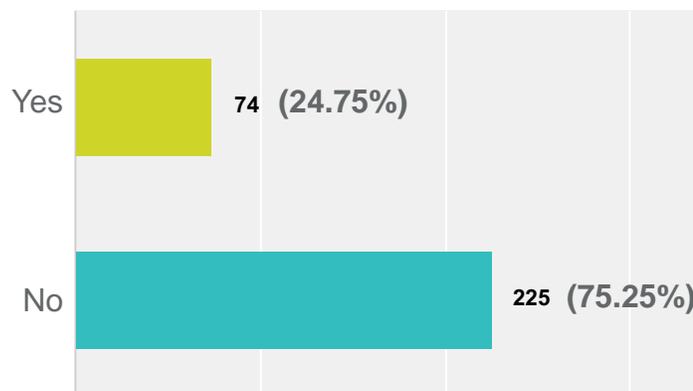
Legend:

- Most Often
- Sometimes
- Never
- No Opinion
- Highest Percentage

Question 5 Summary: The majority of residents use the trail network enjoyment of the natural environment (80%). 72% of residents use the trails network for fitness and exercise. 64% of residents use the trail network to commute to work or school. 56% of residents use trails for destination orientated trips.

Question 6: Is it difficult for you to use Hamilton trails?

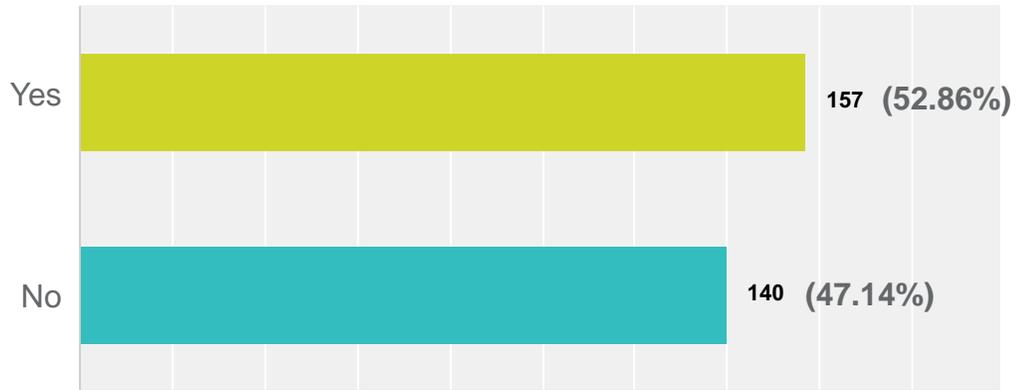
Answered: 299 Skipped: 10



Question 6 Summary: 75% of residents have no difficulty using the current trail network.

Question 7: Are you satisfied with the current status of Hamilton trails?

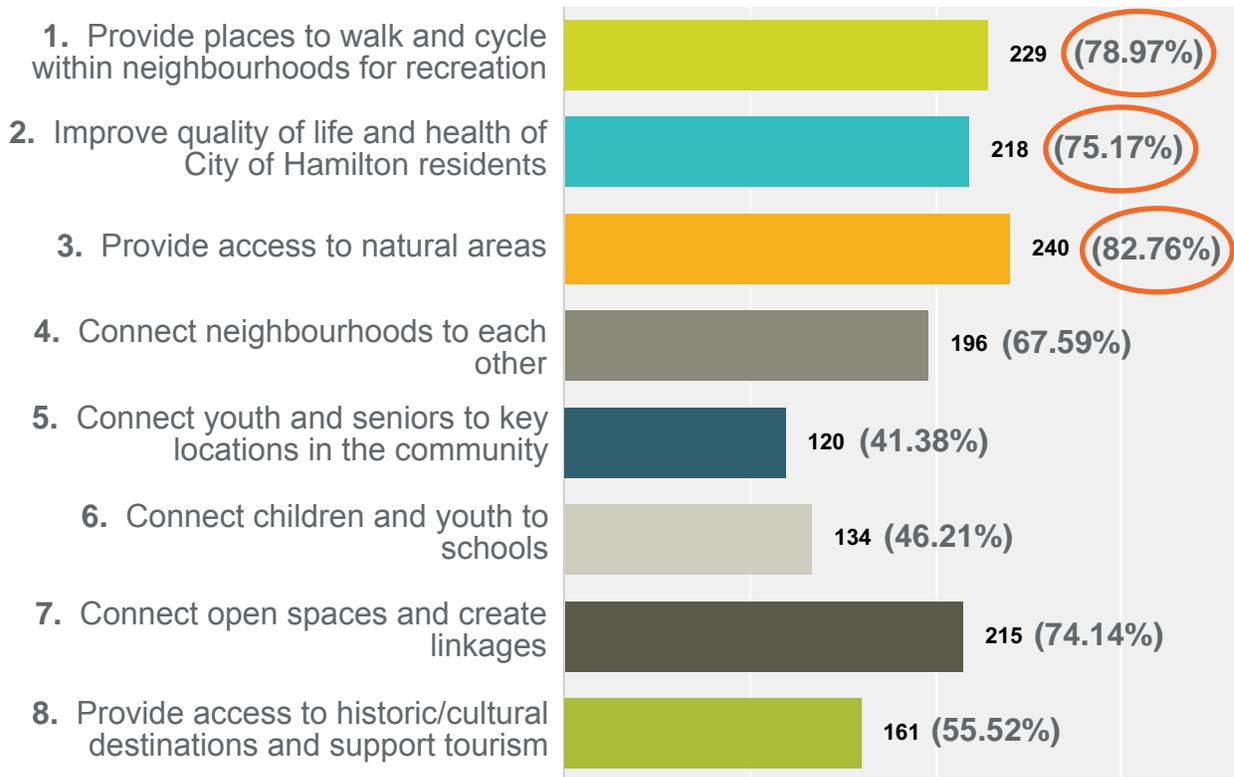
Answered: 297 Skipped: 12



Question 7 Summary: Although very close in numbers, 53% of survey respondents indicated they are satisfied with the status of trails and 47% are not.

Question 8: I want more trails that (check all that apply):

Answered: 290 Skipped: 19



Question 8 Summary: The top three choices were provide access to natural areas (83%), places to walk and cycle within neighbourhoods (79%), and improve quality of life (75%).

Question 9: Where should the City make new trail connections? Please explain and tell us exactly where (for example in a neighbourhood, to or from a park, in a specific ward, in urban areas, in natural areas, in rural areas or suburbs, etc.)

Answered: 194 Skipped: 115

Question 10: Please provide any additional comments you would like to make regarding the Trails Master Plan update.

Answered: 124 Skipped: 185

The below list is all comments received for Questions 9 and 10. They have been organized into common categories.

Category	Comments
Accessibility	<p>Q10 There is a need for more accessible trails and trails that can be used by all sorts and levels of ability, with clear signage so that users know the level of demand of the trail.</p> <p>Q10 Making the routing child friendly. I do not feel comfortable riding on rural roads to rail trail or to (future) rymal rd & Binbrook bike lanes with my child therefore always relying on car to reach trail head.</p> <p>Q10 Keep in mind all users including handcycles, wheelchairs, strollers, children on bikes and in trailers. Also barrier width. And maneuvering around these barriers.</p>
Amenity	<p>Q10 With a growing emphasis on making sure people get enough water to drink and the need to reduce the use of single-use bottles drinking fountains should be readily available to drink from and to refill water bottles. On hot days I plan my walk around the few drinking fountains that I know of. Even in buildings (e.g. Jackson Square) there are not many drinking fountains to be found and I have restored to drinking from sink in the washroom. The bus driver that was killed last month and recognized this need and 2 (two!!) fountains were going to be installed in his memory. We need far more. Maybe they can be installed near to any existing water mains to keep the costs down - this should open up a few possible sites.</p> <p>Q10 Include outlooks, rest spots and FREE PARKING at trail entrances in order to attract and enable us to use the trails without the threat of receiving a fine.</p> <p>Q10 Ensure adequate lighting on trails for evening use (safety, accessibility, etc.)</p> <p>Q10 Would love more water fountains and garbage bins</p> <p>Q10 I've been noticing additional parking meters have been added to many trails (mostly dundas area) I know there are costs associated with maintaining these area but I don't feel people should be paying for parking to go out for a hike</p> <p>Q10 Again, please install portable toilets along existing trails - important feature when you are out for 20km or more!!...</p> <p>Q10 A port-O-potty would be nice to be places somewhere along the trails. With toilet paper! I'm not ashamed to admit, that I've nature peed when I've had to.</p>

<p style="text-align: center;">Cycling</p>	<p>Q9 Probably the weakest link in general is where trails end and you end up cycling on a road where there is no bike lane and/or no shoulder.</p> <p>Q9 A dedicated bike route along Burlington Street - turn all the overpasses into a car free track for cyclists and pedestrians similar to the High Line in New York.</p> <p>Q9 Better cycling trails (or lanes separated from vehicle traffic) needed in downtown Dundas to connect neighbourhoods to the rail trail and other trail networks. A trail connection from the rail trail to Pier 4/Cootes area would also be great; there are also opportunities to expand the trail network within the Cootes to Escarpment area.</p> <p>Q9 I would like to see a bike lane on Bay St that takes me from the core to Bayfront. Also one that takes me from the core to the rail trail safely. I would like to see bylaws more heavily enforced surrounding cycling on roads.</p> <p>Q9 City needs to look at all bike trails as a whole and identify the missing links. It's not good when a trail ends suddenly and you're faced with travelling the wrong way on a one-way street, like Hunter Street for example.</p> <p>Q9 Need safe cycling connections i.e. protected bike lanes from Ward 9 to Confederation at the waterfront as well as cycling connections from Ward 9 to downtown. Also need safe cycling connections to local parks from the area bordered by Queenston Road to the north, King Street to the south, Lake Ave to the west, and Grays Road to the east.</p> <p>Q9 Connect trails in such a way that cyclists can safely get across the city. Provide smooth paved options for cyclists with road bikes (vs mountain bike)</p> <p>Q10 More bicycle friendly streets/trails please!</p> <p>Q10 Bike share should be integrated with the rail trails. There is no bike share in Ancaster that I have yet seen.</p> <p>Q10 Would like to see a plan that creates safe on-road bicycle connections to City trails. Would be great to have an on-road/off-road network that provides safe ways for families, older adults, and youth to get to various destinations i.e. recreation centres, schools, grocery stores, libraries, parks, etc. Need to prioritize the creation of these connections and assign capital budget to make them a reality.</p> <p>Q10 Are there Sobi bike racks near trail heads that are good for biking? That might encourage more biking on the trails.</p> <p>Q10 "Continue to make Hamilton a bike friendly city. We are doing a fantastic job so far, please continue to fight for safe and divided bike lanes, as forms of alternative transportation."</p> <p>Q10 I'm cheering you on. Please make it easy for me to get around town by bicycle.. in all seasons.</p> <p>Q10 We need protected bike lanes connecting the suburban areas of Hamilton to the downtown areas and connecting people to local trails.</p>
<p style="text-align: center;">Different User Groups</p>	<p>Q9 Allow access to and on trails for ATV riding</p> <p>Q9 Brantford to Hamilton, and beyond for ATViing</p> <p>Q9 Abandoned rail lines & current rail trails for ATV use to get to other areas</p>

<p>Different User Groups Continued</p>	<p>Q10 Would love to see atv trails in Hamilton, great family fun.</p> <p>Q10 Add a snowmobile trail in Flamborough</p> <p>Q10 Better ways to prevent people from using ATVs on it.</p> <p>Q10 We are avid ATVists and have to go Peterborough way or other far areas to ATV. Would love to be able to enjoy our sport close to our home.</p> <p>Q10 With ATV legislation starting next July 1st I feel some allowance should be made for ATV access.</p> <p>Q10 Please include some atv trails, in brantford, hamilton, area</p> <p>Q10 I would like to see ATV's as part of the trail system</p> <p>Q10 ATV trails will make you money</p> <p>Q10 Update to include trails for ATV's and side-by-sides.</p> <p>Q10 I think the city has a lot of unused land and could pick a area for the purpose of ATV .</p> <p>Q10 City of hamilton needs to be like EOTA will bring lots of revenue to hamilton and surrounding areas if we had a legal trail system to ride</p> <p>Q10 Please include ATV's for use on current rail trails</p> <p>Q10 I think the city should include specific locations to add ATV's to trails.</p> <p>Q10 There is a very large community of legal ATV enthusiasts in the area that would like to see access. As part of a group of approximately 30 friends and relatives we travel to the USA regularly to ride. The areas have been West Virginia, Tennessee and New York state. I get the Michigan Ministry of Natural Resources emails and the are developing systems as well. We currently take our tourist dollars out of country and will continue to do so regardless of exchange rates. While green space is critical we do not destroy the land to the extent that some claim. If other jurisdictions have figured this out with appropriate protection of sensitive areas I believe that we should be able to do this here as well.</p> <p>Q10 Please add All Terrain Vehicle's as a user group.</p> <p>Q10 I think that more time should be invested in the mountain biking trails, removal of fallen trees and maintenance of ramps.</p>
<p>Education and Promotion</p>	<p>Q9 Make greater use of the escarpment and make educational trails to use for phys ed classes/urban planning/geography classes to use.</p> <p>Q10 It would be great to have an app that provided information about trails and locations nearby.</p> <p>Q10 There should be an online map showing planned improvements that is updated to show when each project is underway, and when completed. Each point on map should open up more detail with drawings, photos, description.</p> <p>Q10 "Improve the maps--some of the symbols are not defined in the legend. As mentioned, include the local waterways as part of the trail system, and establish some launching areas such as along Spencer Creek at Cootes Drive, and on Desjardins Canal."</p> <p>Q10 Map display at the front of each trail with important info about the trail details etc etc</p> <p>Q10 "Master Plan Figure 18 - Ward Ten: should include Bell Manor Bus Loop and bike route from there to industrial jobs on Arvin as well as into Lakeshore Neighbourhood.</p> <p>Q10 I would like a mobile app that includes trail maps and directions to parking areas that have access to trails. Ideally, parking rates and conditions of the trail during any particular season would be incorporated as well.</p>

