TOWNSHIP OF CENTRE WELLINGTON
TRAILS MASTER PLAN

Centre Wellington

MMM GROUP

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TABLE OF CONTENTS

1.0 Study Introduction

1.1 A Brief History of Trails in Centre Wellington 1-1
1.2 Why Does Centre Wellington Need A Trails Master Plan? 1-3
1.3 Trail Vision & Objectives for Centre Wellington 1-7
1.4 The Benefits of Trail Development 1-8
1.5 Study Process & Organization of the Report 1-9

2.0 Community and Stakeholder Consultation and Engagement

2.1 The Community and Stakeholder Consultation Approach 2-1
2.2 Summary of Comments – What we Heard from the Public 2-6
2.2.1 Online Questionnaire Results and Key Findings 2-6
2.2.2 Public Information Centres 2-10
2.2.3 Stakeholder Workshops 2-11

3.0 The Trails Network

3.1 The Network Development Process 3-1
3.1.1 Inventory of Existing Trails 3-3
3.1.2 Guiding Principles for Route Selection 3-4
3.1.3 The Proposed Trails Network 3-5
3.2 Designing Trails 3-8
3.2.1 Trails Users & Design Considerations 3-8
3.2.1.1 Facility Users & Needs 3-9
3.2.1.2 Accessibility 3-11
3.2.2 Trail Facility Types & Selection 3-14
3.2.2.1 Shared Space on Road Cycling Facilities 3-16

3.2.2.2 Dedicated Space on Road Cycling Facilities *3-18*
3.2.2.3 On-Road Separated Cycling Facilities *3-19*
3.2.2.4 Off-Road Separated Walking and Cycling Facilities *3-20*
3.2.3 Other Design Considerations *3-23*
3.2.3.1 Trail Types *3-23*
3.2.3.2 Off-Road Trail Surfacing Options *3-23*
3.2.3.3 Boardwalks *3-26*
3.2.3.4 Trails on Slopes *3-28*
3.2.3.5 Trail Bridges *3-29*
3.2.3.6 Trail Access and Barriers *3-31*
3.2.3.7 Road Crossings *3-33*
3.2.3.8 Rest and Staging Areas *3-35*
3.2.3.9 Bicycle Parking Facilities *3-36*
3.2.3.10 Trail Signs *3-37*

4.0 Implementing the Plan

4.1 How to Implement the Trails Master Plan 4-1
4.1.1 Who Does What? *4-2*
4.2 The Network Implementation Strategy 4-3
4.2.1 Network Implementation Priorities *4-4*
4.3 Network Implementation Cost and Funding 4-6
4.3.1 A Network Management Tool *4-8*
4.3.2 A Five-Step Implementation Process *4-9*
4.4 Planning for Trails in the Township of Centre Wellington 4-9
4.4.1 Trails and the Official Plan *4-9*
4.4.2 Community Planning and Design Strategies to Support Trail Development *4-10*
4.4.3 Ongoing Public Participation and Consultation *4-11*
4.4.4 Land Acquisition and Securement for Trail Routes *4-12*
4.5 Outreach and Promotion 4-13
4.5.1 The Proposed 4-E Approach *4-13*
4.6 Managing Trails 4-16
4.6.1 Insurance, Liability and Risk Management *4-16*
4.6.2 A Trail Maintenance Plan for the Township of Centre Wellington *4-18*
4.6.2.1 Off Road Trail Maintenance *4-19*
4.6.2.1 Maintenance of On-road Cycling Routes *4-22*
4.6.3 Monitoring Implementation and Performance Measures *4-23*
4.6.4 Updating the Trails Master Plan *4-23*

5.0 Summary of Recommendations and Next Steps

Appendix A Unit Price Schedule

Appendix B Official Plan Policy Suggestions

List of Maps

Map 3.1 Proposed Route Network With Facility Types (Township-wide) 3-6
Map 3.2 Proposed Route Network With Facility Types (Fergus, Elora & Belwood 3-7
Map 3.3 Elora Cataract Trailway / Trans Canada Trail Signage Plan – Elora 3-10
Map 3.4 Elora Cataract Trailway / Trans Canada Trail Signage Plan –Fergus 3-11
Map 4.1 Proposed Network Phasing (Township –wide) 4-5
Map 4.2 Proposed Network Phasing (Elora, Fergus & Belwood) 4-6

List of Tables

Table 3.1 Network Summary – Length of Facilities (km) by Type and Ownership 3-8
Table 3.2 Typical Key User Groups 3-13
Table 3.3 In-line Skating Design Grade Considerations 3-14
Table 3.4 Trail Facility Design Alternatives 3-19
Table 3.5 Comparison of Trail Surfacing Materials 3-27
Table 4.1 Network Implementation Costs by Phase as Illustrated on Maps 4.1 and 4.2 4-8
Table 4.2 Potential Education Initiatives 4-15
Table 4.3 Potential Encouragement Initiatives 4-16
Table 4.4 Potential Enforcement Initiatives 4-17
Table 4.5 Potential Evaluations Initiatives 4-18
Table 4.6 Strategies to Reduce Risk and Manage Liability on Trails 4-19
Table 4.7 Maintenance Considerations for Off-Road Trails 4-21
Table 4.8 Maintenance Considerations for On-Road Routes 4-24

List of Figures

Figure 3.1 Boardwalk Examples 3-31
Figure 3.2 Trails on Slopes Examples 3-33
Figure 3.3 Trail Bridges Examples 3-34
Figure 3.4 Bollard and Swing Gate Examples 3-36
Figure 3.5 Rest and Staging Area Examples 3-40
Figure 3.6 Trailhead Sign Examples 3-42
Figure 3.7 Interpretive Sign Examples 3-44
Figure 3.8 Route Marker and Trail Directional Sign Examples 3-45

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Township of Centre Wellington Study Team Members

Andy Goldie, OALA, CSLA
Project Manager
Chief Administrative Officer
Township of Centre Wellington

Sarah Wilhelm, B.ES, MCIP, RPP
Planner
County of Wellington

Karen Armstrong, BA, MA
Wellington-Dufferin-Guelph Public Health Representative

Matt Tucker
Manager of Parks and Facilty Operations
Township of Centre Wellington

Brett Salmon, B.ES, MCIP, RPP
Managing Director of Planning and Development
Township of Centre Wellington

Tom Skimson
Resident, Elora Cataract Trailway

Rick Goodfellow
Resident, Elora Cataract Trailway

Consultant Team Study Team Members

Jay Cranstone, B.Sc., MLA, OALA, CSLA
Consultant Active Transportation Master Plan Project Manager
Senior Landscape Architect
MMM Group Ltd.

Dave McLaughlin, BA, MES, MCIP, RPP
Senior Project Manager
MMM Group Ltd.

Claire Basinski, BES, MCIP, RPP
Transportation Planner
MMM Group Ltd.

Patrick Rees, B.L.A
Landscape Designer
MMM Group Ltd.

*Please note that the Trails Master Plan for the Township of Centre Wellington was developed in conjunction with the County's Active Transportation Master Plan. As such, there are a number of sections throughout the document where reference is made to the County's Master Plan. Readers are encouraged to reference both documents.

1.0 STUDY INTRODUCTION

1.1 A BRIEF HISTORY OF TRAILS IN CENTRE WELLINGTON

Trail development within the Township of Centre Wellington is the responsibility of the Municipality's Parks & Recreation department. The Department's mission statement is as follows:

"Centre Wellington staff work with community partners to provide a wide range of choice of open space, recreation and culture opportunities. Our goal is to get and keep all residents active, provide social interaction, inspire lifelong learning and instill community pride and cohesion."

Within the last 20 years, as a means of supporting this mission statement, the Municipality has been strongly involved in the development and maintenance of trails. More specifically, the following are some highlights of the municipality's trail history.

In **1994** the Township provided support for the development of the Elora-Cataract Trailway, a partnership between the Grand River Conservation Authority, Credit Valley Conservation and the Elora-Cataract Trailway Association. There are 26km of the 47km long trailway within Centre Wellington.

In **2007** the Township developed a Parks, Recreation & Culture Advisory Committee which provides advice to Council and the Director of Parks and Recreation. Members of the public are directly involved in the development of trail related opportunities throughout the municipality.

In **2009** the Township developed its Parks, Recreation and Culture Master Plan which outlines a 10 year strategy for trail planning and development including parks, trails, recreation and open space priority projects, programs and infrastructure.

In **2011** the Township initiated and undertook the development of a Trails Master Plan in coordination with the County's Active Transportation Master Plan. The plan builds upon the success of the Elora Cataract Trailway, a significant regional trail the Township.

The Township of Centre Wellington contains 12 trail connections including the more prominent Elora Cataract Trailway. A detailed description of each of the trails can be found in the County's Active Transportation Master Plan (chapter 3), however, the following is a brief overview of the trails which currently exist in the Township that has been used as a base for the development of the proposed trails network found in Chapter 4 of this Master Plan report.

Bissell Park Trail

Distance: 0.95km
Difficulty Level: Easy
Trail Use: Walking
Trail Surface: Natural Surface / Gravel / Asphalt / Boardwalk

Centre Wellington Community Sportsplex Trail

Distance: 0.95km
Difficulty Level: Easy
Trail Use: Walking
Trail Surface: Natural Surface / Gravel / Boardwalk

Confederation Park Trail

Distance: 0.7km
Difficulty Level: Easy
Trail Use: Walking
Trail Surface: Natural Surface / Gravel

Elora Gorge Conservation Areas Trails

Distance: 3.0km
Difficulty Level: Easy
Trail Use: Walking, biking
Trail Surface: Natural Surface / Stone Dust / Pavement

Elora Cataract Trailway

Distance: 47km
Difficulty Level: Easy
Trail Use: Walking, biking, cross country skiing, horseback riding, snowmobiling
Trail Surface: Stone Dust

Grand Valley Trail

Distance: 1km
Difficulty Level: Easy
Trail Use: Walking
Trail Surface: Natural Surface

Museum Trail

Distance: 1 km
Difficulty Level: Easy
Trail Use: Walking
Trail Surface: Natural Surface / Grass

Templin Garden Trail

Distance: 0.5 km
Difficulty Level: Easy
Trail Use: Walking
Trail Surface: Natural Surface / Cobblestone

Trestle Bridge Trail

Distance: 3.5 km
Difficulty Level: Easy
Trail Use: Walking, biking, cross country skiing
Trail Surface: Stone Dust

Victoria Park Trail

Distance: 0.5 km
Difficulty Level: Easy
Trail Use: Walking
Trail Surface: Natural Surface

Benham Tract

Distance: 2km
Difficulty Level: Difficult
Trail Use: Walking
Trail Surface: Natural

Cumnock Tract

Distance: 0.5 or 1.5 km
Difficulty Level: Easy to Difficult
Trail Use: Walking
Trail Surface: Natural Surface

1.2 WHY DOES CENTRE WELLINGTON NEED A TRAILS MASTER PLAN?

There are a number of reasons which support the Township's investment in the development of a comprehensive Trails Master Plan as well as the County's decision to support active transportation. As outlined in the County's Active Transportation Plan section 2.1, surveys completed at the national and County level both indicate the growing demand for active transportation facilities including but not limited to the development of trails. The surveys assessed included:

- National Active Transportation Survey (2004);
- Guelph-Wellington Transportation Survey (2005);
- Wellington-Dufferin-Guelph in motion Physical Activity Survey Report (2008).

The findings which provided the context for the development of the County's Active Transportation Plan and the Township's Trails Master Plan have been summarized in detail in the County's Active Transportation Master Plan Report. The responses are also applicable for the development of trails throughout the Township.

Building upon the success from the Parks, Recreation and Culture Master Plan as well as the work being completed for the County, the Township has identified the need and demand for trail related facilities for recreational purposes. The growing awareness of the negative effects that a lack of physical activity has on human health, coupled with the widely recognized benefits of reducing motor-vehicle use and increasing sustainable transportation alternatives, has

National Active Transportation Survey (2004)
Completed by: Canadian Fitness and Lifestyle Research Institute on behalf of "Go for Green"

Sample Size: 1,640 Canadians aged 15 or older

Study Purpose: to examine opportunities and participation in active transportation and commuting (walking and cycling) in adults and school-aged children as a follow-up to the 1998 survey.

Guelph-Wellington Transportation Survey (2005)
Completed by: Paradigm Transportation Solutions Limited, GSP Group & TSH Consulting

Sample Size: the City of Guelph and Wellington County

Study Purpose: to assess long term transportation needs in the Guelph-Wellington area in addition to identifying transportation system improvements.

Wellington-Dufferin-Guelph in motion Physical Activity Survey Report (2008)
Completed by: ***in motion*** Wellington-Dufferin-Guelph Public Health and Harry Cummings & Associates

Sample Size: 8,589 randomly selected households of which 1,159 completed the survey.

Study Purpose: was designed to capture information on the physical activity levels of adults including the different types, frequencyand duration of light, moderate and vigorous activities they participated in.

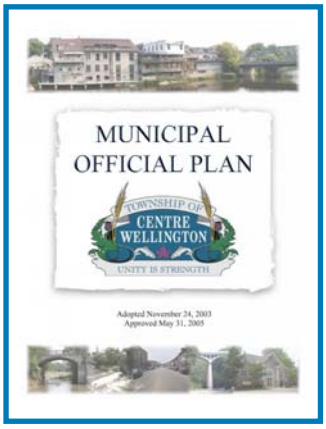
contributed to a growing demand for active transportation options in both urban and rural communities across Ontario including the development of trail facilities.

The development of trail facilities throughout the Township of Centre Wellington is supported at the federal, provincial and County level as well as by local conservation authorities, organizations and interest groups. Policies and Plans which speak to the development of active transportation facilities and trails throughout the County of Wellington as well as the Township of Centre Wellington have been documented in Chapter 3 of the Active Transportation Master Plan Report. The policies and plans include:

County of Wellington Policies & Plans	Grand River Conservation Authority
• County of Wellington Official Plan (2011) • Wellington County Five Year Trail Plan (2011 – 2015)	The Conservation Authority owns and operates the Elora Cataract Trailway which starts in Elora and links Fergus, Belwood and Cataract at the Forks of Credit Provincial Park in the Town of Caledon.
Provincial Policies	**Federal Policies**
• Provincial Policy Statement • Bill 51 – Plan Reform • Municipal Act (2001) • Highway Traffic Act • Places to Grow Act (2005) / Growth Plan for the Greater Golden Horseshoe • Greenbelt Plan • Accessibility for Ontarians with Disabilities Act (2005) • Ministry of Health Promotion Ontario Trails Strategy (2005) • Ontario Cycling Strategy #CycleON(2014) • Ontario Traffic Manual Book 18 - Cycling Facilities (2014)	• Transport Canada – Strategies for Sustainable Transportation Planning (2005)

Federation of Canadian Municipalities	Trans Canada Trail Association
FCM has recently developed the Communities in Motion: Bringing Active Transportation to Life initiative. This document is a key resource for all Canadian municipalities with the goals of promoting active transportation options, eliminating barriers to different travel mode choices and following a new path to promote active transportation modes such as walking and cycling, as part of everyday life.	The Trans Canada Trail is a non-profit, registered charity. Its mission is to promote and assist in the development and use of the Trail in every province and territory. They also provide funding to local trail builders to support the development of trails. When complete, the trail will link the Country's east, west and north coasts.
Ontario Trails Council	**Share the Road Coalition**
The Ontario Trails Council (OTC), a not for profit organization, promotes the development of trails in Ontario. The Trillium Trail Network (TTN) is an initiative of the OTC and represents an opportunity for trails to link together between regions and communities in Ontario. The TTN consists of OTC member trails registering their trail as a network member. Trillium Trail Network (TTN) is designed to be a province-wide network of trails.	Share the Road Coalition is developing partnerships with like-minded stakeholders across Ontario and has focused on developing partnerships geared to building a Bicycle Friendly Ontario. Share the Road Cycling Coalition is a provincial cycling advocacy organization created to unite cycling organizations from across Ontario and work with and on behalf of municipalities to enhance their ability to make their communities more bicycle-friendly. The organization's mandate is province-wide with a specific focus on developing public policy at the provincial level in order to provide the kind of legislative, programmatic and funding instruments such as exist in other Canadian provinces notably Quebec and British Columbia.

The development of trail facilities supports the Township's vision and mission and is also supported by a number of local policies and plans. The following is a summary of the Township documents which make reference to the development and implementation of trail infrastructure and related programming.



Township of Centre Wellington Official Plan

The Official Plan only applies to the Elora and Fergus Urban Centre (which includes Salem). The remainder of the Township is governed by the policies of Wellington County Official Plan.

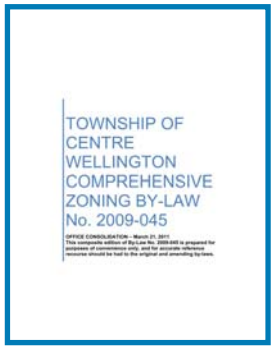
The Official Plan contains a number of policies encouraging the development of trails, improving the connections to existing trails and connecting parks and open space through green space corridors. The vision includes reference to the expansion and diversification of trailways and parks.

Trails are addressed in more detail under the section pertaining to the Grand River (section C.1), parklands (section C.12.4), district parks (section C.12.5.3) and within areas which are designated recreational which specifically permits hiking / trail development (section D.7).

Parks, Recreation and Culture Master Plan

The Master Plan is a key document for the promotion of trails and active transportation in the Township. Under "Action Plans", it is recommended that a Trails Master Plan should be developed. The Township should also continue to work with the Elora Cataract Trailway Association to finalize connections through the urban areas of Fergus and Elora.

Other recommended actions include having trail networks incorporated into future development, particularly to connect to the existing networks in Elora and Fergus. Parking at trailheads, multi-seasonal facilities and the development of waterfront trails are also actions to be pursued.



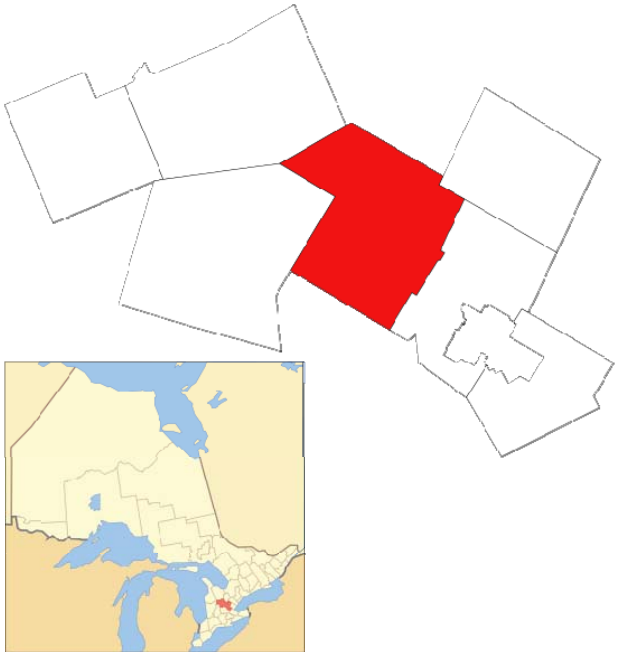
Township Zoning Bylaw

The Zoning by-law outlines the specific land uses designated throughout the Municipality and what is or is not permitted for development. With regard to trails, Section 4.39.4 states that, trails that have been created or developed by a public authority are to be permitted in any zone and can include a number of amenities such as parking, shelters, signage and lighting.

Township Development Charges Bylaw

The policy includes trails that have been developed within a park or that connect parks as a 90% eligible service.

1.3 TRAIL VISION & OBJECTIVES FOR CENTRE WELLINGTON



Taking into consideration the information presented previously, the study team developed a vision and set of objectives specific to trails in the Township of Centre Wellington to help guide the future development and implementation of infrastructure and programming. The vision for trails in the Township is:

"Build upon the success of the Elora-Cataract Trailway, and connect neighbourhoods, schools, work places, recreation facilities in Centre Wellington while linking the municipality to communities within the county and surrounding municipalities".

The overall objectives of the Trails Master Plan for the Township of Centre Wellington include:

- Examine the current status of trails in the Township;
- Recommend a network of trail routes throughout the Township with connections to County-wide active transportation routes proposed as part of the County of Wellington Active Transportation Plan;
- Provide recommendations on Official Plan policy;
- Illustrate and describe guidelines for the construction of trail facilities;
- Identify and outline potential partnership opportunities for the implementation and maintenance of the trail network; and
- Identify costs and priorities as part of a phased action plan.

The study area for the Trails Master Plan includes the entire Township of Centre Wellington.

1.4 THE BENEFITS OF TRAIL DEVELOPMENT

Source: www.mekongresponsibletourism.org

Participating in Active Transportation activities including the use of trails for hiking, cycling and walking activities etc. provide significant health and fitness, transportation, environmental, economic and tourism benefits which could be realized by the Township. Chapter 2 of the County's Active Transportation Plan provides an overview of these benefits based on current trends and research available from Canada and internationally. It includes the following highlights:

- **Health and Fitness:** "Walking and cycling provide an enjoyable, convenient and affordable means of exercise and recreation. Research suggests that the most effective fitness routines are moderate in intensity, individualized and incorporated into our daily activities. In addition, studies have shown that people who use active transportation are, on average, more physically fit, less obese and have a reduced risk of cardiovascular disease."[1]

Source: http://www.thetrailmaster.com/trails/the-traveling-hiker/the-traveling-hiker-boston

- **Transportation:** "Walking and cycling are both popular recreational activities and a means of transportation that are efficient, affordable and accessible. The transportation benefits of walking, cycling and other active transportation modes include reduced road congestion and maintenance costs, less costly infrastructure, increased road safety and decreased user costs."[2]

Source: www.sasktrails.ca

- **Environmental:** "Active Transportation activities are energy-efficient, non-polluting modes of travel. Short distance motor vehicle trips are the least fuel efficient and generate the most pollution per kilometre. These trips have the greatest potential of being replaced by walking or cycling trips and integrated walking-transit and cycling-transit trips."[3]

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[1] Reynolds et al. "Active Transportation in Urban Areas: Exploring Health Benefits and Risks", National Collaborating Centre for Environmental Health, June 2010

[2] Reynolds et al. "Active Transportation in Urban Areas: Exploring Health Benefits and Risks", National Collaborating Centre for Environmental Health, June 2010

[3] Nosal, B. "Creating walkable and Transit-Supportive Communities in Halton". Halton Region Health Department. Oakville, ON. February 2009.

- **Economic:** "Active transportation provides benefits to the local economy during both construction and operation. The construction of these active transportation facilities results in direct benefits such as jobs, including the supply and installation of materials. Following construction, benefits emerge in the form of expenditures by active transportation facility users."[4]

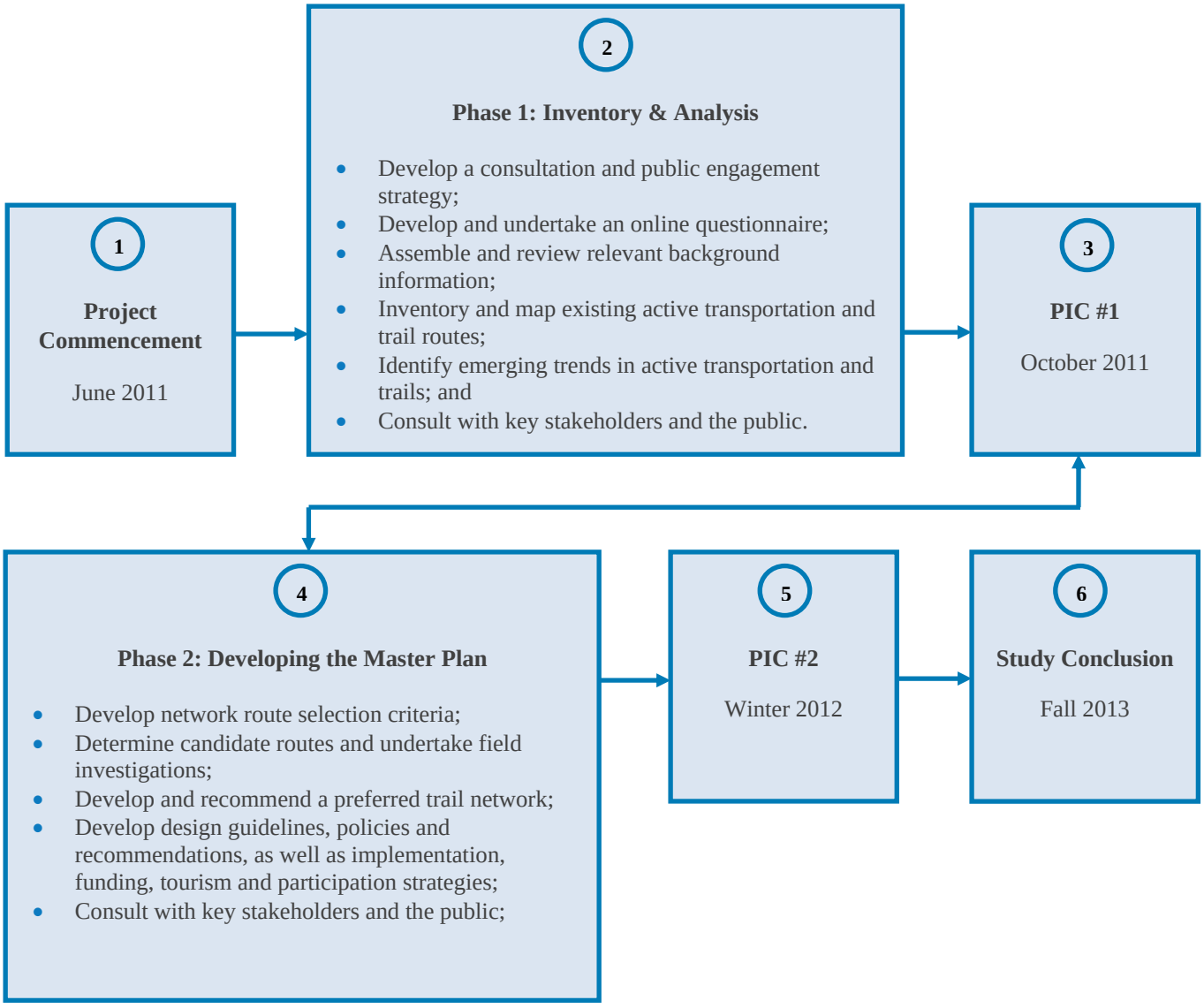
- **Tourism:** Though tourism benefits from active transportation and trail facilities provide a financial injection into the local economy there are also a wide range of social, environmental and health benefits associated with active transportation and trail tourism. As people become increasingly more aware of the benefits of trail use and pedestrian and cycling activities there tends to be a continuous increase in the number of cycling tourists who will provide further benefits to their home communities and the communities that they visit.

1.5 STUDY PROCESS & ORGANIZATION OF THE REPORT

The Township of Centre Wellington Trails Master Plan was initiated in June 2011 by the Township of Centre Wellington in conjunction with the County's Active Transportation Plan. A consultant team led by the MMM Group was retained by the Township as well as the County to develop the plan.

The study team developed an approach to develop the plan which was based on the need to coordinate the Township and County plans, existing trail facilities within and surrounding the Township, policies and plans pertaining to the development of trail facilities, and create policy and implementation strategies that the Township could adopt to achieve the goal of improving trail conditions into the future. The study approach that led to the development of the Township's Trail Master Plan included the following phases:

[4] Campbell, R. & Wittgens, M. "The Business Case for Active Transportation: The Economic Benefits of Walking and Cycling". Go for Green: The Active Living & Environment Program. March 2004.



The Township of Centre Wellington's Trails Master Plan has been designed to be a living document that is flexible and capable of evolving over time. It is intended to maintain and enhance existing programs and infrastructure, while guiding the development and implementation of new trails and programs. The Trails Master Plan report includes the following chapters:

Chapter 1

Study Introduction & Background which provides an overview of the history and existing conditions of trails throughout the Township of Centre Wellington as well as presenting the vision and objectives and an overview of benefits associated with the investment in trails.

Chapter 2 ***Community and Stakeholder Consultation and Engagement Summary*** which includes an overview of the consultation events which took place throughout the study process. Key input from each of the events pertaining to trail development in the Township of Centre Wellington has been extracted and summarized.

Chapter 3 ***The Township's Trail Network*** outlines the approach used to develop the trail network as well as potential design considerations.

Chapter 4 ***Implementing the Plan*** outlines the proposed Implementation Strategy for trails in the Township of Centre Wellington. It defines the role of the Township as well as the County in implementing the master plan and recommends the timeline and costs associated with implementing the plan.

Chapter 5 ***Summary of Recommendations*** provides a summary of the recommendations found throughout the master plan document as well as a proposed timeline, resources required and potential partnership opportunities to be explored to help facilitate implementation.

*Please note that the Trails Master Plan for the Township of Centre Wellington was developed in conjunction with the County's Active Transportation Master Plan. As such, there are a number of sections throughout the document where reference is made to the County's Master Plan. Readers are encouraged to reference both documents.

2.0 COMMUNITY AND STAKEHOLDER CONSULTATION AND ENGAGEMENT

2.1 THE COMMUNITY AND STAKEHOLDER CONSULTATION APPROACH

In the initial stages of the study process, the study team developed a consultation approach which was intended to engage the widest range of local residents, stakeholders, interest groups and municipal representatives. The approach was based on the concept of 'bringing the consultation to the people' in an effort to gather the most applicable information possible. Proposed to be undertaken at the same time as the consultation sessions for the County of Wellington's Active Transportation Plan, the Township strategically engaged members of the public, stakeholders etc. through an online questionnaire, two public information centres, stakeholder workshops as well as study promotional materials. The following is a summary of the different consultation methods which were undertaken and used to inform the development of the Township of Centre Wellington's Trails Master Plan.

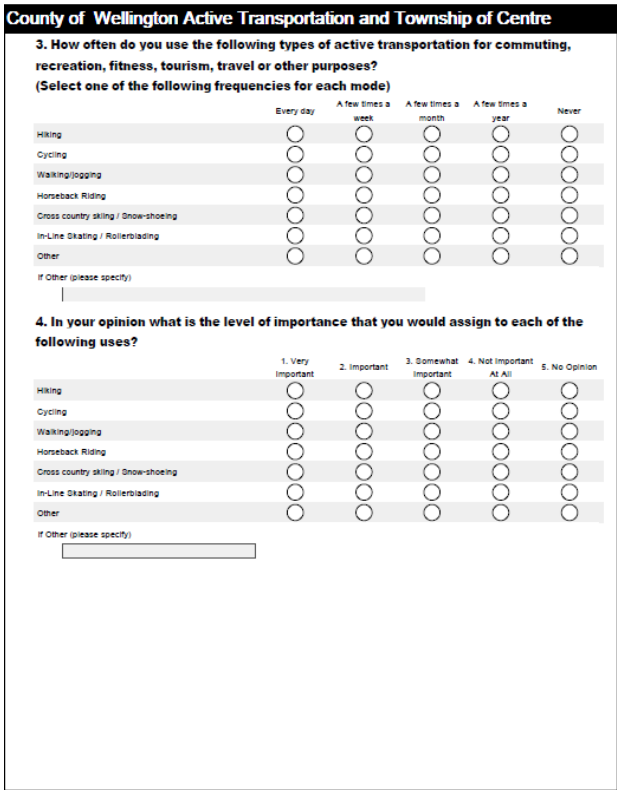
ONLINE QUESTIONNAIRE

Timeline: August 2011 – May 2012

Location: SurveyMonkey (www.surveymonkey.com)

The questionnaire was accessible electronically and in hard copy to residents and stakeholder throughout the study process. The questionnaire provided the study team with information and input regarding opinions related to active transportation and trail design and development throughout the Township of Centre Wellington:

- The frequency of use for multiple active transportation modes;
- The motivation behind the use of active transportation facilities and improvements;
- The reasons for implementing an active transportation study for the County;
- The active transportation and trail facility uses which are considered important to the residents of the County and Township;
- The constraints / barriers to trail and active transportation development; and
- Residents who want to be kept informed or involved in the implementation of the plan.



County of Wellington Active Transportation and Township of Centre

3. How often do you use the following types of active transportation for commuting, recreation, fitness, tourism, travel or other purposes?
(Select one of the following frequencies for each mode)

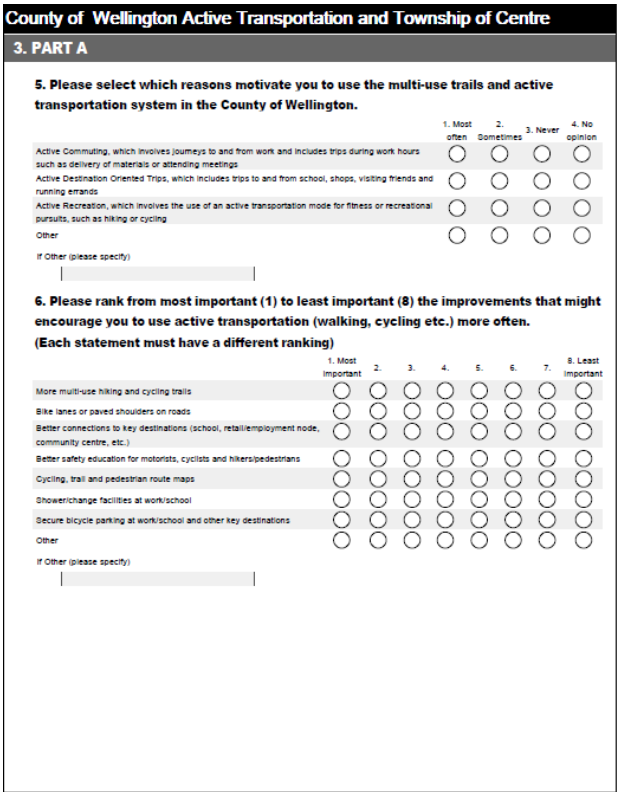
	Every day	A few times a week	A few times a month	A few times a year	Never
Hiking	○	○	○	○	○
Cycling	○	○	○	○	○
Walking/jogging	○	○	○	○	○
Horseback Riding	○	○	○	○	○
Cross country skiing / Snow-shoeing	○	○	○	○	○
In-Line Skating / Rollerblading	○	○	○	○	○
Other	○	○	○	○	○

If Other (please specify)

4. In your opinion what is the level of importance that you would assign to each of the following uses?

	1. Very important	2. Important	3. Somewhat important	4. Not important At All	5. No Opinion
Hiking	○	○	○	○	○
Cycling	○	○	○	○	○
Walking/jogging	○	○	○	○	○
Horseback Riding	○	○	○	○	○
Cross country skiing / Snow-shoeing	○	○	○	○	○
In-Line Skating / Rollerblading	○	○	○	○	○
Other	○	○	○	○	○

If Other (please specify)



County of Wellington Active Transportation and Township of Centre

3. PART A

5. Please select which reasons motivate you to use the multi-use trails and active transportation system in the County of Wellington.

	1. Most often	2. Sometimes	3. Never	4. No opinion
Active Commuting, which involves journeys to and from work and includes trips during work hours such as delivery of materials or attending meetings	○	○	○	○
Active Destination Oriented Trips, which includes trips to and from school, shops, visiting friends and running errands	○	○	○	○
Active Recreation, which involves the use of an active transportation mode for fitness or recreational pursuits, such as hiking or cycling	○	○	○	○
Other	○	○	○	○

If Other (please specify)

6. Please rank from most important (1) to least important (8) the improvements that might encourage you to use active transportation (walking, cycling etc.) more often.
(Each statement must have a different ranking)

	1. Most important	2.	3.	4.	5.	6.	7.	8. Least important
More multi-use hiking and cycling trails	○	○	○	○	○	○	○	○
Bike lanes or paved shoulders on roads	○	○	○	○	○	○	○	○
Better connections to key destinations (school, retail/employment node, community centre, etc.)	○	○	○	○	○	○	○	○
Better safety education for motorists, cyclists and hikers/pedestrians	○	○	○	○	○	○	○	○
Cycling, trail and pedestrian route maps	○	○	○	○	○	○	○	○
Shower/change facilities at work/school	○	○	○	○	○	○	○	○
Secure bicycle parking at work/school and other key destinations	○	○	○	○	○	○	○	○
Other	○	○	○	○	○	○	○	○

If Other (please specify)

Public Information Centre #1	
Timeline: October 29, 2011 8:00 am to 12:00 pm **Location:** Centre Wellington Community Sportsplex Fergus	Following the completion of Phase 1 of the Master plan study process, the Study team held a PIC in the Township of Centre Wellington. Representatives from the consultant team, the County, the Township, Wellington-Dufferin-Guelph Public Health in motion and local stakeholder groups gathered to engage members of the public through an informal "drop-in open-house" session. **The goal of the first PIC was:** "To introduce the public to the project and to hear from them regarding issues and opportunities, potential use standards and protocols related to active transportation in Wellington County". This session was used to present materials on existing active transportation and trail conditions throughout the Township of Centre Wellington. As the PIC was an open-house format, attendees were provided with the opportunity to speak with study team members, provide their comments directly on maps, as well as the study vision and route selection criteria. A set of display boards was developed for both the Active Transportation Master Plan as well as the Township of Centre Wellington Trails Master Plan in advance of the PICs. The information which was presented included: • The draft vision and goals; • The study process and proposed schedule; • The proposed route selection principles/criteria and network development approach; • Interim findings from the online questionnaire; • Background information review and analysis including key policies and plans; • Examples of active transportation and trail facility types, such as off-road trails and on-road signed bike routes with paved shoulders and bike lanes; and • Maps illustrating existing active transportation and trail routes, and candidate routes being considered at that stage of the project.

Public Information Centre #2

Timeline: April 11, 2012
6:30 pm to 9:00 pm

Location: Centre Wellington Community Sportsplex
Fergus

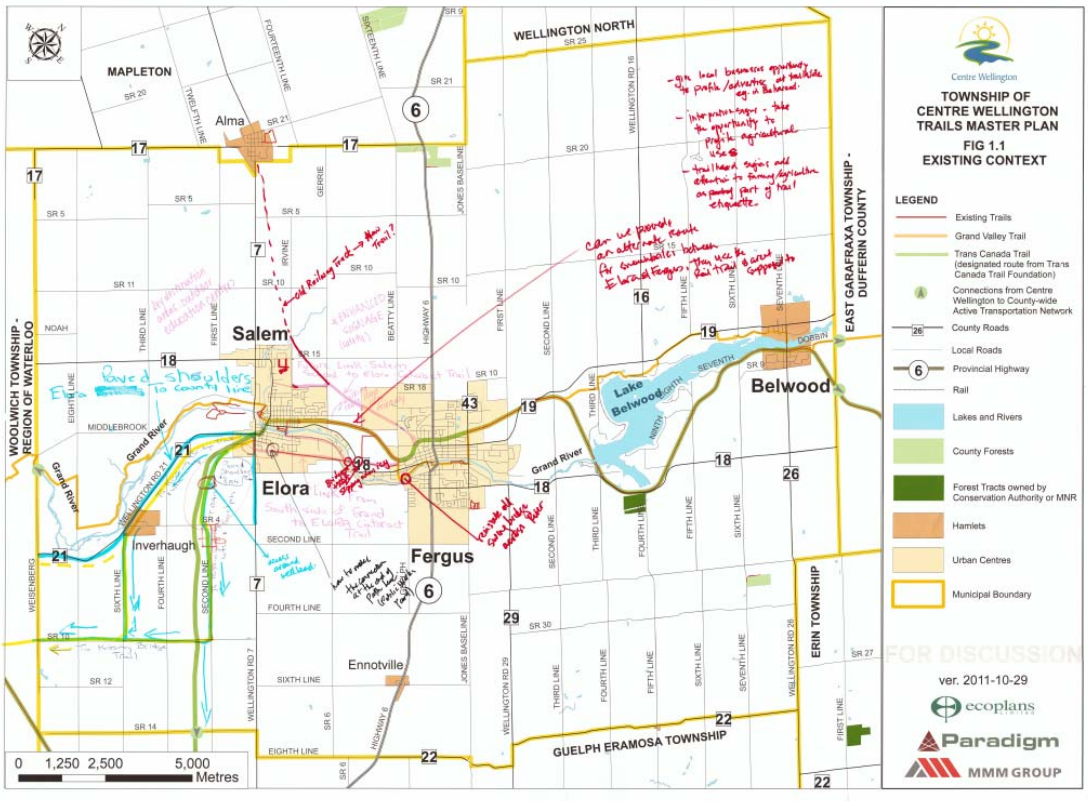
Similar to the first round of public information centres, this event was held as an 'open-house', to present the candidate active transportation route network for the Township of Centre Wellington.

The goal of the second PIC was:

"To present various components of the proposed active transportation plan."

Attendees were encouraged to speak with the study team members, provide their comments directly on the maps of the County as well as the local municipalities' candidate route networks. A set of display boards were developed for both the County as well as the Township studies in advance of the PIC. The information presented included:

- The updated study vision and goals;
- Updated interim online questionnaire results and commentary;
- The updated route selection criteria;
- Draft active transportation network; and
- Potential active transportation facility types for consideration



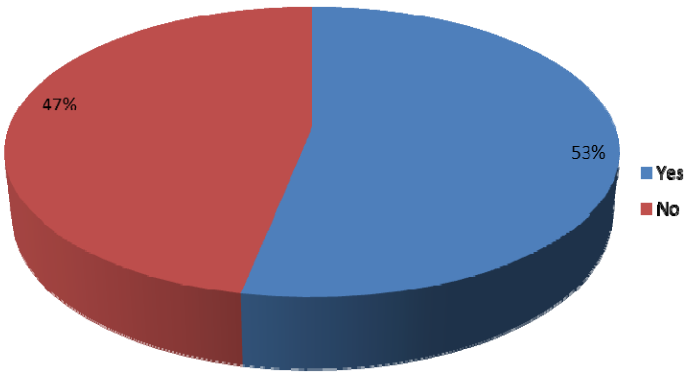
Stakeholder Workshop #1	
Timeline: October 20, 2011 **Location:** Elora and District Community Centre	The first stakeholder workshop was convened during the first phase of the project to engage members of the trail and active transportation community, representatives from the County and local towns and townships, conservation authorities, etc. The purpose of the workshop was to introduce the study and gather input from individuals with a keen interest and a variety of opinions on active transportation facility development throughout the County. An overview of the information presented and discussed included: • A definition and benefits of active transportation; • Study background information and policy analysis; • Study vision, objectives and process; • Interim online questionnaire results; • Best practices and facility design alternatives; • Existing conditions regarding active transportation within the County; and • Draft route selection criteria.

Stakeholder Workshop #2	
Timeline: March 29, 2012 **Location:** Centre Wellington Community Sportsplex, Fergus	The second stakeholder workshop was held in advance of the second round of the public information centres. The purpose of the workshop was to encourage participation and gather input on how to improve conditions for active transportation and trails throughout the County. An overview of the information presented and discussed included: • An update on the study progress; • A review of the definition of active transportation; • An update on the results of the online questionnaire; • A proposed network development and facility selection tool; • A set of facility design alternatives; and • A presentation of the proposed active transportation network.

2.2 SUMMARY OF COMMENTS – WHAT WE HEARD FROM THE PUBLIC

2.2.1 Online Questionnaire Results & Key Findings

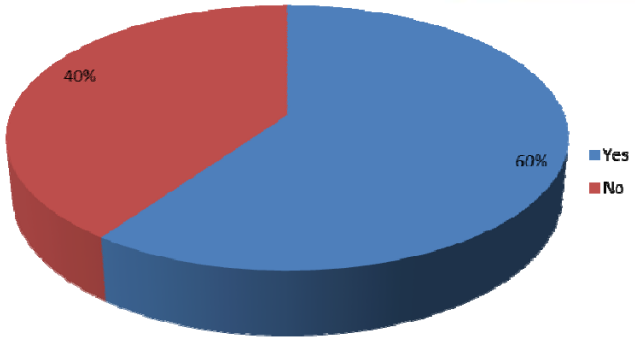
As noted above, the study team developed and maintained an online questionnaire throughout the study process which was used to gather input from residents with regard to trail development in the Township of Centre Wellington. In total there were 725 responses, of which nearly 36% of responses were from Centre Wellington residents. The County's master plan document summarizes the questionnaire's key findings, however, there were some questions which were specifically tailored for the Township's Trails Master Plan. Responses to these questions and key findings are summarized below.



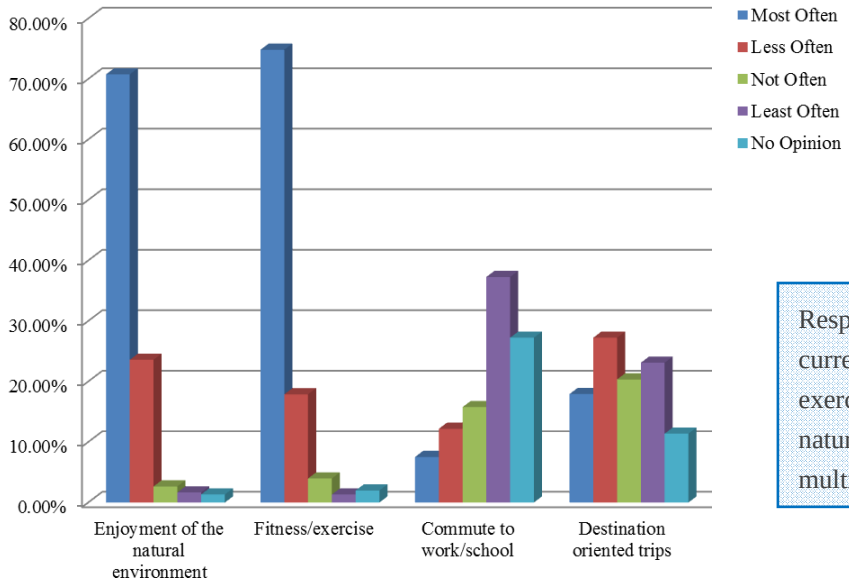
First Question: respondents to the questionnaire were asked whether they were ***"interested in answering questions about the development of the Township of Centre Wellington Trails Master Plan".***

Approximately 53% of the respondents to the questionnaire were interested in answering the questions pertaining to the Trails Plan for the Township of Centre Wellington for a total of approximately 384 responses.

Second Question: Those who proceeded with the questions pertaining to the Township's master plan were asked whether they were ***"a Township of Centre Wellington Resident"***. Of those who responded approximately ***60% (a total of 230) responded "yes"***.



Third Question: Respondents were asked to ***"select which reasons motivate you to use the multi-use trails system in the Township of Centre Wellington today"***. They were provided with the opportunity to rank 4 different options based on the frequency of the motivator. The following figure illustrates the responses for each of the motivator. :



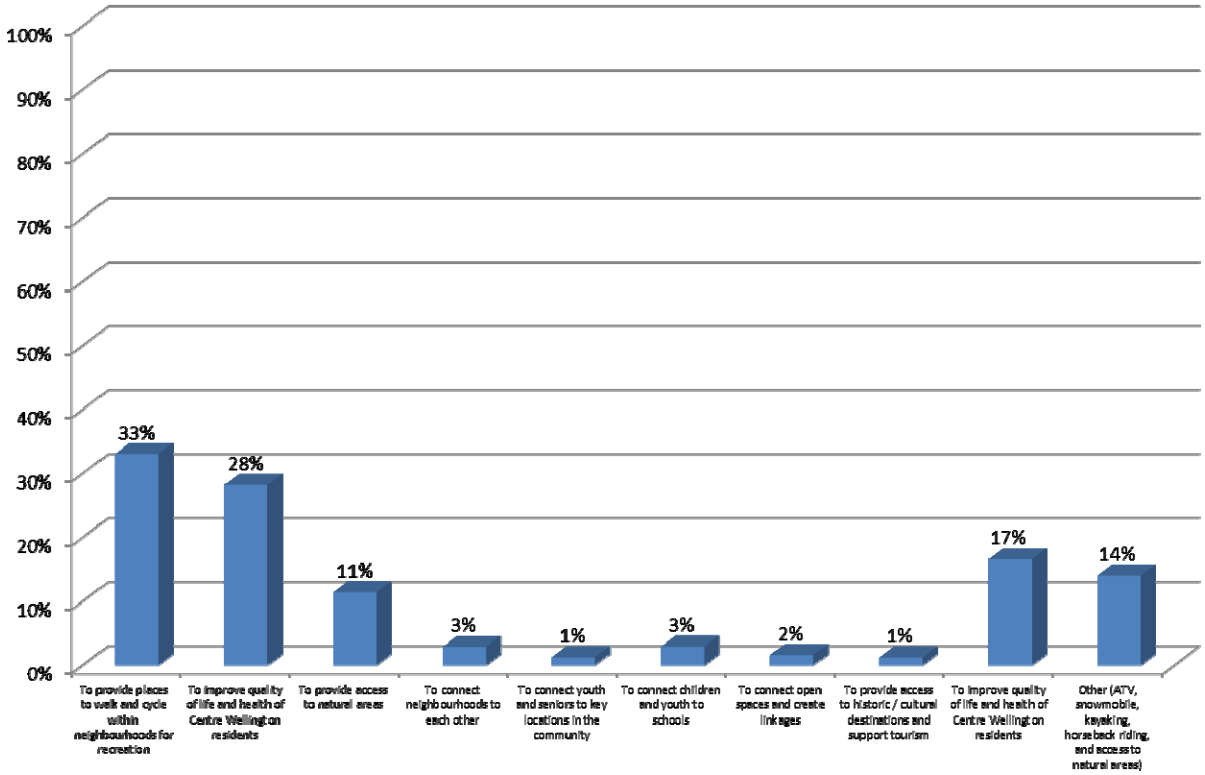
Responses indicate that people are currently most motivated by fitness / exercise (73%) and enjoyment of the natural environment (69%) to use the multi-use trails system throughout the

'Other' Motivators for Multi-use Trail Use

- ATV and snowmobile use;
- Horseback riding;
- Access to Elora Gorge (i.e. key community destinations);
- Dog walking;
- Geocaching;
- Social activities with friends; and
- River access for canoeing and kayaking.

Respondents were also provided the opportunity to identify "other" motivators for the use of the multi-use trail system within the Township. Some highlights from these responses are presented in the chart to the left.

Fourth Question: Respondents were asked to rank, by level of importance, the ***reasons why a comprehensive multi-use trail system should be developed throughout the Township of Centre Wellington***. They were provided with 9 alternatives and were able to respond to each.



Providing opportunities to walk and cycle within neighbourhoods are considered by respondents to be the most important use of the trail and active transportation system, followed by cycling. This figure demonstrates the most important reasons to use trails in Centre Wellington.

Fifth Question: Respondents were asked to identify ***"top three locations or corridors in the Township of Centre Wellington where you think new or better connected trails should be considered"***. Some highlights from these responses are presented in the chart below:

Top Locations in Centre Wellington

- Elora Cataract Trailway;
- Connections between Elora and Fergus;
- Elora Gorge; and
- Along the Grand River

Sixth Question: Respondents were asked to identify ***top three challenges or constraints for hiking, walking and cycling in the Township of Centre Wellington***. Some of the challenges and constraints highlighted in these responses are presented in the chart below:

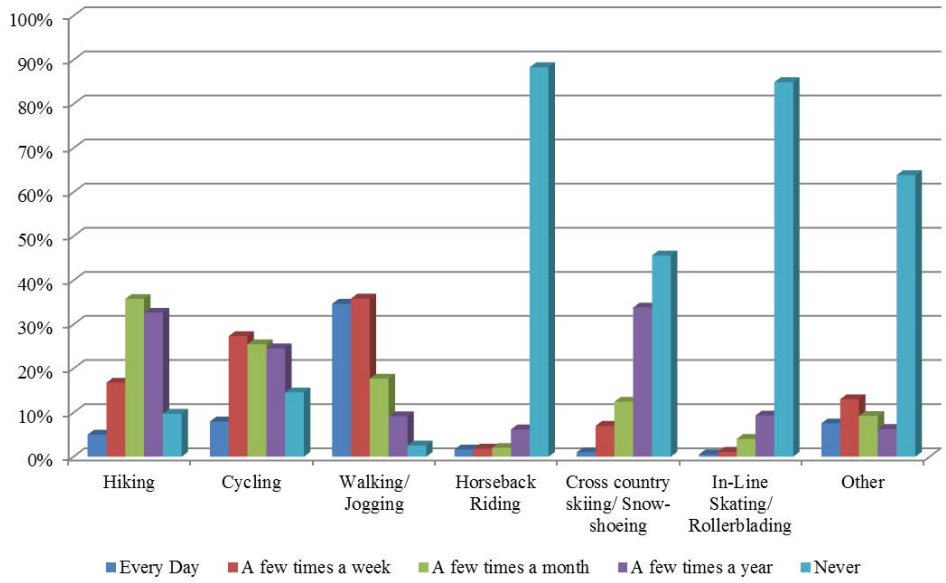
Top Challenges/ Barriers of Facility Development

- Cost of developing walking and cycling trails;
- Land availability and ownership;
- Community support and interest; and
- Safety.

As summarized in question five, interest in connecting trails to key destinations and corridors may facilitate the development of trails in Centre Wellington and address any identified challenges or barriers as presented in question six.

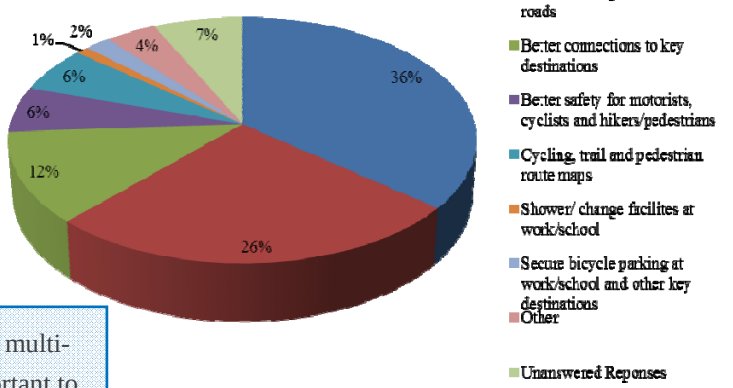
Along with the questionnaire for Centre Wellington residents, the study team developed an online questionnaire to gather input and responses from the County of Wellington. These responses provide additional support for the development of trails throughout Centre Wellington. Responses to these questions and key findings are summarized below.

Seventh Question: Respondents were asked *"how often do you use the following types of active transportation for commuting, recreation, fitness, tourism, travel or other purposes"* in the County of Wellington. They were provided with active transportation options such as hiking, cycling, walking/ jogging, horseback riding, cross country skiing/ snow-shoeing, in-line skating, and rollerblading.



Responses indicate that people most often walk or jog daily (35%) as a form of active transportation, followed by hiking (36%) a few times a month.

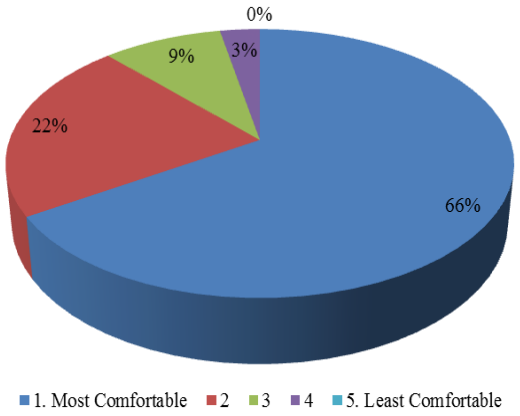
Eighth Question: Respondents were asked to *"rank most importance the improvements that might encourage you to use active transportation more often"*. The following diagram illustrates the improvements which respondents find most important.



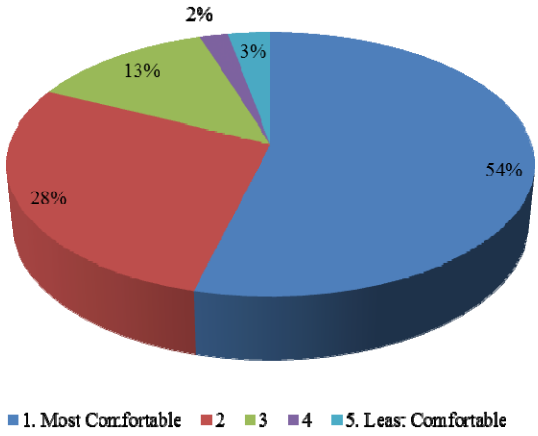
Responses indicate that improvements including more multi-use hiking and cycling trails are considered most important to encourage a more frequent use of active transportation.

Ninth Question: Respondents were asked to indicate *"how comfortable you feel participating in each of the following activities"*. The following diagrams illustrate comfort levels for cycling on multi-use trails and walking/ running/ jogging on multi-use trails.

Walking, Running and Jogging on Multi-use Trails



Cycling on Multi-use Trails

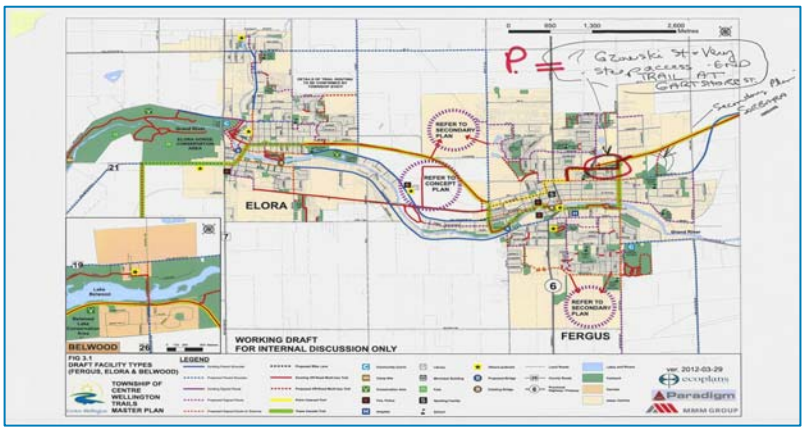


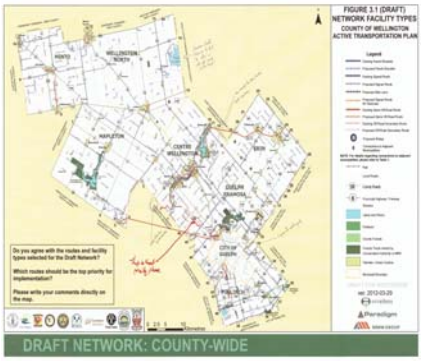
Responses indicate that a majority of people are interested and comfortable with the activities associated with walking, running, jogging (66%) and cycling (54%) on multi-use trails. These responses point to the potential for growing future demand for facilities to accommodate these activities. The network identified in this master plan responds to this potential increase in demand.

2.2.2 Public Information Centres

As the Public Information Centres (PICs) were open-house format, attendees were provided with the opportunity to share their input and comments directly on maps, as well as the study vision and route selection criteria. The following are some specific comments received:

- Add paved shoulders on Wellington Road 21 from Elora to the County line. Waterloo Region has paved shoulders from there east to Hwy 86
- Consider a route along Middlebrook Road
- Add a route along 8th Line from Wellington Road 18 to the Kissing Bridge Trail just north of Ariss
- Add a route along 6th Line from Inverhaugh to Ariss
- Can we link Alma to Fergus/Elora using the old railway line?
- Create a future link from the Salem school to the Elora Cataract Trail
- The bridge on the Trestle Bridge Trail is slippery when icy





- Link neighbourhoods on the south side of the Grand to the Elora Cataract Trail
- Reinstate the old swing bridge over the river in west Fergus (near base of Beatty Line)
- How do we make the connection from the end of the Trestle Bridge Trail to the Trans Canada Trail at Cottontail Road?
- Belwood Lake is a destination
- Add a paved shoulder on Wellington Road 7 from Wellington Road 21 to Sideroad 4
- Use 6th Line and Sideroad 10 to the Kissing Bridge Trail

2.2.3 Stakeholder Workshops

The purpose of the second workshop was to gather input on how to improve conditions for active transportation and trails throughout the County. Attendees were divided into working groups to focus on topic areas, according to a geographical area in the County. The topic areas include:

- Discuss and list 3-5 potential criteria that can be used to determine priorities for network implementation;
- Identify the top 5 network priorities for implementation; and
- Identify other initiatives that are needed to support Active Transportation (e.g. policies, programs, partnerships, products)

The input received for the topic areas of the Township of Centre Wellington includes:

Network Comments:

- Wellington Road 29 requires a substantial protected shoulder it is a very busy road
- Jones Baseline is a feasible bike route to Wellington Road 124
- Sand and salt left over from winter on road shoulders is a concern for cyclists

- Use 5th Line and 4th Line from Wellington Road 18 south. There are 4 or 5 roadside farm stands that would serve as a tourist draw. It is also a good alternative to Wellington Road 26 as it is less busy. It also connects the southern parts of Wellington County to the Elora Cataract Trail
- Fergus routes require more discussion, there needs to be a more direct route/connection of the trails to downtown to support tourism
- Access to the Elora-Cataract Trail at Gzowski Street is very steep. Consider ending the trail at Gartshore Street and use Forfar and James to Garafraxa
- Is there a secondary plan for the 'Sorbara' land on the east side of Fergus?

Suggested Priorities:

- Wellington Road 21 from Elora west to the county boundary is a priority route and key connection to Waterloo Region. It also connects to the Kissing Bridge Trail. Some sections currently have paved shoulders, the gaps need to be filled in
- Connecting the Elora Cataract Trailway to Guelph either by the Hydro corridor or Kissing Bridge Trail is a priority/complete the Trans Canada Trail Connection to Guelph
- Elora Cataract Trail signage through Elora and Fergus is needed so there is a clearly defined route
- Wellington Road 16 north of Wellington Road 19 requires signage and promotion as a route

*Please note that the Trails Master Plan for the Township of Centre Wellington was developed in conjunction with the County's Active Transportation Master Plan. As such, there are a number of sections throughout the document where reference is made to the County's Master Plan. Readers are meant to reference both documents when addressing Township trail development, design and implementation.

3.0 THE TRAILS NETWORK

3.1 THE NETWORK DEVELOPMENT PROCESS

This chapter describes details of the proposed trail network for the Township of Centre Wellington. The intent of the Trails Master Plan is to build upon the work that has already been completed by the Township, and the county-wide network developed during the preparation of the Wellington County Active Transportation Master Plan.

The following sections describe the network development process, the route selection principles, and the recommended trails network. This chapter also provides guidelines for the design of on and off-road trail facilities, and these are to be used in conjunction with the active transportation design guidelines prepared during the Wellington County Active Transportation Master Plan.

The proposed trails network along with the process undertaken to develop it was guided by the vision created for trails throughout the Township, the overall vision for active transportation for the County and the route selection principles. The following describes the key steps undertaken in the route development process:

Step 1: Inventory of Existing Conditions

Using the County's Geographic Information System (GIS) database, this included a compilation of digital mapping and background documents for existing or previously planned trails, parklands, walking routes, community destinations etc. within the municipality.

Step 2: Develop Network Guiding Principles

A set of guiding principles were established which were used to translate the vision into a network of trail routes and guidelines for a range of different trails in different municipal locations. These principles are consistent with those developed for the Wellington County Active Transportation Plan.

Step 3: Consultation with Local Stakeholders & Interest Groups

A consultation session with local stakeholders and interest groups was used to gather feedback on the network vision, existing conditions, route selection principles and potential trail policies and initiatives. The consultation sessions was held in conjunction with the consultation initiatives for the Wellington County Active Transportation Plan.

Step 4: Develop a Network of Candidate Routes

Using the information received from the Stakeholder consultation sessions, a list of candidate trail routes were proposed and examined in the field and considered for inclusion in the recommended Township trails network.

Step 5: Consultation with the Public

The Township, in conjunction with the County, undertook a Public Information Centre to provide residents with the opportunity to review the proposed candidate route network and existing conditions, the route selection criteria and study vision.

Step 6: Undertake Network Analysis

To develop and assess the proposed trail network, aerial imagery was first studied and this was accompanied by a field investigations of potential routes.

Step 7: Recommend Facility Types

Trail facility type recommendations were made for on and off-road components of the Township network. When combined with the proposed routes at the County level these result in a comprehensive trails network.

Step 8: Consult with the Public & Stakeholders

Following the development of the proposed trail network and in conjunction with the Active Transportation Master Plan for the County, a second round of public and stakeholder consultation events were held to gather input on the proposed route and potential facility types.

Step 9: Develop the Phasing

A phasing plan for short-medium and long-term projects was developed for the staged implementation of the trail network. In addition, a proposed funding strategy, consistent with the proposed approach for the County was developed.

Step 10: Finalize the Network, Facility Types & Phasing

Using feedback from Municipal staff, the recommended network, facility types, implementation and costing strategy were revised.

3.1.1 Inventory of Existing Trails

As part of the development of the master plan an inventory of existing trails was completed and consoldiated in the GIS database. This information was reviewed using aerial imagery and field investigations to determine major gaps in the system, proximity and connections to key destinations, opportunities and barriers.

Some of the key existing trails include:

- The 47 km Elora Cataract Trailway which originates in central Elora, passes through the Wellington Place lands, heads east into Fergus, through residential neighbourhoods north of downtown and continues east to Lake Belwood, the village of Belwood then travels through the southwest corner of East Garafraxa Township (Dufferin County), to Erin Township en route to its terminus at Cataract in the Town of Caledon
- The Trestle Trail, a spur of the Elora Cataract Trailway at Aboyne, which includes a spectacular crossing of the Grand River and connection to the south side of Elora
- The Trans Canada Trail which generally follows the route of the Elora Cataract Trailway from the eastern municipal boundary to Elora
- Portions of the Grand Valley Trail on the north shore of Lake Belwood, Elora Gorge Conservation Area and along the north side of the Grand River into Woolwich Township
- Local trail loops at the Centre Wellington Sportsplex, Confederation Park (Fergus), Victoria Park (Fergus), the Arboretum (Fergus), South Ridge Park (Elora), Bissell Park (Elora)
- Isolated trail loops in the rural area in a couple of locations, including the Wellington County Forest – Cumnock Tract near the intersection of Wellington Road 17 and Highway 6, and the Benham Tract off Seventh Line in the south east quadrant of the Township
- The existing system includes several trail crossings of the Grand River such as the Shand Dam, the bridge between the Fergus Market and downtown Fergus, the Trestle Bridge at Aboyne and the bridge at Bissell Park

Some of the future opportunities include:

- The southern leg of the Elora Cataract Trailway which heads west from the Elora urban area towards Guelph-Eramosa Township along Cottontail Road, Second Line and the HydroOne corridor, running south towards Guelph
- The expansion of the trail network as part of the development of new neighbourhoods in Fergus and Elora as both communities grow
- The unopened Sideroad 12 road allowance between Fourth and Sixth Line, south of Inverhaugh

Existing trails, public open space and important destinations are included on **Maps 3.1 and 3.2** on the following pages.

3.1.2 Guiding Principles for Route Selection

When making decisions about locations for the proposed trail network, the following route selection principles were used to help define the character of the trail network as well as assist in the selection of trail routes proposed in the Trails Master Plan. In an effort to ensure that the goals and objectives for the County were reflected as part of the Township's trail master plan, the same route selection principles were used for both the Township's Trails Master Plan and the Wellington County Active Transportation Master Plan.

Visible Active transportation routes should be a visible component of the transportation system.

Connected / Linked The Active Transportation network should link communities and important destinations throughout the County such as commercial, employment and residential areas, community centres, leisure, recreation and tourist destinations, parks, schools, etc.. The County-wide network should link existing and planned Active Transportation and trail facilities at the local municipal level and should be seamlessly connected to neighbouring municipalities. Active Transportation routes will provide crossings of major barriers (e.g. railways, highways, major arterial roads, valleys and rivers etc.) at appropriate locations.

Easy to Access Routes should be easily accessible from local neighbourhoods within the County.

Integrated The network should be integrated with other modes of transportation, particularly public transit. Routes will provide access to existing and future/planned transit stations and hubs (e.g. GO, Greyhound etc.).

Attractive and Interesting Routes should take advantage of attractive and scenic areas, view and vistas. Routes should provide users with the opportunity to experience and appreciate the natural and cultural heritage assets throughout Wellington County.

Accessible Where possible and practical, off-road routes will be accessible. It is recognized however that not all off-road routes will be accessible in all locations. Routes will be appropriately signed to communicate the level of accessibility so that users can make their own decision about use based on their personal level of mobility.

Context-Sensitive Facility design for individual routes should follow widely accepted guidelines but may also be modified to respond to the immediate surroundings. For example, off-road routes should be appropriately located when associated with natural heritage features, therefore each site's characteristics should be carefully considered when the alignment and design details are being developed for routes in natural heritage areas.

Sustainable Sustainability will be a key consideration in the alignment, design and selection of materials for on and off-road Active Transportation routes.

Cost-Effective The cost to implement and maintain the Active Transportation and trail network and supporting facilities/amenities should be phased over time and designed to be affordable and appropriate in scale for the County and the local municipalities. User safety will not be compromised in the interest of minimizing initial construction or ongoing operational costs. Opportunities for partnerships with other levels of government and outside organizations should be pursued wherever possible.

3.1.3 The Proposed Trails Network

Map 3.1 illustrates the proposed Township of Centre Wellington Trail Network for the entire Township and **Map 3.2** includes enlargements for Elora, Fergus and Belwood. The network includes both on and off-road routes by facility type. These routes connect seamlessly with surrounding townships that are part of the County-wide route network included in the County's Active Transportation Master Plan, and also with routes in neighbouring muncipalities (i.e. Woolwich Township and East Garafraxa Township). Facility type selection and design is discussed later in this chapter.

With the exception of the Elora Cataract Trailway, Trans Canada Trail and the Grand Valley Trail, the majority of the network routes in the rural areas of the Township consist of on-road signed routes for cyclists on lower volume roads (e.g. Fourth Line south of Lake Belwood in the rural area, St. George Street in the Fergus urban area) and routes utilizing paved shoulders on some of the busier roads (e.g. Wellington Road 29 in the rural area, South River Road between Elora and Fergus). It is expected that the majority of users on the road routes in the rural areas will be cyclists, however pedestrians are permitted to walk on road shoulders in the direction facing oncoming traffic. On-road routes in the rural area include portions of:

- Wellington Road 29, and Fourth and Fifth Lines between Wellington Road 18 and Wellington Road 22, both heading south into Guelph-Eramosa Township
- Wellington Road 19 heading east from Fergus to the Township of East Garafraxa
- Wellington Road 16 from Wellington Road 19 into the Township of Wellington North
- Beatty Line, Sideroad 15 and Gerrie Road on the north side of Elora, heading north into the Town of Mapleton
- Middlebrook Road, Eighth Line and Wellington Road 21 on the west side of Elora
- Portions of Sideroad 12, Sixth Line, Fourth Line and Second Line in the southwest quadrant of the Township
- Second Line, which connects into the Hydro One Corridor (off-road) heading south into Guelph-Eramosa Township


TOWNSHIP OF CENTRE WELLINGTON TRAILS MASTER PLAN
Centre Wellington
MAP 3.1
PROPOSED ROUTE NETWORK WITH FACILITY TYPES
LEGEND
Existing Paved Shoulder
Proposed Paved Shoulder
Existing Signed Route
Proposed Signed Route
Proposed Signed Route with Sharrow
Proposed Bike Lane
Existing Off-Road Multi-Use Trail
Proposed Off-Road Multi-Use Trail
Elora Cataract Trail
Trans Canada Trail
Community Centre
Camp Site
Conservation Area
Fire, Police
Hospital
Library
Municipal Building
Park
Sporting Facility
School
Other/Landmark
Proposed Bridge
Existing Bridge
Local Roads
County Road
Provincial Highway / Freeway
Municipal Boundary
Lakes and Rivers
Parkland
Hamlets
Urban Centres
0 875 1,750 3,500 Metres
MMM GROUP
TOWN OF MAPLETON
TOWNSHIP OF WELLINGTON NORTH
EAST GARAFRAXA TOWNSHIP - DUFFERIN COUNTY
WOOLWICH TOWNSHIP - REGION OF WATERLOO
GUELPH-ERAMOSA TOWNSHIP
TOWN OF ERIN
ALMA
SALEM
ELORA
FERGUS
BELWOOD
INVERHAUGH
ENNOTVILLE
Lake Belwood
Grand River
REFER TO MAP 3.2
WELLINGTON RD 17
WELLINGTON RD 16
WELLINGTON RD 7
WELLINGTON RD 29
WELLINGTON RD 26
WELLINGTON RD 22
WELLINGTON RD 21
HIGHWAY 6
ERIN-GARAFRAXA TL
MIDDLEBROOK
NOAH
YATTON
DOBBIN
WEISENBERG
JONES BASELINE
BEATTY LINE
GERRIE
IRVINE
SR 5
SR 10
SR 11
SR 12
SR 14
SR 15
SR 16
SR 18
SR 19
SR 20
SR 21
SR 27
SR 30
6
7
16
17
18
19
21
26


TOWNSHIP OF CENTRE WELLINGTON TRAILS MASTER PLAN
MAP 3.2 PROPOSED ROUTE NETWORK WITH FACILITY TYPES (FERGUS, ELORA & BELWOOD)
Centre Wellington
ELORA
FERGUS
BELWOOD
DETAILS OF TRAIL ROUTING TO BE CONFIRMED BY TOWNSHIP STAFF
BEATTY HOLLOW PROPOSED TRAILS AS PART OF NEIGHBOURHOOD DEVELOPMENT
REFER TO SECONDARY PLAN
REFER TO CONCEPT PLAN
REFER TO SECONDARY PLAN
ELORA GORGE CONSERVATION AREA
Grand River
Lake Belwood
Belwood Lake Conservation Area
Centre Wellington Sportsplex
Existing Schools
1 Salem Public School
2 St. Mary's Catholic School
3 Elora Public School
4 St. Joseph Catholic School
5 Victoria Terrace Public School
6 Marantha Christian School
7 John Black Public School
8 Hogarth Public School
9 Centre Wellington District High School
Parks
1 Elora Meadows Park
2 Elora Lion's Park
3 Bissell Park
4 Elora Quarry Conservation Area
5 Granwood Park
6 South Ridge Park
7 Gibbons Drive Park
8 Harper Crescent Park
9 Revell Drive Park
10 Strathallen Park
11 Forfar Park
12 Confederation Park
13 Arboretum
14 Highland Park
15 Victoria Park
16 Off-Leash Dog Park
LEGEND
Existing Paved Shoulder
Proposed Paved Shoulder
Existing Signed Route
Proposed Signed Route
Proposed Signed Route with Sharrow
Proposed Bike Lane
Existing Off-Road Multi-Use Trail
Proposed Off-Road Multi-Use Trail
Elora Cataract Trail
Trans Canada Trail
Community Centre
Camp Site
Conservation Area
Fire, Police
Hospital
Library
Municipal Building
Park
Sporting Facility
School
Other/Landmark
Proposed Bridge
Existing Bridge
Local Roads
County Road
Provincial Highway / Freeway
Municipal Boundary
Lakes and Rivers
Parkland
Hamlets
Urban Centres
0 255 510 1,020 Metres
0 120 240 480 Metres
MMM GROUP

- In the urban areas (**Map 3.2**) some of the on-road routes include:
- East Mill Street and South River Road / Water Street East between Fergus and Elora
- David, Geddes, Church, Bridge and Walser Streets in Elora
- St. Andrew, Union, St. George. Garafraxa, Scotland / Gartshore, Lamond, and Gzowski Streets, Forfar Street East, St. Street David South, Anderson Street North Parkside Drive, and McQueen Boulevard.

On-road routes are complemented by off-road routes in the urban area and some of these include:

- The Elora Cataract Trailway, Trestle Bridge Trail, and routes through parks such as Bissell Park, South Ridge Park, Elora Lions Park, the Arboretum, Gibbons Drive Park, Confederation Park, and the Centre Wellington Sportsplex
- Off-road routes through several of the new parks that are being created with the development of new neighbourhoods in Elora and Fergus

When completed, the network will consist of over 212 km of routes on Township lands and roads and County roads. **Table 3.1** provides a breakdown of the network by facility type and ownership (i.e. Township or County).

Table 3.1: Network Summary- Length of Facilities (km) by Type and Ownership

	Existing (km)	Proposed (km)	Total (km)
Spine Off-Road Multi-use Trail (Spine Off-Road Route) (1)	18.5	7.1	**25.6**
Secondary (Local) Off-Road Multi-use Trail	43.2	9.7	**52.9**
Signed Route on Township Roads	0	59	**59**
Signed Route on County Roads	0.5	6.0	**6.5**
Signed Route with Sharrow on Township Roads	0	8	**8**
Signed Route with Sharrow on County Roads	0	3.8	**3.8**
Paved Shoulder on Township Roads	0	15.2	**15.2**
Paved Shoulder on County Roads	20.3	36.9	**57.2**
Bike Lane on Township Roads	0	0.1	**0.1**
Bike Lane on County Roads	0	0	**0**
Total by Phase	**82.5km**	**145.8km**	**228.3km**

The Elora Cataract Trailway (also the Trans Canada Trail) is a key off-road spine trail traversing the Township. In the rural area between Elora and Fergus and the rural area east of Fergus the trail is clearly defined as it travels along the former Canadian Pacific railway- Credit Valley Railway branch line.

Defining and clearly marking the route within the Fergus and Elora urban areas has been a challenge for a number of years. Coming into Fergus from the east, the Elora Cataract Trailway and Trans Canada Trail share the same route. At Gartshore Street the two trails diverge, with the Elora Cataract Trailway continuing west through neighbourhoods on the north side of downtown and the Trans Canada Trail heads to the south side of the Grand River at Confederation Park, crossing to the north side of the river at the Fergus Market and heading west through the downtown. The two trails again converge at the Elora Cataract Trailway staging area off Beatty Line, to "kilometre 0" of the Elora Cataract Trailway at the intersection of Kertland and Church Street East. From this point west the Trans Canada Trail route follows Church Street East, Metcalfe Street and Wellington Road 21, where it heads south along the Second Line road allowance.

Maps 3.3 and 3.4 illustrate the Elora Cataract Trailway and Trans Canada Trail routes through Fergus and Elora and include a detailed trail signing plan which will assist in marking the routes clearly. Further details regarding trail signing are included in section 3.2.3.10.

Recommendation 3.1	Adopt the on and off-road trails network as illustrated in the Trails Master Plan as the blueprint for the development of a comprehensive trails network in Centre Wellington.
Recommendation 3.2	Consider the route selection principles as described in the Trails Master Plan when future network changes are being explored, new opportunities are identified and when individual routes are in the detailed planning and design stage of implementation.
Recommendation 3.3	Recognize that adjustments to the approved network plan will occur from time to time and that this is consistent with the goal of ensuring the network plan is flexible and can respond to changes and new opportunities.
Recommendation 3.4	Have regard for the proposed route network in the Wellington County Active Transportation Master Plan when changes are being contemplated for the Centre Wellington route network.

SIGN MARKER KEY

ELORA CATARACT TRAIL & TRANS CANADA TRAIL MARKERS (COINCIDENT ROUTE)

STRAIGHT AHEAD	TURN LEFT	TURN RIGHT
#1	#2	#3

ELORA CATARACT TRAIL MARKERS (SEPARATE ROUTE)

STRAIGHT AHEAD	TURN LEFT	TURN RIGHT
#4	#5	#6

TRANS CANADA TRAIL MARKERS (SEPARATE ROUTE)

STRAIGHT AHEAD	TURN LEFT	TURN RIGHT
#7	#8	#9

EXAMPLE

Signage Key
South - #6 — North Facing Sign
East - #5 — East Facing Sign

South #6 — South Facing Sign
East #5 — East Facing Sign
DRAWING NORTH
TURN RIGHT #6
TURN LEFT #5

TRAIL KILOMETER MARKER

Elora Cataract Trail Kilometre Marker (Bollard-style) suggested for the urban areas within, and section of trail between Elora and Fergus. East of Fergus the simple metal post and aluminum plate-style marker is suggested.