<p>Education and Promotion Continued</p>	<p>Q10 The 2012 map which I have mentions the Parks Canada Discovery Centre at the end of Pier 8, however, this is unfortunately no more, having been replaced by the Sarcoa restaurant. One example of a needed update. Q10 We have some beautiful trails in rural Hamilton that need to be promoted more as part of a healthy lifestyle</p> <p>Q10 I think you are on the right track, better advertising about where the easy trails are, especially in rural areas.</p> <p>Q10 Signage and better maps for promo. They are too big and confusing. Make them more graphically and esthetically pleasing. Make a trail map that I want to hang in my house but also use as a key reference.</p>
<p>Importance of Trails</p>	<p>Q9 I use the Red Hill trail & the Dundas Valley trail & I am happy with both. I don't know where else you could put a trail.</p> <p>Q10 The trails are a major asset in Hamilton!</p> <p>Q10 It is good to see that this is an issue under serious discussion.</p> <p>Q10 Love the Wentworth Stairs!</p> <p>Q10 Overall the trails are very good</p> <p>Q10 Hamilton Trails are great, but there is always room for improvement and to increase the number of trails in wards in neighbourhoods that don't have any/who have few trails!</p> <p>Q10 Environmentally sound</p> <p>Q10 I literally give thanks every time I use the trail or do the stairs...3x or more a week...I always invite visitors to participate and many drive here to use the trails on their own now.</p> <p>Q10 Trails are an important feature of Hamilton and should be marketed as an unique urban feature</p> <p>Q10 Hamilton has a great park and trail system, can't wait to see it evolve</p> <p>Q10 Great idea. I love the Hamilton trails.</p>
<p>General Connectivity</p>	<p>Q9 Linking existing trail systems</p> <p>Q9 Safe linkages across major arterials</p> <p>Q9 Making downtown more pedestrian oriented. This will allow for easier connections to the trails, such as the waterfront. The pop-up parks are a huge success and I think that shows that green space in the downtown core is so important. Pleasant walkways connecting green spaces will promote walkability. I would love to see the beautification of alleyways to provide connections within neighbourhoods and extra lighting to make the individual feel safer at night. I would have last year said the trail connection along the east mountain escarpment but that was done this year and is amazing and much needed. Changes like that in existing neighbourhoods is exactly the change I would like to see.</p> <p>Q9 Connecting urban centres to rural communities and farmland</p> <p>Q9 The City of Hamilton should have a multi-use trail that runs along the entire length of our waterfront, from Grimsby to Burlington!</p> <p>Q9 Easier links to Bruce Trail in East Hamilton/Stoney Creek.</p> <p>Q9 Connecting urban centres to rural communities and farmland</p> <p>Q9 The City of Hamilton should have a multi-use trail that runs along the entire length of our waterfront, from Grimsby to Burlington!</p>

**General
Connectivity
Continued**

Q9 Along the railways as space already exists (similar to the trail between Princess Point and Bayfront). Consider buying properties to place trails through neighborhoods (increases green space in urban areas and makes the city more walking/cycling friendly). trees and maintenance of ramps.

Q9 Easier links to Bruce Trail in East Hamilton/Stoney Creek.

Q9 Along the railways as space already exists (similar to the trail between Princess Point and Bayfront). Consider buying properties to place trails through neighborhoods (increases green space in urban areas and makes the city more walking/cycling friendly).

Q9 Urban centres and between neibgourhoods

Q9 Where inlice there are not many areas now to create trails.....before they build more homes...should create more trails within thkse neighbourhoods

Q9 Connecting the east end rail trail to the west end rail trail. That would be a dream.

Q9 So many alley ways in downtown Hamilton. Use one of them for better cycling and walking, away from the busy streets.

Q9 Better linkage between segments of waterfront trail.

Q9 To fill in gaps in existing transportation networks, to link parks, natural attractions and historic sites by off road cycling and pedestrian traffic

Q9 Trail connections to support safe and sustainable active transportation across the city. From west-end to downtown, downtown to east-end, harbour to downtown.

Q9 We need a true pedestrian & bike friendly way to go East-West across the north end of the city (Burlington and Barton streets too dangerous for bikes), and across the mountain.

Q9 More trails connected to the central downtown.

Q9 The North End; between BIAs (particularly downtown and the East end)

Q9 East to West on the Mountain

Q9 More in historical sites.

Q9 Burbs new homes but not enough new parks /trails

Q9 Escarpment to waterfront

Q9 Create a trail or dedicated active transportation route across the lower city. This alone would improve access to the Bayfront, Bruce Trail, two Rail Trails, community parks and destinations.

Q9 From Greensville and through Dundas

Q9 East hamilton, center mall, barton area

Q9 Access to the walking trails that I have used (near the various falls- although some of the trails are steep and can be a challenge with sore knees, poor balance- are quite available, especially if one drives (eg those on E. Mountain, Dundas, Ancaster). The around the bay, and the Centennial park way trails are absolutely excellent for walkers, bikers, etc, few are of that calibre. A bigger issue maybe to have an integrated system.

I have student friends nearby, and their main complaint is having to pay parking (all the conservation sites and the various falls require them to pay and they are on a strict budget but love the parks)!

Q9 Connection to each ward without using major car routes

<p>General Connectivity Continued</p>	<p>Q9 Areas to enable walking or hiking from the mountain to the downtown area.</p> <p>Q9 In rural areas, especially for older adults who cannot climb rocks, etc.</p> <p>Q9 I would appreciate more access points to the Waterfront trail, as well as more access points to the Chedoke Radial Trail.</p> <p>Q9 east end of the downtown core needs better connection to trails. Maybe putting up maps of how to access the trails would be a good idea</p> <p>Q9 Parks, forests</p> <p>Q9 In rural areas</p> <p>Q9 I am hopeful that some of the old abandoned rail lines could be opened and I am speaking of Hamilton and beyond. I do know of an old rail line going west from Caledonia which is not officially but unfortunately is not open to ATV riders like myself. Is there a possibility this could be opened for ATV use, starting west of the major population areas (so as not to conflict with pedestrians where there is heavy walking traffic) and going from there to Brantford?</p> <p>Q9 Legal rural area multiuse trails</p> <p>Q9 In rural areas</p> <p>Q9 In rural areas</p> <p>Q9 Seek opportunities as they arise, through school surplus, large redevelopment (Chedoke, new mental health hospital), and long term secondary planning projects</p> <p>Q9 Look for opportunities to connect on road with off road trails</p> <p>Q9 In natural areas</p> <p>Q9 In the Hannon/Binbrook area. There are already hydroline trails that could easily be converted to multiuse trails</p> <p>Q9 Rural areas with occasional access to food/fuel, etc.</p> <p>Q9 I would like to see a north south corridor to connect the waterfront with the trails along the escarpment</p> <p>Q9 I would start by connecting existing trails with other existing trails, targeting links in each ward as suggested by ward residents. Once links begin, new plans can grow from there. I'd like to be able to get from Ottawa/Main to waterfront or Dundurn or Locke by trail, not using roads (because most cars travel far too fast and don't respect pedestrians or bike riders).</p> <p>Q9 Urban areas</p> <p>Q9 All along the waterfront would be great</p> <p>Q9 McMAster University -to Emerson</p> <p>Q9 Execute the Churchill park master plan with walking trail/track, to the forest and down to the harbour front</p> <p>Q9 A trail connection is needed from Victoria Park to the trails connecting to Bayfront Park so that kids and adults who don't cycle on streets can take advantage of these trails. Specifically, there is an issue with York Boulevard where many motorized vehicles drive as if it's a highway.</p> <p>Q9 In more central urban areas, in suburbs.</p> <p>Q9 "We need a network of safe ways to get around in hamilton by foot and bike. This means connecting current trails with new greenways and bicycle lanes. See:https://www.google.com/maps/d/viewer?mid=zMq6kQ_H9VPE.kO_HF5gDfyf4&hl=en_US"</p> <p>Q9 Would be awesome if the whole trail system linked together</p>
--	---

<p>General Connectivity Continued</p>	<p>Q9 Waterfront to downtown</p> <p>Q9 In rural areas</p> <p>Q10 The paved trails are great and allow everyone to have access to trails (ex: paved Bruce Trail at Paramount Park), but please also keep more rugged trails too. It's a great challenge and lots of fun!</p> <p>Q10 Cross city e-w paved route that is off road and continuous would be incredible! We have all kinds of unofficial trails and alleys I bet this is feasible!</p> <p>Q10 Would like to see a plan that creates safe on-road bicycle connections to City trails. Would be great to have an on-road/off-road network that provides safe ways for families, older adults, and youth to get to various destinations i.e. recreation centres, schools, grocery stores, libraries, parks, etc. Need to prioritize the creation of these connections and assign capital budget to make them a reality.</p> <p>Q10 As noted in previous comment, a more cohesive approach to trails needs to be made, ensuring that linkages exist, instead of a trail existing on its own, not connecting to anything else.</p> <p>Q10 Link trails to community hubs where people can gather and enjoy the outdoors</p> <p>Q10 "It is very important to remember that trails are not only for recreation but also critical ways tools for people to safely commute and get where they need to be. they should connect to transit and safe streets, not simply to parking lots.</p> <p>Q10 Integrate with transportation network</p>
<p>Maintenance</p>	<p>Q9 "Bring Back Princess Point, So overgrown and nowhere to sit really with geese and tall grass. I think the city does great with it's trails. Thank you."</p> <p>Q9 The connections are mostly very good, would rather money be spent on rail trail maintenance for encroaching growth and trash collection</p> <p>Q10 Support the maintenance of existing networks</p> <p>Q10 Love the trails! Keep up the good work and strive for even more connections and year-round maintenance.</p> <p>Q10 Put garbage cans on trails that back on or are close to 'downtown' areas like Dundas because people buy drinks or food and walk the trails back home and carelessly leave litter from packaging. This would be unlikely to happen in more remote areas but does happen along trails by retail stores that connect to trails.</p> <p>Q10 What I would like to see the most is more trails open/maintained in winter.</p> <p>Q10 Allow more funding for maintenance to rail trails</p> <p>Q10 Garbage bins should be provided at major crossings of the rail trail (such as where the rail trail crosses Old Ancaster in Dundas).</p> <p>Q10 Provide more ways to dispose garbage and have city come little more during winter months</p> <p>Q10 More garbage and recycling bins on route please!</p> <p>Q10 Removal of dead trees that are a hazard</p> <p>Q10 Just moved back to the city from the country and couldn't be happier with my proximity to Red Hill. Love it. ONLY complaint was trail maintenance staff in the spring were running over all the snails in their golf cart. But other than that...</p> <p>Q10 The Escarpment trail from Wentworth Street going east, and the rail trail that runs west from the Fortinos on Main Street West through Dundas and Ancaster are both in dire need of more garbage cans!!!</p>

<p>Maintenance Continued</p>	<p>Q10 More winter maintenance of trails. Monitoring and policing of trails so that motorized vehicles (scooters, e-bike, moped, motorbikes) do not use them. CLEAR policies around use of the above motorized/powered vehicles, including scooters for elderly/overweight people. They often go at speeds that exceed slow cycling, and even running.</p> <p>Q10 Hamilton’s natural trail linkages around Cootes Paradise are lovely, and it would be great to see some of these trails maintained and opened up to the public again. Especially connections between west hamilton and Dundas valley.</p>
<p>Natural Environment</p>	<p>Q9 No comment, for fear of additional invasion by the City upon nature.</p> <p>Q9 The City should preserve the trails it already has and not let them be decimated by oversized condominium developments.</p> <p>Q10 Nature is the most important part, it should provide access to nature and at the same time promote and grow natural areas.</p>
<p>Other Comments</p>	<p>Q9 A map of the city would assist here - I can’t specifically articulate the links in a clear and concise way.</p> <p>Q9 I trust the City planner!</p> <p>Q10 Keep up the good work!</p> <p>Q10 Keep up the good work and don’t let new developments squander opportunities</p> <p>Q10 keep up the interest and the great work</p> <p>Q10 Thank you for helping to make my Hamilton the best and healthiest of place to live</p> <p>Q10 Our current trail system is pretty good! I hope it can become great.</p> <p>Q10 Let’s do it!</p> <p>Q10 Thanks for your efforts - I love whats happening in the City compared to 20 years ago!</p> <p>Q10 Keep up the good work!</p> <p>Q10 Plans mean nothing until you do something with them. Please DO. :)</p> <p>Q10 Keep up the good work! Thanks.</p> <p>Q10 Threatening to remove Ulli’s stairs was retrograde thinking. Too bad so much focus is on protecting the city from liability. Post signs that state people are responsible for their own health and conduct.</p> <p>Q10 Is there a Friends of Hamilton Trails? People who will volunteer their time to help the city keep trails clean and with upkeep? and/or fundraise for trails? If not, can we start such a body?</p> <p>Q10 I love my city. I love its trails. I celebrate every improvement that comes along.</p> <p>Q10 More the better.</p>
<p>Project Process</p>	<p>Q10 This was a poorly designed survey and reflects badly on the City’s interest in this really essential issue. The questions either miss the point, or conflate various issues in one. Meaning putting things together that aren’t specifically relevant. It is a shame that such an opportunity to gather feedback on a gem of Hamilton has been wasted.</p> <p>Q10 Open houses; more public meetings</p> <p>Q10 I believe the Trail Master Plan to be a wonderful idea and shows for thought for future generations.</p>