2.0km
East - #1
West - #1
East - #4
West - #4
East - #4
West - #4
East - #4
West - #4
East - #4
West - #4
East - #4
West - #4
East - #4
West - #4
East - #4
West - #4
West - #3
South - #2
3.0km
North - #7
North - #5
South - #1
South - #6
East - #3
East - #8
North - #7
South - #7
North - #7
South - #7
North - #7
South - #7
North - #7
South - #7
East - #5
South - #6
West - #5
North - #6
East - #4
West - #4
East - #4
West - #4
East - #5
South - #6
5.0km
North - #4
South - #4
West - #5
North - #6
West - #9
South - #8
East - #9
North - #8
West - #9
South - #8
4.0km
East - #8
West - #9
East - #8
South - #9
West - #8
North - #9
East - #8
South - #9
East - #5
South - #6
West - #5
North - #6
East - #4
West - #4
East - #4
East - #8
West - #1
West - #9
South - #5
South - #3
6.0km
East - #7
West - #7
East - #7
West - #7
East - #9
North - #8
East - #9
South - #8
West - #8
North - #9
North - #7
South - #7
North - #7
South - #7
North - #7
South - #7
North - #7
South - #7
North - #7
South - #7
North - #9
West - #8
East - #1
West - #1
7.0km

FERGUS

PEGLAR, HARPER, DICKSON, SOWOOD, TORNOWAY, BELLAMY, GLENGARRY, GARTSHORE, FIRST LINE, PARKSIDE, EDINBURGH, GZOWSKI, COLBORNE, BLACK, LEVELL, BEATTY LINE, PERRY, WOODSIDE, BERGIN, CHURCHILL, VICTORIA TERRACE, FORFAR, DOUGLAS, JAMES, GLENCOE, WELLINGTON RD 19, GARAFRAXA, HILL, TOM, JOHN, PROVOST, TOWER, MAIDEN, MAPLE, ST GEORGE, GOWRIE, HERRICK, ST PATRICK, ATCHISON, ANDERSON, KITCHENER, ST ANDREW, BLAIR, COLQUHOUN, QUEEN, BRIDGE, UNION, HILLSIDE, RIVER, ALICE, LAMOND, GRAND RIVER, ORANGEVILLE, ELGIN, THISTLE, ANGUS, ALBERT, PERTH, ATHOL, PRINCES, TOWER, MCALLISTER, HIGHLAND, SCOTLAND, HARVEY, WALKER, WATT, ARGYLL, SHORTREED, MCTAVISH, BRAESIDE, GRANDVIEW, WELLINGTON, ELORA, BELSYDE, GUELPH, OMAR, RAGLAN, BON ACCORD, FERGUS, WELLINGTON RD 18, GRAND RIVER, SOUTH RIVER

TOWNSHIP OF CENTRE WELLINGTON TRAILS MASTER PLAN

MAP 3.4
ELORA CATARACT TRAIL/ TRANS CANADA TRAIL SIGNAGE PLAN

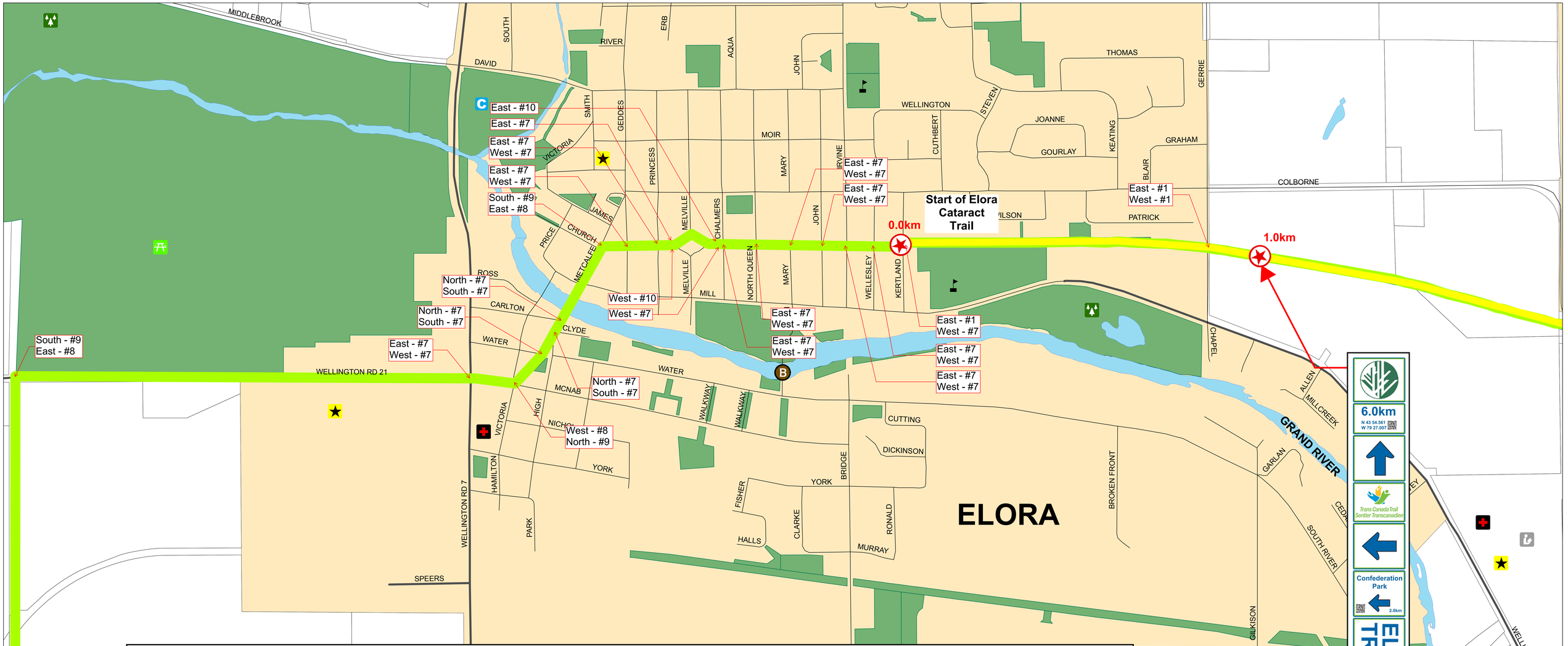
LEGEND

- Elora Cataract Trail
- Trans Canada Trail
- Elora Cataract Trail Kilometre Marker
- Community Centre
- Camp Site
- Conservation Area
- Fire, Police
- Library
- Municipal Building
- Park
- Hospital
- Sporting Facility
- School
- Other/Landmark
- Existing Bridge
- Local Roads
- 26 County Road
- 6 Provincial Highway / Freeway
- Municipal Boundary
- Lakes and Rivers
- Parkland
- Hamlets
- Urban Centres

DRAWING NORTH, TRUE NORTH

0 100 200 400 Metres

MMM GROUP



SIGN MARKER KEY

ELORA CATARACT TRAIL & TRANS CANADA TRAIL MARKERS (COINCIDENT TRAIL)

STRAIGHT AHEAD	TURN LEFT	TURN RIGHT
#1	#2	#3

ELORA CATARACT TRAIL MARKERS (SEPARATE TRAIL)

STRAIGHT AHEAD	TURN LEFT	TURN RIGHT
#4	#5	#6

TRANS CANADA TRAIL MARKERS (SEPARATE TRAIL)

STRAIGHT AHEAD	TURN LEFT	TURN RIGHT
#7	#8	#9

CUSTOM MARKER

Church St. / Melville St. / Melville St. / Church St.

AROUND CHURCH #10

EXAMPLE

Signage Key: South - #6 / East - #5

North Facing Sign

East Facing Sign

South #6 — South Facing Sign — TURN RIGHT #6

East #5 — East Facing Sign — TURN LEFT #5

DRAWING NORTH

TRAIL KILOMETER MARKER

Elora Cataract Trail Kilometre Marker (Bollard-style) suggested for the urban areas within, and section of trail between Elora and Fergus. East of Fergus the simple metal post and aluminum plate-style marker is suggested.

TOWNSHIP OF CENTRE WELLINGTON TRAILS MASTER PLAN

MAP 3.3
ELORA CATARACT TRAIL/ TRANS CANADA TRAIL SIGNAGE PLAN

LEGEND

- Elora Cataract Trail
- Trans Canada Trail
- Elora Cataract Trail Kilometre Marker
- Community Centre
- Camp Site
- Conservation Area
- Fire, Police
- Library
- Municipal Building
- Park
- Hospital
- Sporting Facility
- School
- Other/Landmark
- Existing Bridge
- Local Roads
- County Road
- Provincial Highway / Freeway
- Municipal Boundary
- Lakes and Rivers
- Parkland
- Hamlets
- Urban Centres

DRAWING NORTH / TRUE NORTH

0 100 200 400 Metres

MMM GROUP

3.2 DESIGNING TRAILS

3.2.1 Trails Users & Design Considerations

Purpose of the Guidelines: to assist those involved in trail development in making informed decisions about trail facility design.

A "one size fits all" design approach does not apply when determining the most appropriate facility type to accommodate users of different age and ability. It is important to design facilities that are specific to the type of experience that is desired and to enhance users' experience, enjoyment and safety of trails throughout the Township of Centre Wellington. As such, a set of trail design guidelines has been developed that will serve as a reference by the Township when designing both on and off-road trail facilities.

The information included in these guidelines is consistent with the design guidelines presented as part of the Wellington County Active Transportation Master Plan and represents current accepted trail and active transportation design best practices across North America.

The application of these guidelines in the development, implementation and operation of specific trail facilities will require the consideration of factors including but not limited to:

- Public Safety;
- Local and / or provincial jurisdiction requirements;
- Building codes; and
- By-laws.

Where existing on and off-road trail facilities are to be incorporated as part of the Township's trails system but do not meet the recommended conditions described in these guidelines or those found within the Wellington County Active Transportation Master Plan, the proposed approach found on page A-2 of the County's guidelines should be applied.

3.2.1.1 Facility Users & Needs

As part of the facility selection and design process, the characteristics and preferences of potential users must be considered. In the Township of Centre Wellington potential user groups are expected to include pedestrians, cyclists, and a variety of other users including skateboarders and in-line skaters and equestrians (in specific locations). **Table 3.1** provides a brief description of the pedestrian and cyclist user groups, and the sections following Table 3.1 summarize the needs of in-line skaters, skateboarders and equestrians. For a more detailed description of the pedestrian and cyclist user groups refer to section A.2.1 (Pedestrians), A.2.2 (Cyclists) and A.2.3 (Skateboarders & Non-motorized scooter users) in the Wellington County Active Transportation Master Plan.

Table 3.2 Typical Key User Groups	
Pedestrian User Groups	
Walkers	Represent a wide range of interests and motives for using trails (e.g. leisure, relaxation, socializing, exploring, fitness etc.) and should be used as the base level for facility design. Note, in some trail locations this group also includes cross-country skiiers and snowshoers during winter months.
Users with Mobility Aids	Like walkers, this group represents a wide range of interests and motives for using trails (e.g. leisure, therapy, rehabilitation, relaxation, socializing, exploring etc.). Varied levels of ability and a diversity of mobility devices are also characteristic of this group. Some devices include electric scooters/wheelchairs, user propelled wheelchairs, walkers, probing canes ("white cane / NFB cane").
Hikers	Often considered more of the elite of the recreational walking group and are attracted to natural features and challenging terrain in rural areas. They may challenge themselves to cover long distances.
Joggers / Runners	Tend to be accomplishment oriented and often enjoy the trails at higher speed and over longer distances (up to 15 km or more) with a primary motivator being fitness.
Cyclist User Groups	
Recreational	Typically a shorter distance rider interested in undertaking cycling trips to provide access to scenic attractions, points of interest, historical sites and key community destinations such as community centres, local parks and trails. Trips typically range from under an hour to several hours.
Touring	Includes longer distance riders with similar goals as recreational cyclists but who are engaged in multi-day / multi-week excursions, often relying on the local hospitality industry for accommodation and food.
Utilitarian	Includes those who use cycling as a mode of transportation for day to day activities including but not limited to riding to work, errands, social gatherings etc.

In-line Skaters

In-line skaters, like skateboarding and non-motorized scooters are popular among children and youth particularly within urban areas. In some municipalities, skateboarders and scooter users have been prohibited by local by-law from using either roadways or sidewalks. Consequently, they are avid users of hard-surface off-road trails and may travel some distance to reach a trail that suits their needs.

This user group prefers a very smooth, hard surface. Loose sand, gravel, twigs, branches, fallen leaves and puddles can be significant hazards. Though skateboarders and scooter users can quickly become pedestrians by dismounting, they too are vulnerable to the effect of grades (both up and downhill) and require ample manoeuvering space. The grades an in-line skater can safely negotiate depend upon the expertise of the individual. A beginner can comfortably traverse slopes of no more than 3%, while an expert may be able to manage slopes in excess of 10% for short distances. Long or steep hills with limited visibility may be viewed as either challenging or terrifying depending on an individual's level of experience. **Table 3.3** provides some guidelines for trail slope based on level of in-line skater / skateboarder experience.

Although in-line skaters may have more in common with cyclists than pedestrians when considering travel motive and speed, they are not considered "vehicles" according to the Ontario Highway Traffic Act.

Table 3.3 In-line Skating Design Grade Considerations

Longitudinal Slope	Maximum Distance	Ability of Skater
1% - 3%	unlimited	Beginner /Novice
3% - 5%	1000m	Novice – Intermediate
5% - 10%	100m	Experienced
>10%	Evaluation Required	Experienced

It is expected that in-line skaters would share hard surfaced trails with pedestrians and cyclists. Therefore, the maximum longitudinal slope of the trail (slope along centre line) should be based on requirements for wheelchair users and should not exceed 5% wherever possible. In locations where steep grades cannot be avoided, such as environmentally sensitive areas where recommended grades cannot be implemented without extensive grading, steps and ramps should be provided nearby as alternate routes and caution signs should be erected. Due to safety concerns in-line skating should be discouraged on paved roads.

Equestrians

Horseback is most desirable in quiet rural settings; however there are occasions when equestrian users require, or are interested in using public roads, busy trails and road right-of-ways as part of their trail experience. For example, equestrians are one of the permitted user groups on some sections of the Elora Cataract Trailway. When organized equestrian clubs come forward with a demonstrated interest in accessing municipal trails in the rural areas, it is recommended that they are embraced as a bona-fide user group and they be granted access to key rural off-road trail corridors, provided that the trail(s) can be suitably designed for shared use. Safety is a primary consideration when horses must mix with motorized vehicles and other trail users. In addition to the following considerations, local equestrian riders should be consulted when trails are being designed for equestrian use.

Ontario's Highway Traffic Act:
Equestrians are permitted on provincial roads, although many municipalities place restrictions on riding in urban areas.

Key Equestrian Considerations:

- Trail width should accommodate a shy distance of 0.6 m, to allow for uneasy horses to shy to one side of the trail, and pull-off areas should be regularly located to allow for passing of other equestrians or other trail users.

- Visual barriers such as vegetation or solid fences are also recommended where trails are adjacent to roadways or areas of high activity (i.e. sports fields), as sudden motions in peripheral view zones may alarm the horse.

- Where bollards are used to limit trail access, it should be noted that mounted riders generally cannot pass through bollards spaced less than 1.5 m apart, unless they are less than 0.9 m high and below foot / stirrup level.

Snowmobiles

The Centre Wellington Trails Master Plan is intended to focus on non-motorized trail uses. However, it is recognized that snowmobiles are permitted on some sections of some trails (i.e. some sections of the Elora Cataract Trailway, provided that users bear a permit from the Ontario Federation of Snowmobile Clubs (OFSC).

Recommendation 3.5	Pedestrians and cyclists should be considered the primary user groups when planning and designing the trail network. Equestrians, skateboarders and in-line skaters have more specific design considerations and requirements. These should be considered when designing facilities intended to accommodate a wide range of user groups.

3.2.1.2 Accessibility

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. 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.

Universal Trail Design is a concept that takes into consideration the abilities, needs, and interests of the widest range of users. For trails, it means planning and developing a range of facilities that can be experienced by a variety 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 providing separate facilities;

- **Flexibility in use**: provide different options for trail users in order to accommodate a variety of experiences and allow for choice;

- **Simple, intuitive and perceptible information**: whether conveying trail information through signage, maps or a web site, communicate using simple, straightforward forms and formats with easy to understand graphics and/or text;

- **Tolerance for error**: design trails and information systems so as to minimize exposure to hazards, and indicate to users potential risks or challenges that may be encountered;

- **Low physical effort**: trails may provide for challenge but should not exceed the abilities of the intended users; and where appropriate, rest areas should be provided; and

- **Size and space for approach and use**: trails and amenities should provide for easy access, comfort and ease in their usage.

AODA Guidelines:

http://www.e-laws.gov.on.ca/html/source/regs/english/2011/elaws_src_regs_r11191_e.htm

"Opportunities for recreation, leisure and active participation should be available to all members of the community. Outdoor trails and trailways which offer a range of levels of difficulty will allow each individual to choose their preferred route based on their abilities and desired level of challenge."

"Ontario's Best Trails" – (2006) provides an in depth discussion of the application of Universal Design principles and their application. Where possible and practical, trails and multi-use pathways should be designed to be accessible to all levels of ability. It must be recognized, that not all trails throughout the system can meet all accessibility needs.

Steep slopes are one of the most significant barriers for those with physical disabilities. To the extent that it is possible and practical, designing trails to be within the threshold (5%) for universal access will not only overcome this significant barrier but it will help to reduce the potential for erosion of the trail surface. The following are some additional considerations for making existing and new trails accessible:

- Designers should consult the most current standards available;

- Where the trail requires an accessibility solution that is above and beyond what is normally encountered, a representative of the local accessibility advisory committee should be consulted early in the design process to determine if it is desirable and practical to design the specific trail to be accessible;

- Where it has been determined that accessibility is appropriate, the accessibility representative should be consulted periodically during the detailed design process to ensure that the design is appropriate; and

- Work collaboratively with the local accessibility advisory committee to consider developing signage/content to clearly indicate trail accessibility conditions, enabling users with mobility-assisted devices to make an informed decision about using a particular trail prior to using it.

The **Accessibility for Ontarians with Disabilities Act**, (AODA, 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." Ontario Regulation 413/12 made under the Accessibility for Ontarians with Disabilities Act, 2005 is the standard that applies to pathways and trails. Compliance with the requirements of the Act will help remove barriers in outdoor spaces for people with disabilities. The guidelines and criteria contained in the document apply to new construction and extensive renovation of trails and exterior paths of travel. They do not apply to on-road cycling facilities.

Sections 80.8 and 80.10 of the document provide the technical requirements for recreational trails. Some of the key requirements include:

- Minimum trail clear width 1.0m;
- Minimum trail head room clearance of 2.1m above trail;
- Surfaces are to be firm, stable with minimal glare;
- Preferred maximum running / longitudinal slope of 5%; with up to 10% acceptable over short distances;
- Maximum cross slope of 2%;
- High tonal or textural changes to distinguish the edge;
- Criteria in the document also address changes in level, openings in the surface, edge protection (e.g. near water);
- Signage shall be easily understood and detectable by users of all abilities. It is important to ensure that signage and mapping / messaging clearly communicates what trails are accessible so that users can make an informed personal decision about which trails they will use.

This section of the Act also recognizes exceptions where accessibility requirements are not achievable. These include one or more of the following:

- The requirements, or some of them, would likely affect the cultural heritage value or interest of a property identified, designated or otherwise protected under the Ontario Heritage Act, places designated as National Historic Sites, or historic places marked or commemorated under the Historic Sites and Monuments Act.
- The requirements, or some of them, might damage, directly or indirectly, the cultural heritage or natural heritage resources on a property included in the list of United Nations Educational, Scientific and Cultural Organization's (UNESCO) World Heritage sites.
- There is a significant risk that the requirements, or some of them, would adversely affect water, fish, wildlife, plants, invertebrates, species at risk, ecological integrity or natural heritage values, whether the adverse effects are direct or indirect.

- It is not practicable to comply with the requirements, or some of them, because existing physical or site constraints prohibit modification or addition of elements, spaces or features that would be required to meet accessibility requirements.

3.2.2 Trail Facility Types & Selection

Four general classes of facilities are proposed for the Township's Trails Network:

On-Road Facilities	*Primary Multi-use Trails*	*Secondary Multi-use Trails*	*Hiking Trails / Footpaths*
"On-road facility" refers to facilities within the roadway right-of-way that are located on an existing road and /or may be incorporated into the existing or future street network.	"Primary multi-use trails" are major trails that may be located in a boulevard space along an active road right-of-way, along abandoned road / railway rights-of-way, along utility corridors or within public parks and public open spaces.	"Secondary multi-use trails" are located outside of road rights-of-way, typically through public open spaces and park lands.	"Hiking trails / footpaths" are typically outside of the road rights-of-way through open spaces, valleys and parklands. They are much narrower than Primary or Secondary Multi-use trails and tend to have steeper grades and follow more challenging terrain.

The planning and design of trail and cycling facilities has been evolving rapidly and facility selection tool has been developed to assist staff and those responsible for the future design of active transportation and trail facilities throughout the Township. The approach which is proposed for the Township of Centre Wellington is consistent with what has been presented in the Wellington County Active Transportation Master Plan. When designing future active transportation and trail facilities throughout the Township the approach proposed in section A.4.1 of the Wellington County Active Transportation Master Plan should be used.

Table 3.3 presents the facility types that are addressed in this chapter as well as the appropriate reference for the location where the facility types are described in more detail in the Wellington County Active Transportation Master Plan.

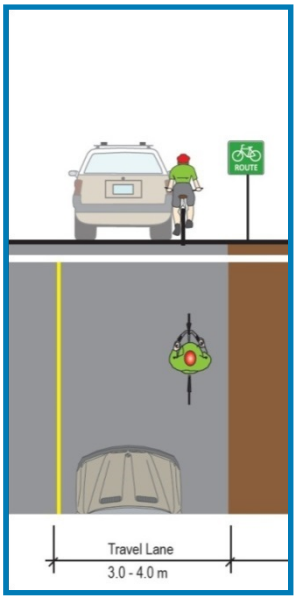
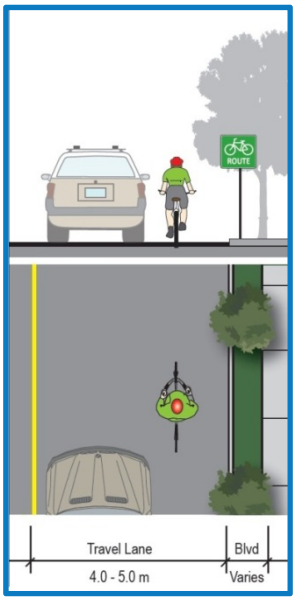
When selecting facilities it is important to note that ….

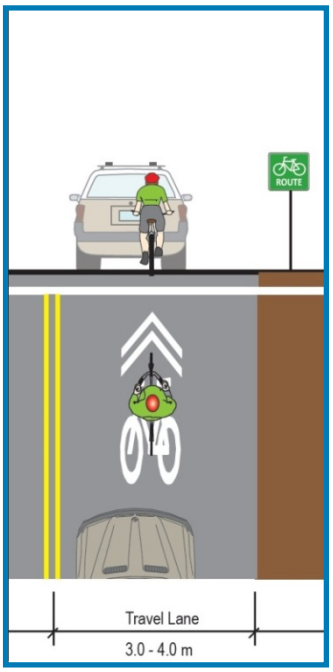
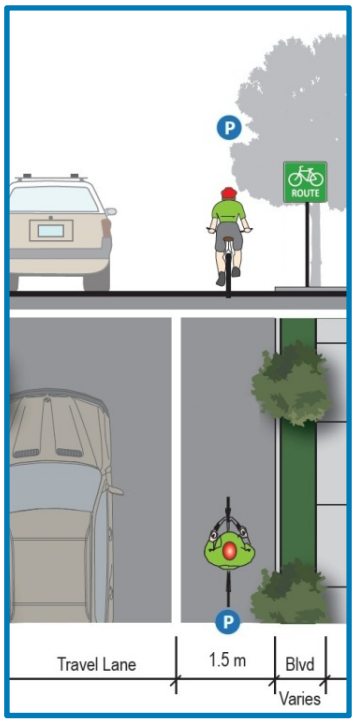
- There is no "formula" for appropriate facility selection; and
- It is a process that combines an analysis and understanding of the conditions of the location being considered an application of sound professional judgement.

Table 3.4 Trail Facility Design Alternatives		
Facility Type	**County of Wellington Active Transportation Master Plan Reference**	**Township of Centre Wellington Trails Master Plan Reference**
On-Road Facilities		
Signed-only Cycling Routes on Local Roads	A.4.2.1	3.2.2.1
Signed-only Cycling Routes on Wide Outside / Curb Lanes	A.4.2.2	3.2.2.1
Bikeway Boulevard (Bicycle Priority Streets)	A.4.2.3	3.2.2.1
Signed Route with Sharrow Symbol	A.4.2.4	3.2.2.1
Paved Shoulders	A.4.2.5	3.2.2.1
Bike Lanes & Buffered Bike Lanes	A.4.3.1 & A.4.3.2	3.2.2.2
Cycle Tracks	A.4.4.1	3.2.2.3
Off-Road Facilities		
Primary Multi-use Pathways	A.4.5.1 & A.4.5.2	3.2.2.4
Secondary Multi-use Pathways	A.4.5.1 & A.4.5.2	3.2.2.4
Hiking / Foot Trail	N/A	3.2.2.4

Recommendation 3.6	Ensure that Primary off-road trails meet or exceed minimum accessibility requirements as outlined in the Ontarians with Disabilities Act, 2005. Secondary multi-use trails will be designed to meet minimum accessibility requirements where feasible and practical. Hiking trails will not typically be designed to meet accessibility requirements.
Recommendation 3.7	Signage and maps should be designed to communicate which trails meet minimum accessibility requirements so that users can make their own decision in advance of using the route.

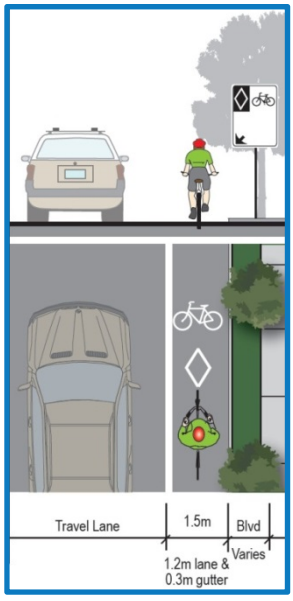
3.2.2.1 Shared Space on-Road Cycling Facilities

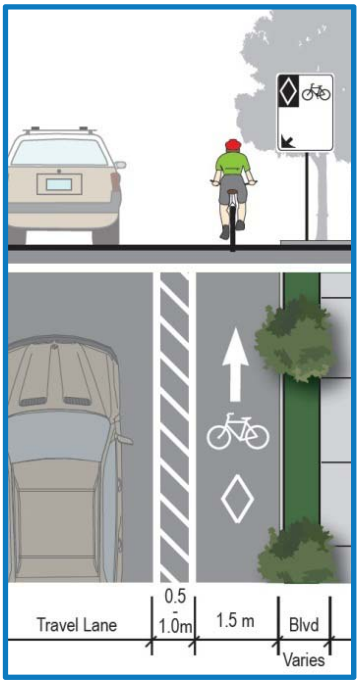
Facility Type	Description	Design Application
Signed-only Cycling Route on a Local Road	• Routes where both motorists and cyclists share the same vehicular travel lane and 'Bicycle Route Marker' signs are used to provide route guidance. • They are typically installed on quiet, residential Local / Collector streets. Aside from 'Bicycle Route Marker' signs, there are generally no other provisions used for Signed-only Cycling Routes. **Typical Application:** Typically for residential streets where motor vehicle traffic volumes and speeds are low, and rural roads where traffic volumes are low. **Pedestrian Consideration:** Pedestrians use the sidewalk in residential areas, and may use the road shoulder in rural areas. Pedestrians must walk facing on-coming traffic in accordance with the Highway Traffic Act.	
Signed-only Cycling Route on a Wide Travelled Lane	• Similar to Signed-only Cycling Routes with the exception that the travel lane shared by motorists and cyclists is wider than the standard motor vehicle travel lane (e.g. 4.0 to 5.0 m). • The extra width allows motorists and cyclists to travel side-by-side more comfortably. • Travelled lane widths should not be more than 5.0 m wide as this may encourage unsafe passing on the right by motorists. **Typical Application:** Typically for multi-lane roads with wide right-most travel lanes which may be created by narrowing the inside travel lanes. **Pedestrian Considerations:** Pedestrians use the sidewalk in urban areas, and may use the road shoulder in rural areas.	

Facility Type	Description	Design Application
Signed-only Cycling Route with Sharrow Symbol	• Shared use lane markings, also called "sharrows", are symbols placed on the pavement surface in the intended area of bicycle travel. • Sharrows provide added route guidance and help cyclists position themselves appropriately in the travelled lane. • Sharrows also increase driver awareness of cyclists and help deter unsafe passing manoeuvres by motorists. **Typical Application:** Placement of the Sharrow symbol indicates to cyclists where they should be traveling on the road (e.g. approximately 1.0m from the curb where there is no on-street parking and approximately 3.4 m from the curb where there is on-street parking). **Pedestrian Considerations:** Pedestrians use the sidewalk in urban areas.	
Signed-only Cycling Route with Edge Lines	• Signed-only Cycling Routes may be supplemented with Edge Lines. • Edge Lines are a creative way of providing cyclists with operating space outside the motor vehicle travelled portion of the roadway **without affecting or removing on-street parking**. • This implementation of the Edge Line may be a useful first step towards implementing future bicycle lanes where the removal of on-street parking is a concern of neighbouring residents even if parking demand is low. **Typical Application:** Typical for residential streets where motor vehicle traffic volumes are low and speeds are low to moderate. **Pedestrian Considerations:** Pedestrians use the sidewalk in residential areas.	

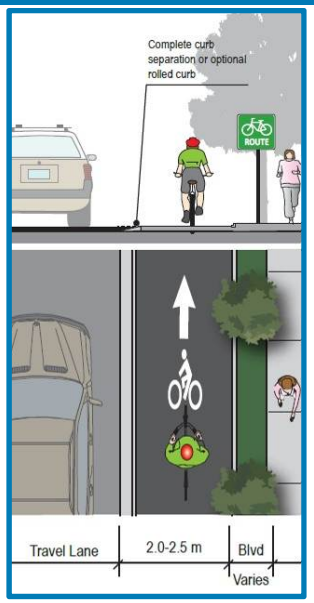
Facility Type	Description	Design Application
Signed-only Cycling Route with Paved Shoulder	• Signed-only Cycling Routes with Paved Shoulders provide a convenient place for cyclists to ride, on a road with a rural road cross section (no curbs). • On roads with high traffic volume, high vehicle speeds and / or high truck volumes, a buffer consisting of two edge lines with or without diagonal hatching, with or without a rumble strip in between can provide added separation between motor vehicles and cyclists. **Typical Application:** Implemented on rural cross-sections (no curbs) where motor vehicle traffic volume and speeds are higher. **Pedestrian Considerations:** Pedestrians may use the paved shoulder or the remaining portion of the gravel shoulder. Pedestrians must walk facing on-coming traffic in accordance with the Highway Traffic Act.	

3.2.2.2 Dedicated Space On-Road Cycling Facilities

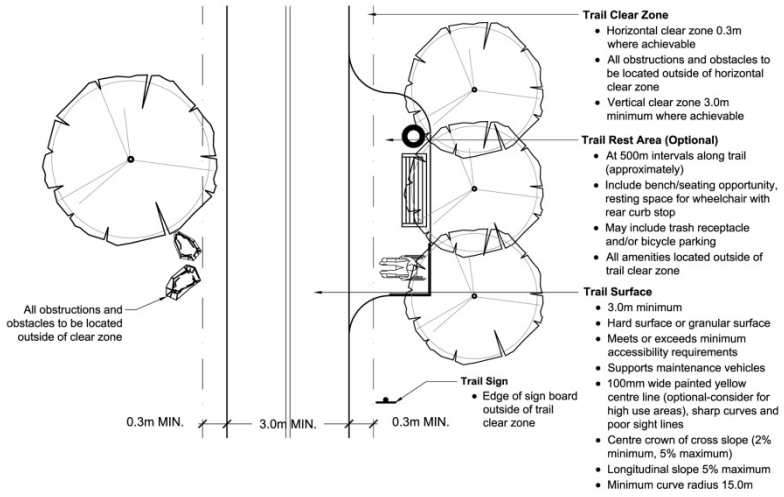
Facility Type	Description	Design Application
Bike Lanes	• A Bike Lane is a portion of a roadway which has been designated by pavement markings and signage for preferential or exclusive use by one way cyclist traffic often along the right-most curb or edge of the road. • Motor vehicles are not permitted to drive in, stand in or park in designated bike lanes. **Typical Application:** Typically implemented on roads where motor vehicle traffic volume and speeds are higher than typical threshold values for shared space routes. The minimum width of 1.5 m to the face of the curb can be reduced to 1.2 m in constrained locations. On busy roads and /or roads used frequently by trucks or transit, a minimum bike lane width of 1.8 m is preferred. **Pedestrian Considerations:** Pedestrians use sidewalks in urban areas. Note: In urban areas sidewalks should be provided on at least on one side of roads that are designated as trail / Active Transportation routes.	

Facility Type	Description	Design Application
Buffered Bike Lanes	• Buffered Bike Lanes provide additional space / separation between the cyclist and motor vehicles. Alternatives such as pavement markings, rumble strips, planters etc. can be used to create the buffer. **Typical Application:** Typically implemented along urban roadways with high motor vehicle volumes and / or speed where increased separation is required. May also be implemented on roadways with on-street parking and high parking turnover where double parking is an issue, or major corridors that experience high cyclist volumes, and routes that provide direct and convenient access to key destinations. **Pedestrian Considerations:** Pedestrians use sidewalks in urban areas. Note: In urban areas sidewalks should be provided on at least on one side of roads that are designated as trail / Active Transportation routes. *please note, for additional examples of buffered bike lane design treatments please refer to the Wellington County Active Transportation Master Plan.	

3.2.2.3 On-Road Separated Cycling Facilities

Facility Type	Description	Design Application
Cycle Tracks	• A raised cycle track is a bicycle facility adjacent to but vertically separated (typically raised and curb separated) from motorized vehicular traffic lanes. • A cycle track is designated for exclusive use by cyclists and distinct from the sidewalk. **Typical Application:** Can be used on an urban cross-section road where cycling demand is high (e.g. to create a cross-town priority cycling route.) **Pedestrian Considerations:** Pedestrians use the sidewalks. *The illustration to the right depicts a one-way cycle track. For examples of two-way cycle tracks please refer to section A.4.4.1 in the Wellington County Active Transportation Master Plan.	

Primary Multi-use Trail



Surface Type

Hard surface (e.g. asphalt) or granular surface.

Maintenance Requirements

Highest level of maintenance, may be considered for 4-season maintenance, depending on location (e.g. primary school route).

Description & Connectivity

- Key connectors in the urban areas of Elora and Fergus, important transportation / commuter routes connecting schools and key community destinations and employment areas.

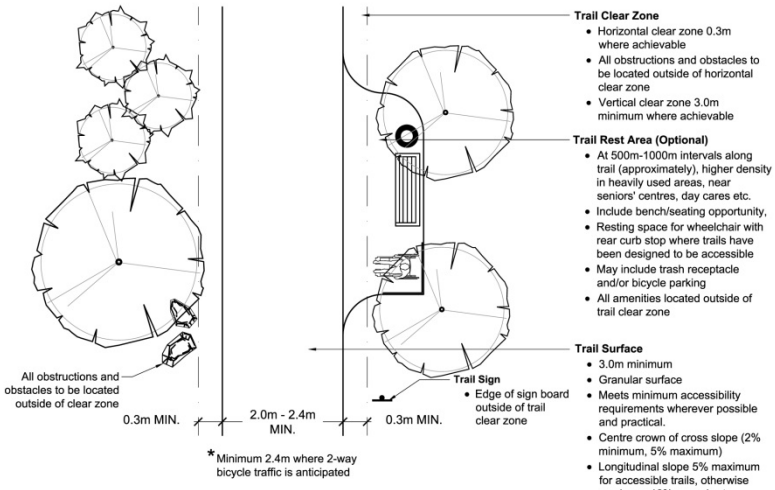
Location

- Located within or outside of the road right-of-way in continuous linear corridors.
- Linear utility corridors and off-road linear corridors outside of the road right-of-way can create ideal opportunities.
- To maintain route continuity, crossings of barriers such as major roadways, railways and waterways shall be considered in the early planning stages.
- In developed neighbourhoods it may be necessary to divert short segments of the Primary Multi-use Trail onto the road with other cycling facilities (i.e. a cycle-track or bike lane accompanied by a sidewalk). Diversion onto the road should not be permitted in new community planning areas to encourage connectivity using a consistent facility type.

Design Characteristics

- Minimum 3.0m in width and hard-surfaced with asphalt or concrete.
- Shall be designed to meet or exceed minimum accessibility requirements.
- Potential candidates for year-round maintenance.
- Typically designed to the highest standards to accommodate high volumes of use, destination oriented traffic, widest range of use abilities and important links to major community facilities.
- Supports pedestrian convenience and walkability and a range of active transportation opportunities.
- Lighting may be in considered where use / demand is high, for example along frequently used commuter routes.

Secondary Multi-use Trail

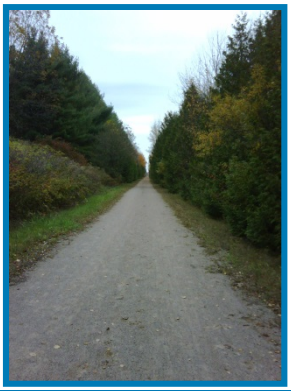


Surface Type

Typically granular / gravel surface, may be hard surfaced in locations where erosion is a concern.

Maintenance Requirements

3-season maintenance



Description & Connectivity

- Performs a Township wide function and may be used as a transportation route during the spring, summer and fall seasons.
- Used to provide additional connections to local municipalities, neighbourhoods, parks, community facilities, natural areas, schools and conservation areas.

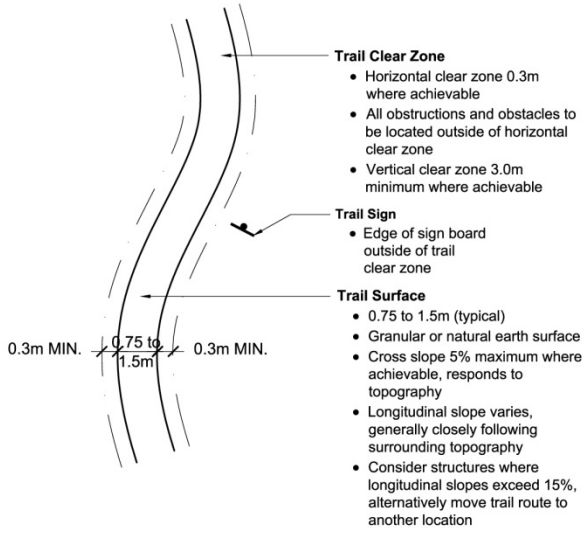
Location

- Located outside of the road right-of-way in continuous linear corridors.
- Crossings of barriers such as major roadways, railways and waterways shall be considered in the early planning stages to identify locations where a minor realignment of the corridor is necessary to accommodate an appropriate crossing.
- In new development areas diversion onto the road should only be permitted in exceptional circumstances.
- Developed neighbourhoods will require short connections between off-road segments by utilizing on-road connections.
- On-road connections may be by way of bicycle lanes or cycle tracks with sidewalks for pedestrians or in-boulevard multi-use pathways where design criteria can be met.
- On lower volume roads such as residential streets these connections can be made with sidewalks for pedestrians and shared space for cyclists (i.e. signed route or signed route with Sharrow markings on the roadway).

Design Characteristics

- Minimum width of 2.0 m to 2.4 m (2.4 m minimum if 2-way bicycle traffic is being considered).
- Compacted granular surface (e.g. stonedust).
- In some locations it may be hard surfaced (e.g. asphalt or concrete) or boardwalk to respond to site conditions.
- These facilities are designed to meet minimum accessibility requirements where practical and feasible. Where this is not possible they are appropriately designed for a moderate to high volume of use and wide range of users.
- 3-season use for pedestrian and cycling uses, with equestrian uses in some location. Typically not a candidate for winter maintenance, and other uses during winter months are encouraged (e.g. cross country skiing).

Hiking / Foot Trail



Surface Type

Natural or granular surface

Maintenance Requirements

Seasonal maintenance only, or as-required

Description & Connectivity

- Hiking / Foot Trails are located in sensitive natural areas or are the result of formalizing routes that were not planned or designed by the Township. These often have evolved from use (i.e. a desire line between two locations) or have been created by a group such as a hiking club that has an established arrangement with the land owner (e.g. Township, conservation authority or private land owner)

Location

- Often located in natural areas such as woodlots, valley lands and wetlands.

Design Characteristics

- Typically 0.75 to 1.5 m in width with a natural earth surface. May include a granular surface or a boardwalk in areas where trail hardening is needed.
- Uses are often limited by the nature of the trail alignment, width and surface type.
- Provide limited access, with no special accommodations made for wheeled users (e.g. bicycles, strollers, mobility devices etc.).
- The slope of the trail type can vary depending on the existing slopes of natural ground. Surrounding topography is generally not altered to accommodate the trail.
- Maintenance activities are typically scheduled on a seasonal or as-required basis, and in some cases may be completed entirely by volunteer groups.

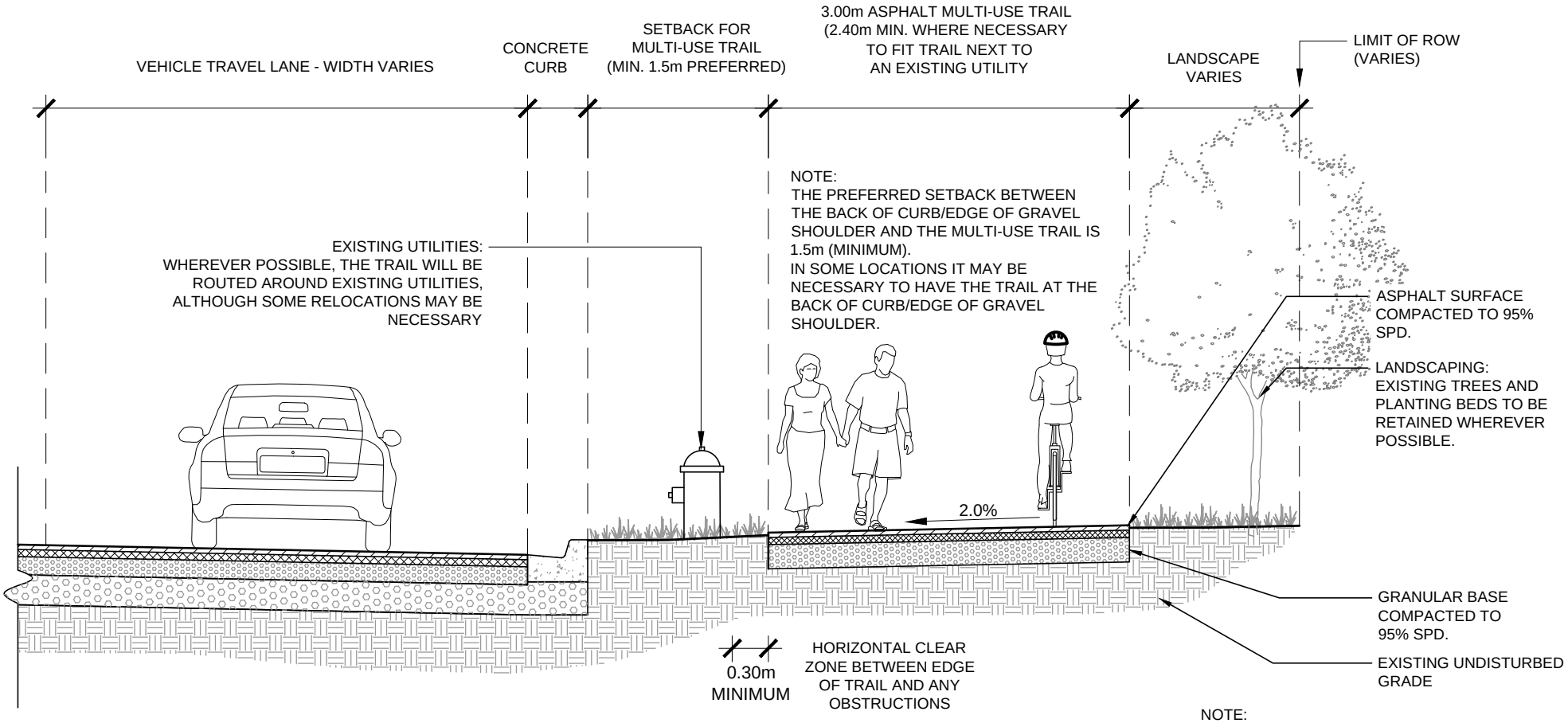
3.2.3 Other Design Considerations

This section of the Trails Master Plan provides a compendium of design guidelines focusing primarily on the design of the off-road components of the trail network. They have been developed for the Township of Centre Wellington and are intended to complement the design guidelines presented in the Wellington County Active Transportation Master Plan.

3.2.3.1 Trail Types

Details provided on the following pages include:

- Multi-use trail within a road right-of-way, also sometimes referred to as a boulevard multi-use trail;
- Cross sectional detail of a Primary and Secondary multi-use trail;
- Multi-use trail within an active railway corridor, also sometimes referred to as “rails with trails”; and
- Mulch surfaced trail in a natural setting.



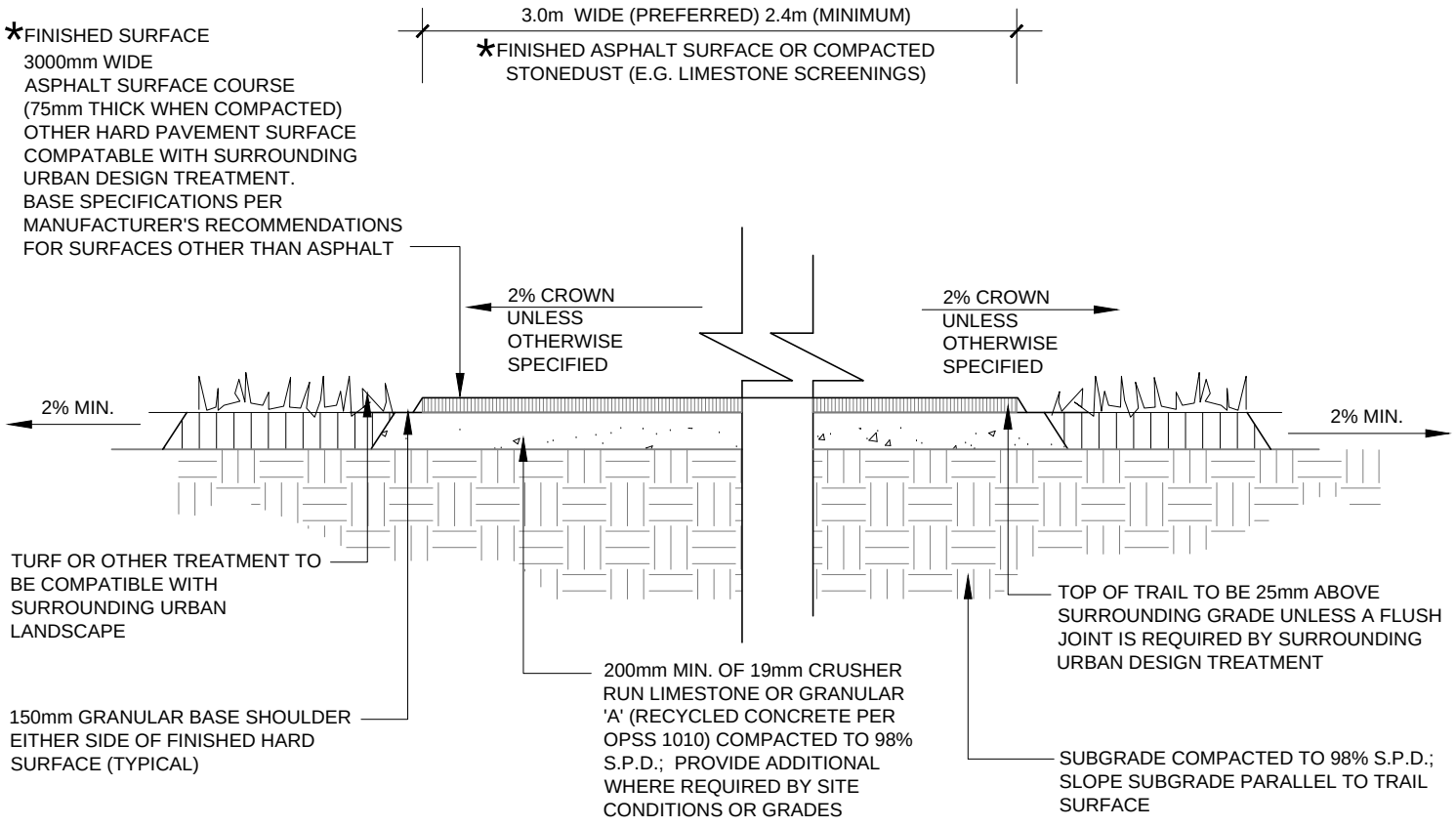
NOTE:
EXISTING VEGETATION IS TO BE MAINTAINED TO PROVIDE A VERTICAL CLEAR ZONE OF AT LEAST 2.5m FROM THE MULTI-USE TRAIL SURFACE TO THE LOWEST BRANCHES / LEAVES AND A HORIZONTAL CLEAR ZONE OF AT LEAST 0.3m FROM THE EDGE OF THE MULTI-USE TRAIL.

TRAIL TYPES - MULTI-USE TRAIL WITHIN A ROAD RIGHT-OF-WAY

SCALE = 1:50

3.0m WIDE ASPHALT MULTI-USE TRAIL

Centre Wellington



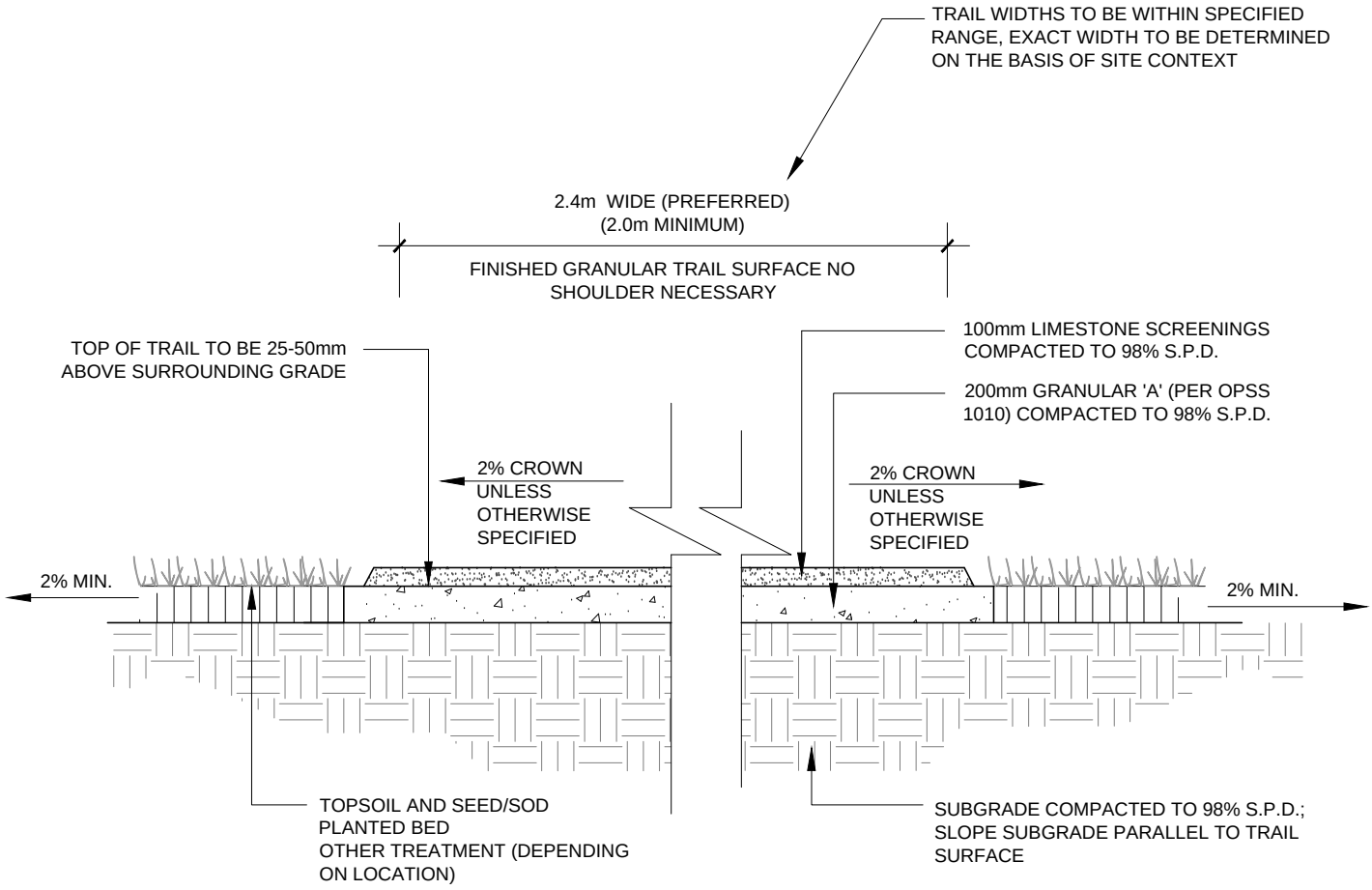
NOTE:
THIS TRAIL CAN BE APPLIED IN A PUBLIC PARK OR OPEN SPACE, UTILITY CORRIDOR, IN OPEN ROAD ALLOWANCE OR ABANDONED RAILWAY LINE.

TRAIL TYPES - MULTI-USE TRAIL WITHIN OR OUTSIDE OF A ROAD RIGHT-OF-WAY

SCALE = 1:40

3.0m WIDE TRAIL - CONSTRUCTION DETAIL

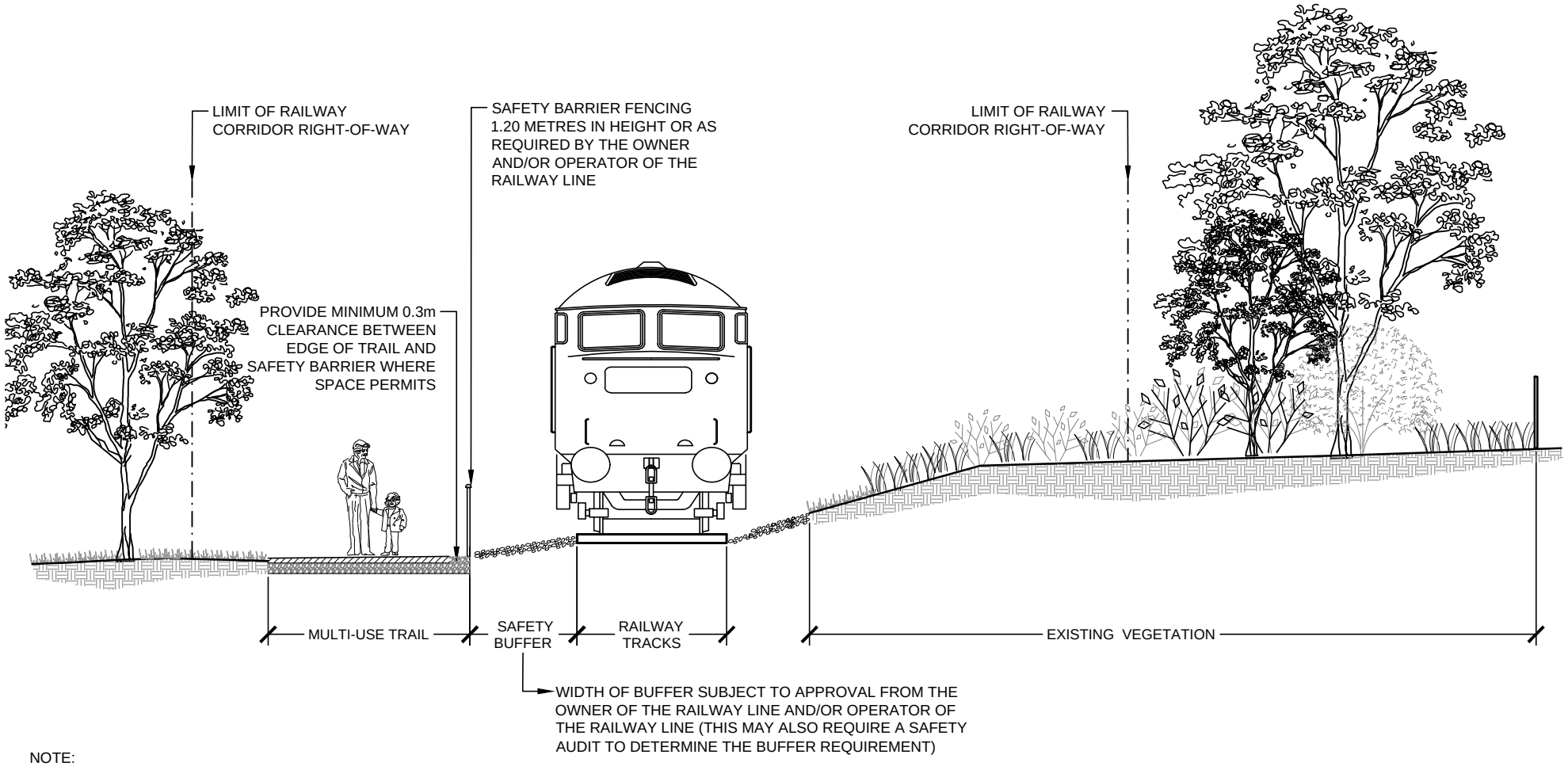
Centre Wellington



NOTE:

- THIS TRAIL CAN BE APPLIED IN A PUBLIC PARK OR OPEN SPACE, UTILITY CORRIDOR, IN OPEN ROAD ALLOWANCE OR ABANDONED RAILWAY LINE.
- WHERE CYCLING IS AN INTENDED USE, TRAIL SHOULD BE 2.4m TO ACCOMMODATE 2-WAY TRAVEL.

TRAIL TYPES - MULTI-USE TRAIL OUTSIDE OF A ROAD RIGHT-OF-WAY	SCALE = 1:40	Centre Wellington
2.0m - 2.4m WIDE LIMESTONE TRAIL		



NOTE:

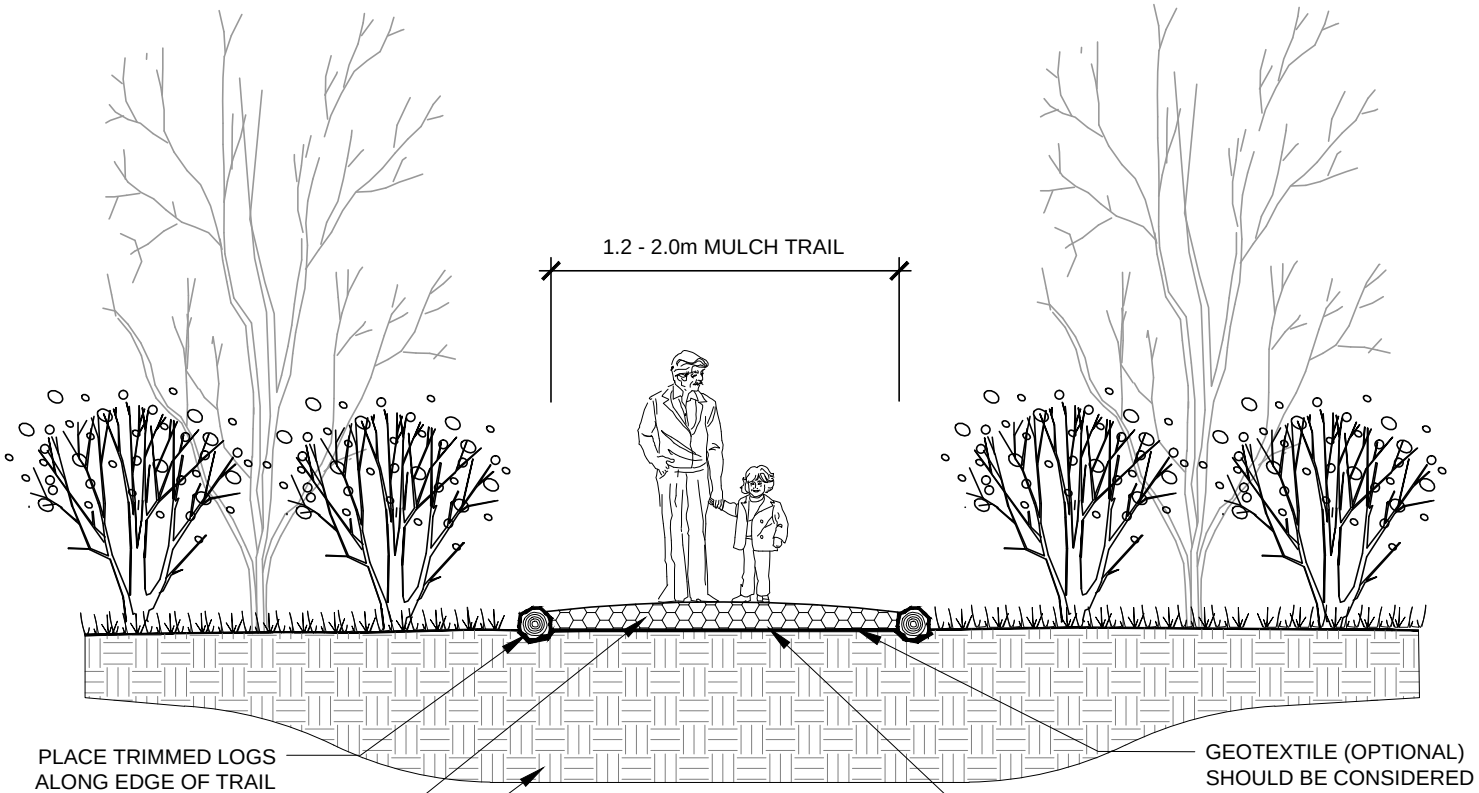
- RAIL WITH TRAIL PROJECTS REQUIRE APPROVAL FROM THE OWNER AND/OR OPERATOR OF THE RAILWAY LINE.
- CROSSINGS OF ACTIVE RAILWAY LINES ARE ALSO SUBJECT TO APPROVAL FROM TRANSPORT CANADA.

TRAIL TYPES

SCALE = 1:40

ACTIVE RAIL WITH TRAIL "RAILS WITH TRAILS"

Centre Wellington



NOTE:
MULCH TRAILS SHOULD NOT BE INSTALLED WITHIN TERMITE ZONES.

TRAIL TYPES

SCALE = 1:50

MULCH TRAIL IN A NATURAL SETTING

Centre Wellington

3.2.3.2 Off-Road Trail Surfacing Options

There are a number of surfacing options for multi-use trails, each with advantages and disadvantages related to cost, availability of materials, ease of installation, expected service life and suitability for various trail user groups. **Table 3.4** provides a summary of the most commonly used multi-use trail surfacing materials.

Table 3.5 Comparison of Trail Surfacing Materials

Type	Advantages	Disadvantages
Concrete Suitable for primary multi-use trails	• Smooth surface, can be designed with a variety of textures and colours, providing flexibility for different urban design treatments. • Long lasting, easy to maintain.	• High cost to install. • Requires expansion joints which can create discomfort for users with mobility aids. • Must be installed by skilled tradespeople. • Is not flexible and cracking can lead to heaving and shifting, sometimes creating large step joints. • Must be appropriately disposed of after removal, can be crushed for use in trail bases.
Unit Pavers Suitable for primary multi-use trails where the material is an integral part of the design of a space (i.e. trail connection through a downtown pedestrian plaza)	• Relatively smooth surface, available in a variety of patterns and colours to meet urban design needs. • Long lasting, can be easily repaired by lifting and relaying.	• High cost to install. • Users with mobility aids may find textured surface difficult to negotiate. • Must be installed by skilled tradespeople.
Asphalt Suitable for primary multi-use trails. Also suitable for secondary multi-use trails where surface hardening is required	• Smooth surface, moulds well to meet surrounding grades, and is easily negotiated by a wide range of trail user groups. • Patterned and coloured surface treatments are available, however texture in surface may be difficult for some user groups to negotiate.	• Moderate-high cost to install. • Must be installed by skilled tradespeople. Has a service life of 15-20 years depending on the quality of the initial installation. Poor base preparation can lead to significant reduction in service life. • Cracking and “alligatoring” occurs near the edges, grass and weeds can invade cracks and speed up deterioration. • Must be appropriately disposed of after removal.

Granulars Suitable for primary and secondary multi-use trails	• Pit Run: Mixed granular material "straight from the pit" containing a range of particle sizes from sand to cobbles. Excellent for creating a strong sub base, relatively inexpensive (for bases only)	• Not appropriate for trail surfacing
	• Granular B: Similar characteristics to Pit Run with regulated particle size (more coarse than Granular A). Excellent for creating strong, stable and well drained sub bases and bases. Relatively inexpensive (for bases only).	• Not appropriate for trail surfacing.
	• Granular A: Similar characteristics to Granular B, with smaller maximum particle size. Excellent for trail bases, may be appropriate for trail surfacing of rail trails in rural areas and woodlands. Easy to spread and re-grade where surface deformities develop (generally used for bases only).	• May erode on sloped trails, especially when longitudinal slopes exceed 8% • Some users have difficulty negotiating surfaces due to range in particle size and uneven sorting of particles that can take place over time with surface drainage.
	• Clear stone: Crushed and washed granular, particles of uniform size, no sand or fine particles included. Excellent bedding for trail drainage structures and retaining wall backfilling, if properly leveled and compacted, makes an excellent base for asphalt trails.	• Not appropriate for trail surfacing.
	• Stone fines (Screenings): Mixture of fine particles and small diameter crushed stone. Levels and compacts very well and creates a smooth surface that most trail users can negotiate easily. Easy to spread and re-grade where surface deformities develop. Inexpensive and easy to work with. Widely used and accepted as the surface of choice for most granular surfaced trails (for Secondary Multi-use Pathways and some locations along Hiking / Foot Trails).	• Subject to erosion on slopes. • Wheelchair users have reported that stone shards picked up by wheels can be hard on hands. • May not be suitable as a base for hard surfaced trails in some locations.

Wood Mulch or Wood Chips Appropriate only for Hiking / Foot Trails.	• Bark or wood chips, particle size ranges from fine to coarse depending on product selected, soft under foot, very natural appearance that is aesthetically appropriate for woodland and natural area settings. • Some user groups have difficulty negotiating the softer surface, therefore this surface can be used to discourage some uses such as cycling. • May be available at a very low cost depending on source, and easy to work with.	• Decomposes over time, therefore requires "topping up". • Source of material must be carefully researched to avoid unintentional contamination with invasive plant or insect species.
Earth / Natural Surface Appropriate for Hiking / Foot Trails, and specialty single use trails such as Single Track Mountain Biking Trails	• Native soils located on the trail site. Only cost is labour to clear and grub out vegetation and re-grade to create appropriate surface. Appropriate for trails in natural areas provided that desired grades can be achieved and that soil is stable (do not use organic soils).	• Subject to erosion on slopes. • Different characteristics in different locations along the trail can lead to soft spots. • Some user groups will have difficulty negotiating surface.
Soil Cement and Soil Binding Agents Appropriate for Hiking / Foot Trails and specialty single use trails such as Single Track Mountain Biking Trails	• Soil Cement: A mixture of Portland cement and native/parent trail material. When mixed and allowed to set it creates a stable surface that can be useful for "trail hardening" on slopes, particularly in natural settings. • Soil Binding Agents: A mix of granulars and polymers that create a solid, yet flexible surface that may be appropriate for "trail hardening" on slopes in natural areas.	• Use is limited to natural areas. • Soil binding agents tend to be expensive and success is reported to be mixed. • Volume and weight may limit the ability to material haul into remote locations.
Wood (i.e. bridges and boardwalks) Appropriate for all multi-use trail types	• Attractive, natural, renewable material that creates a solid and level travel surface. Choose rough sawn materials for deck surfacing to assist with traction.	• Requires skill to install. • Wood gradually decomposes over time, this can be accelerated in damp and shady locations, and locations where wood is in contact with soil. • Expensive to install.

3.2.3.3 Boardwalks

Where multi-use pathways and trails pass through sensitive environments such as marshes, swamps, or woodlands with a large number of exposed roots, an elevated trailbed or boardwalk may be required to minimize impacts on the natural features. If these areas are left untreated, trail users tend to walk around obstacles such as wet spots, gradually creating a wider, often braided trail through the surrounding vegetation.

A **Turnpike** or **Raised Trailbed** is a low tech, low cost method that works very well in areas where organic soils are encountered. Various geosynthetic products have also been successfully used to overcome difficult soil conditions.

Relatively simple to construct, the **Low profile boardwalk** provides a great opportunity for construction by volunteers, under the supervision of an experienced trail captain. Relatively inexpensive precast blocks can be used for the foundation of the boardwalk.

Where the trail is in a high profile location, where it is necessary to provide an accessible trail, or where the trail surface must be greater than 60cm above the surrounding grade, a more sophisticated design and installation is necessary. This is likely to include engineered footings or abutments, structural elements and railings. A professional who is trained in structural design and approval requirements should be retained for this type of application.

Figure 3-1: Boardwalk Examples

Boardwalk with Cyclist Rub Rail on one side and safety curb on the other, Thorold, ON.

Source: MMM Group

Boardwalk, Aurora ON.

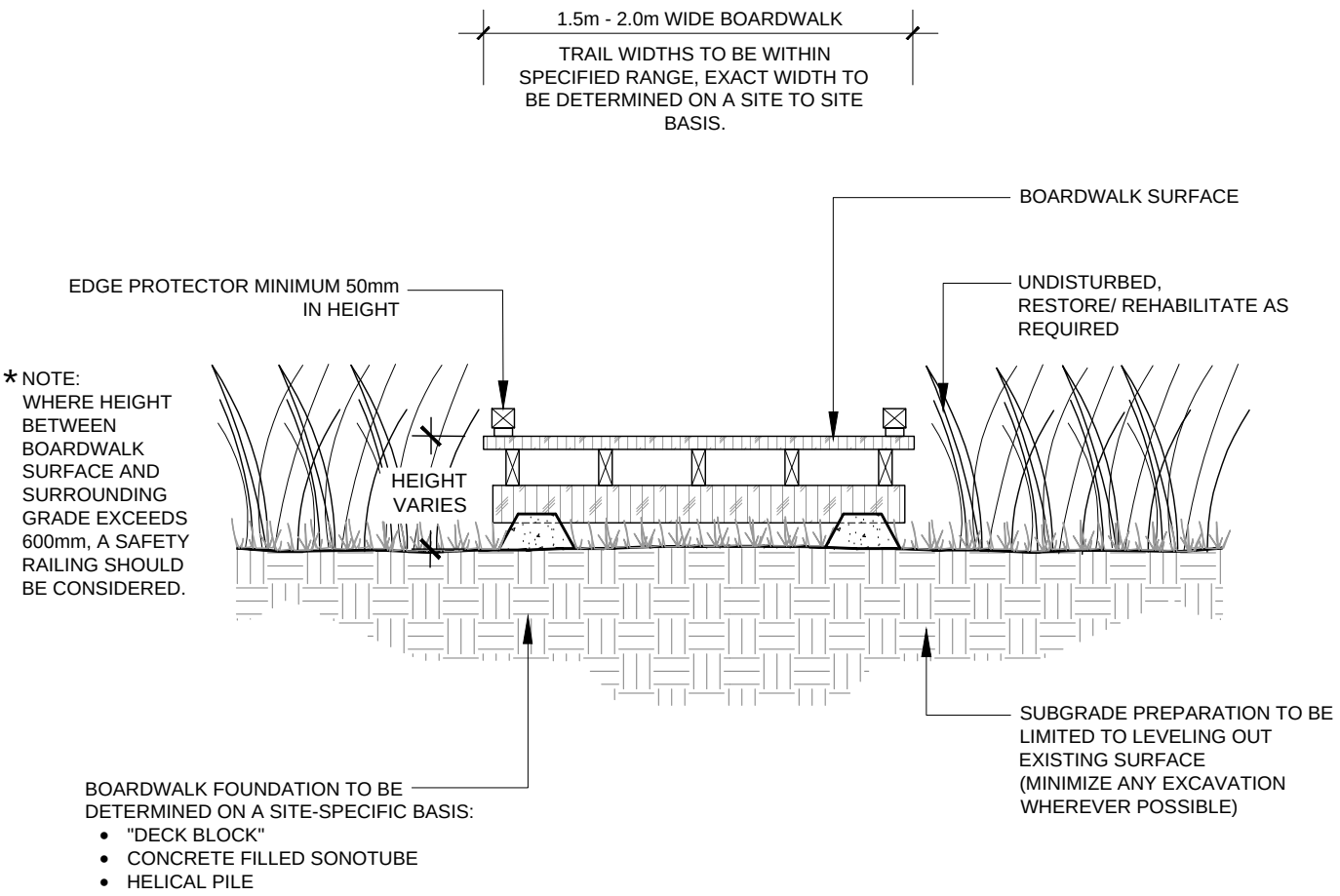
Source: MMM Group

Low Profile Boardwalk on Helical Piles Foundation, Halton Hills (Georgetown) ON.

Source: MMM Group

Low Profile Boardwalk on “Deck Block” Foundation, Guelph ON.

Source: MMM Group



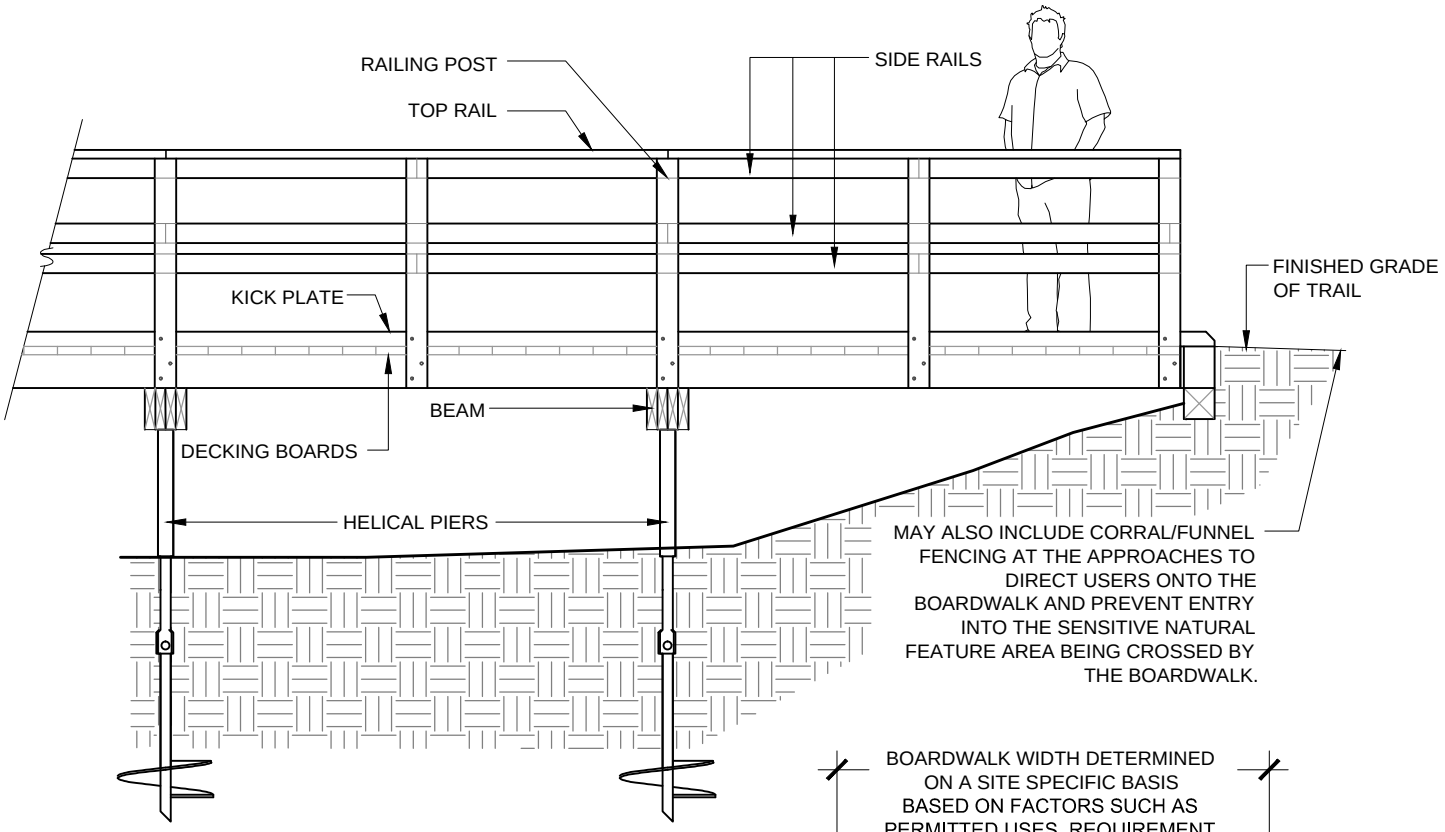
NOTE:

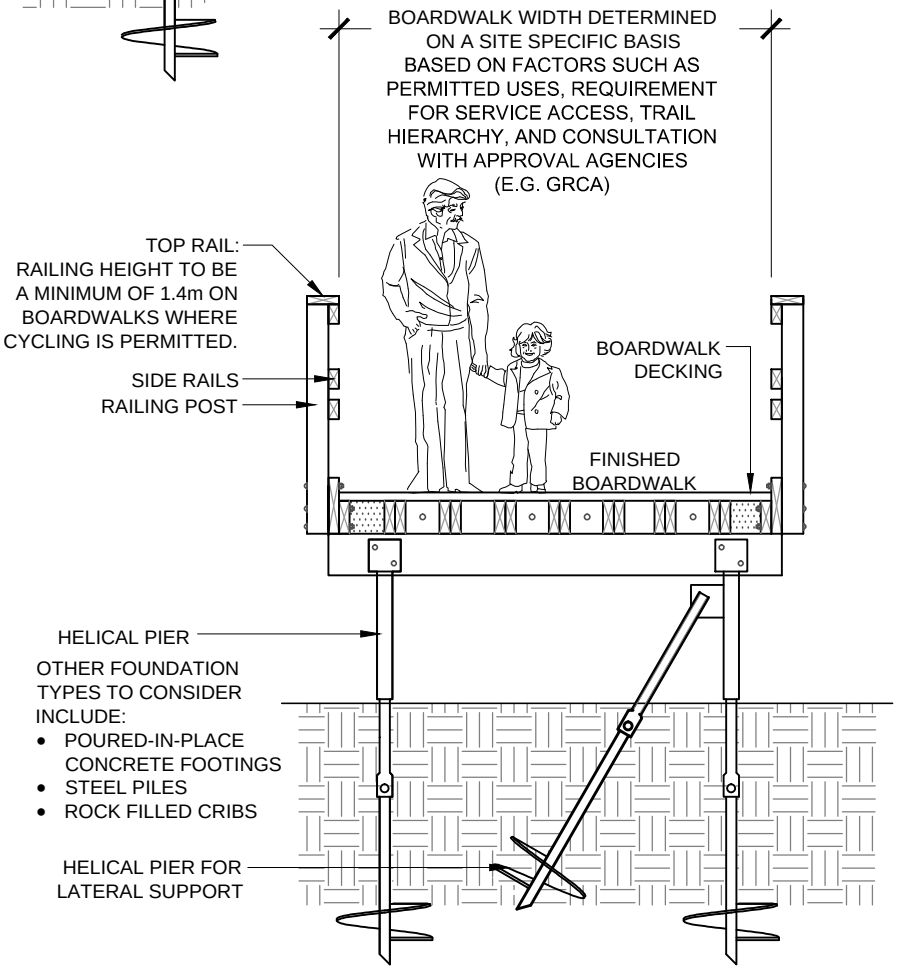
- BOARDWALK HEIGHT SHOULD BE CONSIDERED WHEN DESIGNING SHOULD A RAILING NOT BE DESIRED.
- DEPENDING ON THE LOCATION, A SEDIMENT CONTROL BARRIER MAY BE REQUIRED TO DEFINE LIMITS OF WORK AND PREVENT MIGRATION OF MATERIALS INTO SURROUNDING AREA.

TRAIL TYPES - OUTSIDE OF ROAD RIGHT-OF-WAY | SCALE = 1:40

LOW PROFILE BOARDWALK

Centre Wellington





NOTE:

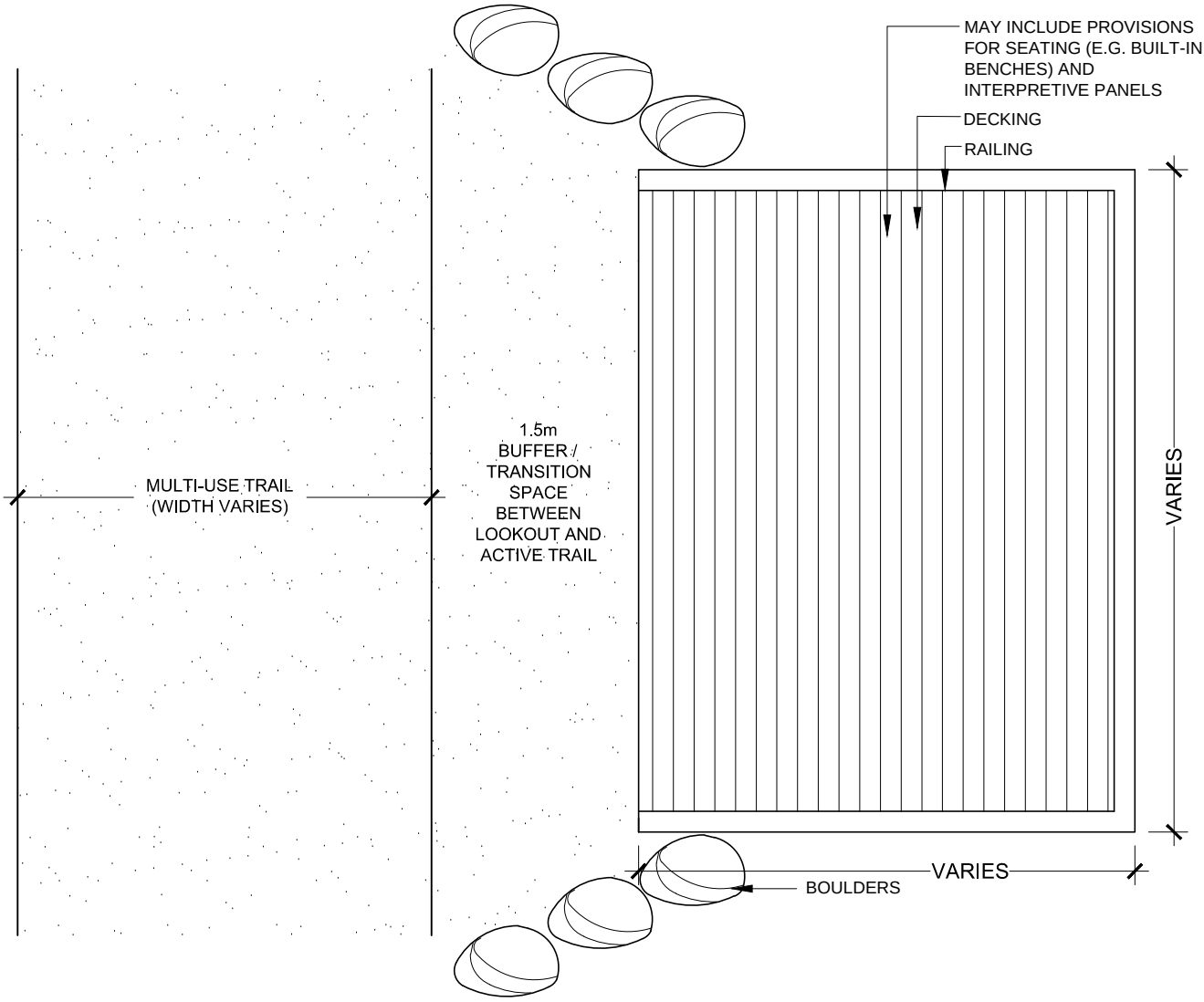
- THIS DETAIL CAN BE USED IN SEASONALLY WET AREAS AND LOCATIONS WITH PERMANENT STANDING WATER. IT CAN ALSO BE USED IN UPLAND SETTINGS (E.G. HUMMOCKY SENSITIVE WOODLOTS, AREAS WITH FRAGILE, SHALLOW SOILS OVER BEDROCK ETC.) WHERE IT IS DESIRABLE TO HAVE THE TRAIL RAISED ABOVE THE SURROUNDING GRADE AS ONE STRATEGY TO KEEP USERS ON THE TRAIL AND CONTROL USER IMPACTS.
- HEIGHT ABOVE GRADE SHOULD BE DETERMINED BASED ON CONSIDERATION OF FACTORS SUCH AS WATER LEVELS (WHERE APPLICABLE), TOPOGRAPHY, INCLUDING ELEVATION AND SLOPE OF THE SURROUNDING LAND AT THE TRAIL APPROACHES, WILDLIFE MOVEMENT NEEDS, ETC.. ADDITIONAL STUDIES MAY BE REQUIRED TO UNDERSTAND HOW THESE AND OTHER FACTORS INFLUENCE THE DESIGN.
- BOARDWALK HEIGHT SHOULD BE CONSIDERED WHEN DESIGNING SHOULD A RAILING NOT BE DESIRED.
- DEPENDING ON THE LOCATION, A SEDIMENT CONTROL BARRIER MAY BE REQUIRED TO DEFINE LIMITS OF WORK AND PREVENT MIGRATION OF MATERIALS INTO SURROUNDING AREA.
- REVIEW AND CERTIFICATION BY A STRUCTURAL ENGINEER IS RECOMMENDED TO DETERMINE LOAD AND STRUCTURAL DESIGN REQUIREMENTS. THIS NEED MAY BE DETERMINED ON A CASE BY CASE BASIS.