<p>Project Process Continued</p>	<p>Q10 The TMP should not be updated in isolation. It needs to be part of a broader active transportation plan. I'm so disappointed to see people driving their bicycles on their cars to the Bayfront Trail so that they can ride. I'm sure a significant proportion live within 5km (a very do-able bike ride) of the trail, yet they do not feel comfortable riding their bike to this destination. Also, some on-road facilities like bike lanes or bike-friendly routes would open up possibilities for increased trail use too.</p> <p>Q10 Please listen to Hamilton residents and what they say because then you get the surveys and do nothing about them so it's a complete waste of our time if your not going to take action into our city thanks</p> <p>Q10 Glad to see update taking place. A big part of building healthy communities and neighbourhoods is connecting people to active transport routes and natural environments.</p> <p>Q10 Best wishes to all of you working on this. Improving and expanding the trails is a great thing to help the overall health and well being of people in our community.</p> <p>Q10 You've done a great job with the information on the website and this survey</p> <p>Q10 What is being done in this process to consult with people who are of low income and may not have access to the internet/a computer?</p> <p>Q10 I think a lot of people don't know their ward or neighbourhood name. They might start this survey and quit right away if they don't know it. A map would be helpful... or use a postal code</p> <p>Q10 Thank you for all your hard work. Really looking forward to seeing the final plan.</p> <p>Q10 It is easy to be critical but I also want to say I do enjoy the trails we have and appreciate the planning and effort that the City puts into creating our trail network in Hamilton. I grew up in Burlington but moved to Stoney Creek mountain to be near Red Hill Valley, Dundas C.A., Felkers Falls so I could take advantage of the available trails and later, yeah! Eramosa Karst C.A. Thank you! and thanks to Hamilton C.A. Authority for the part they play as well.</p> <p>Q10 Glad to see this initiative being reviewed! Expanding the current trail network will only make this region more desirable and liveable and should be seen as a worthy community investment.</p> <p>Q10 Never needed anyone to spend my money on a trail as a kid. We managed to find places to go and things to do when we got there.</p> <p>Q10 The existing plan pretty well ignored single track for pedestrian and cycling traffic. Inexpensive to install and maintain with big rewards, both recreationally and functionally.</p>
<p>Safety</p>	<p>Q9 "There should be safer trail crossings. Some roads, like James Mountain Road or Beckett Dr, could in theory be crossed by our trails, but are perilous to cross on foot or bike. I walk my dog on these trails and I feel like I'm going to get hit by a car every time I'm even near these types of roads. Same for at the bottom of Wentworth. It's laughable that there's still no controlled crossing. I'm an athletic person and i still get scared crossing the road using the trails. I can't imagine how children, parents, and seniors feel. "</p> <p>Q10 My main concern is Safety!!Security is my main concern!Please instal cameras!! Ask any female they will tell you the same!!</p>

<p>Safety Continued</p>	<p>Q10 Please ensure there are no tripping hazards. Q10 Trails completely separate from motorized vehicles should be the goal. Safety is priority.</p>
<p>Signage</p>	<p>Q9 Trails and markings need to be improved. The marina area on the bayfront needs to be improved greatly for signage and safety. I nearly got hit by a car going too fast in that area that shouldn't have been there. More decisive entry and exit points for where trails start and end to clearly identify them not only to trail users but to provide caution to cars. Q10 For those of us who use trails for fitness, it would be great to have mileage/kilometre markings on the trails Q10 I would like to see better signage/maps on trail routes and more paved routes available. Hamilton holds two major running events (Around the Bay, Road 2 Hope) that occur in the colder months and is home to a lot of runners (and walkers!). Paved trails that receive winter maintenance would encourage more people to stay active during the colder months and participate in these (and other) events. This is especially true for those living in the Binbrook and upper Stoney Creek area where both sidewalks and trails systems are in short supply despite the growing population. Q10 Better signage throughout City</p>
<p>Site-Specific Requests</p>	<p>Q9 The Dofasco Trail next to Devil's Punchbowl needs serious work. Not being a former railway right of way, it has a very different set of maintenance needs. Q9 "from Dundurn street going east connection between stairs continuing bayfront trail maps / if you keep going ie. towards princess point...." Q9 The trail connecting Plains road in Burlington to York (near Dundurn castle) is in existence but it needs to be smoothed out so it is accessible to rollerbladers all the way over the bridge. It is pretty unusable right now. Cyclists and runners can use it, but rollerbladers can't. Q9 Add a sidewalk up Old Dundas Road to connect the Bruce Trail to itself. This is currently very dangerous. Q9 "More access points into the rail trail from east Hamilton. Revamp lighting from rotary centre and Stoney Creek tennis club on Queenston Rd to Green Acres school and thru to Hopkins park. And extend this trail from Queenston Rd down to Barton along the parks that intersect Lake Avenue and go with the water way, perhaps even down to Confederation park. Make it a better connection from downtown Stoney Creek to get to the waterfront trail. Bike lanes in Stoney Creek! And just maybe along Grays Rd or Lake Avenue and then along the South Service Rd? I know there is the new pedestrian bridge across the highway, but it's pretty 'out of the way' from downtown Stoney Creek." Q9 Better access to the Hamilton Brantford Rail trail. The Rail trail has good drainage and works in all weather. The access trails in Ancaster to the Hamilton/ Brantford rail trail are fair weather only and not direct in any way. Access to the rail trail in the Dundas valley would greatly improve use of the entire trail network. Rail trail access from the Firestone arena or Lions pool should be improved. Q9 Improve and formalize trails along: Spencer Creek; Spring Creek, area SE of Governors Rd and Ogilvie Street, Ancaster Creek, along Desjardins Canal to the West Pond, around Lake Jojo, and linkage from Dundas to RBG trails such as Hopkins Trail</p>

<p>Site-Specific Requests Continued</p>	<p>Q9 “Improve the *only* barrierless trail up the escarpment - the John to Upper James trail. It is the single solitary way for a wheeled pedestrian to get up the escarpment, except for the unnecessary stairs at the end.</p> <p>Q10 Trails near beautiful natural sites like the waterfalls, linking sites....clearly marked. where to park ie. by Sherman falls</p> <p>Q10 I think the City is doing an amazing job. Albion Falls accessibility could be better.</p>
<p>Site-Specific Connection</p>	<p>Q9 I would love a trail that went from Chedoke to central mountain</p> <p>Q9 A footbridge from the bottom of Locke st N over to bayfront trail. I believe there has been a study done and this was the preferred site.</p> <p>Q9 From wards 1 and 2 to points east</p> <p>Q9 From where the trail ends near the Dundurn stairs to the east end near Corktown</p> <p>Q9 Would like to see this implemented from the plan, if it hasn't already for Ward 1: improve trail interconnects between Hamilton and Burlington on York Blvd and along the waterfront and extend the Harbourfront Trail into Burlington along the water's edge on both sides: the Harbour and Cootes Paradise.</p> <p>Q9 Kirkendall to downtown and to McMaster</p> <p>Q9 I would love to see a new trail added along Macklin Street joining King Street and the Waterfront Trail (or the French school to Kay Drage park entrance). A LOT of elderly people living at Shalom Village are taken out for walks in their wheelchairs towards the lake, but the lack of sidewalk or paved trail hinder how far they go. In the summer kids and families walk and bike on the road to soccer and baseball games at Kay Drage park. Putting in a sidewalk, paved trail or even bike lane would help people in this area.</p> <p>Q9 To the waterfront from under the mountain & along the extended waterfront that is being created.</p> <p>Q9 “King Street to York on Dundurn. Bike lane to the RBG from Dundurn. Aberdeen from Dundurn to Chedoke (biking). “</p> <p>Q9 Please connect Ainsley wood to Locke street area via the rail trail! The trail ends on an extremely dangerous and busy road and cycling to Locke street via the rail trail would otherwise be so safe and comfortable if not for the small section of Aberdeen that is terrifying for experienced and novice cyclists alike! Please connect these neighborhoods!</p> <p>Q9 Extend Pipeline trail to Globe Park trailhead if possible (currently ends at Barton & Strathearne)</p> <p>Q9 From Dundurn park to the bayfront. The bike trail from wentworth to gage park.</p> <p>Q9 In Ward 15 Somehow along Parkside Drive or in that area to connect the area where the Boston Pizza, Keg, Dollarama are to run a trail along there to Hamilton Street (if possible or to Waterdown High School). With all the new subdivisions in that area, having accessibility would be great! The maps you have cut off Ward 15 at 5th Concession. I'm not sure where would be feasible for a snowmobile trail, but it would be wonderful to have something that runs North/South for a long stretch. Again, this seems to be a growing issue.</p>

<p>Site-Specific Connection Continued</p>	<p>Q9 “1. In the newer urban development areas, ie: south of Rymal Rd running from Southcote to Hwy 56 2. connecting to The Bruce Trail 3. Connecting to The Red Hill Creek 4. Areas around the waterfalls 5. Following the edge of the escarpment”</p> <p>Q9 In our area the bruce trail runs down the escarpment, it would be great to get better access to the trails</p> <p>Q9 Martins side road (near mineral springs road) up through conservation and back to Spring valley</p> <p>Q9 Trail linkages: This isn’t exactly a trail but it would be great to connect West Harbour waterfront trail with breach strip trail- put your bike on a water taxi for a connection between two great trails.</p> <p>Q9 In Binbrook/Stoney Creek mountain. A connection between Glanbrook arena and The Fairgrounds park (at the water tower) in Binbrook. Connecting the trails at Eramosa Conservation area to nearby trails.</p> <p>Q9 Since I reside in Rosedale, there is opportunity for a new trail to connect at what is now an abandoned school; St.Helen’s. It remains part of the NEC protected area, but could benefit from greenspace and NOT residential development.</p> <p>Q9 Gage park to rail trail.</p> <p>Q9 Not sure if it is possible, but making a nice trail that runs through downtown towards the mountain trails and towards bayfront trails.</p> <p>Q9 The trail along Greenhill Ave in Rosedale should incorporate the abandoned school into a playground/park/green space or parking for the Rosedale Pool. The abandoned school is an eyesore. The plan for development of 17 houses there would ruin the current trail that connects the bruce trail and red hill trail.</p> <p>Q9 Underneath / over hwy 6. Down escarpment (Waterdown Rd area) to connect with Burlington trail system</p> <p>Q9 The jolly cut access to downtown for ebikes is not feasible - the bike ramp only works for regular bikes. Access on the road is only on the uphill lanes.</p> <p>Q9 There should be a continuous trail from Sanctuary Park to downtown Dundas. There is a trail but access is not permitted at one spot because of private property. Therefore there is not direct trail from Sanctuary Park to downtown Dundas.</p> <p>Q9 “Hamilton Mountain. East to West. Upper Gage area to Upper James area. The Mountain brow improvements are fantastic, however no commuter route exists to get across the top of the city.”</p> <p>Q9 “Cootes through Westdale to Dundas Expand trails off of the waterfront into the city”</p> <p>Q9 Troy area, around Orkney road</p> <p>Q9 Between the mountain brow and areas in the south city.</p> <p>Q9 An accessible (wheelchair, stroller, bike trailer)connection between bayfront trail and York Blvd.</p> <p>Q9 Pedestrian friendly route along centennial to connect to waterfront trail. Bridge and red hill link great but not along major route.</p>
--	---