TRAIL TYPES - OUTSIDE OF ROAD RIGHT-OF-WAY

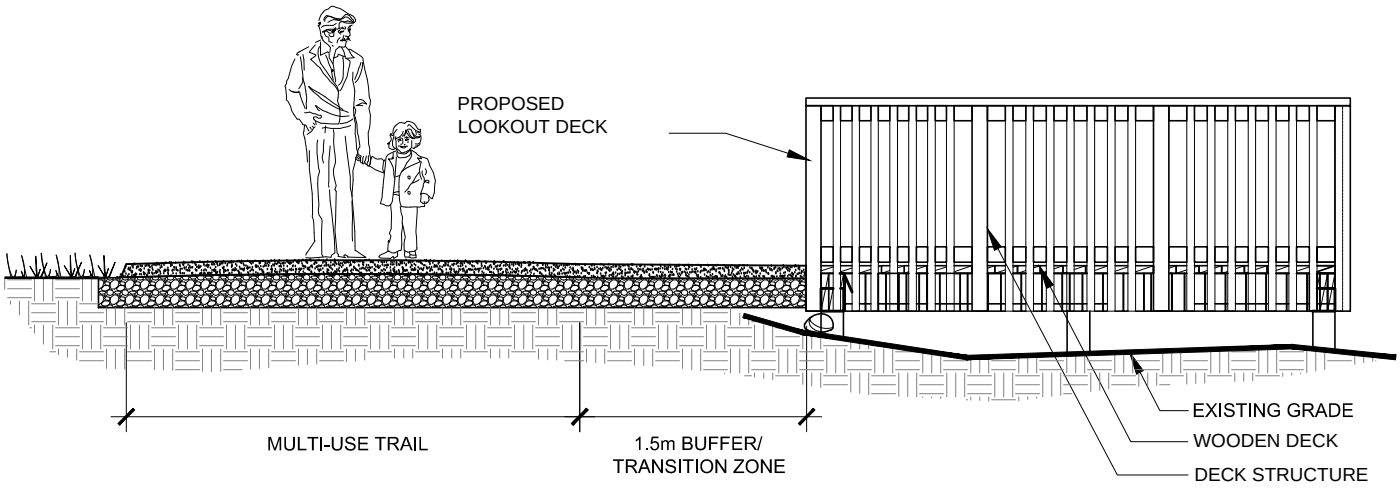
SCALE = 1:40

HEAVY-DUTY BOARDWALK

Centre Wellington



PLAN VIEW



SECTION

TRAIL TYPES	SCALE = 1:50
TRAIL LOOKOUT STRUCTURE	Centre Wellington

3.2.3.4 Trails on Slopes

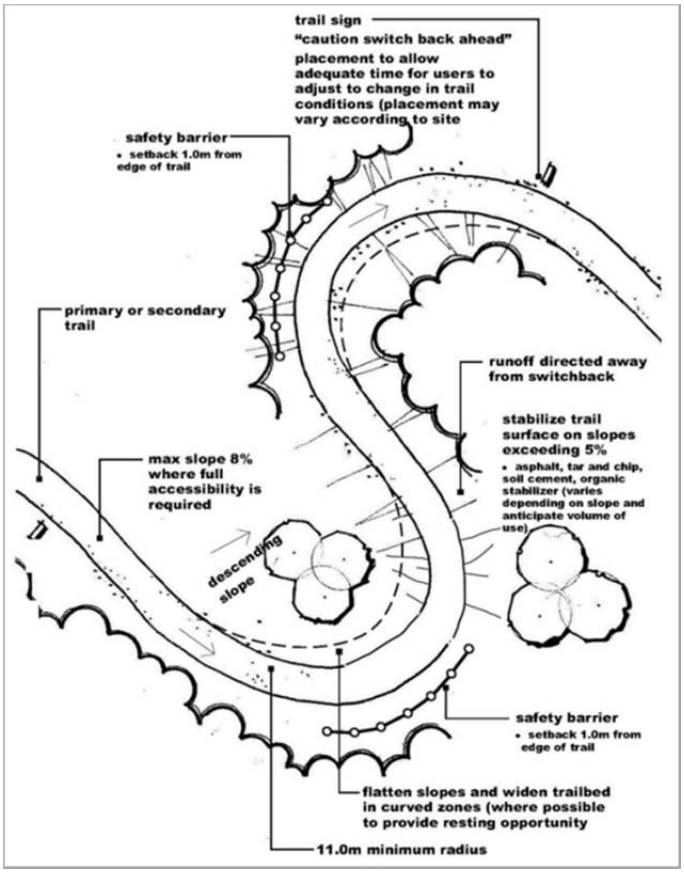
Pedestrian and some self-propelled users are capable of ascending grades of 30% or more whereas some users are limited to grades of less than 10%. Once trail slopes exceed this threshold and slopes are long (i.e. more than 30m) it is important to consider alternative methods of ascending slopes, such as switchbacks and stairs, or alternative locations for the trail.

Where construction is feasible, switchbacks are generally preferred because they allow wheeled users such as cyclists to maintain their momentum, and there is less temptation to create shortcuts, as might be the case where stairways are used. Switchbacks are constructed with turns of about 180 degrees and are used to decrease the trail's longitudinal slope. A switchback with a trailbed that is properly "benched" also provides outlets for water runoff at regular intervals, thus reducing the potential for erosion. Switchbacks typically require extensive grading and are more suited to open locations where construction activity will not cause major disruption to the surrounding environment. Switchbacks can be difficult to implement in wooded areas without significant impacts to surrounding trees.

When designing switchback and stair structures on trails the following should be considered:

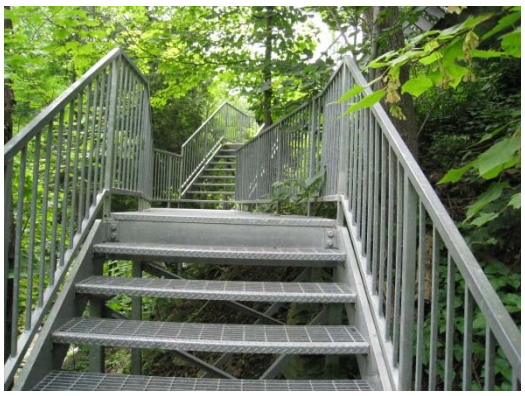
- Use slip resistant surfacing materials, especially in shady locations.
- Incorporate "corral" barriers on either side of the upper and lower landing to prevent trail users from bypassing the stairs; and
- Provide signs well in advance of the structure to inform users that may not be able to climb stairs.

Figure 3-2: Trails on Slopes Examples



Trail Switchback Detail.

Source: MMM Group.

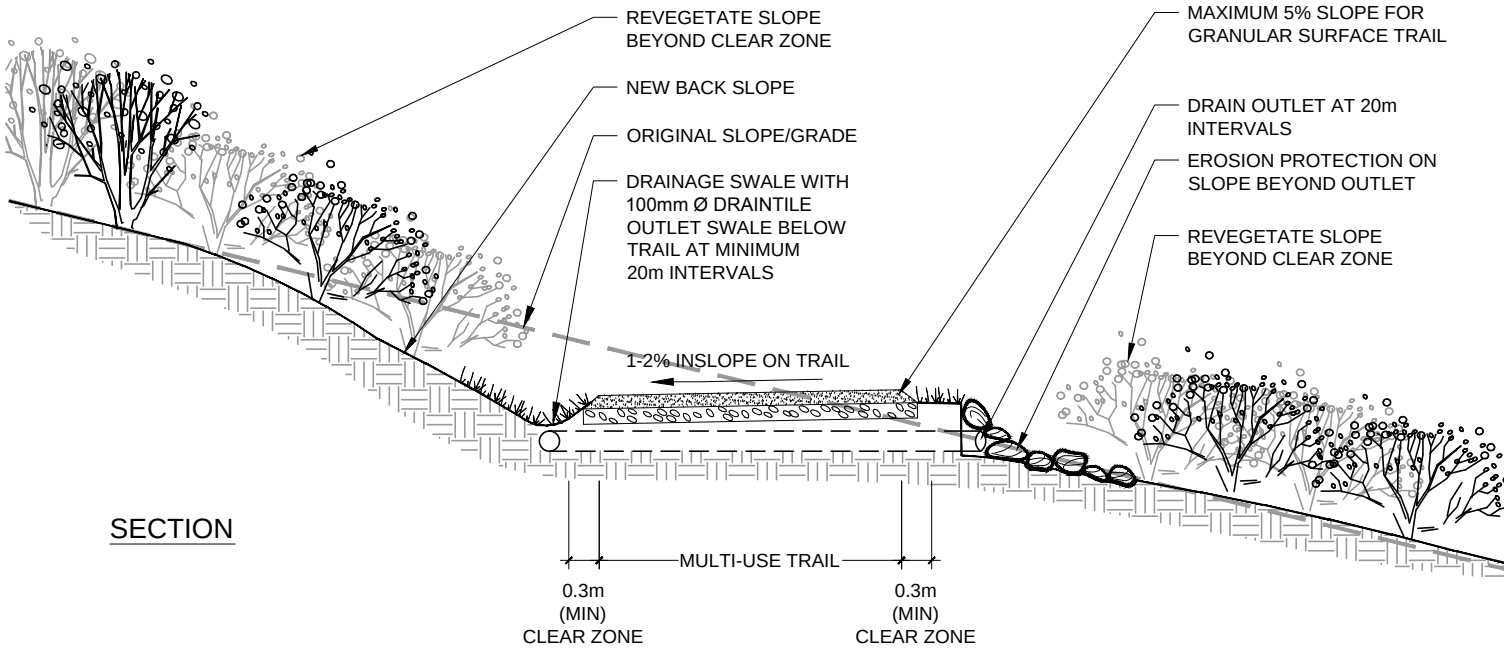


Metal Mesh Trail Stairway System, Kagawong, ON.

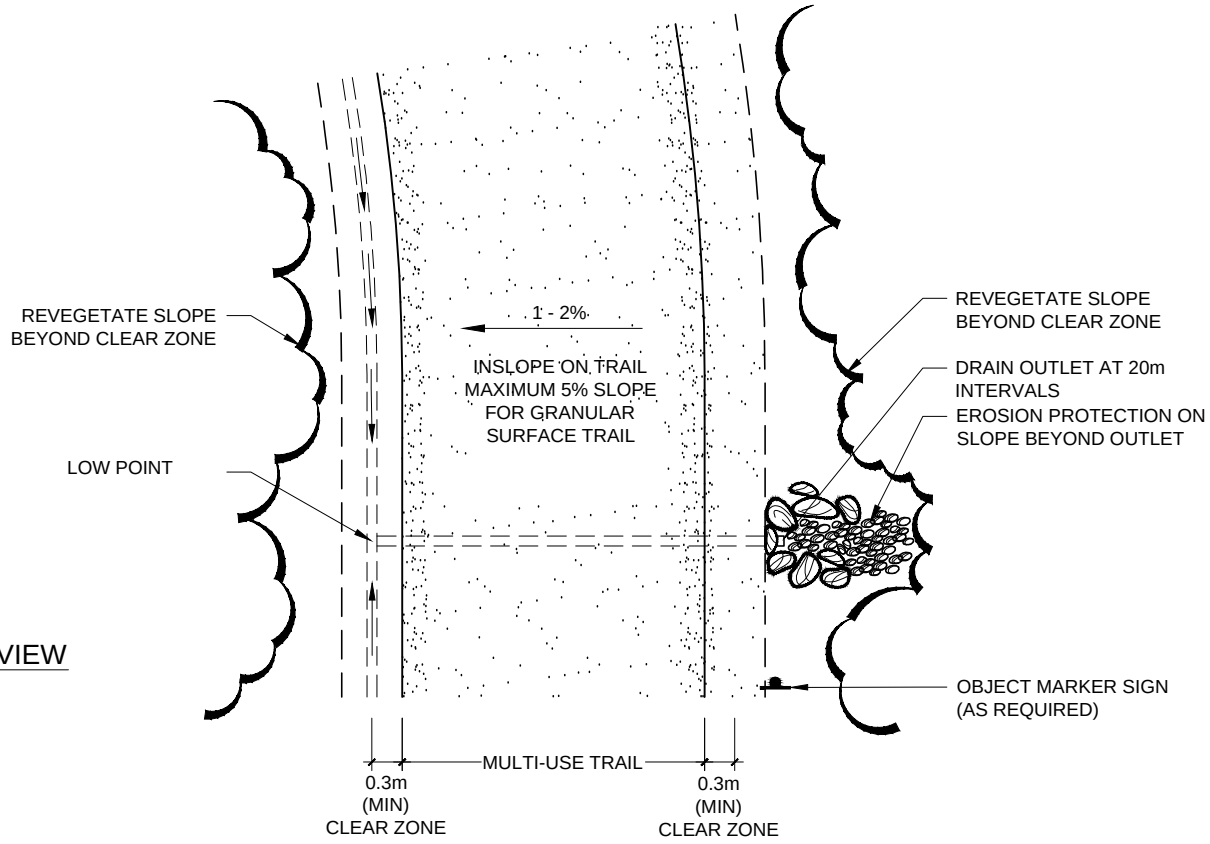
Source: MMM Group.

Benched Mountain Bike Trail on a Slope, Toronto ON.

Source: MMM Group.



SECTION



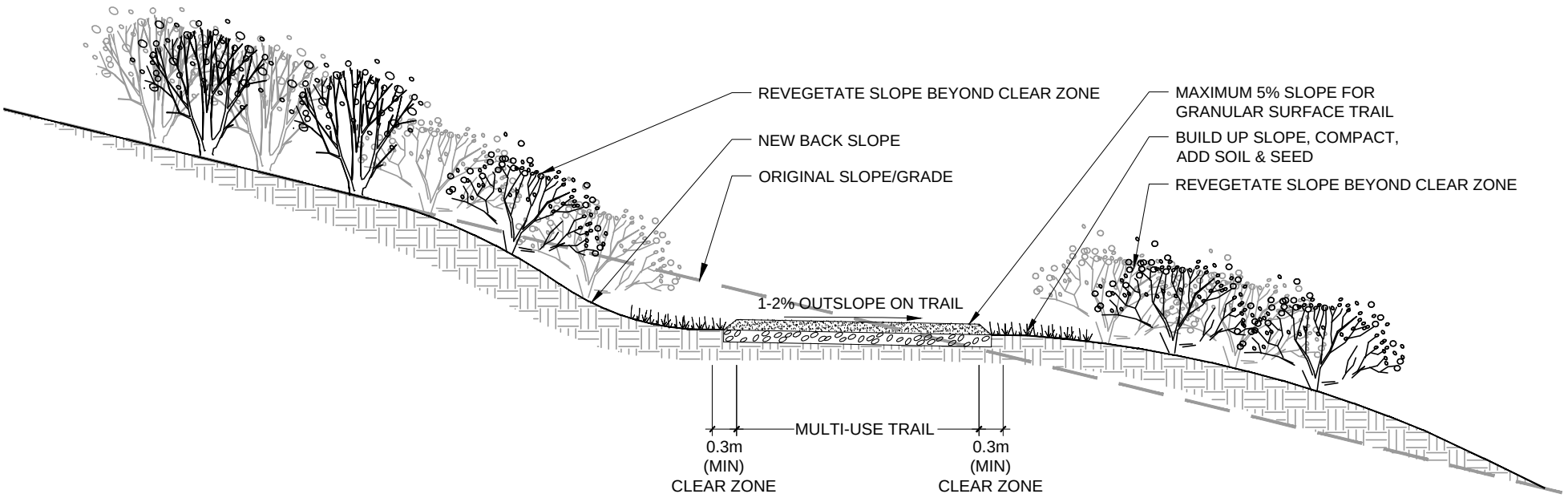
PLAN VIEW

TRAIL TYPES

SCALE = 1:75

TRAIL ON SLOPE - INSLOPE WITH DRAINAGE PIPE

Centre Wellington

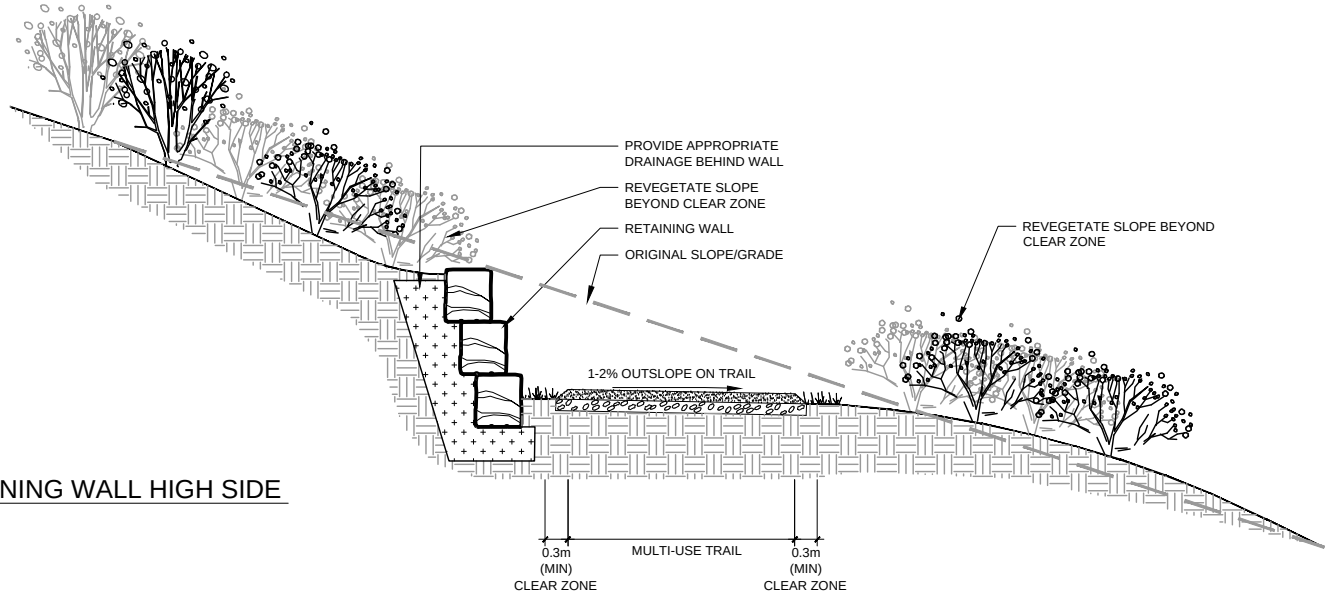


TRAIL TYPES

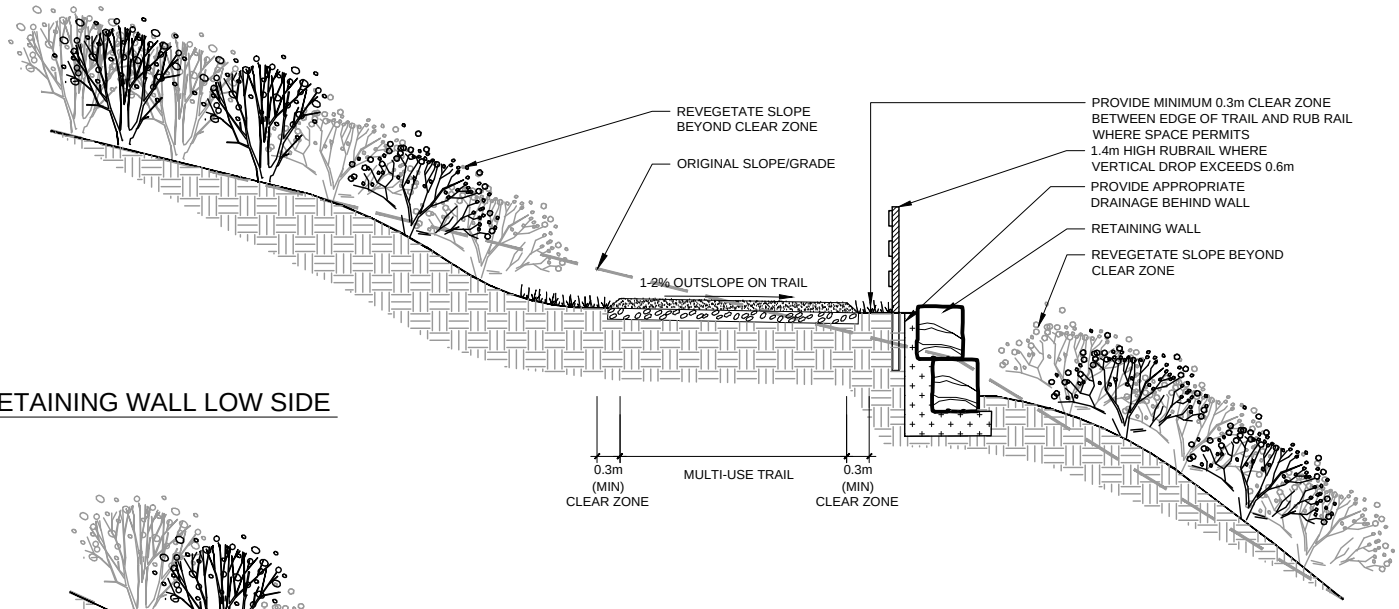
SCALE = 1:75

TRAIL ON SLOPE - OUTSLOPE

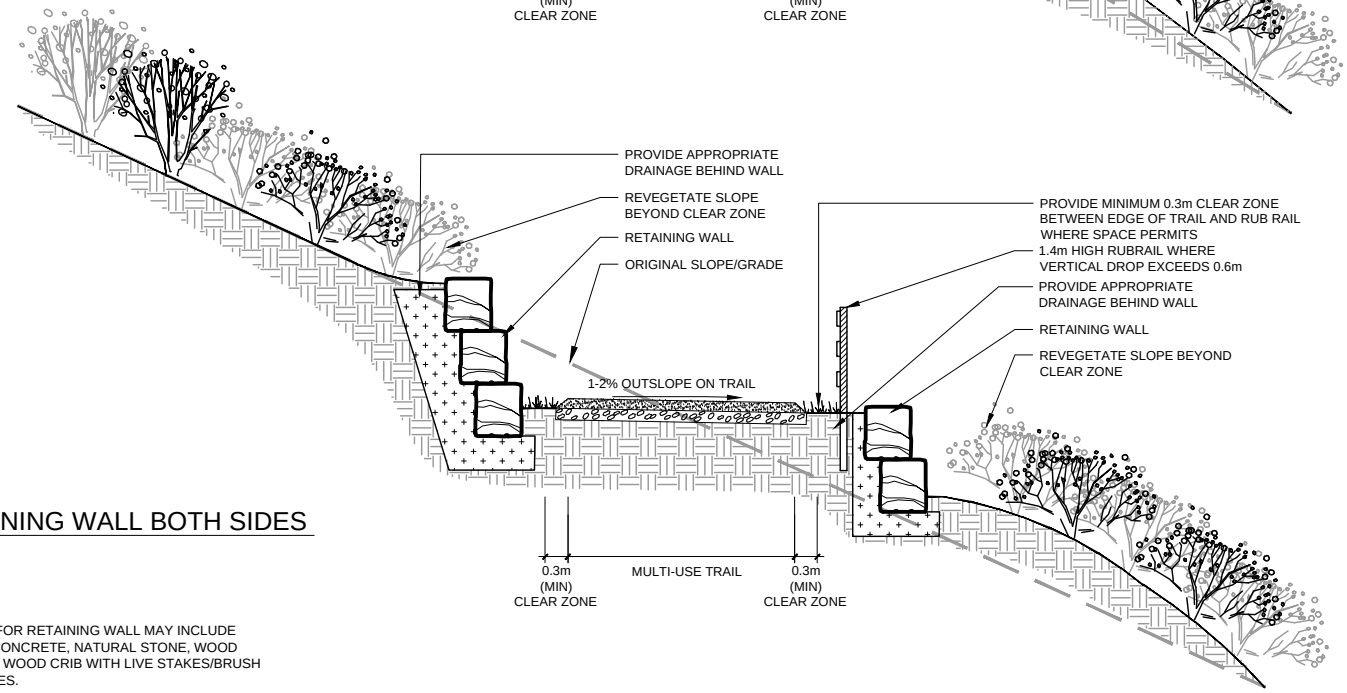
Centre Wellington



RETAINING WALL HIGH SIDE



RETAINING WALL LOW SIDE



RETAINING WALL BOTH SIDES

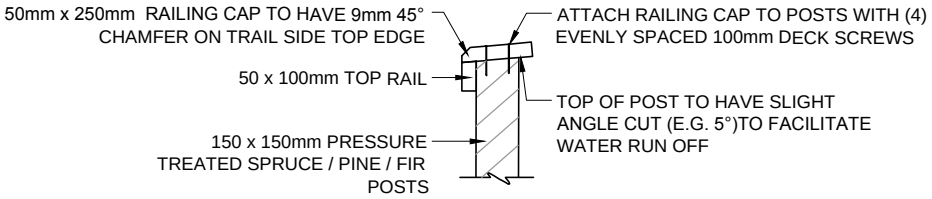
NOTE:
MATERIAL FOR RETAINING WALL MAY INCLUDE PRECAST CONCRETE, NATURAL STONE, WOOD TIMBER OR WOOD CRIB WITH LIVE STAKES/BRUSH MATTRESSES.

TRAIL TYPES

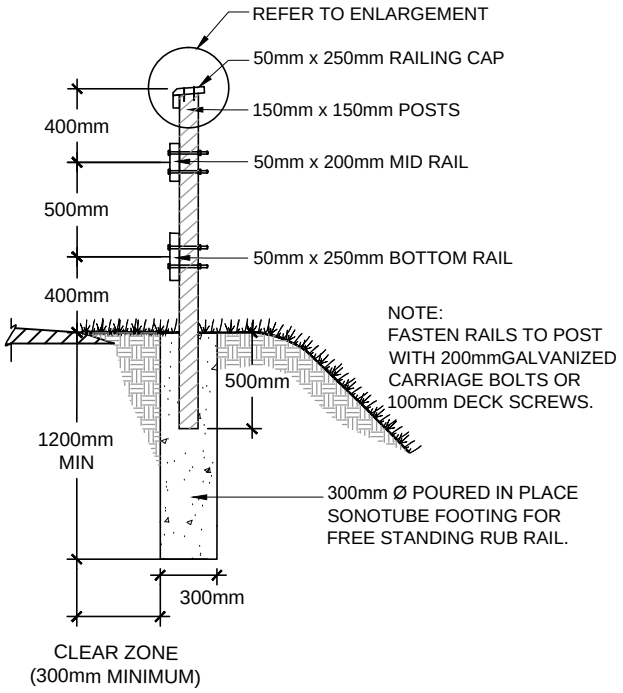
SCALE = 1:100

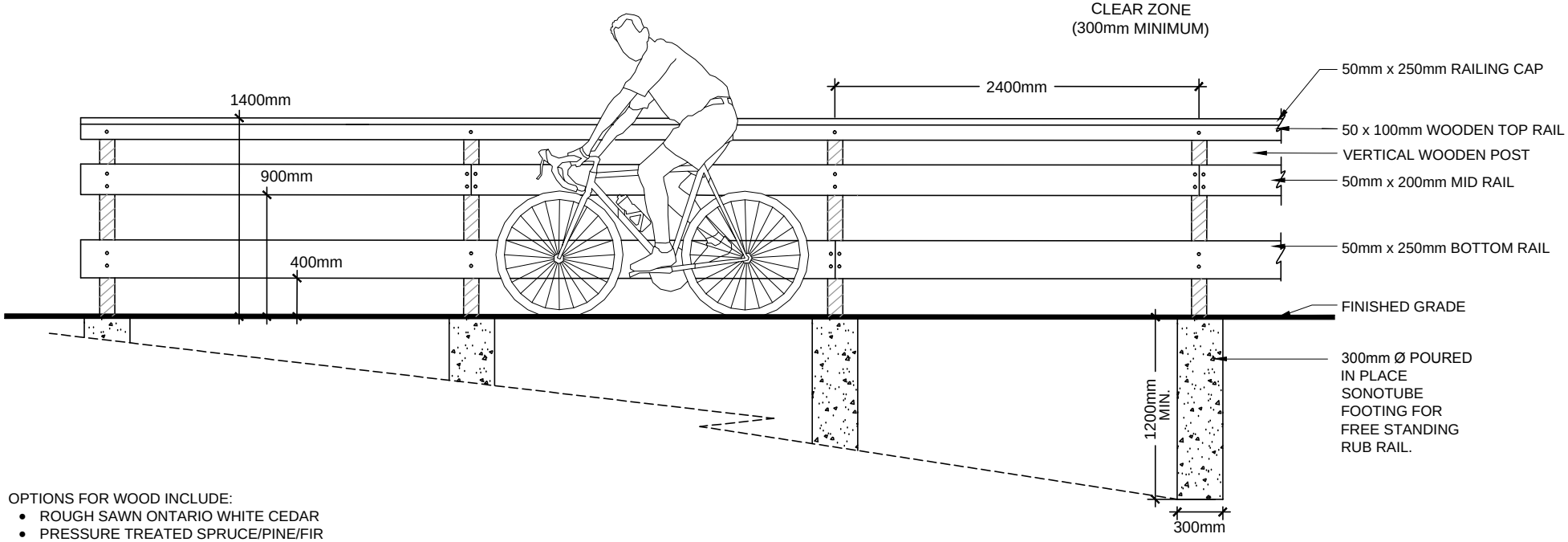
TRAIL ON SLOPE - RETAINING WALLS

Centre Wellington



ENLARGEMENT





OPTIONS FOR WOOD INCLUDE:

- ROUGH SAWN ONTARIO WHITE CEDAR
- PRESSURE TREATED SPRUCE/PINE/FIR

TRAIL TYPES

SCALE = 1:40

1.4m HIGH CYCLIST RUB RAIL

Centre Wellington

3.2.3.5 Trail Bridges

Where possible and practical the trail network should make use of existing bridges, including pedestrian bridges, vehicular bridges and abandoned railway bridges. In cases where this is not possible, a new structure will be needed and the type and design of a structure needs to be assessed on an individual basis.

The following are some general considerations for trail bridge planning and design:

- In locations where crossing distances are short, a wooden structure constructed on site may be suitable;
- In most situations a prefabricated steel truss bridge is a practical, cost effective solution;
- Railings should be considered if the height of the bridge deck exceeds 60cm above the surrounding grade, and should be designed with a “rub rail” to prevent bicycle pedals and handlebars from becoming entangled in the pickets;
- When considering barrier free access to bridges, an appropriate hardened surface should be used on the trail approaches, and bridge decking should be properly spaced to allow easy passage by users with mobility devices;
- Decking running perpendicular to the path of travel is preferred over decking running parallel, as gaps parallel to the path of travel can be treacherous for wheelchairs, strollers, in-line skaters and narrow-tired bicycles.

Figure 3-3: Trail Bridges Examples

Brampton, ON

Source: MMM Group

St. Clair National Wildlife Area, Chatham-Kent ON

Source: MMM Group

Kitchener, ON.

Source: MMM Group

Providence Bay, ON

Source: MMM Group

3.2.3.6 Trail Access and Barriers

Access barriers are intended to allow free flowing passage by permitted user groups, and restrict access by users groups that are prohibited. Barriers typically require some mechanism to allow access by service and emergency vehicles. Depending on site conditions, it may also be necessary to provide additional treatments between the ends of the access barrier and edge of the multi-use trail right-of-way to prevent bypassing of the barrier altogether. Additional treatments may consist of plantings, boulders, fencing or extension of the barrier treatment depending on the location.

There are many design alternatives for trail access barriers and some have proven to be more successful than others. They can generally be grouped into three categories:

- Bollards;
- Offset Swing Gates; and
- Single Swing Gates.

Each access point throughout the Centre Wellington trails network should be evaluated to determine which type of barrier is the most appropriate and what additional treatment(s) may be required to discourage unauthorized users from bypassing the barrier.

Bollards

The bollard is the simplest and least costly barrier. The structure can range from permanent, direct buried wood or metal posts, to more intricately designed cast metal units that are removable by maintenance staff. An

odd number of bollards (usually one or three) can be placed in the multi-use trail bed to create an even number of “lanes” for users to follow as they pass through the barrier.

Although the removable bollard system provides flexibility to allow service vehicle access, they can be difficult to maintain as the metal sleeves placed below grade can be damaged by equipment and can become jammed with gravel and debris from the trail bed.

Swing Gates

A single swing gate combines the ease of opening for service vehicle access, with the ease of passage of the bollard. Gates also provide a surface / support for mounting signage. The swing gate should provide a permanent opening to allow permitted users to flow freely through the barrier. The width of the permanent opening must be carefully considered so that it will allow free passage by wheelchairs, wide jogging, double strollers and bicycle trailers and electric scooters, yet prohibit access by unauthorized vehicles such as snowmobiles and all-terrain vehicles. Note that snowmobiling is permitted on some sections of the Elora Cataract Trailway, and during winter months the swing gate portion of the barrier is locked in the open position to allow free passage for trail groomers and snowmobilers with a valid permit from the Ontario Federation of Snowmobile Clubs (OFSC).

The offset gate is similar to the single swing gate, except that barriers are paired and offset from one another. Although they can be effective in limiting access by unauthorized users and can be easily opened by operations staff, some groups including cyclists, especially cyclists pulling trailers and wheelchair users, can have difficulty negotiating the offset swing gate if the spacing between the gates is not adequate.

In urban areas, the single swing gate or bollard is quite effective for most applications. For large parks, park service access/pathway routes, more rural settings and locations where unauthorized access is an ongoing problem, a more robust single swing gate should be employed.

Figure 3-4: Bollard and Swing Gate Examples

Heavy Duty Swing Gate, Kingsville, ON

Source: MMM Group

Offset “P” Gate, Newmarket, ON.

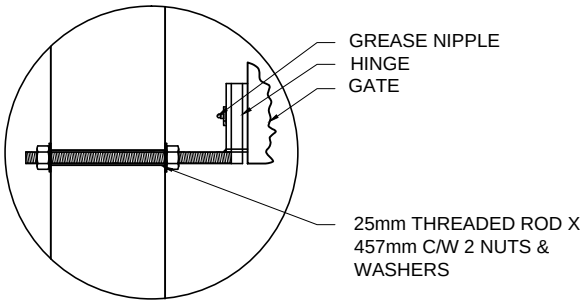
Source: MMM Group

Heavy Duty Swing Gate, near Orton, ON.

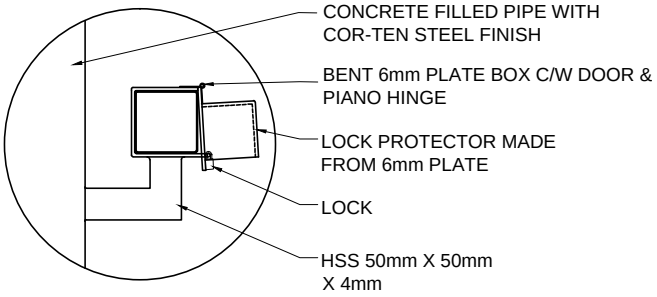
Source: MMM Group

Lower Right: Centre Bollard Over Trail Bridge, Steveston, BC

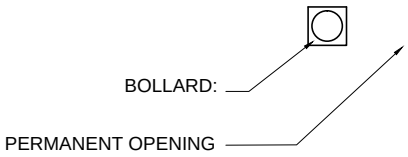
Source: MMM Group

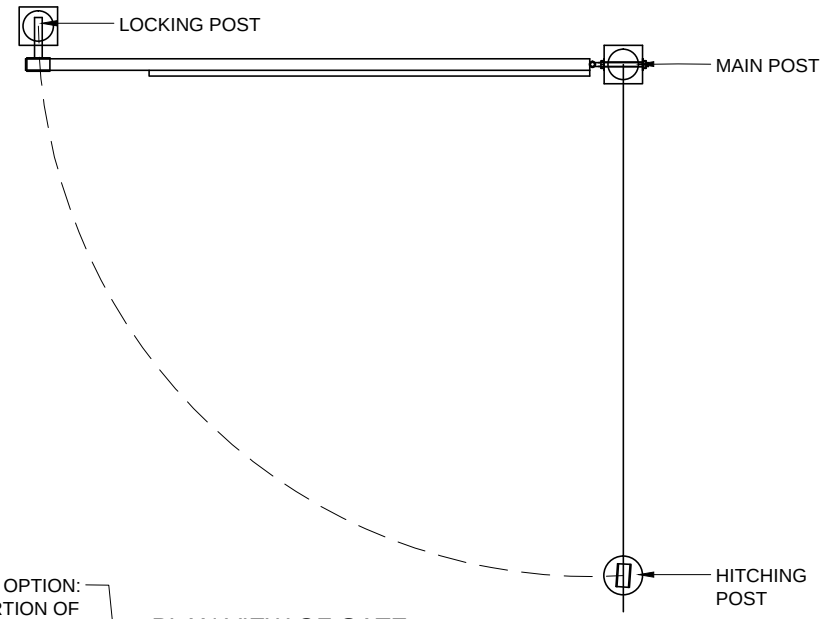


HINGE DETAIL

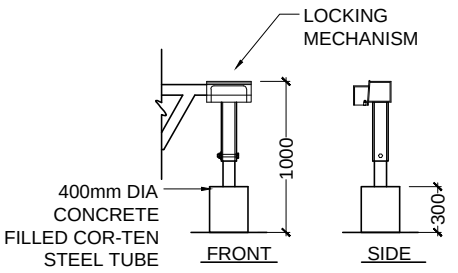


LOCK MECHANISM DETAIL

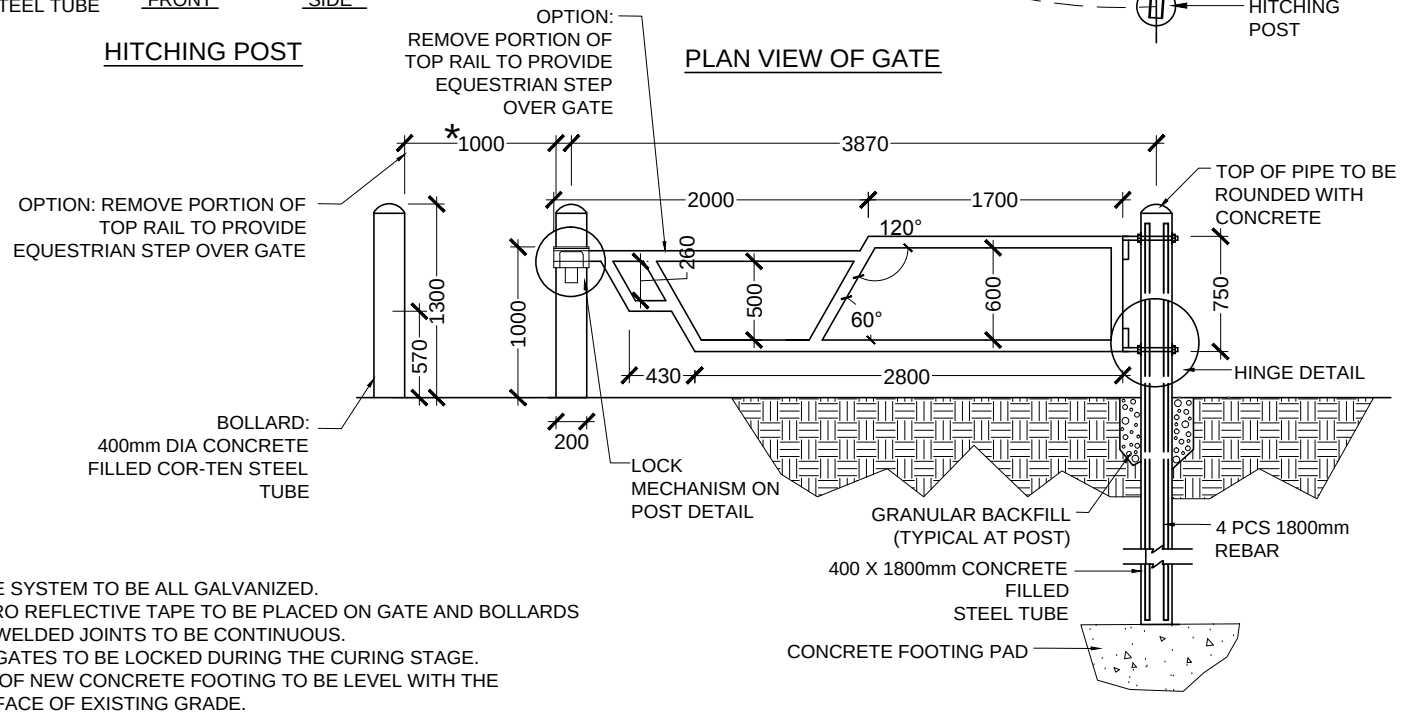




PLAN VIEW OF GATE



HITCHING POST



ELEVATION OF GATE

NOTES:

- GATE SYSTEM TO BE ALL GALVANIZED.
- RETRO REFLECTIVE TAPE TO BE PLACED ON GATE AND BOLLARDS
- ALL WELDED JOINTS TO BE CONTINUOUS.
- ALL GATES TO BE LOCKED DURING THE CURING STAGE.
- TOP OF NEW CONCRETE FOOTING TO BE LEVEL WITH THE SURFACE OF EXISTING GRADE.
- ALL HARDWARE TO BE GALVANIZED.
- ALL DIMENSIONS IN mm (MILLIMETERS).
- ALL METAL COMPONENTS SHALL CONFIRM TO RELEVANT OPSS.