**Site-Specific
Connection
Continued**

- Q9** Across the mountain. There are lots of bike routes and trails in the lower city, but no east/west routes on the mountain.
- Q9** Heritage Sport Park off of First Road West. A trail running through the open fields, around the sports fields and through the trails could be used by parents with young children, runners/joggers, fitness walkers and hybrid cyclists.
- Q9** Corktown to Dundurn - paved path exclusive for walking and riding. Also extend paved trail along the waterfront - through sailing club and around towards skyway.
- Q9** "Bell Manor Bus Loop to Arvin Avenue
Grays Road northbound to Confed (west) and Waterfront Bike Route (east)"
- Q9** For Flamborough - need a better connection from the east and central areas to the urban core. We have it on the Cambridge Brant Dundas rail trail in the west.
- Q9** "Extend the bike path along Burlington to connect Wellington to Confederation park.
Governor's Rd needs a bike path through Dundas. "
- Q9** "Another access to the waterfront trail from York boulevard- connecting to Dundurn Castle would be great. A connection from the waterfront trail to grindstone creek or the rbg trails in the arboretum. "
- Q9** From the Hillcrest loop (Chedoke trail) to the corktown area (escarpment trail)
- Q9** "Between east rail trail and the trail to Caledonia Between Ferguson street and Chedoke rail trail "
- Q9** Longwood Rd./McMaster Innovation Park to West Hamilton; Locke to Waterfront Trail
- Q9** I'd like to see more and better links to the Waterfront trail from other trails and downtown. Particularly so that cyclists use the road as little as possible - more bike lanes in the right connecting places would also serve this purpose.
- Q9** I use the trails here in Ward 7, connecting from McQuesten Park but they don't really go anywhere, this is frustrating and often causes me to get in my car and drive somewhere else where I will then park and walk for an hour or so.
- Q9** East Stoney Creek connecting to the Red hill, South of the QEW
- Q9** Along the waterfront.
- Q9** Access to Waterfront Trail from Dundurn park (near where the cannons are (there is an old stairway that could be re-purposed). Access also to and from Kay Drage park from Jones Street would be a nice feature, but a tunnel under the railway tracks would be needed.
- Q9** We need a direct trail to connect Sir William Osler School in Dundas to Pleasant Valley area. Encourage kids to bike to school.
- Q9** Ancaster/Dundas. Town to town
- Q9** York Road to rbg. Cross Dundas route also needed
- Q9** Escarpment & Trans-Canada/Chippawa....also a more bicycle & Pedestrian friendly access over the Burlington Canal Lift Bridge would be a great improvement...
- Q9** North South through the downtown! maybe Bay Street? Safest routes are too far West/East of the downtown

**Site-Specific
Connection
Continued**

Q9 Huge Northeast gap between Ferguson/Burlington (Bayfront) and Woodward/Brampton (Beach). A multi-use path (like the one between Gage and Ottawa) would safely connect downtown, Westdale and even Dundas and every neighborhood in between to the Beach. Closing this gap would also make Hamilton a proper “loop” option for the Waterfront Trail users rather than a dead end.

Q9 Finish trail exit off of Bruce rail trail onto Victoria make a cross bridge that has access to Stinson street or carter park from the rail trail. Paint underpass under Victoria on rail trail. Better signage.

Q9 “Hydro corridor parallel to Scenic Drive north of Mohawk Road Mountview Park connecting Karen Street near the school to the existing trail Through the new Psyche hospital lanes to avoid riding on Fennel“

Q9 Along the waterfront going east from The Haida.

Q9 From Ainslie Wood neighbourhood south, over the Chedoke Expressway to the Scenic Woods neighbourhood. Also, a connection between Old Ancaster Road and Lower Lions Club Road within the valley.

Q9 Trail connecting Macklin through Kay Drage park to Strathcona. Make Spencer Creek trail continuous and off road in west end of Dundas.

Q9 Need protected bike lanes connecting ward 9 to confederation park so that families that ride their bikes there and enjoy the park.

Q9 Through the meadowlands - there are some trails there but that I know of no prepared walkways

Q9 “Connecting parts of the waterfront trail and expanding it east. I’m not sure about the rail trail but I think it’s right to suggest that not all of the sections are linked to each other.”

Q9 A bike trail to connect the new waterdown library to areas of town.

Q9 “We need a connection between the rail trail over the 403 and the Chedoke stairs, located immediately west of the city works yard.

We need a connection between the corner of Aberdeen and Studholme and the Longwood bridge.”

Q9 A continuation of the east end pipeline into downtown and to the west.

Q9 Escarpment Rail Trail to Gage Park and Ottawa St

Q9 It would be nice to be able to access the rail trail from somewhere between margate stairs and Wentworth stairs.

Q9 From Ogilvie St up to Old Ancaster Rd.without having to connect to Old Ancaster Rd Trail but along Olgilvie St the space is not developed and ‘vacant’.

Q9 “Barton-Kings Forest hydro Corridor, Upgrade and formalize Stroud-Lower Horning Trail Corridor Connection, Lower Horning to Cootes Dr Hydro Corridor, Twenty Road corridor or near-by hydro corridor, we need more connections not less

Q9 More connections to the Rail Trail in the Stinson neighbourhood (Victoria and Wentworth the only ones).

Q9 In Dundas, a consistent trail along the Spencer Creek from McMaster University to Greensville, which would include seating areas, interpretive sites (natural and cultural heritage), parkettes (a site by the Creek at Main Street and Governors Road has fallen into disrepair). That’s just for a starter!

Q9 Gage park to rail trail.

**Site-Specific
Connection
Continued**

- Q9** Work with HCA to reconnect the loop from the base of Webster's Falls to the top... or create a safe alternative within the City jurisdiction that doesn't require walking on Hwy#8.
- Q9** Between Westdale and downtown, it is scary and difficult to make this trip by bke, Between lower James and the mountain. The stairs have a very smelly sewer next to them that makes this stair very unpleasant to use.
- Q9** I would like to see the city connect and extent the Spencer Creek trails from escarpment to marsh as well as the Spring Creek trail from Warren Park to Spencer creek.
- Q9** Through the meadowlands - there are some trails there but that I know of no prepared walkways
- Q9** "Connecting parts of the waterfront trail and expanding it east. I'm not sure about the rail trail but I think it's right to suggest that not all of the sections are linked to each other."
- Q9** A bike trail to connect the new waterdown library to areas of town.
- Q9** "We need a connection between the rail trail over the 403 and the Chedoke stairs, located immediately west of the city works yard. We need a connection between the corner of Aberdeen and Studholme and the Longwood bridge."
- Q9** "The need east/west trail south of rymal or twenty rd along hydro corridor Bike lanes that can safely route individuals to the trail system"
- Q9** James Street/John Street South and Upper James/West 5th
- Q9** Connect Chedoke Radial trail to Ryerson Rec Centre/Hamilton Tennis club/HAAA grounds
- Q9** "- Bike access to the central mountain from downtown.
- Improved access to the rail trail.
- A continuous North/South route on the escarpment near James Street"
- Q9** Ancaster, connect trails that run parallel to Wilson street
- Q9** The entire mountain brow would be well served with paved trail from the east end to the west end. It would likely be well used, and a convenient corridor that connects the east and west mountain, as well as the lower City.
- Q9** "I'm not sure how the Bruce Trail connects from central Hamilton to the west end Radial Trail, but it would be great if that trail was more accessible. I'm assuming it connects in some capacity but I've never figured out how. And in Dundas, it would be great if there was a trail system to connect the neighbourhoods around Huntingwood and Catslewood to Downtown Dundas."
- Q9** Trail ends at Corktown makes it weird where it just ends. There needs to be a better connection.
- Q9** Currently the trail that runs parallel with Highway 6 between Mount Hope and Caledonia. Including areas between Mount Hope and Ancaster right through Martin side road.
- Q9** Gage Park to the escarpment.
- Q9** Dofasco rail trail and hydro lines on top of hghway 20
- Q9** Around downtown with the trail section that goes into Westdale.
- Q9** Aberdeen and Longwood to connect Kirkendall and Westdale
- Q9** East Stoney Creek south of the QEW to the Red Hill
- Q9** Along the mountain brow

**Site-Specific
Connection
Continued**

Q9 Maintain and improve walkability for neighbourhood cut throughs in Buchanan neighbourhood!!! Improve Mohawk Rd pedestrian crossing from Buchanan Pk to Westmount/Westview school areas. Crossing has no light!

Q9 The trail south of the Linc could be expanded to the east by better connection from Upper Ottawa to the Rail Trail/Chippewa Trail.

Q9 Well, I don't think this applies to me...I have access to it all! From the beach to the mountain I can connect...the only place I would like to get easier would be from Parkdale to Pier 4 area without going down Barton or Cannon

Q9 "Safe linkage between Highland Gardens Park and Corktown Park. Safe linkage between Chedoke Golf Course and Princess Point (Longwood Rd Stretch)"

Q9 Connection from Mountain Brow Blvd at Upper Ottawa to Mountain Brow Blvd at Oakcrest Drive

Q9 "Corktown park to downtown continuing rail trail. Perhaps meeting up with trails further west. I'd also be curious about using past or current rail lines for trails/linkages."

Q9 From Gage Park to the rail trail on the escarpment. There needs to be a pedestrian bridge bypass over the railway tracks.

Q9 It would be nice if the rail trail (recent extension) was linked to the Chedoke radial trail with a dedicated path alongside the road up to the Chedoke golf club. Also, bike lanes are always welcome wherever they are.

Q9 Upper Gage down to rail trail, rather than going all the way to Kenilworth or Wentworth stairs

Q9 It would be great if there was a way to connect the Hamilton-Brantford Rail Trail with the Escarpment Rail Trail, and/or a trail connecting the waterfront with the Escarpment.

Q9 Churchill Park - connecting Marion to Parkside. And for biking, some connection between the Cannon Track and the King/403 bridge.

Q9 I love the trail that goes along the Linc (starting in TB McQueston park in Rushdale). I wish it did the same in the other direction...it's too short!

Q9 The trails system in my neighbourhood is actually quite good. The only "hole" for me is that it's difficult to get to Bayfront park without driving.... Locke North could theoretically connect to the trail that lines the bay, and it would be awesome!

Q9 Safer access to north shore trails of RBG from York Blvd for pedestrians. An better way to cross Queen/Beckett on the escarpment trail. A clearer , more interesting lower city route from Bayfront to Confederation for cyclists.

Q9 From Escarpment to Gage Park/Ottawa South area; from Gage Park to Pipeline; and extend Pipeline to Steam Museum/waterfront.

Q9 Bike/pedestrian connections from the downtown core to Bayfront park, and the new Go Station would be helpful.

Q9 "Ward 3: Gage Park to Rail Trail. Ward 4: Pipeline Trail to Waterfront Trail
Ward 4: Hydro Corridor along Strathearne"

Q10 Please consider connecting Queen St. N/York Blvd neighbourhood to more trails.

Q10 Include the abandoned school on Greenhill for trail plans.

<p>Site-Specific Connection Continued</p>	<p>Q10 There was also a Churchill Park master plan some time ago and not sure how that is progressing, but would like to see some sort of ‘proper’ trail along at least the eastern edge of the park, if not one that runs around the circumference...</p> <p>Q10 “In order to connect the Pipeline Trail to the Museum of Steam & Tech... Two options (1) where pipeline dead ends at Grace Ave, you could use a ten foot strip of land between 765 and 769 Woodward Ave just south of the Museum Property..One Utility Pole would have to be moved...or (2) you could re-route the trail from where the pipeline dead ends at Grace Ave. one block west to Dunn Ave. then North one block to Troy Ave. and then thru what used to be the road allowance directly thru to Woodward Ave bringing you out directly opposite the entrance to the Museum of Steam/Tech at 900 Woodward..and then thru museum property and Globe Park to connect with existing RHV trails /over existing Pedestrian bridge over QEW which already connect to confederation Pk and Beach Trail systems..”</p>
<p>User Conflict</p>	<p>Q10 On paved trails, like the Beach trail, the pavement needs to be marked into lanes. I saw the spray paint preliminary marks, but it seems to take forever to complete the permanent striping.</p> <p>Q10 Trails near the waterfront are getting more and more busy. They need to perhaps paint lines for walking areas and biking areas. Might make it safer.</p> <p>Q10 There should be more signage about the rules of the trail....like dogs on a leash. Every trail I go to has a number of dogs just running free with their owners. Not everyone is accepting of having a dog confront them on the trails, whether they are friendly or not. It also might be helpful to provide signs, if possible, to let visitors know any wild animals to look out for, like deer, coyotes, etc.</p> <p>Q10 More green. More linkages. If bikes are allowed on trails, trails have to be wide enough. Crack down on cyclists riding where they should not be cycling or for being negligent/dangerous. In return, provide bike lanes throughout city connecting cyclists to appropriate areas.</p>

Figure 54: Tew's Falls



APPENDIX B SUMMARY OF EXISTING POLICIES AND PLANS

B.1 Federal Policies and Plans

1. Transport Canada



Transport Canada Transports Canada

In 2005 Transport Canada released the study *Strategies for Sustainable Transportation Planning*, a review of practices and options. The study established guidelines for incorporating sustainable transportation principles into municipal plans. The guidelines can be applied throughout the land development process to promote the use of sustainable modes of transportation, such as walking and cycling. Policies and strategies identified within the study illustrate the federal government's commitment to developing national standards and practices which will help to improve conditions for walking and cycling in Hamilton. The strategies and policies most relevant to the Recreational Trails Master Plan include:

Land Use Planning Integration

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

Modal Sustainability

Identify strategies, policies, facilities and services to enhance the sustainability, attractiveness, convenience and safety of walking, cycling, and transit use while at the same time not compromising the travel efficiency of other transportation modes.

2. Federation of Canadian Municipalities (FCM)



The FCM has been the national voice of municipal government since 1901. With over 2,000 members, FCM represents municipal interests on policy and program matters that fall within federal jurisdiction. Members include Canada's largest cities, small urban and rural communities, and 19 provincial and territorial municipal associations.

In 2008 the FCM produced a document titled *Communities in Motion: Bringing active transportation to life*. This document encourages municipalities to support active transportation (e.g. walking and cycling) and identifies barriers municipalities have to overcome to integrate active transportation into Canadians everyday activities. The document provides information on how municipalities like Hamilton can commit, plan, provide appropriate facilities and promote active transportation.

B.2 Provincial Policies and Plans

The City of Hamilton's planning regime is affected and in many ways directed by provincial plans and policies, some of which are explained below.

1. Ontario Trails Act



In 2015 Ontario introduced new legislation to protect, improve and encourage the expansion of thousands of kilometers of the province's urban, suburban, rural and remote land and water trails networks. If passed, the Ontario's Trails Act would:

- Provide enhanced tools to effectively develop, operate and promote trails
- Remove barriers to aid trail connection and expansion
- Increase trail awareness and promote local tourism
- Enable development of a classification system to help users find trails that match their interest and ability

2. Provincial Policy Statement (PPS)



MINISTRY OF MUNICIPAL AFFAIRS AND HOUSING

The 2014 PPS provides policy direction on provincial interest matters where municipal decisions are made. Ontario's vision for efficient development patterns promotes a mix of housing, employment, parks and open spaces and transportation choices that facilitate pedestrian mobility and other travel modes (Part V: Vision for Land Use Planning System). With respect to healthy communities (Policy 1.5,

Public Spaces, Recreation, Parks, Trails, and Open Space) should be promoted by:

- Planning safe public streets, spaces and facilities that meet pedestrians needs, foster social interaction, and facilitate active transportation and community connectivity;
- Planning and providing a full range and equitable distribution of publicly-accessible built and natural settings for recreation, including facilities, parklands, public spaces, open space areas, trails and linkages and, where practical, water-based resources;
- Providing opportunities for public access to shorelines; and
- Recognizing and minimizing negative impacts on provincial parks, conservation reserves, and other protected areas.

In addition, long term prosperity (Policy 1.7, Long-Term Economic Prosperity) involves providing for an efficient, cost-effective, reliable multi-modal transportation system that is integrated with the adjacent systems and those of other jurisdictions, and is appropriate to address projected needs to support the movement of goods and people.

A multi-modal transportation system comprises several transportation forms (e.g. automobiles, walking, trucks, cycling, buses, rapid transit, rail, air and marine).

3. Bill 51 – Plan Reform

Bill 51 reforms the Planning Act strengthening municipal Council’s role in land use planning in Ontario more responsive to municipal needs and contributed to creating more environmentally sustainable communities. The Bill amendments most relevant to municipalities, in regards to trails, include:

- Support of Sustainable Design and Public Transit. Under section 2, the promotion of development that is designed to be sustainable, to support public transit and to be pedestrian-oriented is now an enumerated matter of provincial interest.
- Dedications of lands under subdivision plans for pathways, bikeways and transit right-of-ways can now be required under subsection 21(4).

4. Municipal Act

The 2001 Municipal Act recognizes municipalities as being accountable and responsible levels of government with respect to issues within their jurisdictions. The Municipal Act contains policies that affect municipalities’ jurisdiction over municipal highways and their maintenance. To operate safely, bicycles may require better road conditions than other vehicles. As municipalities improve cycling infrastructure by putting in bike lanes, designated bike routes, and sharrows they must ensure that bike routes are safe. This could lead to modifying the design of intersections, providing cyclist specific signage, etc.

5. Highway Traffic Act (HTA)

The HTA recognizes bicycles as vehicles that are permitted to operate on public roadways (with some exceptions concerning higher order highways) therefore they must follow motor vehicles rules. Several policies relating to bicycles are contained in the HTA as such; The City of Hamilton may come across conflicts with respect to the appropriate use of cycling space.

6. The Planning Act

Planning Act approvals may be required for the designation and zoning of lands for open space trail purposes. In neighbourhood and secondary plans, to encourage greater cycling and pedestrian activity, it is recommended that more attention be placed on development of trails and trail facilities, distribution of land uses and transportation facilities. Secondary plans can indicate the potential of utilizing utility corridors, road allowances and open space for planning recreational trails. Provided that trails are shown on a draft plan of subdivision or secondary it can be dedicated to the City.

7. Ministry of Health and Long-Term Care

The Ministry of Health and Long-Term Care serves as Ontario’s main ministry for trails. The Ministry of Health and Long-Term Care believes trails serve as an inexpensive means for Ontarians to be more active. By raising trail awareness and providing well developed trail systems Ontarians can live a healthy lifestyle while enjoying nature and Ontario’s natural landscape diversity and beauty. Trails also attract visitors to communities and help strengthen local economies.

8. Accessibility for Ontarians with Disabilities Act (AODA)

The AODA was enacted in 2005. The standards under this legislation apply to private, public, and non-profit organizations and are mandatory standards that identify, remove and prevent barriers to accessibility by 2025. Built environment accessibility standards focus on removing building and public space barriers. The standards contain technical accessibility requirements that pertain to the development and design of recreational trails and beach access routes, outdoor public use eating areas, outdoor play spaces, exterior paths of travel, accessible parking, obtaining services and maintenance. The standards do not apply to trails solely intended for cross-country skiing, mountain biking, motorized snow vehicles, off-road vehicles and wilderness trails, backcountry trails and portage routes. Refer to Section 2.4 of this report for more information on how the AODA affects trail development in Hamilton.

9. ACTIVE2010, Ontario Trails Strategy



The Ontario Trails Strategy is a long-term plan providing strategic direction for planning, managing and promoting Ontario trails. The Ontario Trails Strategy envisions a coordinated and collaborative approach to meeting the challenges that face the trails community.

Trends affecting trails are identified as the following:

- Stakeholders report that the cost of liability insurance for trail organizations is becoming prohibitive.
- Although ownership of all-terrain vehicles (ATV) in Ontario has increased, the development of ATV trails has not kept pace with the growth in demand. With few designated ATV trails, many ATV users frequent trails that are not suitable for their vehicles.
- 52% of Ontarians are still not active enough to realize optimum health benefits.
- A 2001 study found that twenty-eight per cent of Ontarians cited lack of pleasant places to walk or bicycle as a barrier to physical activity participation.

- While Ontario's trails have traditionally been developed independently, trails organizations increasingly recognize that they must work together to use their resources more efficiently, make the most of their trails investment and effectively educate the public and trail users.
- There are increasing pressures on the natural and cultural features of trails because of growing population and densities around the Province and increasing numbers of off road vehicles, many of which are used off trail as well.

Five key strategic directions mentioned in the document and designed to respond to the various challenges are:

- Improving stakeholder collaboration
- Enhancing trail sustainability
- Improving trail experience
- Trail education
- Fostering good health and a strong economy.

10. Metrolinx: The Big Move – Transforming Transportation in the Greater Toronto and Hamilton Area (The Big Move)



The Big Move 2008, is the Greater Toronto and Hamilton's (GTHA's) multi modal long range regional transportation plan. It provides strategic direction for planning, designing and building a regional transportation network that improves quality of life, the environment and prosperity. The Big Move sets out an action plan which guides transforming the transportation system in the GTHA. The ten strategies below will in some manner effect trails planning and development in the City of Hamilton:

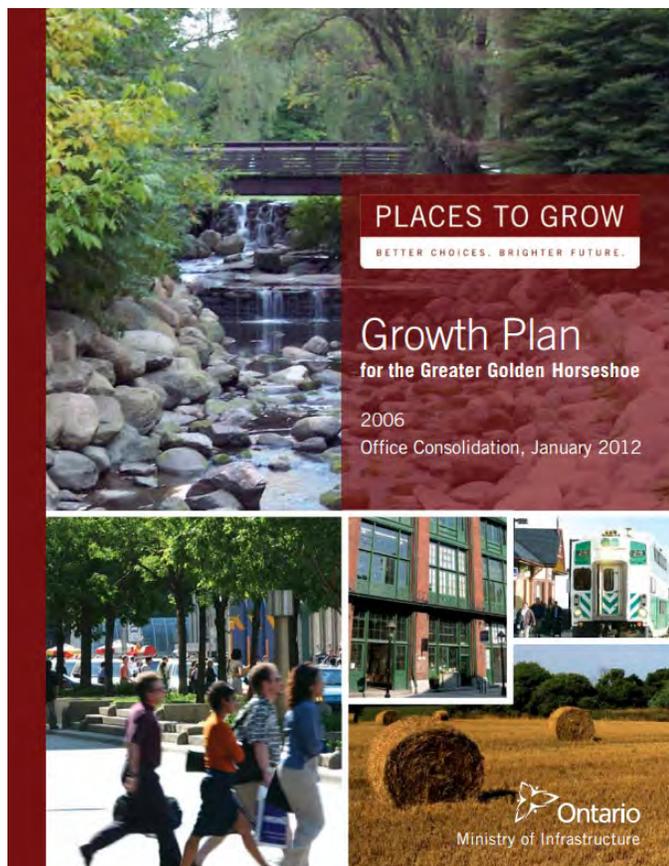
- Build a comprehensive regional rapid transit network
- Enhance and expand active transportation
- Improve efficiency of road and highway networks
- Create a transportation demand management program
- Create a customer first transportation system

- Implement an integrated transit fare system
- Build pedestrian, cycling and transit supportive communities
- Plan for universal access
- Improve the GTHA and adjacent regions goods movement
- Commit to continuous improvement

The Big Move plans to revitalize communities into places where people can take transit, ride a bicycle or walk to fulfill their day's activities. Over 7,000 kilometers of new lanes, trails and pathways will encourage healthy lifestyles and make walking and cycling safer.

Light Rail Transit (LRT) is more than a transit project it is a community and City shaping tool. LRT will connect key City destination by providing travel modes choices that support and interconnect at local and regional transportation levels.

11. The Growth Plan for the Greater Golden Horseshoe (Growth Plan)



The 2006 Growth Plan encourages communities to grow in a more complete way, integrating transportation and improving access to a greater range of options, including transit, walking and cycling. The following sections are most relevant to the Recreational Trails Master Plan:

3.2.2 Transportation – General

The transportation system within the Growth Plan will be planned and managed to:

- Provide connectivity among transportation modes for moving people and goods
- Offer balanced transportation choices that reduces reliance on single mode and promotes transit, cycling and walking
- Be sustainable, by encouraging the most financially and environmentally appropriate mode for trip-making
- Offer multi-modal access to jobs, housing, schools, cultural and recreational opportunities, and goods and services
- Provide for the safety of system users.

3.2.3 Moving People

Municipalities will ensure integration of pedestrian and bicycle networks into transportation planning to:

- Provide safe, comfortable travel for pedestrians and bicyclists within existing communities and new developments
- Provide linkages between intensification areas, adjacent neighbourhoods, and transit stations, including dedicated lane space for bicyclists on the major street network where feasible.

4.2.1 Natural Systems

Municipalities, conservation authorities, non-governmental organizations, and other interested parties are encouraged to develop a system of publicly accessible parkland, open space and trails, including shoreline areas, within the Greater Golden Horseshoe that:

- Clearly marks out where public access is an is not permitted
- Is based on a coordinated trail planning and development approach
- Is based on good land stewardship practices for public and private lands.

12. The Greenbelt Plan



The 2005 Greenbelt Plan protects agricultural lands from fragmentation and nonagricultural uses, protects vital natural heritage and water resources and allows for other activities typically found in rural areas such as recreation, agriculture, and resource extraction.

The Greenbelt Plan is comprised of two existing Plans – the Niagara Escarpment Plan (NEP) and the Oak Ridges Moraine Plan (not applicable in the City of Hamilton) as well as a new designation and policies referred to as Protected Countryside. In addition the Greenbelt Plan establishes a Natural Heritage System for the Greenbelt Planning Area.

Section 3.3.3 Parkland, Open Space and Trails are most pertinent to the updated Recreational Trails Master Plan and indicate that the following considerations should be included in municipal trail strategies:

- Preserving the continuous integrity of corridors (e.g. abandoned railway rights-of-way and utility corridors);
- Planning trails on a cross-boundary basis to enhance interconnectivity where practical;
- Incorporating the existing system of parklands and trails where practical;
- Restricting trail uses that are inappropriate to the reasonable capacity of the site (notwithstanding the ability to continue existing trail uses);
- Providing for multi-use trail systems which establish a safe system for both motorized and non-motorized uses;
- Supporting and ensuring compatibility with agriculture; and
- Ensuring the protection of the sensitive key natural heritage features and key hydrologic features and functions of the landscape.

13. The Parkway Belt West Plan

Implemented in 1978 the Parkway Belt Master Plan is a system of connected natural areas and protected utility corridors which extends

from Dundas through the regions of Halton, Peel and York. Its purpose was to develop a multi-purpose utility corridor, urban separator and linked open space system.