★ PERMANENT OPENING TO BE A MINIMUM OF 1000mm FOR ACCESSIBLE TRAILS

TRAIL ACCESS

SCALE = 1:50

HEAVY-DUTY SWING GATE FOR RURAL LOCATIONS

Centre Wellington

3.2.3.7 Road Crossings

A significant challenge when implementing a trail and active transportation system is how to accommodate users when crossing various physical barriers and roads. The following section provides guidance on the design of road crossings.

Minor Roads

In the case of lower volume and lower speed roads, the crossing should include the following:

- Creation and maintenance of an open sight triangle at each crossing point;
- Access barriers to prevent unauthorized motorized users from accessing the pathway;
- Advisory signing along the roadway in advance of the crossing point to alert motorists to the upcoming crossing;
- Signing along the trail to alert users of the upcoming roadway crossing;
- Alignment of the crossing point to achieve as close to possible a perpendicular crossing of the roadway, to minimize the time that users are in the traveled portion of the roadway;
- Concrete ramp in the boulevard between the sidewalk and roadway (only urban locations with a curb and gutter); and
- Curb ramps on both sides of the road (only urban locations with a curb and gutter).

Pavement markings, to delineate a crossing, should not be considered at “uncontrolled” trail intersections with roads because trail users are required to wait for a gap in traffic before crossing at these locations. Pavement markings designed to look like a pedestrian cross over may give trail users the false sense that they have the right-of-way over motor vehicles, which is contrary to the Ontario Highway Traffic Act.

In some locations, signing on the trail may not be enough to get trail users to stop before crossing the road. Under these circumstances or in situations where the sight lines for motorists are reduced and / or where there is a tendency for motorists to travel faster than desirable, the addition of other elements into the trail crossing may be necessary. Changing the trail alignment may help to get trail users to slow and stop prior to crossing. Changes to the streetscape may also provide a cue and traffic calming effect for vehicles.

Crossing with Median Refuge Island

Pedestrian refuge islands are medians that are placed in the centre of the roadway separating opposing lanes of traffic. They allow trail users to cross lanes of traffic from one direction and pause briefly before crossing the traffic lanes from the opposing direction. They are particularly suited for roadways with multiple lanes since

the cognitive requirements to select a gap in traffic traveling in two directions in multiple lanes is considerably higher than what is required to cross two lanes of traffic. Guidelines for the typical design elements for a pedestrian refuge island include:

- Islands are typically a minimum of 6 m in length;
- Islands should be at least 1.8 m wide, but 2.4 m is preferred to accommodate wheelchairs in a level landing 1.2 m wide plus 0.6 m wide detectable warning zones / plates on each side. The 2.4 m width will also accommodate bicycles in the refuge;
- Curb ramps should be provided to allow access to the roadway and island for wheelchair users, and detectable warning devices (0.6 m in width) should be placed at the bottom of the curb ramps;
- Consider concrete on the refuge instead of asphalt. Users with low vision or complete visual impairment can better detect the change in texture and contrast in colour provided by concrete. This should be supplemented with detectable warning zones / plates to assist with locating the refuge island;
- Appropriate tapers are required to diverge traffic around the island based on the design speed of the roadway;
- The trail 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;
- Signage associated with the pedestrian refuge island includes “Keep Right” and “Object Marker” warning signs installed on the island facing traffic, and “Pedestrian Crossing Ahead” warning signs installed on the roadway approaching the crossing. “Wait for Gap” warning signs can be installed on the far side of the crossing and on the refuge island if pedestrians are failing to cross in a safe manner;
- Crosswalk markings are not provided unless the crossing is at an intersection controlled by signals, stop or yield signs, or controlled by a school crossing guard; and
- Railings on the island to control pedestrian access are not recommended because they are a hazard in potential collisions (spearing of driver or pedestrian). Some pedestrians will walk in front of or behind the island to avoid the railings, and this location is not as safe as being on the refuge.

One design alternatives that has recently emerged is the Cross-ride. A Cross-ride can be used by pedestrians and cyclists when crossing a roadway and provides a designated space for both users and helps to prevent possible conflict areas at crossings. Recently implemented in communities such as the City of Mississauga and Burlington, this innovative design feature is endorsed in Ontario Traffic Manual Book 18-Cycling Facilities.

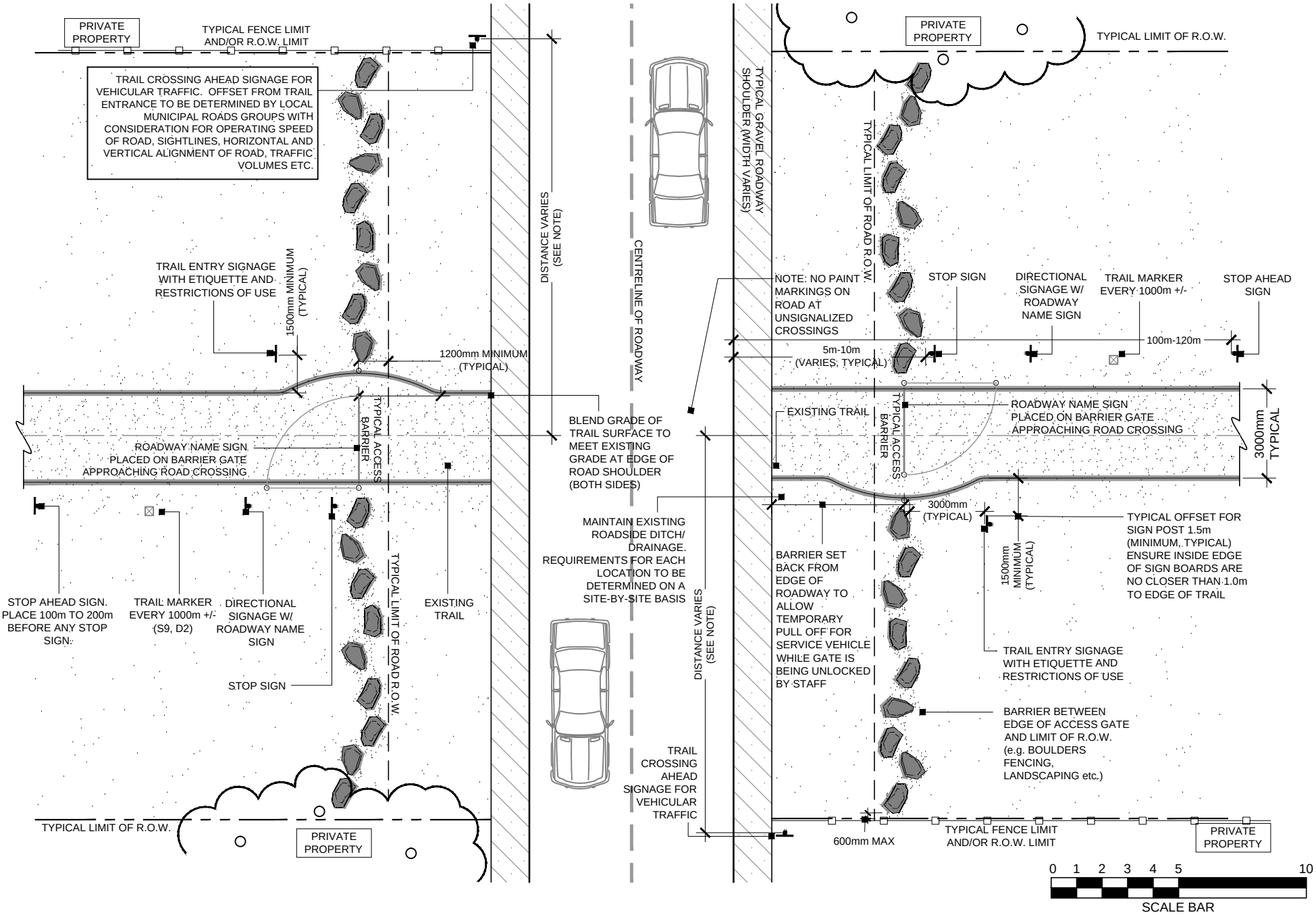
Mid-block Pedestrian Signal

The mid-block pedestrian signal is a device to assist pedestrians crossing major streets and is a more positive and effective pedestrian crossing device than a pedestrian crossover (PXO), which has been phased out by most jurisdictions across Ontario.

A mid-block pedestrian signal includes standard traffic signal indications to control traffic on the major street and standard pedestrian "Walk" and "Don't Walk" signals, activated by push buttons, for pedestrians wishing to cross the major street at the designated crossing point.

A mid-block pedestrian signal is a good candidate when:

- A multi-use trail crosses a high volume and/or multi-lane road;
- A grade separation is not practical; and
- There is no other signal controlled crossing nearby.

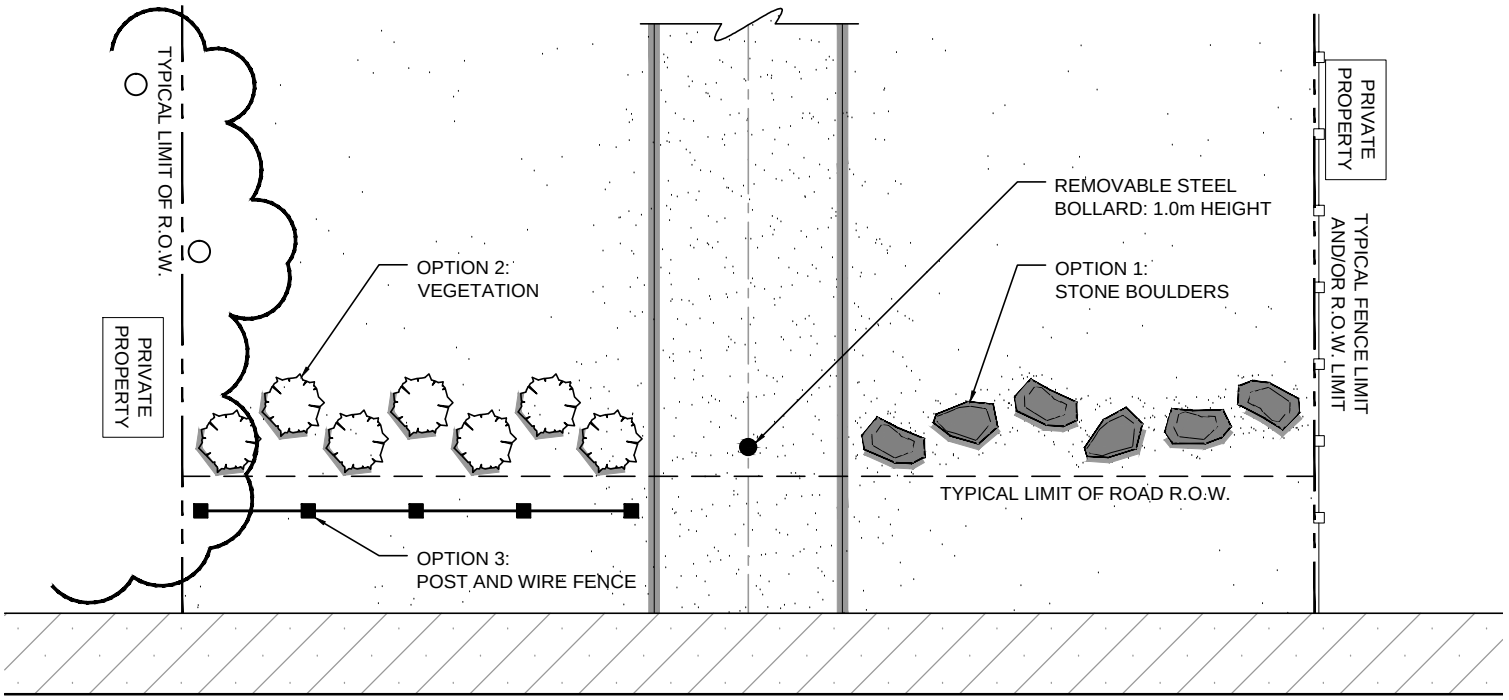


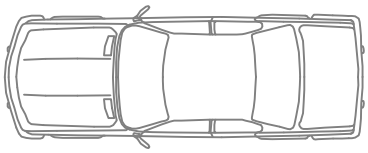
ROAD CROSSINGS

SCALE = 1:200

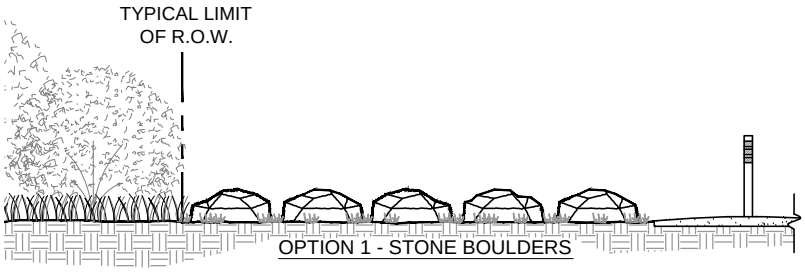
RURAL ROAD CROSSING

Centre Wellington

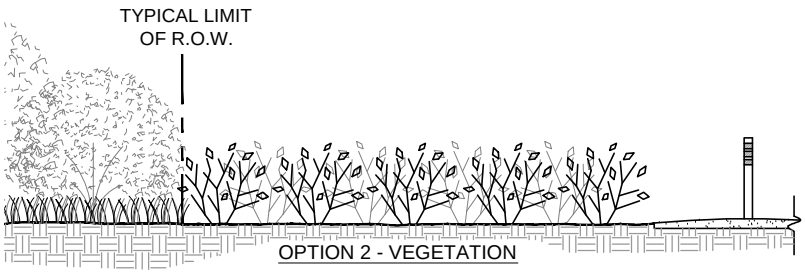




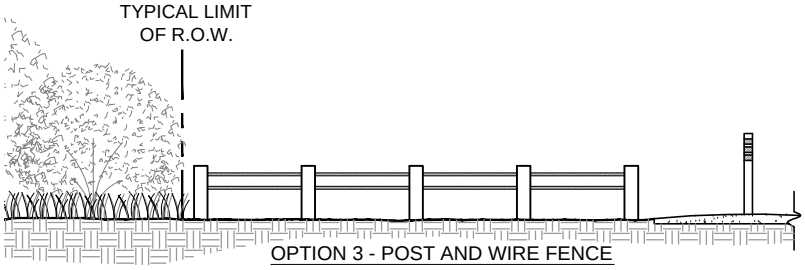
TYPICAL TRAIL ACCESS WITH REMOVABLE BOLLARD - PLAN VIEW



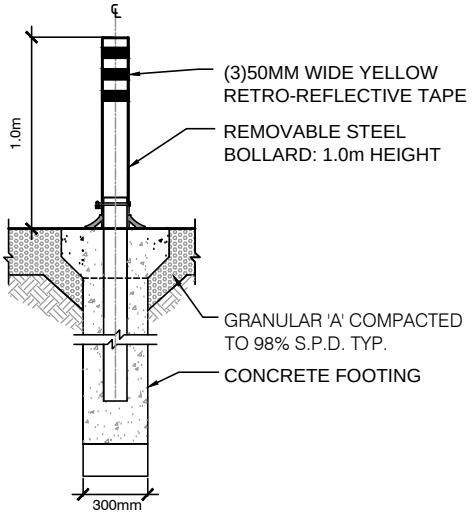
OPTION 1 - STONE BOULDERS



OPTION 2 - VEGETATION

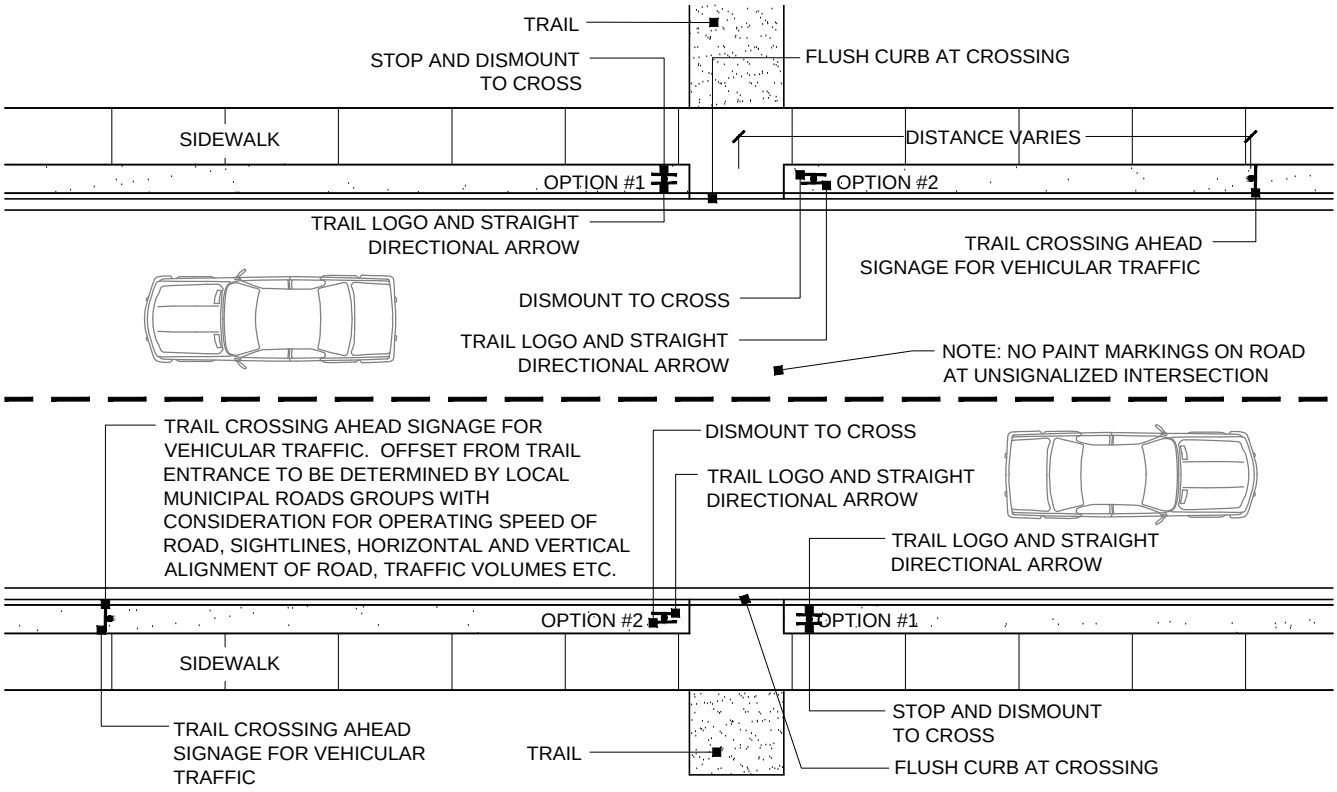


OPTION 3 - POST AND WIRE FENCE

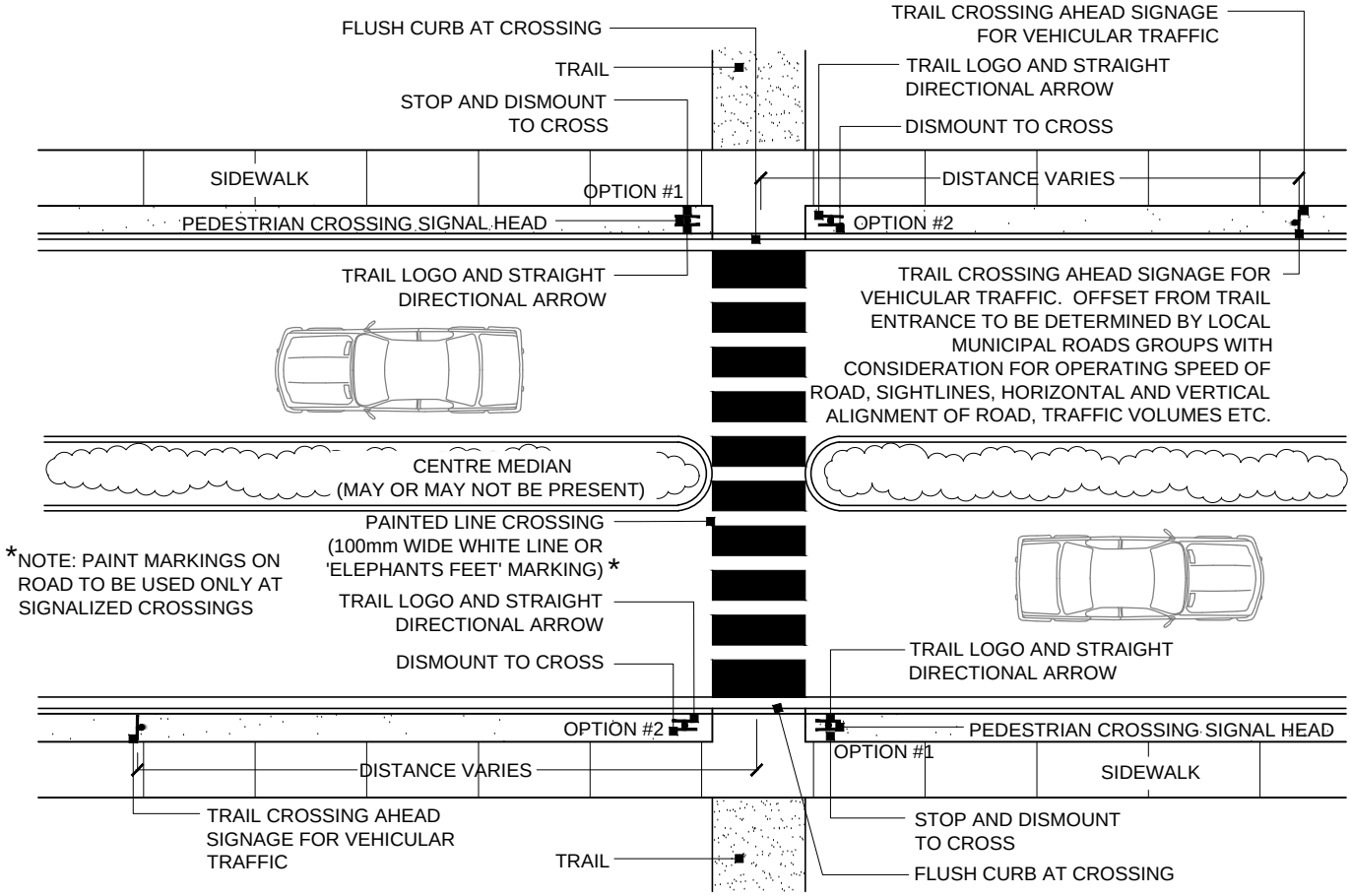


ENLARGEMENT

TRAIL ACCESS	SCALE = NTS
REMOVABLE STEEL BOLLARD	Centre Wellington



UNSIGNALIZED MID-BLOCK CROSSING



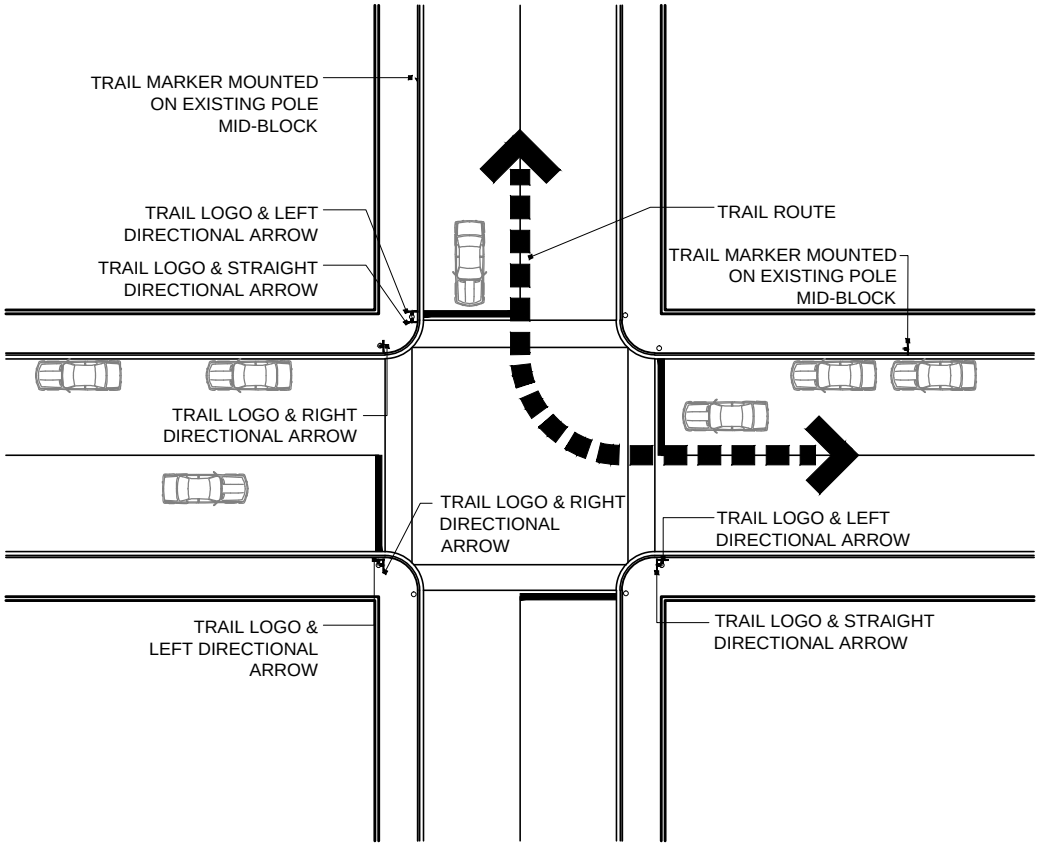
SIGNALIZED MID-BLOCK CROSSING

ROAD CROSSINGS

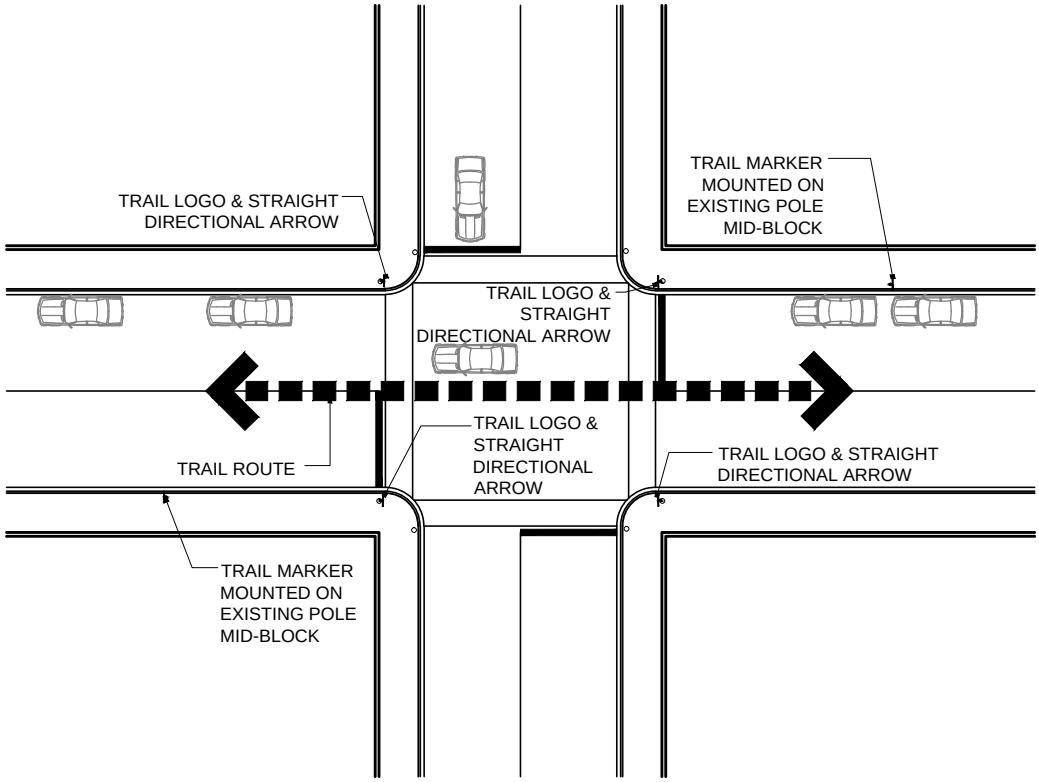
SCALE = NTS

SIGNALIZED AND UNSIGNALIZED MID-BLOCK CROSSING

Centre Wellington



TRAIL ROUTE TURNS AT INTERSECTION



TRAIL ROUTE RUNS STRAIGHT THROUGH INTERSECTION

ROAD CROSSINGS	SCALE = NTS
URBAN INTERSECTION CROSSINGS	Centre Wellington

3.2.3.8 Rest and Staging Areas

Rest areas should be provided along routes where users tend to stop, such as interpretive stations, lookouts, restaurants, museums and other attractions / services. Ideally, there should be a rest area at least every five kilometres on popular rural recreational trails or at major intersections and gathering places near on-road facilities or along sidewalks and boulevard trails.

Young children, older adults and those with disabilities will need to rest more frequently than others. In urban centres rest areas should be provided more frequently, and in areas where trail use is high such as popular urban trails, trails near seniors' centres, along waterfront promenades etc., opportunities for resting / seating should be much more tightly spaced (e.g. consider intervals of 100-250m).

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 the trail setting. Where seating/rest areas are planned, the design should consider a 1.0 m wide level area with a curb or other appropriate wheel stop for wheelchairs.

Staging areas are nodes throughout the trail network where users can travel to, or where groups can meet to begin their journey on the trail. An even distribution of staging areas in the rural parts of the community will provide multiple meeting and access points to the trail system. In urban areas existing community centres are excellent candidates for trail staging areas as they often have many of the necessary amenities. A typical staging area will include the following elements:

- Parking for automobiles – parking capacity will vary depending on the location of the staging area. A minor staging area may accommodate 5-8 cars, whereas a major staging area may accommodate over 30 cars. Spaces for trailers may be included at rural staging areas where equestrian and / or snowmobile use is permitted on the trail;
- Waste receptacles – located where they can be easily accessed by service crews and at regular intervals, typically grouped with other amenities such as benches, etc.
- Information / trailhead signing complete with mapping;
- Bicycle parking facilities;
- Seating – may also include picnic tables;
- Washrooms – should be considered for all staging areas. Seasonal, portable toilets are sufficient at small rural staging areas; and
- Potable water – optional, typically only at major urban staging areas (e.g. community centres).

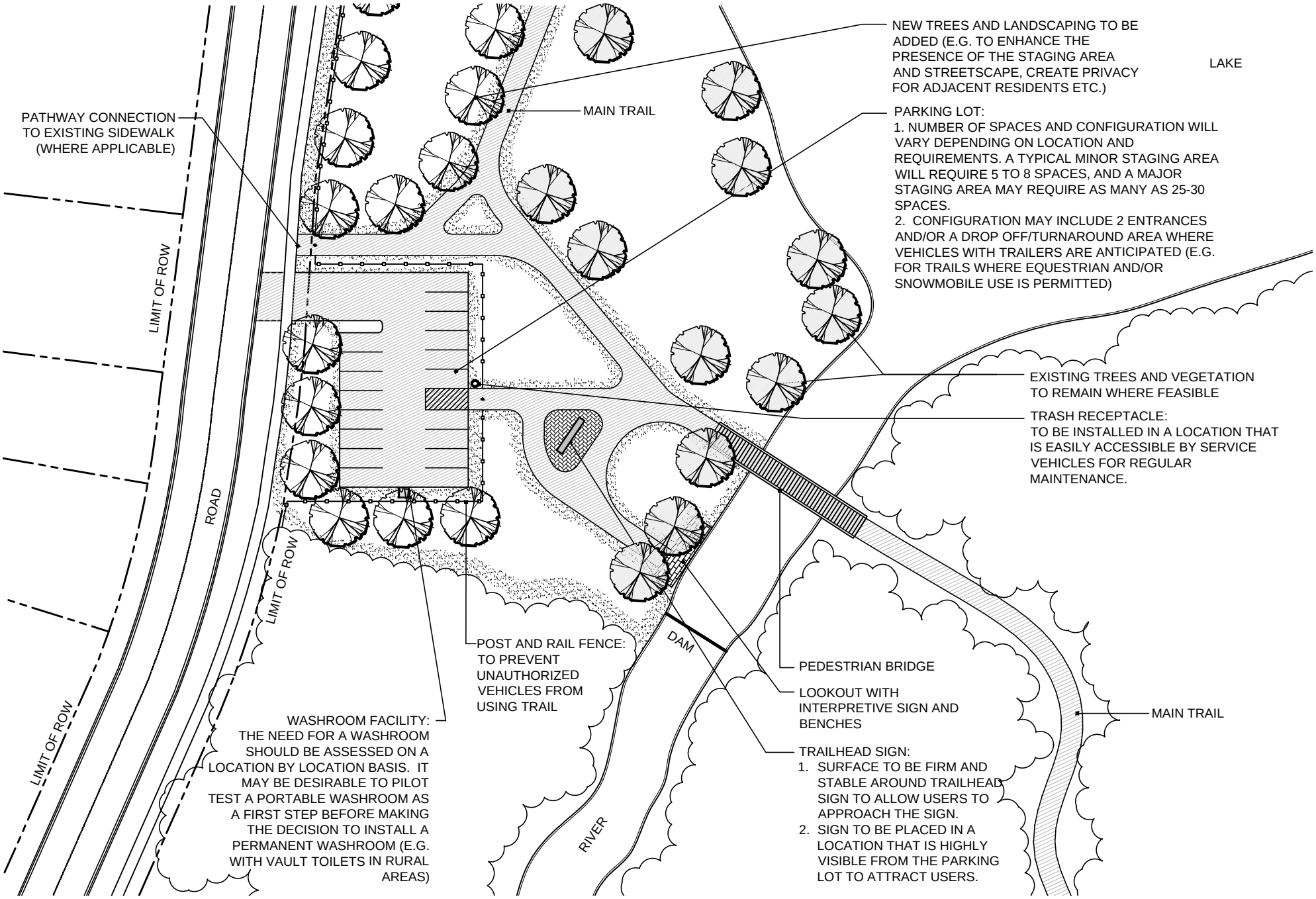
Figure 3-5: Rest and Staging Area Examples

Harrow ON

Source: MMM Group

Pilkington Overlook, Centre Wellington, ON

Source: MMM Group



TRAIL ACCESS

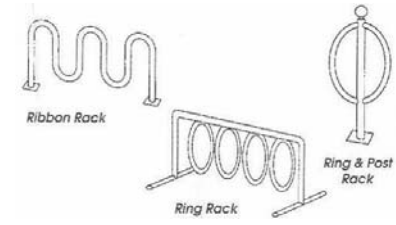
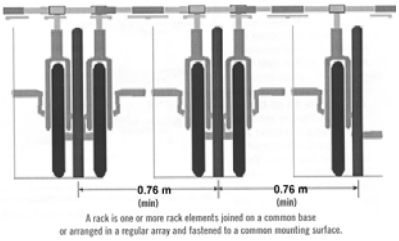
SCALE = NTS

TYPICAL MAJOR STAGING AREA

Centre Wellington

3.2.3.9 Bicycle Parking Facilities

An adequate supply of properly designed and properly located bicycle parking encourages increased cycling use as well as trail use. Bicycle parking can include individual racks, groups of racks where demand is high, or bicycle lockers. Potential locations for bicycle parking should be assessed to determine the number and type of parking units needed.

Bicycle Racks	Bicycle Parking Areas	Bicycle Locker
These are available in an array of styles, ranging from the single post and ring style rack, to larger units that accommodate multiple bicycles. They are the least expensive style of unit which can be surface mounted on concrete pad or set in a concrete footing (e.g. Sono tube). Some manufacturers offer custom designs.	Is the "bicycle parking lot" or area where multiple racks are separated by aisles, much like a typical motor vehicle parking lot. Designs may include a roof and / or secure enclosure.	Bicycle lockers are individual storage units. They protect bicycles from weather, are secured with a key, swipe card (key fob) or an electronic key pad located on the locker door. Lockers are the most expensive style of unit, therefore are typically only used in locations where longer term parking is needed (e.g. commuter parking nodes).
 	 	 

3.2.3.10 Trail Signs

The design and construction of the network should incorporate a hierarchy of signs each with a different purpose and message. This hierarchy is organized into a "family" of signs with unifying design and graphic elements, materials and construction techniques. The unified system is immediately recognizable by the user and can become a branding element. A template for a family of signs was developed for use throughout Wellington County and those details are provided in the following pages. This family of signs includes:

Orientation and Trailhead Signs:

- Typically located at key destination points and major network junctions.
- Provide orientation to the network through mapping, other appropriate network information as well as any rules and regulations.
- Where network nodes are visible from a distance, these can be a useful landmark and should include municipal "911" addressing for positive location identity.
- Can also been used as an opportunity to sell advertising space. This not only provides information about local services that may be of interest to trail users, but it may also help to offset the cost of signs and/or trail.

Figure 3-6: Trailhead and Sign Examples

Osgoode, ON.
Source: MMM Group

Ariss, ON.
Source: MMM Group

Tillsonburg, ON.
Source: MMM Group

Pilkington Overlook, Centre Wellington, ON.
Source: MMM Group

Gateway Signs:

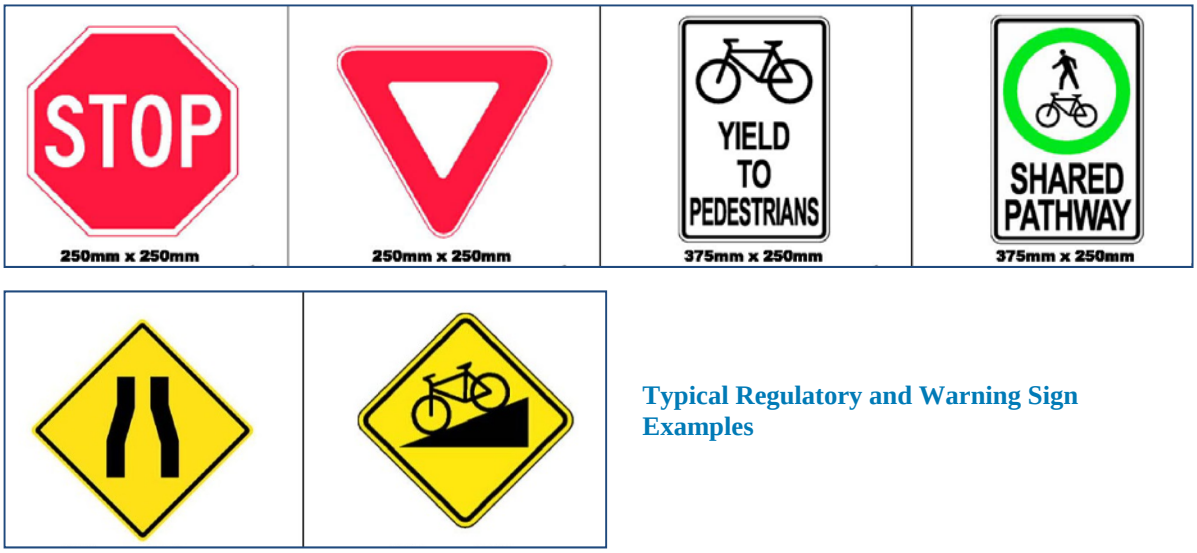
- Should be considered where multi-use trails enter into the Township from surrounding municipalities.
- These may be a smaller version of the trailhead sign and include elements such as route mapping, trail branding/logos, user etiquette and emergency contact information, including municipal addressing for positive location identity.

"Rules of the Trail" Signs:

- Should be posted at public access points to clearly articulate permitted trail uses, regulations and laws that apply, as well as trail etiquette, safety and emergency contact information.
- Reminder signs may be needed at some locations such as "Please Stay on the Trail".
- This information can be incorporated into trailhead signs and integrated with access barriers.

Regulatory and Warning Signs:

- Are required throughout the system.
- Where traffic control signs are needed (stop, yield, curve ahead etc.), it is recommended that recognizable traffic control signs be used (refer to the Ministry of Transportation for Ontario's (MTO) Manual of Uniform Traffic Control Devices, 1996).



Typical Regulatory and Warning Sign Examples

Interpretive Signs:

- Should be located at key trail features having a story to be told.
- Features may be cultural, historical, or natural.
- Should be highly graphic and easy to read.
- Should be located in highly visible locations to minimize the potential for vandalism.

Figure 3-7: Interpretive Sign Examples

Fundy National Park, NB

Source: MMM Group

Confederation Trail near Montague, PEI

Source: MMM Group

Sauble Beach, ON.

Source: MMM Group

Tobermory, ON

Source: MMM Group

Route Marker and Trail-Directional Signs:

- Should be located at trail intersections and at regular intervals along long, uninterrupted sections of trail.
- Markers provide a simple visual message to users that they are travelling on the trail network.
- Where the trail network must use an on-street connecting link, clear direction to the next available segment of the off-street trail network should be provided. This includes directional markers and a small map board (i.e. 60cm x 60cm) that clearly shows the alignment of the route to the next available off-street segment.

Figure 3-8: Route Marker and Trail-Directional Sign Examples

Cataract, ON

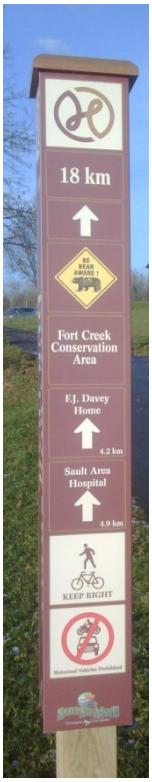
Source: MMM Group

Kingsville, ON

Source: MMM Group

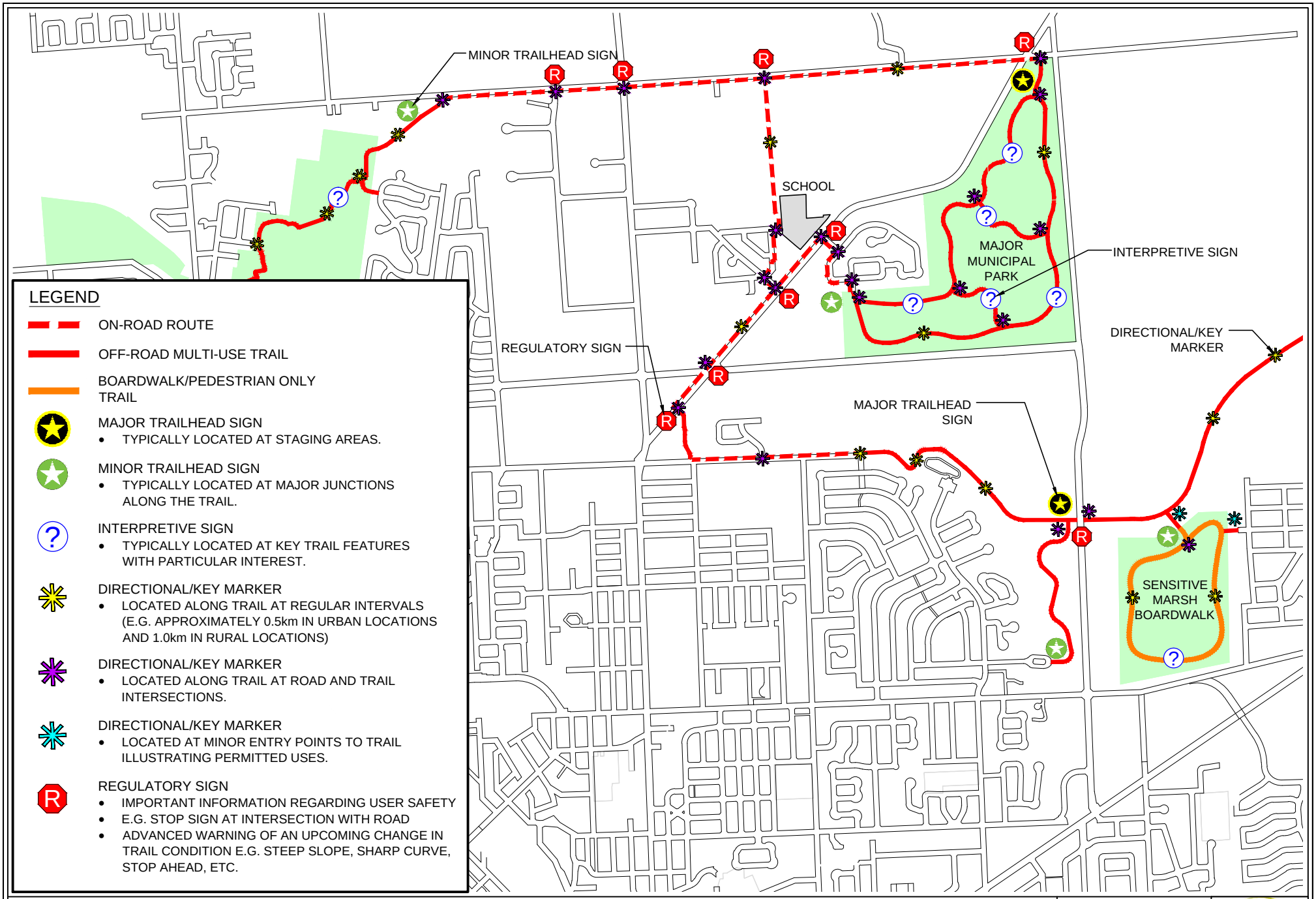
Montague, PEI

Source: MMM Group



Sault Ste. Marie, ON

Source: MMM Group



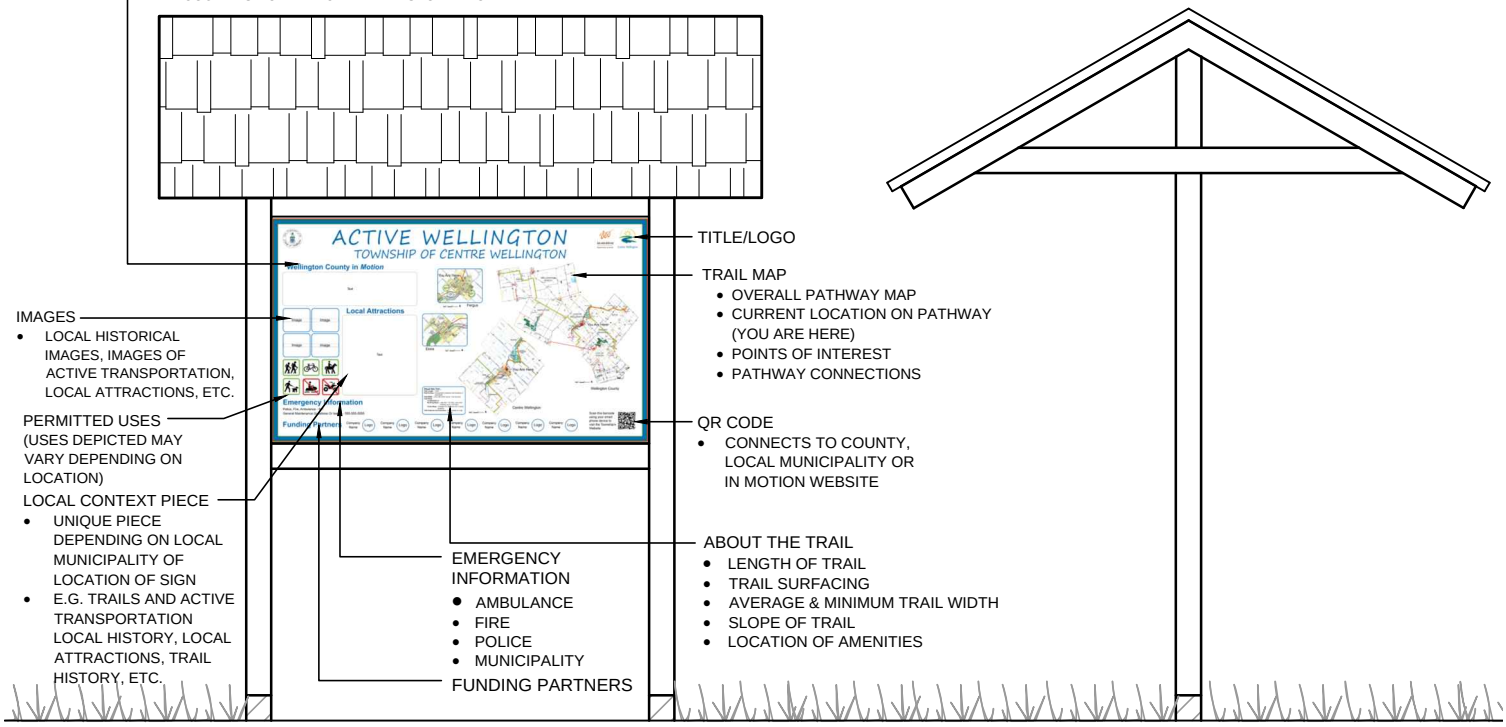
TRAIL SIGNAGE

SCALE = NTS

TYPICAL TRAIL SIGNAGE LAYOUT

Centre Wellington

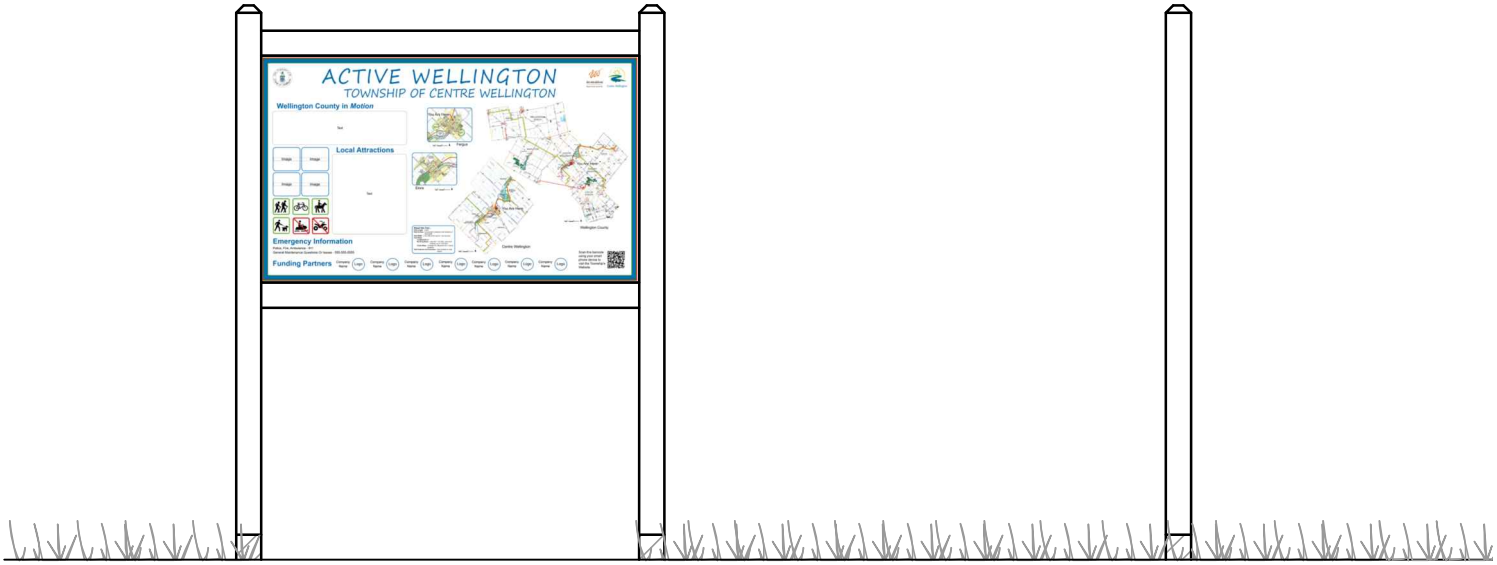
GET ACTIVE WELLINGTON
- STANDARD PIECE ON ACTIVE TRANSPORTATION IN WELLINGTON COUNTY AND HOW LOCAL INITIATIVES WORK TO COMPLEMENT THE COUNTY'S ROLE IN ACTIVE TRANSPORTATION



FRONT

SIDE

*REFER TO:
MAJOR TRAILHEAD SIGN - DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS



FRONT

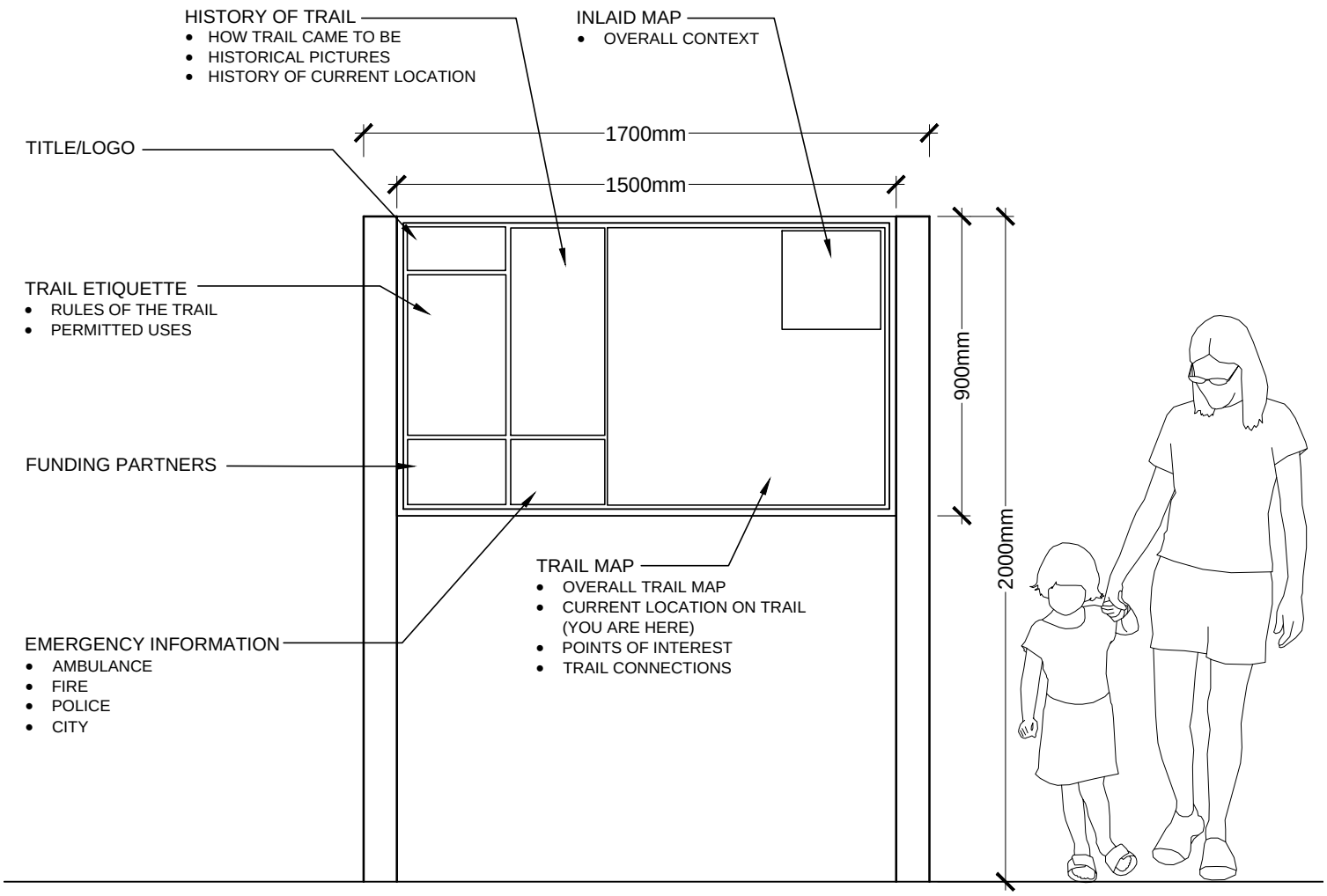
SIDE

SIGNAGE

SCALE = NTS

MAJOR TRAILHEAD SIGN WITH PROPOSED SIGNBOARD

Centre Wellington



FUNCTION:

- PROVIDES ORIENTATION TO OVERALL TRAIL SYSTEM BY WAY OF MAPPING AND INTERPRETIVE INFORMATION.
- CAN ALSO PROVIDE THE HISTORY BEHIND THE TRAIL OR REGION.
- LISTS THE PERMITTED USES OF THE TRAIL AND EMERGENCY CONTACT INFORMATION.
- THE MAJOR TRAILHEAD SIGN IS LARGER IN SIZE AND CAN ALSO ACT AS AN IDENTIFIER TO PASSING PEDESTRIANS AND VEHICLES.

TYPICAL LOCATION:

- TYPICALLY LOCATED AT STAGING AREAS.
- IN CASES WHERE IT IS ASSOCIATED WITH A PARKING AREA THE TRAILHEAD SIGN IS USUALLY IN THE TRANSITION AREA BETWEEN THE PARKING LOT AND TRAIL.

TYPICAL SIGN ELEMENTS:

- TRAIL ETIQUETTE DENOTING GUIDELINES FOR TRAIL USERS
- EMERGENCY CONTACT INFORMATION (IE. 911 OR MAINTENANCE ISSUES)
- IMAGERY OF DESTINATION POINTS ALONG TRAIL
- LOGOS FROM TOWN/MUNICIPALITY, COUNTY AND SPONSORSHIPS
- TRAIL MAP INDICATING LENGTH, DESTINATION POINTS AND OVERALL TRAIL LAYOUT
- PERMITTED USES (I.E. BICYCLES, EQUESTRIANS, ETC.)

QR CODES:

- QUICK RESPONSE CODES CAN BE SCANNED BY MOBILE PHONE DEVICES THAT WILL PROVIDE INSTANT ACCESS TO A DESIGNATED WEBSITE. WEBSITES CAN BE EASILY MODIFIED SO THAT INFORMATION (MAPPING, EVENTS, PROGRAMS, ETC.) ARE CURRENT.

OTHER NOTES:

- MAY OR MAY NOT HAVE A ROOF STRUCTURE.
- OFTEN A CUSTOM DESIGNED STRUCTURE, ALTHOUGH THERE ARE SOME PRE-MANUFACTURED STRUCTURES ON THE MARKET.
- WITHIN URBAN AREAS, STRUCTURE CAN BE MADE OF COLOURED METAL FOR A MORE FORMAL LOOK.
- WITHIN RURAL AREAS, STRUCTURE CAN BE MADE OF WOOD FOR A MORE NATURAL LOOK.
- WHEN SELECTING TEXT FOR SIGNAGE, IT IS SUGGESTED TO CHOOSE A SANS SERIF FONT. SERIF FONTS CAN MAKE IT DIFFICULT FOR THOSE WITH VISUAL IMPAIRMENTS TO READ THE LETTERING AS THE TEXT TENDS TO BLEND TOGETHER.
- HIGH CONTRAST BETWEEN BACKGROUND AND TEXT FOR EASY READABILITY. A MINIMUM LIGHT REFLECTIVE VALUE OF 70% IS RECOMMENDED TO MEET AODA REQUIREMENTS.

SCALE BAR

SIGNAGE

SCALE = 1:20

MAJOR TRAILHEAD SIGN - DETAILS

Centre Wellington

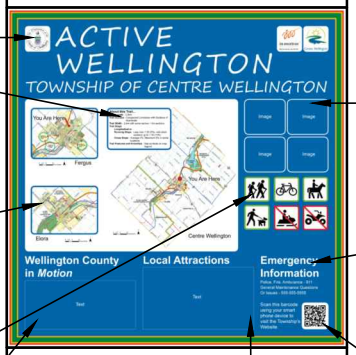
LOGOS AND TITLE

ABOUT THE TRAIL
- LENGTH OF TRAIL
- TRAIL SURFACING
- AVERAGE & MINIMUM TRAIL WIDTH
- SLOPE OF TRAIL
- LOCATION OF AMENITIES

TRAIL MAP
- OVERALL PATHWAY MAP
- CURRENT LOCATION ON PATHWAY (YOU ARE HERE)
- POINTS OF INTEREST
- PATHWAY CONNECTIONS

PERMITTED USES
(USES DEPICTED MAY VARY DEPENDING ON LOCATION)

GET ACTIVE WELLINGTON
- STANDARD PIECE ON ACTIVE TRANSPORTATION IN WELLINGTON COUNTY AND HOW LOCAL INITIATIVES WORK TO COMPLEMENT THE COUNTY'S ROLE IN ACTIVE TRANSPORTATION



LOCAL CONTEXT PIECE
- UNIQUE PIECE DEPENDING ON LOCAL MUNICIPALITY OF LOCATION OF SIGN
- E.G. TRAILS AND ACTIVE TRANSPORTATION LOCAL HISTORY, LOCAL ATTRACTIONS, TRAIL HISTORY, ETC.

IMAGES
- LOCAL HISTORICAL IMAGES, IMAGES OF ACTIVE TRANSPORTATION, LOCAL ATTRACTIONS, ETC.

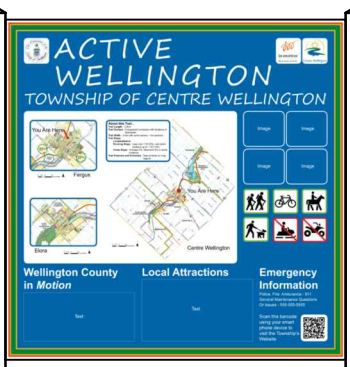
EMERGENCY INFORMATION
- AMBULANCE
- FIRE
- POLICE
- MUNICIPALITY

QR CODE
- CONNECTS TO COUNTY, LOCAL MUNICIPALITY OR IN MOTION WEBSITE

FRONT WITH HORIZONTAL TOP AND BOTTOM RAIL

SIDE

*REFER TO:
MAJOR TRAILHEAD SIGN - DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS



FRONT WITHOUT HORIZONTAL TOP AND BOTTOM RAIL

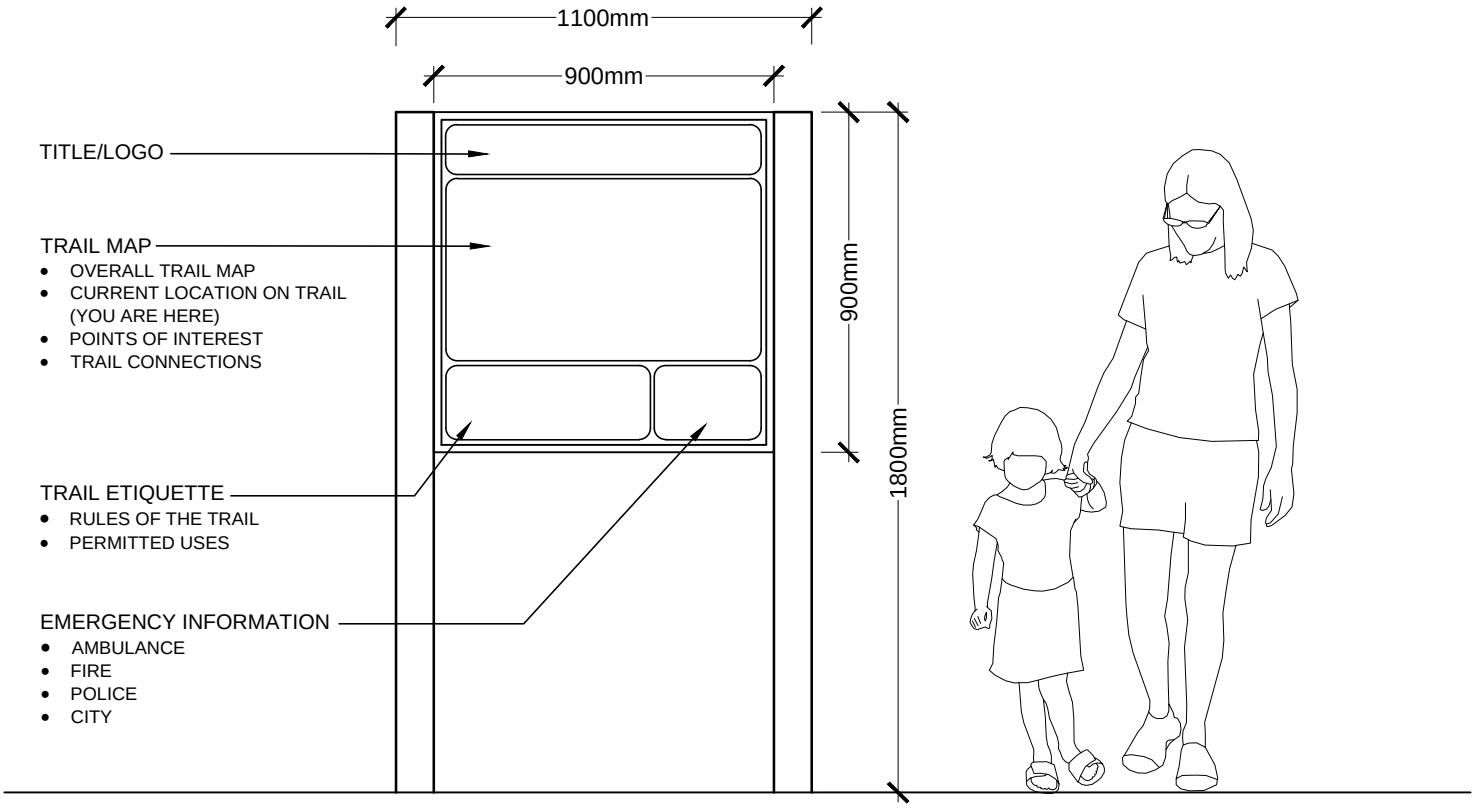
SIDE

SIGNAGE

SCALE = NTS

MINOR TRAILHEAD SIGN WITH PROPOSED SIGNBOARD

Centre Wellington



FUNCTION:

- SMALLER THAN A MAJOR TRAILHEAD SIGN.
- THIS SIGN PROVIDES USERS WITH THEIR CURRENT LOCATION, INTERPRETIVE INFORMATION.
- LISTS THE PERMITTED USES OF THE TRAIL AND EMERGENCY CONTACT INFORMATION.

TYPICAL LOCATION:

- TYPICALLY LOCATED AT MAJOR JUNCTIONS ALONG THE TRAIL AND MINOR STAGING AREAS.

TYPICAL SIGN ELEMENTS:

- TRAIL ETIQUETTE DENOTING GUIDELINES FOR TRAIL USERS
- EMERGENCY CONTACT INFORMATION (IE. 911 OR MAINTENANCE ISSUES)
- IMAGERY OF DESTINATION POINTS ALONG TRAIL
- LOGOS FROM TOWN/MUNICIPALITY, COUNTY AND SPONSORSHIPS
- TRAIL MAP INDICATING LENGTH, DESTINATION POINTS AND OVERALL TRAIL LAYOUT
- PERMITTED USES (I.E. BICYCLES, EQUESTRIANS, ETC.)

QR CODES:

- QUICK RESPONSE CODES CAN BE SCANNED BY MOBILE PHONE DEVICES THAT WILL PROVIDE INSTANT ACCESS TO A DESIGNATED WEBSITE. WEBSITES CAN BE EASILY MODIFIED SO THAT INFORMATION (MAPPING, EVENTS, PROGRAMS, ETC.) ARE CURRENT.

OTHER NOTES:

- FRAMES CAN BE CUSTOM DESIGNED OR PRE-MANUFACTURED.
- WITHIN URBAN AREAS, STRUCTURE CAN BE MADE OF COLOURED METAL FOR A MORE FORMAL LOOK.
- WITHIN RURAL AREAS, STRUCTURE CAN BE MADE OF WOOD FOR A MORE NATURAL LOOK.
- WHEN SELECTING TEXT FOR SIGNAGE, IT IS SUGGESTED TO CHOOSE A SANS SERIF FONT. SERIF FONTS CAN MAKE IT DIFFICULT FOR THOSE WITH VISUAL IMPAIRMENTS TO READ THE LETTERING AS THE TEXT TENDS TO BLEND TOGETHER.
- HIGH CONTRAST BETWEEN BACKGROUND AND TEXT FOR EASY READABILITY. A MINIMUM LIGHT REFLECTIVE VALUE OF 70% IS RECOMMENDED TO MEET AODA REQUIREMENTS.

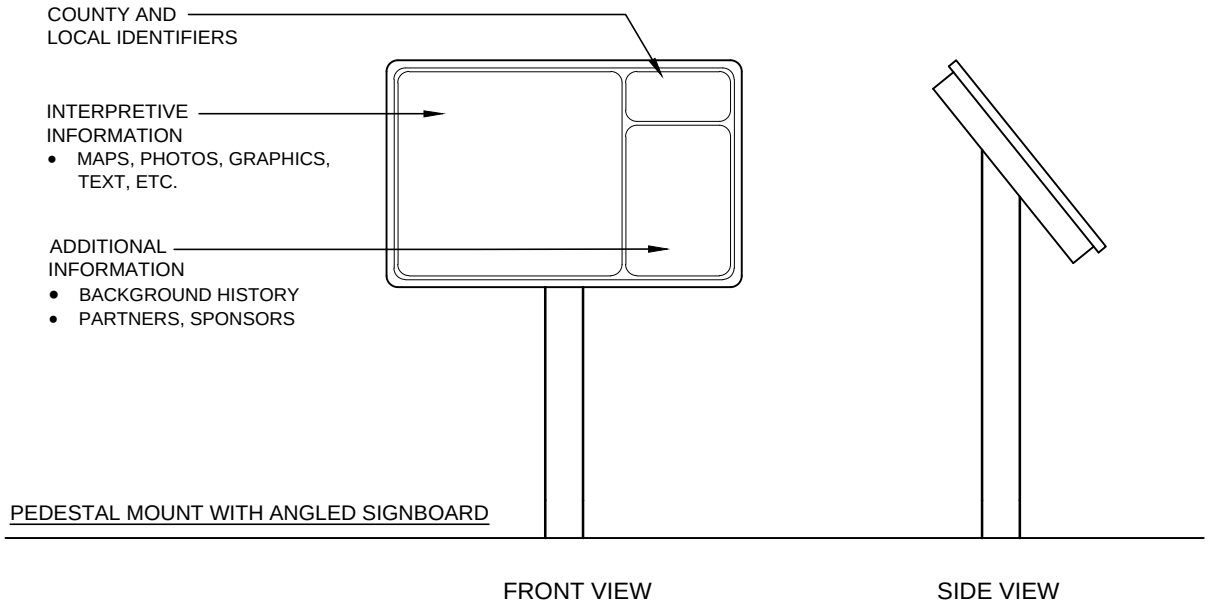
SCALE BAR

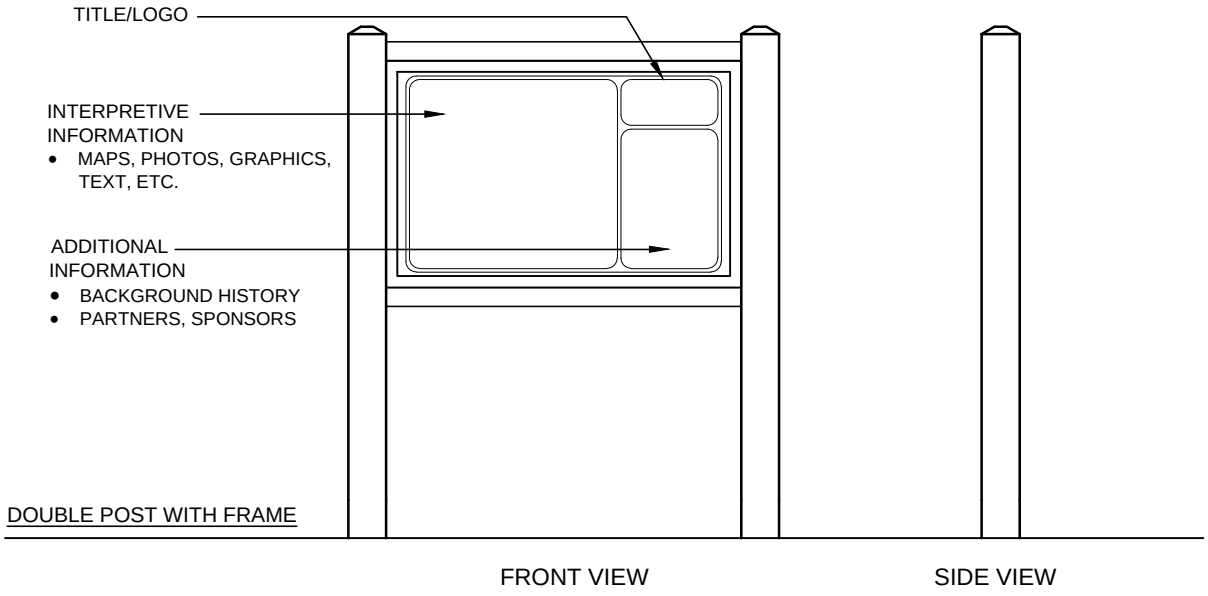
SIGNAGE

SCALE = 1:20

MINOR TRAILHEAD SIGN - DETAILS

Centre Wellington





FUNCTION:

- PROVIDES TRAIL USERS WITH INFORMATION ABOUT A KEY TRAIL FEATURE WHICH MAY BE CULTURAL, HISTORICAL OR NATURAL.
- INTERPRETIVE SIGNS SHOULD BE HIGHLY GRAPHIC AND EASY TO READ.
- SIGNS CAN INCLUDE A SIGNIFICANT AMOUNT OF INFORMATION AND DETAIL WHERE APPROPRIATE.
- OFFER THE POTENTIAL TO PARTNER WITH LOCAL GROUPS FOR THE DEVELOPMENT OF TEXT AND GRAPHICS.

TYPICAL LOCATION:

- TYPICALLY LOCATED AT KEY TRAIL FEATURES WHICH HAVE PARTICULAR INTEREST.
- SHOULD BE PLACED IN A HIGHLY VISIBLE OR HIGH TRAFFIC LOCATION TO DISCOURAGE VANDALISM.
- WHERE THE SIGN IS INTERPRETING A SENSITIVE ENVIRONMENT OR RARE SPECIES, LOCATE THE SIGN AWAY FROM THE ACTUAL LOCATION TO AVOID POTENTIAL DAMAGE TO THE FEATURE.

SIGN STRUCTURE:

- WITHIN URBAN AREAS, STRUCTURE CAN BE MADE OF COLOURED METAL FOR A MORE FORMAL LOOK.
- WITHIN RURAL AREAS, STRUCTURE CAN BE MADE OF WOOD FOR A MORE NATURAL LOOK.

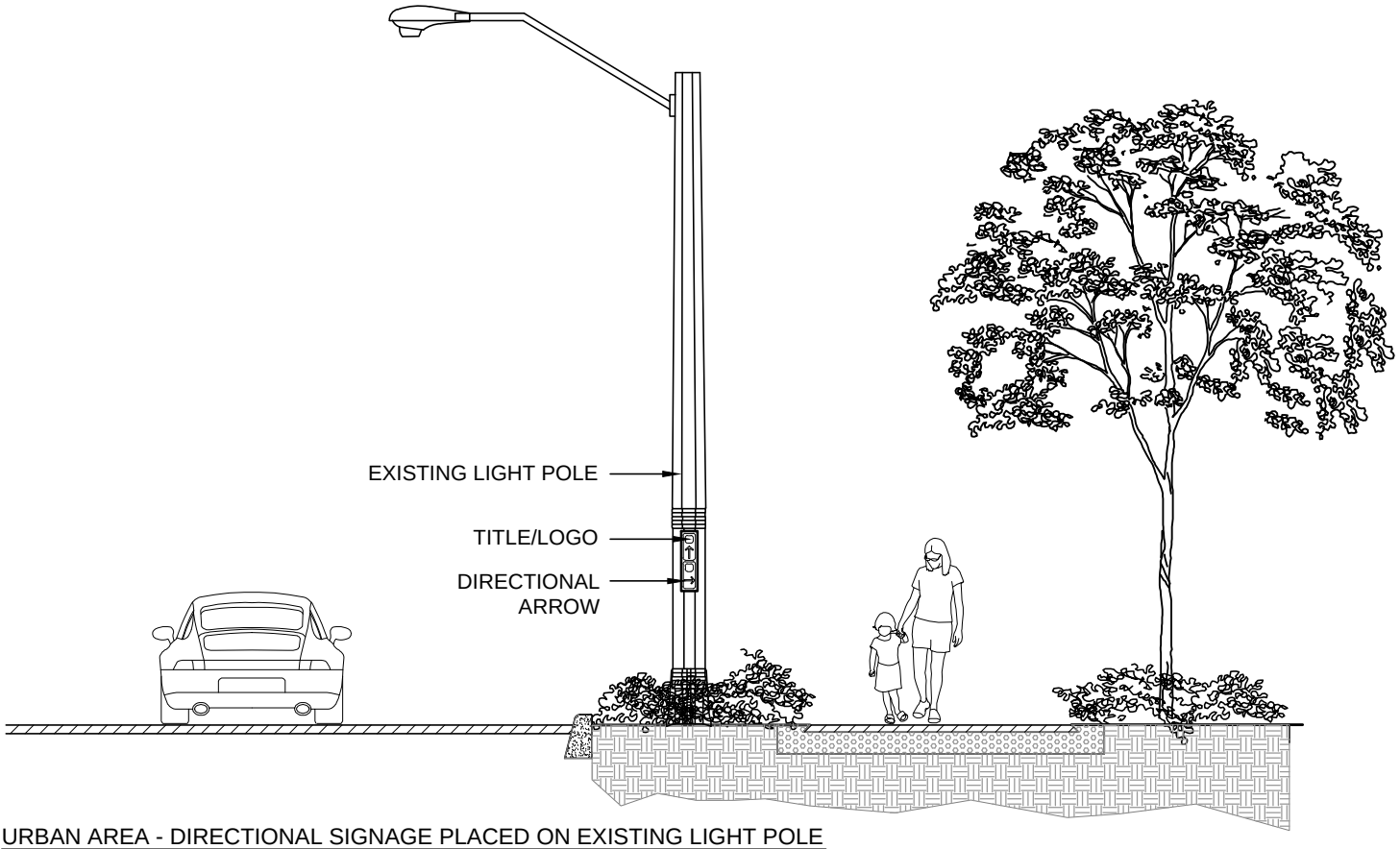
SCALE BAR

SIGNAGE

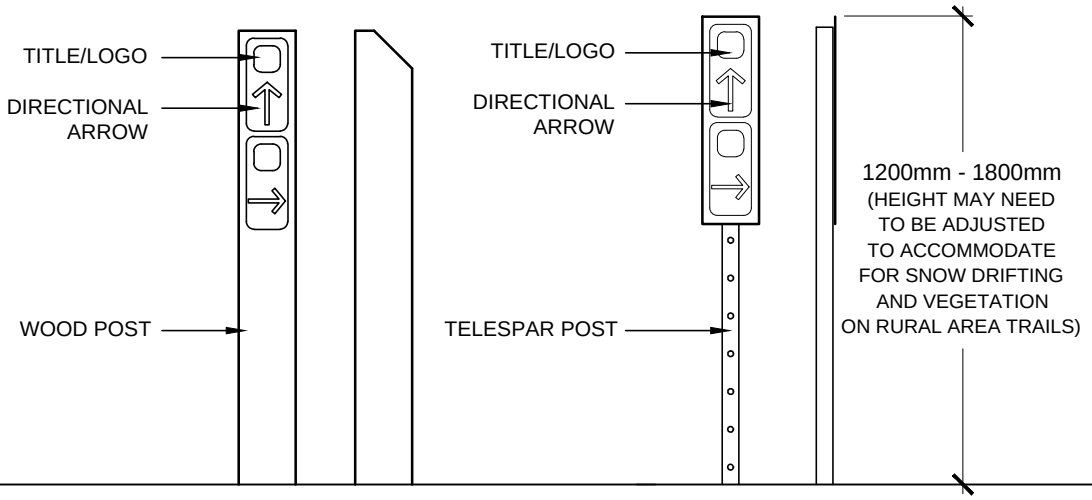
SCALE = 1:20

INTERPRETIVE SIGN

Centre Wellington



URBAN AREA - DIRECTIONAL SIGNAGE PLACED ON EXISTING LIGHT POLE



FUNCTION:

- ROUTE MARKER: PROVIDES A SIMPLE VISUAL MESSAGE TO TRAIL USERS THAT THEY ARE ON THE DESIGNATED ROUTE.
- DIRECTIONAL SIGN: USED TO CUE TRAIL USERS FOR GIVEN DESTINATIONS ALONG THE TRAIL AND DISTANCES TO GIVEN DESTINATIONS.

TYPICAL LOCATION:

- TYPICALLY LOCATED AT TRAIL INTERSECTIONS.
- ALSO PLACED AT REGULAR INTERVALS ALONG LONG, UNINTERRUPTED SECTIONS OF TRAIL, PARTICULARLY IN RURAL AREAS.

SIGN STRUCTURE:

- WITHIN URBAN AREAS, STRUCTURE CAN BE MADE OF COLOURED METAL FOR A MORE FORMAL LOOK.
- WITHIN RURAL AREAS, STRUCTURE CAN BE MADE OF WOOD FOR A MORE NATURAL LOOK.

OTHER NOTES:

- CONSIDER A COUPLE OF DIFFERENT SIGN STYLES THAT RELATE TO THE LOCATION. (I.E. HIGHER END STYLE FOR URBAN AREAS AND A SIMPLER STYLE FOR RURAL AREAS).
- DIFFERENT SIGN STYLES HELP TO KEEP COSTS DOWN.