14. The Niagara Escarpment Plan (NEP)



The NEP was published in June 2005 and last updated in October 2012. The NEP includes a variety of topographic features and land uses and extends 725 kilometres from Queenston on the Niagara River to the islands off Tobermory on the Bruce Peninsula. The Niagara Escarpment is the most prominent natural feature that traverses the City of Hamilton. Where development is proposed including recreational trails, changes to existing trails or proposed structures in the NEP the Niagara Escarpment Commission (NEC) must be consulted. In all cases the interpretation of when a Permit or NEP Amendment is required is determined by the NEC. Regardless of the land use designation or Development Control status (Niagara Escarpment Commission, 1990) the NEC must be consulted to advise if a trail development proposal meets the policies of the NEP. Where a proposal does meet the policies of the NEP and are in Development Control the NEC will advise whether a permit is required or if the project meets an exemption listed under Ontario Regulation 828/90.

The NEP is comprised of three parts:

- Part 1 - Land Use Policies
- Part 2 - Development Criteria
- Part 3 - Niagara Escarpment Parks and Open Space System

Part 2 Development Criteria applies to all forms of development within the NEP regardless of whether they are found within the area of Development Control or outside the area of Development Control. Part 2 also describes development criteria which may be applied to trail development where a development permit is required. Development criteria that may apply to trail development in Hamilton include but are not limited to:

- Recreation - 2.2.13
- Areas of Natural and Scientific Interest - 2.2.14
- The Bruce Trail - 2.2.16
- The General Development Criteria - 2.2.1a) through f), 2.2.4, 2.2.8, 2.2.11
- Other criteria that apply when specific features such as steep slopes, natural heritage features and cultural heritage features are present - 2.2.5, 2.2.6, 2.2.7, 2.2.8, 2.2.9 and 2.2.12.

Within the Niagara Escarpment Parks and Open Space System (NEPOSS) in Part 3, parks are classified into six classes. Provision exists within the NEP to include municipal parks and open space within the NEPOSS. This may occur upon municipal request and agreement by the Ministry of Natural Resources and the NEC. No Niagara Escarpment Plan amendment is required to accomplish this end.

The NEC is also be contacted regarding NEPOSS Master Plans. Where a NEPOSS Masterplan has been approved by the Ministry of Natural Resources and Forestry (MNR) and is included in Appendix 1 of the NEP exemptions may apply regarding the requirement for a Development Permit (Ontario Regulation 828/90 s.41).

The above NEP summary provided is meant as an overview and that the NEP in its entirety should be consulted at www.escarpment.org.

15. Ministry of Transportation – Transit Supportive Guidelines



These guidelines are based on a collection of transit friendly land-use planning, urban design and operational best-practices. The guidelines aid urban and transit planners, developers and other community members in creating a supportive public transport environment and developing promotional transit ridership services and programs. Creating transit friendly communities requires a balance between all modes of transportation.

More specific to the Recreational Trails Master Plan section 2.1.2, Open Space Networks, describes that the way a community's open spaces are laid out and designed can have an impact on transit use. Improving transit connections and integrating stations into their surroundings can enhance user experience and encourage people to take transit. Plazas, parks, and trails help make higher-density, transit friendly environments more appealing and liveable. Linking transit systems to park and open space networks can allow users to access off-street trail systems, extending the reach of station catchment areas.

The guidelines also list strategies that can be considered when designing open space networks such as:

- Link transit stops and station areas by extending existing park and open space networks.
- Where off street transit investments occur explore the potential for transit corridors to act as extensions of open space networks.
- Pursue opportunities to co-locate destination open spaces and transit networks.
- Coordinating new park planning and open spaces with new transit system planning to maximize mutual benefit.
- Include open spaces, amenities and transit links on transit websites and other resources allowing residents to plan outings without using a car.

16. #CycleON: Ontario Cycling Strategy

Published in 2013 the Ontario Cycling Strategy is a 20 year vision for cycling in Ontario and outlines what needs to be done to promote cycling as a viable form of transportation. The Ontario Cycling Strategy supports Ontarians adopting healthier active lifestyles, the tourism industry, as well as the achievement of environmental and economic objectives. The guiding principles of the strategy are:

- Safety - safety of all road users, including cyclists, is paramount.
- Accessibility and Connectivity - Cycling in Ontario is accessible to all people of all ages and abilities. Networks are interconnected and integrated with other modes of transportation.
- Developing Partnerships - Partnerships and

collaborations among all stakeholders – cyclists, governments at all levels, industry and researchers.



B.3 Federal, Provincial, and Municipal Organizations

Federal

1. Trans-Canada Trail Association



Across greater Hamilton, over 70 kilometres of pathways and converted rail corridors have been registered as part of the Trans-Canada Trail. These include the Hamilton-Brantford Rail Trail, the Chippawa Rail Trail, Escarpment Rail Trail, and a proposed route through the city. When completed, the Trans-Canada Trail will touch all three oceans bordering Canada and become the longest shared-use trail in the world at 16,000 kilometres.

Provincial

1. Ontario Trails Council (OTC)

Established in 1988 the OTC is a charity, a major stakeholder in the development of the Ontario Trails Strategy and the largest



trail association of its type in Canada. The OTC promotes the development, preservation, management and use of Ontario recreational trails. Part of its mandate is to be the voice of Ontario trail owners, organizations and users.

2. Share the Road Coalition



The Share the Road Coalition was launched in 2008 and is provincial advocacy organization dedicated to building a bicycle friendly Ontario. The organization works to build partnerships with active transportation stakeholders to enhance access for bicyclists on roads and trails, improve safety and educate the public about the value of safety bicycling. The organization's mandate is province-wide with a focus on the development of public policy at the provincial level in order to provide the kind of legislative, programmatic and funding that exists in British Columbia and Quebec.

3. The Bruce Trail Conservancy (BTC)



The Bruce Trail is one of Canada's oldest and longest marked footpaths and stretches from Niagara to Tobermory, covering almost 890 kilometers of main trails and 400 kilometers of associated trails. This continuous footpath follows the Niagara Escarpment through Southern Ontario, from Queenston Heights to Tobermory. The portion through Hamilton-Wentworth is known as the Iroquoia section. It travels largely across parks, private land and Hamilton Conservation Authority areas including Devil's Punchbowl (Stoney Creek) and Spencer Gorge Wilderness Area (Dundas). The Iroquoia Club (the local Hamilton area chapter) has 13 properties that it continually maintains and stewards. Stewardship of the land is carried out by volunteers and includes trail maintenance, brush clearance, invasive species removal.

The BTC is a charitable organization committed to establishing a conservation corridor containing public footpaths along the Niagara Escarpment in order to protect the natural ecosystems and promote environmentally responsible public access. The BTC is composed of 9 regional volunteer run Bruce Trail Clubs that contribute to this vision.

Municipal

1. Hamilton Burlington Trails Council (HBTC)



The HBTC mission is to serve as a trail alliance in developing and communicating a first class trail system in the Hamilton Burlington region, which promotes the health benefits of recreational trail use to residents and visitors while conserving valuable natural ecosystems. Their goals and objectives are as follows:

- Facilitate trail development, linkages and networks and accessibility
- Assist the Hamilton and Burlington region by hosting a well-connected, heavily used, and easily accessible trail system
- Foster effective communication between trail users and stakeholders
- Advocate for the needs of citizens in regards to trails and pathways
- Advocate for trail funding and development
- Provide a forum to discuss harmonized trail rules, trail issues and classification schemes
- Provide fully comprehensive and up to date trail information and mapping

In November 2015 the City of Hamilton put a motion forward for staff to regularly attend Hamilton Burlington Trails Council meetings. Recommendations on trail connections from the HBTC have been incorporated into this report.

2. Royal Botanical Gardens (RBG)



The RBG is the largest of its kind in Canada and is a National Historic Site. Covering over 1100 hectares the RBG has 4 distinct formal gardens; Hendrie Park, Laking Garden, Rock Garden, Arboretum – and 27 kilometers of nature trails. The RBG’s mission is to promote public understanding of the relationship between the plant world, society and the environment, and strive to be a global leader in the use of plants to bring people, places and sustainable behaviour together. In doing so RBG has worked hard to protect and restore over 992 hectares of nature sanctuaries and sensitive habitats. The RBG also fosters the relationship between nature and human society through various community and volunteer events.

3. McMaster University



McMaster University is located in an area that is ecological and geological diverse. Within Hamilton alone there are more than 81 environmentally significant areas ranging from wetlands, marsh, and hardwood forests to prairie, alvar and escarpment habitat. McMaster University’s website highlights and showcases some of the City of Hamilton’s natural areas and includes links to key Conservation organizations and partners who preserve and protect Hamilton’s rich natural heritage, including trails.

4. Hamilton Cycling Club (HCC)



Founded in 1881 the HCC is an amateur club with more than 130 members. The club has an active road racing background, running weekly club events as well as regional events such as the Good Friday Road Race, an Ontario Cup

series event. In addition its road cycling history, the HCC has become an advocate for mountain biking and sustainable trail building in Hamilton.

5. Hamilton Naturalists Club (HNC)



The HNC is a not for profit organization dedicated to the appreciation and conservation of wild plants and animals. Its purpose is to encourage and protect Hamilton's natural resources, including trails, through public education and interest.

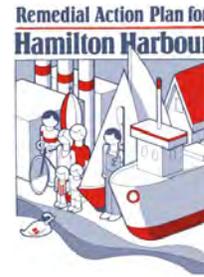
6. The Hamilton Waterfront Trust (HWT)



The HWT is dedicated to search for ways to aid residents and visitors experience and enjoy the City of Hamilton's waterfront. Both the Hamilton Harbour Waterfront Trail extension and the Hamilton Beach Recreational Trail are joint efforts of the HWT. The City of Hamilton and the Waterfront Regeneration Trust assisted in obtaining funding from the Canada Ontario Infrastructure Program. This funding aided in connecting the City of Hamilton with other municipalities and surrounding trail networks. Some of HWT goals related to trails include:

- Creating trails and linkages which include the development, expansion and refinement of public access and linkages to Hamilton's Waterfront
- Strongly connected integrated trail systems
- Building amenities

7. Hamilton Harbour Remedial Action Plan



The Hamilton Harbour Remedial Action Plan is a detailed strategy to clean up Hamilton Harbour. While the Action Plan focuses on improvements to water quality, toxic sediment remediation and fish and wildlife restoration, it contains recommendations regarding public access to the Harbour. The Hamilton Harbour Remedial Action Plan has been a catalyst for the development of parks and trails.

8. Hamilton Port Authority Land Use Plan

The Hamilton Port Authority Land Use Plan was completed in 2002 by the Hamilton Port Authority in compliance with the requirements of the Canada Marine Act. It contains objectives and policies for the development of property the Port Authority manages, holds or occupies.

In addition to providing for the Port's industrial and transportation uses, the Hamilton Port Authority is a stakeholder for the Hamilton Harbour Remedial Action Plan. The Hamilton Port Authority supports efforts to develop a safe and fully connected multi-use trail around the Hamilton Harbour, recognizing that public access cannot always be accommodated to the water's edge.

9. Cootes to Escarpment EcoPark System



The Cootes to Escarpment EcoPark System is a combined initiative of ten local government and non-profit organizations in the Hamilton-

Burlington area. Together these organizations protect, restore and manage close to 1900 hectares of natural lands and open spaces connecting the Niagara Escarpment to the Hamilton Harbour.

The Cootes to Escarpment objectives are:

- *Natural Heritage* - to protect, restore and enhance the ecological system. This includes consideration of linkages through urban areas and natural lands outside the Park System boundaries.
- *Recreation Objective* - to provide opportunities for passive recreation that supports active living and also maintains the areas biological and physical integrity.
- *Cultural Heritage* - to identify, protect and preserve cultural heritage features for their reflection of historical use and occupancy of the area.
- *Interpretation* - to provide educational opportunities that promote knowledge, understanding and appreciation of natural and cultural values, environmental sensitivity and significance, and associated conservation needs.
- *Management* - to manage the public lands through partner collaboration. Owners of the park lands will promote responsible stewardship through community involvement in park planning and management.

B.4 Hamilton Conservation Authority (HCA)



HCA is the area's largest environmental management agency, and is dedicated to the conservation and enjoyment of watershed lands and water resources. HCA's mandate includes flood forecasting and warning, issuing permits for planning and engineering regulations, preserving environmentally significant natural lands, promoting stewardship and conservation, outdoor education and providing recreational opportunities. HCA owns and manages nearly 4000 hectares of environmentally significant lands within the boundaries of its watershed. Some HCA's trails are:

- Lafarge 2000 Trail

- Dofasco 2000 Trail
- Hamilton Brantford Rail Trail
- Chippawa Rail Trail (Hamilton to Caledonia)
- Dundas Valley Trails
- Valens Lake & Christie Lake Conservation Area Trails
- Westfield Heritage Village
- Confederation Park Trails

B.5 City of Hamilton

1. Urban Hamilton Official Plan (UHOP) Volume 1, Chapter C, Section 4.0—Integrated Transportation Network Policies



Urban Design and Complete Streets

4.2.8 New secondary plans and designs for major transit generators shall incorporate the following design directions:

- Establishment of a continuous grid road network as the preferred street layout to allow pedestrians, cyclists, transit vehicles, automobiles and goods and services vehicles to move efficiently through communities;
- Efficient spacing of arterial and collector roads within the grid network;
- Organization of land uses in a manner that reduces automobile dependence and improves modal choice and the movement of goods;
- Placement of higher density land uses near existing and planned transit stop or station locations;
- Street design and layout which reduces and minimizes the need for future traffic calming or unnecessary traffic control devices; and,
- Other applicable design guidelines and design policies of Volume 1, including Section B.3.3 – Urban Design Policies and Chapter E – Urban Systems and Designations.

4.2.9 Direct access to transit facilities shall be provided via sidewalks and walkways from

the interior block areas of neighbourhoods. Within existing and planned development, the City shall encourage the creation of mid-block connections for pedestrians, transit, and active transportation modes.

4.2.10 Development of major transit generators shall provide safe and convenient pedestrian and cycling environments and access through building orientation, site layout, traffic management, and the provision of facilities such as sidewalks, crosswalks, bike lanes and trails, bicycle parking and loading, and connections to transit service.

4.2.11 The City shall encourage new development to be located and designed to minimize walking distances to existing or planned transit and facilitate the efficient movement of goods where feasible.

4.2.12 The road network shall be planned and designed to:

- Be shared by all modes of transportation;
- Maximize safety for all uses; and,
- Minimize lifecycle environmental impacts in accordance with Section C.4.5 -Road Network.

Barrier Free Transportation

4.2.13 Hamilton's transportation network shall be developed to be inclusive of the needs of persons with disabilities, seniors, children and those with reduced mobility through the following provisions:

- Ensuring that new transit facilities, transit stops, and vehicles are accessible and utilize barrier free design principles in accordance with the Accessibility for Ontarians with Disabilities Act;
- Ensuring that sidewalks are accessible and accommodate people with impaired or reduced mobility using techniques including curb cuts, urban braille, and appropriately designed crosswalks at intersections and roundabouts;
- Encouraging the use of voice signals at crosswalks to allow for safe passage for persons with limited vision;
- Modifying existing transportation facilities over time to enhance accessibility;

- Requiring minimum off-street parking spaces for the disabled regulated through the Zoning By-Law; and,
- Taking accessibility considerations into account for the design of new developments in accordance with Policy B.3.3.11 - Barrier Free Design.

4.2.14 The City shall continue to be a leader in providing accessible sidewalks and other public spaces by maintaining and expanding the urban braille network.

4.2.14.1 Priority areas for expanding the City's urban braille network shall be within the Downtown Urban Growth Centre and within Sub-Regional Service Nodes in accordance with Policy B.3.3.11 – Barrier Free Design and Section E.2.0 – Urban Structure, and in areas that will create connections to existing urban braille areas.

4.2.15 In accordance with Policy C.4.1.6, recognizing that an increasing proportion of the population is aging and many will possess mobility challenges, the City shall continue to ensure that it is able to provide an appropriate range of public transit services and programs on the conventional, specialized and rapid transit networks in an efficient and effective manner to all existing and planned trip generators throughout the urban area.

New Transportation Corridors

4.2.16 Additional transportation corridors may be added to the integrated transportation network in Hamilton in the future. Recognizing the need to plan proactively for future infrastructure requirements and sustainable transportation solutions, the City supports active participation with provincial, inter-provincial and federal transportation planning studies such as the ongoing Niagara to Greater Toronto Area (NGTA) corridor planning and Environmental Assessment study and the Ontario-Quebec Continental Gateway and Trade Corridor Study.

- The NGTA study will address congestion, economic growth, and better gauge a long term land use and transportation framework extending from the Niagara Peninsula to the Greater Toronto Area.
- The Ontario-Quebec Continental Gateway

and Trade Corridor Study will develop a multi-modal strategy to improve goods movement and trade.

4.2.17 The City shall plan for and protect corridors and rights-of-way for transportation, transit and infrastructure facilities to meet current and projected needs and not permit development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified.

4.3 Active Transportation Network

Active transportation which includes pedestrian movement, cycling and any other non-motorized modes of transportation, is a key component of the City's transportation network. Active Transportation provides a sustainable alternative to travel by private automobile, resulting in physical, economic and social benefits from improved air quality, reduced energy consumption and increased physical activity. This Plan recognizes that active transportation is an essential component of the overall integrated transportation network. Together, land use planning, transportation planning and the design of the built form creates an environment that encourages and enables people to use active transportation for travel to work, school, exercise, recreation and social interaction.

4.3.1 The City shall require, provide, and maintain infrastructure that maximizes safe and convenient passage for pedestrians and cyclists along streets.

4.3.2 The City shall accommodate commuter cycling needs on the road network and major recreational pathways to the greatest extent possible in accordance with the City's Cycling Master Plan and Trails Master Plan.

4.3.3 The City shall build and maintain the active transportation network which recognizes the importance of the sidewalk and cycling network while achieving a high standard of connectivity. Active Transportation shall be promoted and accommodated in street design and operation through:

- Continuous improvement and expansion of the existing network of pedestrian and

bicycle infrastructure, including multi-use paths, bike lanes, and on-street bike routes;

- Establishment of pedestrian-oriented design guidelines in secondary plans and undeveloped areas that promote active transportation; and,
- Provision of traffic calming measures and signage, where appropriate.

4.3.4 Within the designated right-of-way, the design of streets and sidewalks shall provide a buffer between vehicular and pedestrian flow where feasible.

4.3.5 The City shall design pedestrian friendly streets by:

- Making streetscapes visually appealing to make walking more inviting;
- Discouraging the placement of objects which will impede pedestrian movements;
- Reducing motor vehicle traffic in areas of high pedestrian activity by design or other means;
- Establishing exclusive pedestrian links in areas of high pedestrian activity and vehicular traffic;
- Distinctly separating vehicular, pedestrian and cycling traffic to the fullest extent possible;
- Providing adequate lighting;
- Applying other means as specified in the policies of Section B.3.3 – Urban Design, where applicable; and,
- Applying other applicable design guidelines and design policies of Volume 1, including Section B.3.3 – Urban Design Policies and Chapter E - Urban Systems and Designations.

4.5 Roads Network

The road network is a component of the overall transportation network. The City shall provide an efficient road network that will accommodate anticipated traffic volumes at a reasonable level of service while balancing the needs of all road users and vehicles for the efficient movement of people and goods and providing a right-of-way for underground utilities.

Hamilton's Urban Natural Heritage System

Within the urban boundary, Hamilton has a variety of unique natural areas and features including the Niagara Escarpment, Hamilton Harbour, beach and ravine habitats, interior forests of Dundas Valley, and Carolinian forests. It is important that natural heritage features are protected for their ecological functions and for the many benefits which they provide such as wildlife habitat, improved air quality, surface and groundwater quality and quantity, flood and erosion control, improved aesthetics, and general health and quality of life of urban settings.

Using the systems approach, the City will look at the restoration potential of natural areas adjacent to Core Areas. The systems approach also involves setting targets for the amount of habitat Hamilton needs for a healthy, functioning ecosystem. Looking beyond what exists to consider what could or should exist moves habitat protection towards a fully sustainable natural heritage system.

For more information on the urban natural heritage system policies please refer for the City of Hamilton report PED08285 Proposed Urban Official Plan Policies for the Natural Heritage System (November 2008).

2. Rural Hamilton Official Plan (RHOP) Volume 1, Chapter C, Section 4.0— Integrated Transportation Network Policies



Barrier Free Transportation

4.2.8 Hamilton's transportation network shall be developed to be inclusive of the needs of persons with disabilities, seniors, and those with reduced mobility through the following provisions:

- Ensuring that sidewalks, where they are appropriate, are accessible and accommodate people with impaired or reduced mobility using techniques

including curb cuts and appropriately designed crosswalks at intersections and roundabouts;

- Encouraging the use of voice signals at crosswalks to allow for safe passage for persons with limited vision;
- Modifying existing transportation facilities over time to provide barrier free accessibility;
- Requiring minimum off-street parking spaces for the disabled regulated through the Zoning By-Law; and,
- Taking accessibility requirements into account for the design of new developments in accordance with Policy B.3.3.11 - Barrier Free Design.

New Transportation Corridors

4.2.9 Additional transportation corridors may be added to the integrated transportation network in Hamilton in the future. Recognizing the need to plan proactively for future infrastructure requirements and sustainable transportation solutions, the City supports active participation with provincial, inter-provincial and federal transportation planning studies.

4.2.10 The City shall plan for and protect corridors and rights-of-way for transportation, transit and infrastructure facilities to meet current and projected needs and not permit development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified.

4.3 Active Transportation Network

Active transportation which includes pedestrian movement, cycling and any other non-motorized modes of transportation, is a key component of the City's transportation network. Active Transportation provides a sustainable alternative to travel by private automobile, resulting in health, economic and social benefits from improved air quality, reduced energy consumption, reduced injuries, and increased physical activity. This Active Transportation Plan recognizes that active transportation is an essential component of the overall integrated transportation network. Some rural area facilities for active transportation, such as paved road

shoulders, also improve the road infrastructure for farm vehicles, farm equipment, and large vehicles for transporting other rural resources.

4.3.1 When roads and other infrastructure are replaced or upgraded, where feasible the City shall accommodate commuter cycling needs on the road network and major recreational pathways in accordance with the City's Cycling Master Plan.

4.3.2 The City shall maintain and, where feasible during replacement or upgrading of infrastructure, build the active transportation network which recognizes the importance of the active transportation network while achieving a high standard of connectivity and protecting agriculture. Active transportation shall be promoted and accommodated in road design and operation through:

- Continuous improvement and expansion of the existing network of pedestrian and bicycle infrastructure, including paved road shoulders, multi-use paths, bike lanes, and on-street bike routes;
- Establishment of pedestrian-oriented design guidelines where appropriate in rural settlement area plans that promote active transportation; and,
- Provision of traffic calming measures and signage, where appropriate.

4.3.3 The City shall design pedestrian friendly streets where appropriate within large Rural Settlement Areas by:

- Making streetscapes visually appealing to make walking more inviting;
- Discouraging the placement of objects which will impede pedestrian movements;
- Reducing motor vehicle traffic in areas of high pedestrian activity by design or other means;
- Establishing exclusive pedestrian links in areas of high pedestrian activity and vehicular traffic;
- Providing adequate lighting;
- Providing active transportation facilities; and,
- Applying other means as specified in the policies of Section B.3.3 – Design, where applicable.

4.5 Roads Network

The road network is a component of the overall transportation network. The City shall provide an efficient road network that will accommodate anticipated traffic volumes at a reasonable level of service while balancing the needs of all road users and vehicles for the safe and efficient movement of people, farm equipment, and goods and providing a right-of-way for underground utilities.

Hamilton's Rural Natural Heritage System

Within Hamilton there are a variety of diverse natural areas that contribute to the City's unique character and quality of life. The City values these natural areas and recognizes that there is a connection among the features and surrounding landscape. These connections are important for maintaining biodiversity, long-term health and movement of wildlife and plants between habitats. The Natural Heritage System consists of the Greenbelt Natural Heritage System, Niagara Escarpment Plan area and Core areas. Core areas are the most important components of the Natural Heritage System in terms of biodiversity, productivity and ecological and hydrological functions. Linkages are natural areas within the landscape that ecologically connect Core Areas.

3. Secondary Plans and Neighbourhood Plans

Secondary Plan policies provide further direction for implementing policies. Secondary Plan policies relevant to the Recreational Trails Master Plan are extensive, and are therefore not included in this report. These policies are available upon request by contacting the City of Hamilton Planning Division but their recommended trail network is incorporated in the trail initiatives.

Neighbourhood Plans also contain policies pertaining to trails and active transportation. Secondary Plans are developed concurrently with Transportation Management Plans. Transportation Management Plans address improvements to active transportation, transportation demand management, and regional and local transportation. The intention of coordinating these plans is to fully integrate

land use designations with complementary transportation policies to ensure that communities are designed efficiently and contribute to the well-being of people. Multi-use trail recommendations illustrated on Secondary Plans have been incorporated into this report as trail initiatives.

4. *City of Hamilton Transportation Demand Management for Development Guidelines (TDM) (2015)*

The TDM 2015 manages the demands placed on transportation infrastructure. It is the use of policies, programs, infrastructure improvements, or services to influence travel behaviour. TDM encourages sustainable travel choices by supporting alternative options over the convention of frequently driving alone. It encompasses a wide range of strategies including:

- Shifting travel modes (e.g. walking, cycling, taking transit or carpooling instead of driving alone);
- Reducing the number of trips people make (e.g. destinations and activities such as work and shopping, near each other); and,
- Traveling more efficiently (e.g. making trips outside of peak hours).

Some outcomes the City aims to achieve by integrating TDM and development include:

- More inclusive and appealing streetscapes
- Multi use neighbourhoods and districts development where people can live and work in close proximity;
- Treating streets as public spaces for a more balanced transportation system
- Improved pedestrian and cycling infrastructure (bike lanes, sidewalks, crosswalks)
- Transit integration for more efficient transportation
- Promoting active and healthy lifestyles.

5. *Transit-Orientated Development Guidelines (2010)*

Transit-Orientated Development Guidelines (TOD) Volume 2, 2010 is defined as compact mixed use development located in close proximity to transit facilities with high-quality walking environments. TOD is set apart from traditional



transit due to its emphasis on providing access to transit through mixed use areas with higher density, degree of activity, and amenities. TOD encourages balanced transportation choices which enable viable active transportation (e.g. walking, cycling, etc.) as an option to driving. TOD encourages and provides direction on present and future land use policy and zoning, it also aids in further improving land use and transportation planning integration.

6. *Hamilton's Plan for an Age-Friendly City (2014)*



The number of seniors in the City of Hamilton is increasing and is expected to double over the next two decades. Developing a plan for an age-friendly city will help identify and address the older populations' needs and priorities. An age-friendly plan means that Hamilton will participate in the growing age-friendly movement and will have the opportunity to learn and contribute to the learning of other communities.

In April 2012, Hamilton City Council identified the development of an age-friendly initiative as a strategic priority in the City's 2012-2015 Strategic Plan. The Neighbourhood and Community Initiatives Division partnered with the Hamilton Council on Aging in 2013 to begin this work. Hamilton's Plan was not developed in isolation, but aligns with, and builds on, work

that is presently underway. The plan links to other key City initiatives including:

- The Housing and Homelessness Action Plan
- The Pedestrian Mobility Plan Rapid Ready, and
- The Cultural Plan.

There is also alignment with the mandatory accessibility standards for people with disabilities being developed under the Accessibility for Ontarians with Disabilities Act 2005.

7. *Our Future Hamilton (2015-2016)*



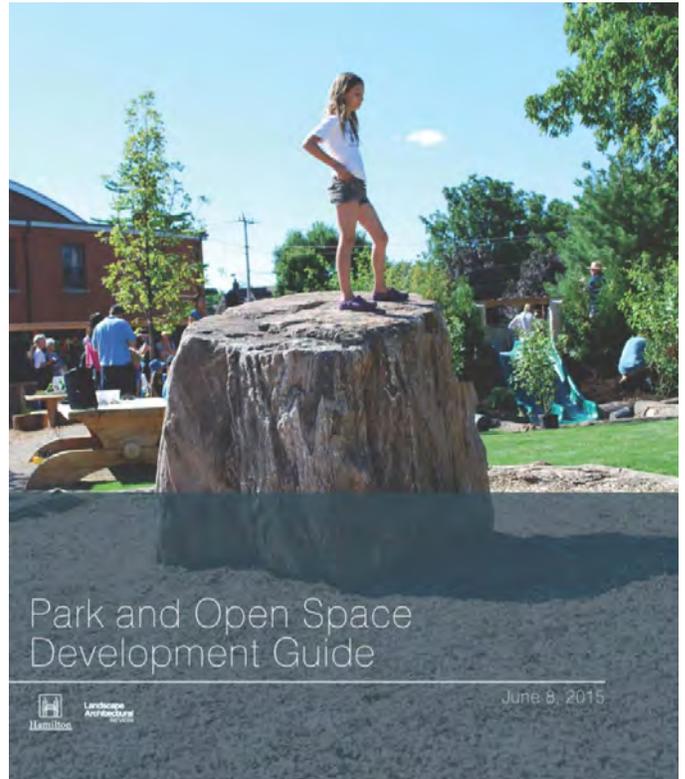
With 28 goals and 14 themes identified in the Vision 2020 plan, many recommendations have been implemented. Vision 2020 contributed to the City of Hamilton by making significant progress in the areas of arts and heritage, reducing and managing waste, improving air quality, improving water quality and protecting natural areas. Our Future Hamilton builds on the legacy of Vision 2020.

In 2015, the City of Hamilton initiated Our Future Hamilton: Community in Conversation. After many months talking with residents about their vision for the future of Hamilton a new community vision is taking shape. The information gathered formed the development of a Community vision framework.

Six themes emerged as key priority areas:

- Theme 1: An Engaged and Empowered Community
- Theme 2: Prosperity and Growth
- Theme 3: Healthy and Safe Communities
- Theme 4: Clean and Green
- Theme 5: Built Environment and Infrastructure
- Theme 6: Culture and Diversity

The community vision within Theme 5 directly affects trail development within the City recommending that the built environment (buildings, parks and infrastructure) are designed for safe use by pedestrians, cyclists, transit users and motorists. Theme 5 also discusses creating a well-connected transportation network that allows people to get around conveniently without a car.



8. *City of Hamilton Parks and Open Space Development Manual (2015)*

Created by the Landscape Architectural Services Section of the City of Hamilton, the Parks and Open Space Development Manual defines parks and open space development requirements and guidelines. It also identifies the design and construction standards for parks and open space lands. Parks and open spaces are important resources that deliver numerous benefits and play a key role in quality of life. As Hamilton continues to grow it is essential to balance development with recreational requirements.

The Parks and Open Space Development Manual is used by the development community, consultants, and City of Hamilton staff as a resource tool in the process of creating Hamilton's parks, open spaces, and trails.

9. Outdoor Recreation Facilities & Sports Field Provision Plan



The Outdoor Recreation Facilities & Sports Field Provision Plan was developed in 2011 to provide a sustainable strategy for managing Hamilton's outdoor sports fields and other community-use recreational infrastructure. It is a long-range plan (to the year 2031) and focuses on implementing projects that can be undertaken within the next ten years.

The Plan recognizes that Hamilton has a proud sports heritage and a significant number of residents are involved in outdoor organized sport participation. Sports fields accommodate a variety of activities, including league play, recreational programs, school physical education classes, tournaments, and special events.

The Plan is about the development, improvement, and conversion of outdoor recreation facilities in the City of Hamilton. It takes into account creating and maintaining a sense of community through the provision and design of park assets and trails, which are critical elements in fostering neighbourhood and community life and identity. It is intended to be a companion document to the City of Hamilton's Use, Renovation and Replacement Study for Hamilton Recreation and Public-Use (Indoor) Facilities (2008).

10. Hamilton Recreational Trails Master Plan (2007)



The Hamilton Recreational Trails Master Plan, planned for the development of a City of Hamilton trail system that would provide for a wide range of recreational uses, linking on road systems with larger regional, provincial and national systems.

The Hamilton Recreational Trails Master Plan purposes include:

- Connecting and enhancing appreciation of significant environmental, cultural features and parks while preserving their natural heritage values and ecological functions.
- Connecting and integrating urban and rural land uses by linking multi-purpose trails with on-street cycling and sidewalk systems
- Providing a safe environment for cycling and pedestrians
- Promoting physical activity and healthy lifestyles
- Interconnecting trail systems
- Connecting trail systems to adjoining municipalities, counties and other larger provincial trail systems.

Several trail initiatives from the 2007 report have been included within this report.

11. Active Transportation Benchmarking Program (2012-2013)

Between 2012 and 2013 the City of Hamilton launched a pilot study that collected pedestrian and cycling active transportation data and which is now deemed as an official program. The program conducted weekly automated rotational counts along various trail corridors to collect usage data.

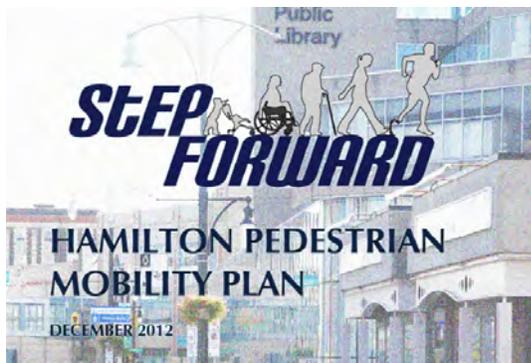
Technologies such as; Pyro-Boxes (passive-infrared person counting systems), Pneumatic Tubes (rubber tubes that use air pressure to activate recording devices), Urban ZELT (inductive loop systems for bike counting that use SIRIUS algorithms) and MULTI Urban (passive-infrared counter that differentiates between pedestrians and cyclists) were utilized allowing for transportation trends differentiation.

Over the course collecting the data more than 75 Hamilton locations were surveyed and over 1.2 million Active Transport trips were recorded. Currently, the top five locations are as follows:

- The Chedoke Stairs (23,644 trips)
- Great Lakes Waterfront Trail, Bayfront Park (15,290 trips)
- Great Lakes Waterfront Trail, Confederation Park – Lakeland Pool (14,366 trips)
- The Dundurn Stairs (12,119 trips)
- The Desjardin Trail, Princess Point (11,120 trips)

The City of Hamilton is currently considering and initiating future technologies which include, Miovision, Eco-Totems or Bike Barometers, Strava and the recently introduced “Sobi” Hamilton Bike share.

12. Hamilton Pedestrian Mobility Plan (PMP) (2012)



Hamilton's PMP focuses on rebalancing pedestrian and vehicular mobility on Hamilton's streets by providing for pedestrians needs, while accommodating vehicular traffic within the streetscape. The PMP identifies the need to further improve pedestrian safety and the number of walking trips in order to achieve the City-Wide Transportation Master Plan targets. The purpose of the PMP is to:

- Enhance the pedestrian environment
- Increase the opportunity for walking as a transportation mode
- Create recreation that is efficient, comfortable, safe inclusive, accessible and improves economic and community health.

The City of Hamilton's commitment to better pedestrian mobility arises from two sources: Provincial legislation and the City's commitments to the International Charter for Walking. Step Forward: The Hamilton Pedestrian Mobility Plan (2012) addresses how the City intends to achieve these commitments and legislations. The Plan establishes a City-wide, pedestrian framework for the future.

This PMP employs an evidence based approach to creating safe and interesting pedestrian environments throughout the City by applying public health science and transportation research to the City's built environments. The PMP goals are to:

- Create healthy, efficient, sustainable and complete communities where people choose to walk
- Increase the number of people walking in the City
- Provide an attractive interesting pedestrian environment that improves personal safety
- Increase active transportation and pedestrian links and connections
- Improve pedestrian movement by focusing on access to community institutions, recreational and leisure opportunities and employment and retail services
- Create a walkable City to attract new residents and businesses

13. Transportation Master Plan (TMP) (2016)



The City is undertaking a review of the city-wide TMP to guide future transportation programs and investment to accommodate future growth for 2031 and beyond. The TMP review will be a Municipal Class Environmental Assessment (as amended, 2011) process involving three consultation phases. The review will provide many opportunities for citizens to get engaged and provide feedback about the following topics:

- Rural, urban and suburban transportation issues
- Population or economic growth effects on transportation
- Walking, cycling, transit, goods movement and commuter traffic
- Public health, age-friendly and neighbourhood development
- Complete streets, two-way conversions and infrastructure investment

14. Hamilton Beach Recreational Trail User Survey (2012)

In Fall 2008 a survey was conducted to gain a better understanding of behaviours and attitudes of Hamilton Waterfront Trail users. The survey was intended, in part, to provide a baseline set of data that could be used in assessing changes in waterfront trail use with the anticipated completion of the QEW Pedestrian Bridge in 2010. As a follow up to the 2008 survey a Post Construction Evaluation was conducted in 2012. The survey asked questions regarding trail use and it was found that:

- Individuals often use the trail for biking and walking
- Peak trail use is during the spring and summer months
- Afternoon is the preferred time of day
- Roughly an equal amount of males and women use the trail
- The majority of users were from Hamilton, Stoney Creek and Burlington.

Many people using the trail expressed concerns regarding:

- Lack of trail etiquette displayed by other users
- Inadequate visual separation on the trail for people walking, biking and rollerblading
- Poor signage
- Lack of recycling and waste stations

15. SoBi Hamilton Bike Share (SoBi)



SoBi is a local non-profit organization who operates the Hamilton Bike Share system of 750 bicycles and over 100 hubs. The system is monitored 24 hours a day to ensure users have bicycles and parking available to them. SoBi uses fourth generation smart bike technology provided by New York based Social Bicycles. Their operational funding is comprised of membership fees, sponsorships and community partners. Surplus revenue is placed directly back into the system to provide for additional bikes, hubs and service enhancements. SoBi Hamilton represents a co-operation between the Province and the City, its citizens, local professionals, and non-profits. Many SoBi bike share stations are located along Hamilton trails.



Figure 55: SoBi bike station along the Chedoke Radial Recreational Trail

16. Waterfalls and Cascades of Hamilton



The City of Hamilton has over 100 waterfalls allowing many to deem the Hamilton the “City of Waterfalls”. Waterfalls have mainly been identified throughout Flamborough, Stoney Creek, Hamilton and Ancaster, although the area with the highest density of waterfalls is the Chedoke Creek subwatershed (15 waterfalls). Additionally, there are 45 waterfalls which can be observed from trails 76 which are accessible, 13 have a low degree of difficulty, making them accessible to people with wheel chairs or strollers and to people of all ages. Proper interpretive and directional signage as well as new or upgraded all-weather or seasonal trails are required to ensure access to the waterfalls is maintained and safety is of the utmost concern. In April 2006, Waterfalls and Cascades of Hamilton, Phase 2 – Upgrades and Enhancements Study was completed it focused on Hamilton’s waterfalls for interpretive, recreational and tourism development. The report provides specific direction on City-owned waterfalls and cascades.