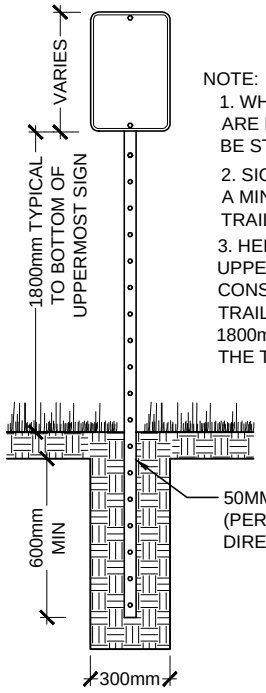
SCALE BAR

SIGNAGE

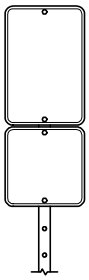
SCALE = 1:20

DIRECTIONAL SIGN

Centre Wellington



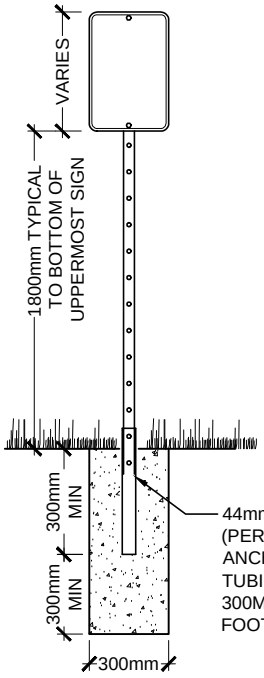
NOTE:
1. WHERE 2 OR MORE SIGNS ARE LOCATED, SIGNS SHALL BE STACKED VERTICALLY.
2. SIGNS SHALL BE PLACED A MINIMUM OF 0.3m OFF OF TRAIL EDGE
3. HEIGHT TO BOTTOM OF UPPERMOST SIGN TO BE CONSISTENT THROUGHOUT TRAIL. TYPICAL HEIGHT OF 1800mm IS RELATIVE TO THE TRAIL SURFACE.



REFER TO SIGN PRIORITY FOR DETAILS

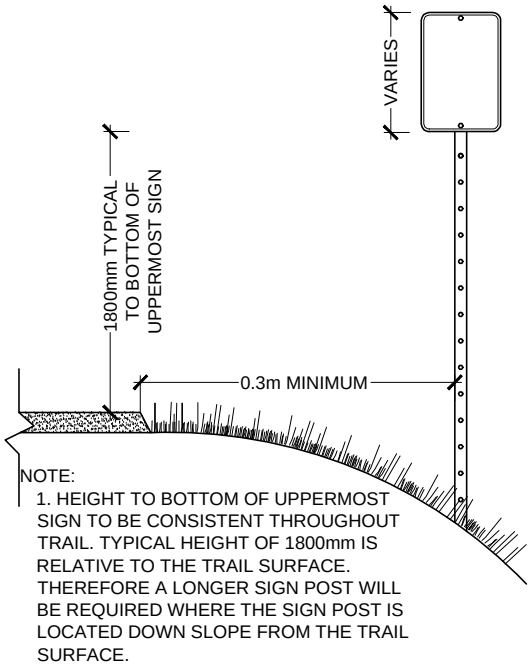
SIGNAGE FACE
STANDARD ENGINEERING GRADE SHEETING
HOLES - METRO PUNCH

MOUNTING
THE SIGN FACE MUST BE SECURED TO A POST WITH TWO GALVANIZED 12MM HEX BOLTS AND NUTS WITH FLAT WASHERS ON BOTH SIDES



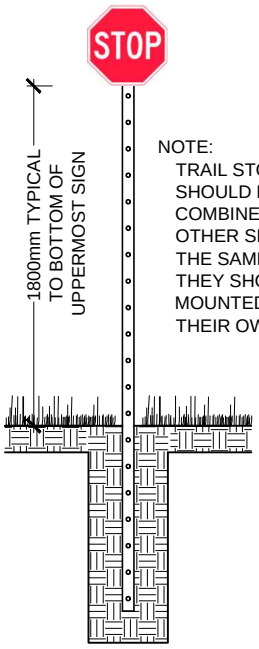
SIGN MOUNTING DIRECTLY INTO GROUND

SIGN MOUNT WITH CONCRETE FOOTING

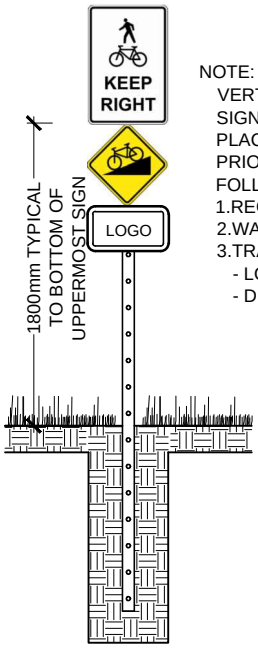


NOTE:
1. HEIGHT TO BOTTOM OF UPPERMOST SIGN TO BE CONSISTENT THROUGHOUT TRAIL. TYPICAL HEIGHT OF 1800mm IS RELATIVE TO THE TRAIL SURFACE. THEREFORE A LONGER SIGN POST WILL BE REQUIRED WHERE THE SIGN POST IS LOCATED DOWN SLOPE FROM THE TRAIL SURFACE.

SIGN MOUNT DOWN SLOPE OF TRAIL



NOTE:
TRAIL STOP SIGNS SHOULD NOT BE COMBINED WITH OTHER SIGNS ON THE SAME POST, THEY SHOULD BE MOUNTED ON THEIR OWN POST



NOTE:
VERTICAL SIGNAGE PLACEMENT BY PRIORITY IS AS FOLLOWS:
1.REGULATORY
2.WARNING
3.TRAIL
- LOGO
- DIRECTIONAL

SIGN PRIORITY

FUNCTION:

- USED TO ALERT TRAIL USERS ABOUT UPCOMING OBSTACLES OR CHANGES ALONG THE TRAIL.
- REGULATORY AND WARNING SIGNS FOLLOW THE SAME CONVENTIONS AS ROADWAY SIGNS RECOMMENDED BY THE TRANSPORTATION ASSOCIATION OF CANADA (TAC).

TYPICAL LOCATION:

- PLACED IN ADVANCE OF AN UPCOMING HAZARD.
- USED TO MARK THE ACTUAL LOCATION OF THE HAZARD.
- CONSULT WITH LOCAL ENGINEERING/TRAFFIC DEPARTMENTS FOR THE PLACEMENT OF ANY SIGNS ALONG ROADWAYS. (E.G. ADVANCED WARNING FOR MOTORISTS APPROACHING TRAIL CROSSING AHEAD)

OTHER NOTES:

- MOUNT ON EXISTING POLES. ALSO CONSIDER SIMPLE MOUNTING SYSTEMS (E.G. TELESPAR POST)
- SIMPLER MOUNTING SYSTEMS CAN HELP WITH KEEPING COSTS DOWN.
- ANY LETTERING ON REGULATORY SIGNAGE SHOULD BE A MINIMUM HEIGHT OF 100mm.
  (LETTERING CAN BE SMALLER ON CUSTOM INFORMATION SIGNS)

SIGNAGE

SCALE = NTS

REGULATORY, WARNING AND CUSTOM INFORMATION SIGNS

Centre Wellington

Recommendation 3.8	Guidelines presented in Section 3.2 of the Trails Master Plan should form the basis of trail design in Centre Wellington. With regard to the design of on-road facilities, provincial guidelines (i.e. Ontario Traffic Manual Book 18 - Bicycle Facilities) should be used to complement those presented in the Trails Master Plan.

*Please note that the Trails Master Plan for the Township of Centre Wellington was developed in conjunction with the County's Active Transportation Master Plan. As such, there are a number of sections throughout the document where reference is made to the County's Master Plan. Readers are meant to reference both documents when addressing Township trail development, design and implementation.

4.0 IMPLEMENTING THE PLAN

4.1 HOW TO IMPLEMENT THE TRAILS MASTER PLAN

A successful Trails Master Plan requires champions and leadership to move from the plan and design stage to the funding and implementation stage. The formal relationships between individuals and organizations and their operational practices are important factors in determining whether pathway initiatives will proceed and be successful. Maximizing participation and removing obstacles to the flow of information between participants are two of the main objectives in managing implementation.

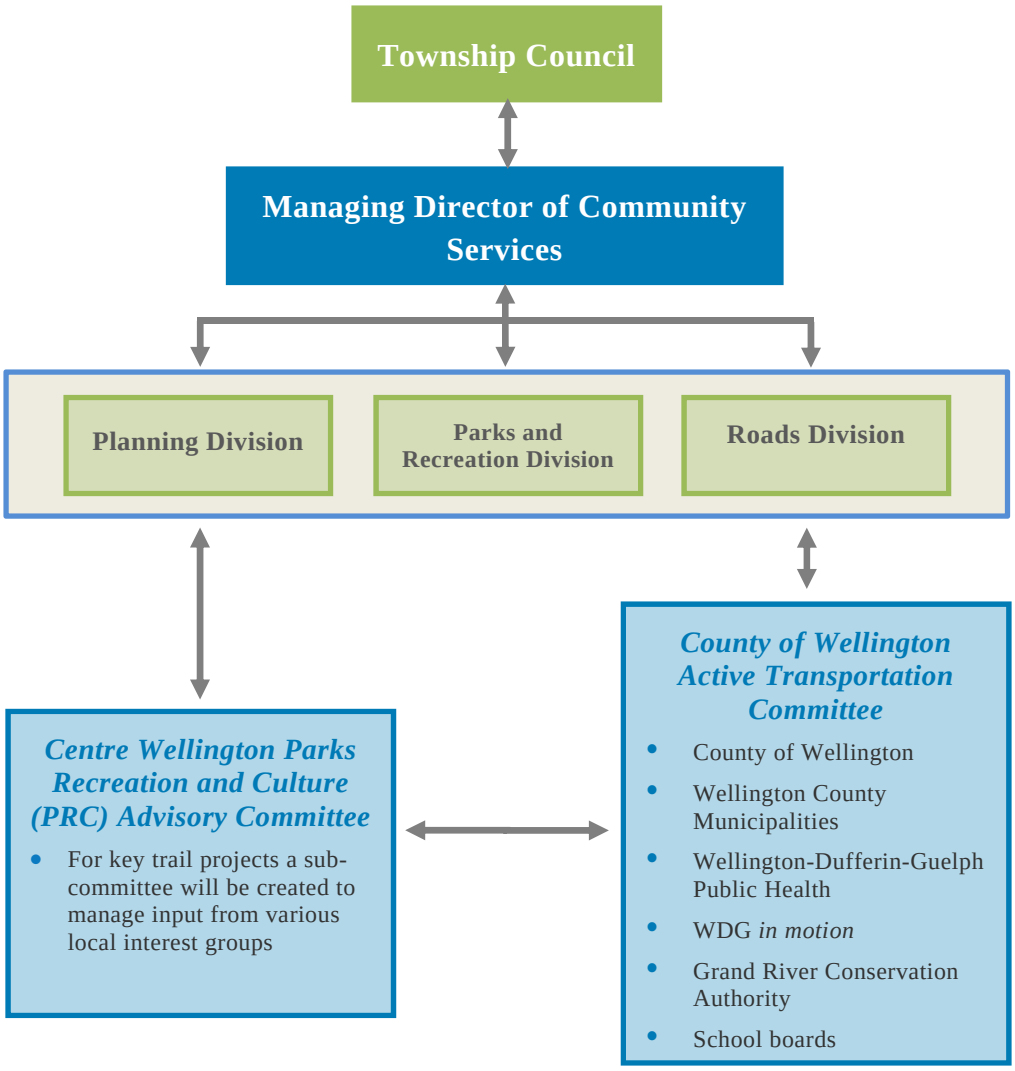
Centre Wellington's Trails Master Plan is more than a proposed network of trails and cycling routes. It is a plan that includes a set of recommendations to promote safe trail use in the Township and to recognize, realize and share in the economic, health, transportation and environmental benefits that a trail system can offer.

While Township staff, led by the Community Services Department - Parks and Recreation Division, should oversee the implementation of the Trails Master Plan, they will also require ongoing communication with, and support from other Township departments, various committees, the County of Wellington, Wellington-Dufferin-Guelph Health Unit and other local agencies and advocacy groups. The successful implementation of the Trails Master Plan will require a strong working relationship between the Township, the County as well as conservation authorities, the local health unit, developers and the public. In the short-term coordination of the implementation and management of the Trails Master Plan should be the responsibility of a staff member in the Community Services Department - Parks and Recreation Division. This person shall be responsible for "championing" trail development which includes not only the network links, but also other related initiatives including education and encouragement programming. In the mid-term the Township should assess this role to determine if a dedicated position (i.e. Trails and Active Transportation Coordinator) is needed.

Recommendation 4.1	Over the short-term coordinating the implementation and management of the Trails Master Plan should be the responsibility of a staff member in the Community Services Department - Parks and Recreation Division.

4.1.1 Who Does What?

An efficient reporting and implementation structure is important to ensure that the decision-making process associated with the implementation of the Trails Master Plan is managed and all relevant municipal departments are appropriately engaged. A suggested structure for managing the implementation of the Trails Master Plan is illustrated below.



Roles & Responsibilities:

- Parks and Recreation Division will lead the committee in decisions related to trail development;
- A core team will be formed by the Township's Planning, Public Works and Community Services Department - Parks and Recreation Divisions, who would collaborate and be responsible for overseeing recommendations made regarding trail funding and priorities as well as other trail and active transportation related initiatives;
- The Township of Centre Wellington Parks Recreation and Culture Advisory Committee would provide the connection to the local community through representatives of local interest groups and business; and
- The Wellington County Active Transportation Steering Committee (as established for the development of the County's Active Transportation Plan) would be included in discussions, communications and initiatives.

The Centre Wellington Parks Recreation and Culture (PRC) Advisory Committee

The existing PRC Advisory Committee will have an important role in advancing local trail initiatives and future use by local residents, stakeholders and visitors. Projects would be considered on an individual basis, and where deemed necessary a special subcommittee would be established to manage input and seek assistance from the local community.

Recommendation 4.2	The existing Parks Recreation and Culture Advisory Committee will have an important role in advancing local trail initiatives. Projects will be considered on an individual basis, and where deemed necessary a special subcommittee will be established to manage input and seek assistance from the local community.

4.2 THE NETWORK IMPLEMENTATION STRATEGY

The development of the trail network will be achieved only through a collaborative effort between the Municipality, County and other trail and cycling stakeholders. Some of the short-term actions include Council adopting the master plan and incorporating key policies and network mapping in local policies such as the Official Plan. Other recommended actions include committing to regular funding to upgrade existing and construct new trails (capital) and maintain existing trails (operations), and developing and implementing education, promotion, and monitoring programs.

This Centre Wellington Trails Master Plan is a long-term strategy that consists of three phases consistent with those identified in the County's Active Transportation Master Plan:

- Short-term (Years 0 – 10);
- Medium-term (Years 11 – 20); and
- Long-term (Beyond Year 20).

4.2.1 Network Implementation Priorities

Chapter 3 identifies a comprehensive trails network for the Township of Centre Wellington consisting of existing and proposed on and off-road trail facilities. Priorities illustrated in the network implementation strategy were based on a logical build-out of the network over-time consistent with those strategies identified in the County's Active Transportation Master Plan as well as local municipal priorities, input from various stakeholder groups, Township and County staff and the public and field observations by the project team.

Maps 4-1 and 4-2 illustrate the implementation of trail facilities by phase. Each facility type and phase is distinguished according to colour and line type. The ultimate network (following build-out) would be represented by a combination of all of line types on the map. The network includes both upgrades to existing trails and the development of new trails.

The approach used to identify key linkages and route priorities was based on the following eleven strategies:

1) Where applicable, implementation of routes should be scheduled to be part of major infrastructure development or improvement projects to take advantage of potential synergies and cost savings during the detailed design and construction stages. Typical projects include road widening and resurfacing, installation of linear utilities such as hydro, water and sewage lines, including pedestrian / cycling facilities with bridge rehabilitation or reconstruction etc..
2) Ensure that the Trails Master Plan is reviewed in the early stage of municipal Environmental Assessments so that the addition of trail or cycling facilities can be considered where appropriate, and opportunities are not overlooked.
3) Monitor County infrastructure projects (e.g. shoulder paving) and consider providing links to new County links being installed.
4) Establish trail connections and corridors to improve access to important community destinations such as schools, community centres and recreation complexes, major sports fields, employment areas and key points of interest throughout Centre Wellington.
5) Construct routes in areas of new development as planning, design and construction of these areas progresses, for example on the urban edges of Elora and Fergus.
6) Consider suggestions from the project steering committee and public as heard through public consultation.
7) Close gaps in the existing network, in particular, complete connections between existing facilities in locations where the completion of a small missing link results in the creation of a significantly longer, continuous trail connection.
8) Provide spine connections between major urban centres and from urban centres to destination trails.
9) Build where local interest is strong, where funding is available and /or where partnerships have already been established.

TOWNSHIP OF CENTRE WELLINGTON TRAILS MASTER PLAN
Centre Wellington
MAP 4.1
PROPOSED NETWORK PHASING (TOWNSHIP WIDE)
LEGEND
Existing
Existing Off-Road Multi-Use Trail
Existing Paved Shoulder
Existing Signed Route
Years 1-10
Multi-Use Trail
Paved Shoulder Route
Signed Route
Signed Route with Sharrows
Bike Lane
Years 11-20
Multi-Use Trail
Paved Shoulder Route
Signed Route
Signed Route with Sharrows
Bike Lane
Beyond Year 20
Multi-Use Trail
Paved Shoulder Route
Signed Route
Signed Route with Sharrows
Bike Lane
Elora Cataract Trail
Trans Canada Trail
Community Centre
Camp Site
Conservation Area
Fire, Police
Hospital
Library
Municipal Building
Park
Sporting Facility
School
Other/Landmark
Proposed Bridge
Existing Bridge
Local Roads
County Road
Provincial Highway / Freeway
Municipal Boundary
Lakes and Rivers
Parkland
Hamlets
Urban Centres
0 875 1,750 3,500 Metres
MMM GROUP
TOWN OF MAPLETON
TOWNSHIP OF WELLINGTON NORTH
EAST GARAFRAXA TOWNSHIP - DUFFERIN COUNTY
WOOLWICH TOWNSHIP - REGION OF WATERLOO
GUELPH-ERAMOSA TOWNSHIP
TOWN OF ERIN
ALMA
SALEM
ELORA
FERGUS
BELWOOD
INVERHAUGH
ENNOTVILLE
Lake Belwood
Grand River
REFER TO MAP 3.2
REFER TO MAP 3.2
WELLINGTON RD 17
WELLINGTON RD 16
WELLINGTON RD 7
WELLINGTON RD 21
WELLINGTON RD 29
WELLINGTON RD 26
WELLINGTON RD 22
HIGHWAY 6
ERIN-GARAFRAXA TL


DETAILS OF TRAIL ROUTING TO BE CONFIRMED BY TOWNSHIP STAFF
BEATTY HOLLOW PROPOSED TRAILS AS PART OF NEIGHBOURHOOD DEVELOPMENT
REFER TO SECONDARY PLAN
REFER TO CONCEPT PLAN
REFER TO SECONDARY PLAN
ELORA
FERGUS
Grand River
ELORA GORGE CONSERVATION AREA
Centre Wellington Sportsplex
Lake Belwood
Belwood Lake Conservation Area
BELWOOD
WELLINGTON RD 18
WELLINGTON RD 21
WELLINGTON RD 19
WELLINGTON RD 29
HIGHWAY 6
BEATTY LINE
FIRST LINE
SECOND LINE
SR 15
SR 10
SR 18
SR 19
Existing Schools
1 Salem Public School
2 St. Mary's Catholic School
3 Elora Public School
4 St. Joseph Catholic School
5 Victoria Terrace Public School
6 Marantha Christian School
7 John Black Public School
8 Hogarth Public School
9 Centre Wellington District High School
Parks
1 Elora Meadows Park
2 Elora Lion's Park
3 Bissell Park
4 Elora Quarry Conservation Area
5 Granwood Park
6 South Ridge Park
7 Gibbons Drive Park
8 Harper Crescent Park
9 Revell Drive Park
10 Strathallen Park
11 Forfar Park
12 Confederation Park
13 Arboretum
14 Highland Park
15 Victoria Park
16 Off-Leash Dog Park
LEGEND
Existing
Existing Off-Road Multi-Use Trail
Existing Paved Shoulder
Existing Signed Route
Years 1-10
Multi-Use Trail
Paved Shoulder Route
Signed Route
Signed Route with Sharrows
Bike Lane
Years 11-20
Multi-Use Trail
Paved Shoulder Route
Signed Route
Signed Route with Sharrows
Bike Lane
Beyond Year 20
Multi-Use Trail
Paved Shoulder Route
Signed Route
Signed Route with Sharrows
Bike Lane
Community Centre
Camp Site
Conservation Area
Fire, Police
Hospital
Library
Municipal Building
Park
Sporting Facility
School
Other/Landmark
Proposed Bridge
Existing Bridge
Elora Cataract Trail
Trans Canada Trail
Local Roads
County Road
Provincial Highway / Freeway
Municipal Boundary
Lakes and Rivers
Parkland
Hamlets
Urban Centres
0 250 500 1,000 Metres
Centre Wellington
TOWNSHIP OF CENTRE WELLINGTON TRAILS MASTER PLAN
MAP 4.2 PROPOSED NETWORK PHASING (FERGUS, ELORA & BELWOOD)
MMM GROUP

10) Develop or enhance the trail network in locations where a greater number of users are anticipated or there is existing demand for trails which is not being met.

11) Establish, formalize or improve links where not doing so in the short term could result in significant negative environmental impacts. For example two existing links that dead end on either side of an environmental feature which has resulted in an informal / desire line trail through the feature.

Strategy #1 is fundamental to implementation and is based on known and / or documented forecasts. These forecasts change annually. Therefore, it is important that those responsible for monitoring and scheduling the network implementation communicate with each other about capital forecasts and collaborate during design on a regular basis so that opportunities are not overlooked. For example, the most cost effective way to implement new on-road infrastructure which requires physical road modifications is to implement these changes at the time the road is being resurfaced or reconstructed. Typically the incremental cost to add trail / cycling facilities to a major capital project is much less than the cost to implement the facility as a stand-alone project.

The implementation plan is based on information that was available at the time the plan was developed and is intended to be flexible and should be reviewed annually as part of setting other municipal priorities. This flexibility will enable the plan to be adapted to accommodate new opportunities as they arise, and so that opportunities are not missed. It is important to note that a number of route segments and related facility types proposed for implementation in the mid and long-term may not prove to be feasible because of other circumstances (e.g. funding constraints, outcome of an Environmental Assessment or detailed design, negotiations for easements and purchase of land etc.). In these situations, an interim solution may be possible and should be investigated by Township staff. The success of the Trails Master Plan is dependent on the initial and on-going support of the Township of Centre Wellington Council and staff members in all departments of the Township.

Recommendation 4.3	Adopt the route network priorities described in the Trails Master Plan as the guide for implementation of the trail network in Centre Wellington, and use this guide as part of the annual priority setting and budgeting process.
Recommendation 4.4	Ensure that all departments responsible for the design and implementation of major infrastructure projects regularly review the Trails Master Plan to determine if upcoming projects offer synergies for the development of trail links, and incorporate the trail(s) into appropriate projects, beginning in the early stages of the project.

4.3 NETWORK IMPLEMENTATION COST AND FUNDING

The benefits as outlined in Chapter 1 justify why the Township should continue to invest in a continuous and connected trails and active transportation system. They are clearly a means of increasing the quality of life of residents while increasing the longevity of municipal infrastructure, sustainability of natural and cultural areas of significance and enhancing tourism opportunities.

The cost of implementing the trail network should be assessed on a project by project basis as opportunities arise and as the Township and its partners select to proceed with key linkages as identified in the master plan. **Appendix A** lists unit costs (2014 dollars) for the construction of various segments which have been identified as part of the network. These have been developed based on the following assumptions:

- The unit costs assume typical or normal / average conditions for construction;
- Estimates do not include;
  - Costs for property acquisition, utility relocation, permits or approvals for construction;
  - Annual inflation, which includes increased cost of labour, materials, fuel, etc.;
  - Professional services and / or staff time for detailed design and construction management;
  - Design and construction contingencies; and
  - Applicable taxes.

Table 4.1 summarizes the estimated cost to implement the entire network. Costs are broken out by phase, facility type and responsibility (i.e. Township versus County).

Table 4. 1 Network Implementation Costs by Phase as Illustrated on Maps 4.1 and 4.2

Facility Type	Wellington County			Centre Wellington Township				Totals	
	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term	Unit Cost (per km)	County	Township
Multi-use Trail	$705,000	$360,000	$0	$0	$930,000	$525,000	$150,000	$1,065,000	$1,455,000
Signed Route	$0	$4,200	$0	$14,280	$24,990	$2,030	$700	$4,200	$41,300
Signed Route with Sharrow	$5,600	$0	$9,600	$7,200	$20,800	$4,000	$4,000	$15,200	$32,000
Paved Shoulder	$500,500	$423,500	$1,105,500	$385,000	$0	$451,000	$55,000	$1,919,500	$836,000
Bike Lane	$0	$0	$0	$0	$3,500	$0	$35,000	$0	$3,500
Major Trail Bridges					$300,000	$250,000		$0	$550,000
	$1,211,100	**$787,700**	**$1,115,100**	**$406,480**	**$1,279,290**	**$1,232,030**		**$3,113,900**	**$2,917,800**
							Grand Total (County + Township)		**$6,031,700**

When establishing costing for network priorities the Township is encouraged to explore potential savings and reductions through:

- Infrastructure funding programs such as future federal and provincial infrastructure programming;
- Routes that are developed with funding or partial funding available through various subsidies and grant programs;
- Partnerships with outside organizations and agencies;
- Routes developed by others that could be used for trail facilities (e.g. service access roads along utility corridors) etc.;
- Routes that are built by developers through the land development approval process;
- External funding opportunities could include a number of potential avenues for financial support and commitment for network implementation. Some of these include:
    - Federal / Provincial Gas Tax;
    - Transport Canada's MOST (Moving of Sustainable Transportation) and Eco Mobility (TDM) grant programs;
    - Federation of Canadian Municipalities Green Municipal Fund;
    - Ontario Ministry of Health grant programs and partnership streams such as the Healthy Communities Fund and promotional initiatives related to health / active living / active transportation;
    - Ontario Ministry of Environment Community GO Green Fund (CGGF);
    - Ontario Ministry of Transportation Demand Management Municipal Grant Program;
    - Trans Canada Trail funding and the recent Federal Government announcement to match funds;
    - The Ontario Trillium Foundation (accessible by user groups);
    - Human Resources Development Canada program that enables personnel positions to be made available to various groups and organizations;
    - Corporate Environmental Funds such as Shell and Mountain Equipment Co-op that tend to fund small, labour intensive projects where materials or logistical support is required;
    - Corporate donations which may consist of money, materials or services in-kind, and have been contributed by a number of large and small corporations over the years;
    - Potential future funding that might emerge from the Province in rolling out the Ontario Trails Strategy as well as the recently released Ontario Cycling Strategy;
    - Service clubs such as Lions, Rotary, and Optimists who often assist with high visibility projects at the community level; and
    - Private citizen donations / bequeaths - this can also include tax receipt(s) for the donor where appropriate.

Recommendation 4.5	In addition to capital funding, the Township should explore other outside funding sources and cost-sharing opportunities to support implementation of the trails network, outreach and promotion.

4.3.1 A Network Management Tool

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

How can the tool be used?

The tool is meant to be used to assist in confirming the feasibility of future trail and cycling routes and facilities as well as the proposed schedule for implementation. It can be used to track and document new segments as they are implemented. Keeping the database up to date may also significantly reduce the cost of future Master Plan updates. If the Township chooses, this GIS information, with some programming, could be posted on the Township's website in an interactive map format. This format would be useful to the public and developers and would also serve as a 'quick reference' for local municipal and County staff.

Not all Township staff will have access to GIS software. Key components of the database and map provided in a KML format will allow anyone with access to Google Earth digital aerial photography over the internet to overlay the network route and facility information on an aerial photo of the Township.

In addition to being a network management and tracking tool, the GIS database with some supplementary formatting could be used as the basis for a Township-wide trails and active transportation map. Accessible formats should be explored – both hard copy and electronic, to facilitate the distribution of information to people of all ages and abilities.

Recommendation 4.6	The GIS database developed during the preparation of the Master Plan should be integrated with the Township and County GIS databases and regularly updated as part of the network tracking, management and budgeting process.
Recommendation 4.7	The GIS database should be considered for a starting point in the development of a trail and active transportation map.

4.3.2 A Five-Step Implementation Process

The Township of Centre Wellington Trails Master Plan is not intended to be a static document. The timing and details related to implementation, particularly the location of recommended routes and facility types should and will evolve through community consultation and technical review during the implementation process. At the same time, however, the effort that established the overall direction for the master plan network must be respected when network modifications are beign contemplated.

A process was outlined to guide the implementation of the Active Transportation Master Plan for Wellington County. When implementing the Township's Trails Master Plan, staff should use a process which mirrors the five-step implementation. Key steps in the implementation process include:

1. A Preliminary Review;
2. A Feasibility Assessment;
3. Detailed Design, Tender and Implementation;
4. Monitoring ; and
5. Municipal Official Plan updating.

Section 6.2.3 in the County's Active Transportation Master Plan describes each of the steps in detail.

4.4 PLANNING FOR TRAILS IN THE TOWNSHIP OF CENTRE WELLINGTON

As outlined in Chapter 4.0 of the County's Active Transportation Master Plan there are a number of key considerations which need to be addressed to ensure that the future of trail planning is supported at multiple different levels. The following four areas related to trail planning need to be considered when developing and designing future routes within the Township.

4.4.1. Trails and the Official Plan

The development of a balanced trails network which can be used for recreational and utilitarian purposes should not only include roads and sidewalks, but also trails that make connections between neighbourhood destinations and the broader County-wide network of trails and cycling routes. To achieve this objective, appropriate policies should be considered for the Official Plan.

As part of the development of the Township of Centre Wellington Trails Master Plan, the study team completed an Official Plan review. The County Official Plan is the guiding document for all areas outside of the urban boundaries of Fergus, Elora-Salem and Belwood, and the Township has a separate Municipal Official Plan for areas within these 3 urban areas.

With regard to the County Official Plan language related to trails and active transportation was kept to a limited level, at the discretion of the County Planning Department. As is the case with other policy plans that

fall under the Official Plan at the County level, the strategy was to minimize detailed policy statements in parent document and link the Official Plan to the County's Active Transportation Master Plan as the guiding document.

A similar exercise was conducted for Municipal Official Plan for Centre Wellington urban area. In this case a number of policy suggestions were provided, with the recommendation that these be considered for inclusion in the next update of the Municipal Official Plan.

*For the suggested changes to the Official Plan for Fergus and Elora please refer to **Appendix B**.*

Recommendation 4.8	As part of the next Municipal Official Plan update for the urban areas of Fergus, Elora-Salem and Belwood, the Township should consider including policy suggestions developed during the preparation of the Trails Master Plan.

4.4.2 Community Planning and Design Strategies to Support Trail Development

There are a number of strategies that should be considered and applied when designing communities. Research indicates a clear connection between community plan and strategic design, with improved health, social interaction, safety and economic development for local residents and the entire community. Planning elements include:

- Land Use Planning;
- Active Living Infrastructure; and
- Transportation Planning.

Section 4.2 in the County's Active Transportation Master Plan provides additional details regarding these elements, and how they can be integrated into neighbourhood and community planning in Centre Wellington.

Trails in New Development Areas

Planning the trail system is seen as a critical component of the land development process. Trails are an integral part of the urban and rural fabric and are a key component of the recreation asset base and transportation system. New developments must be planned for the efficient movement of people for recreation and utilitarian purposes. Developers should be expected to work through an iterative process with municipal staff, beginning early in the planning stages to create a trails network within their development that reflects the intent of the Trails Master Plan. It is expected that proposals for new development areas will contain routes that reflect the density, hierarchy and character that is consistent with rest of the network proposed in this master plan. Specifically this implies the planning, design and implementation of off-road trails and on-road links that:

- Overcome physical barriers;
- Make appropriate connections to important destinations;
- Enhance connections to the existing or planned system of trails surrounding the subject development area; and

- Are sensitive to, and/or highlight inherent qualities of the natural and cultural landscape features within the development area.

A careful examination of a variety of factors including topography and drainage, slopes, soil conditions, plant and animal communities, microclimate and human comfort, historic/cultural resources, public education opportunities, significant views and vistas should be part of the process to integrate trails in new areas of development.

The municipality should provide developers with information about the network, desired connections and design expectations as part of building a positive working relationship. Ideally, trails in new development areas should be constructed prior to or concurrently with the construction of other infrastructure and buildings. Where trail construction is not implemented until a later date, there can often be conflict as residents may claim that they were not aware of plans for trail construction even if this intention has been clearly indicated in municipal planning documents. Developers and builders should be required to be proactive about notifying prospective buyers where trails are to be located at the time they are selling lots. Providing information at sales offices, including information in sales packages and erecting signs in locations where trails are to be constructed may help to alleviate difficulties at a later date. A mandatory requirement for developers and builders to be forthcoming with information regarding future trails could be included as a condition of approval in subdivision and/or site plan agreements.

Section 4.3 in the County's Active Transportation Master Plan further describes strategies for identifying, designing and developing trail facilities within new development areas.

Recommendation 4.9	Review and refine municipal processes for working with the development community to ensure that off-road trail and on-road cycling facilities are planned, designed and constructed as part of the development process. Developers shall be expected to create a trails network within their development that reflects the intent of the Centre Wellington Trails Master Plan.

4.4.3 Ongoing Public Participation & Consultation

The development of trails within the Township will require additional public participation and consultation as facilities are designed and implemented throughout existing and new development areas. It is sometimes difficult to obtain public opinion related to specific trail segments at the strategic / master planning stage and it is not until a project reaches the implementation stage that residents who perceive themselves as being directly affected become more involved and vocal. Real and perceived concerns over increased traffic, access to private rear yards, invasion of privacy, the increased potential for vandalism and theft are often cited as key concerns.

To overcome this challenge, the Township and its partners are encouraged to engage residents in an open consultation process in the earliest possible stages of the project. In some cases, the most vocal opponent can become a strong supporter if the process provides an effective avenue to address concerns.

Some Keys to Success:

- Engage residents in an open, public consultation process in the earliest possible stages of the project;
- Notify adjacent landowners early in the process and take the time to understand and respond to their concerns;
- Engage residents and stakeholders in the design process through events such as local design workshops and site meetings to determine and refine trail layout, design, materials and privacy features;
- Emphasize the benefits of trails for their neighbourhood and community, including themselves and their children;
- Emphasize successful examples and effective solutions where similar problems were overcome.

Section 4.4 in the County's Active Transportation Master Plan provides details on the methods which could be used to continue engaging and consulting with the public regarding matters pertaining to trail development. These include retro-fitting active transportation and trail facilities in established neighbourhoods, active transportation facilities (including trails) and environmental assessment, construction works in, or near water in regulated areas, trails and landfill areas, active transportation routes in unopened road allowances and abandoned railway corridors and utility corridors.

Recommendation 4.10	As part of the detailed design process Township staff and others responsible for the Plan's implementation should review the need for further consultation with key stakeholders, agencies and adjacent landowners on a project-by-project basis when network routes are being considered for implementation.

4.4.4 Land Acquisition & Securement for Trail Routes

Although the majority of the recommended trail network is located on lands that are currently in public ownership there are some areas of the Township where a trail connection is desired, yet there is no public currently available. At some time in the future it is anticipated that some of these tracts may become part of the urban fabric and at that time these corridors would be set aside along with a suitable buffer. However the majority of these lands in the rural area will remain in private ownership. To realize the full build-out of the network and complete connections across these lands the Township may require permission for access or in some cases a strategy to secure ownership.

A range of strategies are available to accomplish this, from "handshake" access agreements, to purchase of these lands by the Township or those responsible for the plan's implementation. Following adoption of the Trails Master Plan, the Township and its partners should review these potential strategies and use them as a starting point for developing an access/acquisition strategy for key trail links.

Section 4.5 of the County's Active Transportation Master Plan provides a suite of potential strategies to address land access and securement for the purpose of trail development.

4.5 OUTREACH AND PROMOTION

4.5.1 The Proposed 4E Approach

One aspect of a successful trails network is ensuring that it is actively and properly used. The County's Active Transportation Master Plan outlines a "Four-E" approach which includes initiatives pertaining to **Education, Encouragement, Enforcement and Evaluation**. **Tables 4.2 to 4.5** summarize these elements and provide some recommendations for potential initiatives which could be explored at the Township level to promote the use of the existing and future trails network.

Table 4.2 Potential Education Initiatives

Description:	Programs and initiatives which can inform and educate users about the trail system and active transportation network. These have a positive influence on the behaviour and attitudes of pedestrians, cyclists, motorists as well as the general public and result in safer conditions for all and encourage greater use of the trail facilities.
Opportunity:	The Township can engage local stakeholders and interest groups as well as Wellington-Dufferin-Guelph Health Unit, Municipal and County, and school board representatives to initiate and implement these kinds of programs and initiatives.

Potential Initiatives

Pedestrian and Cycling Education Information: Wellington-Dufferin-Guelph Public Health , WDG in motion along with the Township can continue to develop active transportation information to educate and provide resources to cyclists and pedestrians (e.g. existing Can-Bike Program). Information may be presented through newsletters or digital e-newsletters to address existing and planned facilities, statistics, recommended route and destinations, safety and training information, etiquette and respect for private property, and tips for pedestrians and cyclists. Guides for active transportation could also be developed to focus on specific concerns in the Township such as: implementation of the Wellington	**Distributing Trail and Recreation Information:** Residents of Centre Wellington may be provided with active transportation information through several avenues: • Administration of information on the Township's website with posted content, downloadable files and links to relevant trail and active transportation websites; • Including trail network information and promotional information into local community guides; • Distributing pamphlets and brochures at local facilities, delivered as a part of mailings, local events and through community partners (Wellington-Dufferin-Guelph Public Unit,	**Trail Use (Cycling and Walking) for Children:** The Township should educate children on the opportunities and benefits of trail systems and active transportation networks, as the needs of children are often neglected in transportation and land use planning. Some considerations include: • Ensuring routes are safe and accessible to children; • Implementing other modes of transportation, such as walking or cycling; • Connecting the trails network to key destinations which also provides secure and convenient bicycle parking; and • Ensuring sidewalks are suitable for children of all ages.

County Active Transportation Master Plan; walking or cycling to work and school; walking and cycling during inclement weather conditions; particular age groups; rules and regulations for pedestrians/ cyclists; benefits; etc.	**WDG in motion**, etc.); and • Encouraging the education and promotion of walking and cycling information for residents through partnerships between Centre Wellington and local groups.	

Table 4.3 Potential Encouragement Initiatives

Description:	Programs and initiatives which promote walking, cycling and the use of the trails network.
Opportunity:	People can be encouraged to adopt more sustainable transportation habits, including walking and cycling more often using the trail network, through Community-Based Social Marketing (CBSM). A description of the key steps to implementing a CBSM program is outlined in section 6.4.2 of the County's Active Transportation Master Plan.

Potential Initiatives

Leadership by Example: Encouragement to expand active transportation opportunities towards a utilitarian use may be motivated by colleagues. Employers in Centre Wellington could adopt walking and cycling initiatives to reduce single-occupant motor vehicles trips and encourage employees to cycle or walk to work. A few options include: the addition of bike racks, showers, lockers, as well as consideration of cycling subsidies and transportation allowances, etc..	**Work and School-based Incentive Programs:** Developing programs that promote walking and cycling can provide incentive in the work place and school. For example, the City of Toronto hosts a "Bicycle Friendly Business Awards" program that acknowledges businesses which have encouraged a greater use of active transportation facilities, with winners receiving a plaque and recognition in local media. The Township of Centre Wellington may adopt a similar program that supports trail and active transportation use.	**Work and School Based Challenge Initiatives:** Programs that provide challenges for residents in the workplace or school are great opportunities to encourage and promote the use of the trails network and frequent walking / cycling. Events such as the Terry Fox Run, Ride to Work Week, Clean Air Campaign and Earth day allow employers to challenge workers to participate in active transportation activities and support the use of non-motorized vehicles.

Table 4.4 Potential Enforcement Initiatives

Description:	Programs and initiatives which ensure that users of the trail and active transportation network adhere to applicable rules and regulations which are critical elements to overall safety.
Opportunity:	Enforcement programs can be used to encourage users of the trail network to be aware of their rights and responsibilities which can reduce incidents that cause property damage and personal injury.

Potential Initiatives

Engaging Ontario Provincial Police throughout the County: Initiative by the OPP may reduce cycling and pedestrian incidents through user awareness of proper operating procedures in the Township of Centre Wellington.

Along with the Township of Centre Wellington and the Ontario Provincial Police should implement the following enforcement initiatives:

- Enforcing safe operating procedures through cycling patrols and safety blitzes on routes and trails;
- Collection of collision data to identify potential problems and enforcement priorities; and
- The development of a safety campaign to educate cyclists and motor vehicle operators on safe cycling. For example the Halton Regional Police Service has developed the "Safely Sharing Halton's Roadways" brochure that has helped to educate cyclists and motorists on safe and proper sharing of roadways.

Engaging Bylaw Enforcement Officers: Local Bylaw enforcement officers should aid activities of the Ontario Provincial Police through issues such as sidewalk cycling, misuse of trails and misuse of active transportation facilities.

Supplementary enforcement may be implemented as local Bylaw officers educate users about the dangers of sidewalk cycling, misuse of facilities, parking regulations near trail access points and enforcing permitted uses of trails.

Engaging the Conservation Authority Enforcement Officers: Along with the Township and enforcement of Ontario Provincial Police and Bylaw enforcement, local conservation authorities should implement initiatives to ensure proper use of trail facilities.

Conservation authorities may supplement current programs and initiatives through activities in environmental protection areas, such as outdoor recreation, parks, walking and bicycle and off-road trail networks.

This could also include a trail ambassador program on properties owned or managed by the Conservation Authority, organized and implemented by volunteers potentially members of the Trails Advisory Committee. Other Authorities such as Conservation Halton have a developed a very successful program where volunteers receive a free season pass as part of their role as ambassadors.

Table 4.5 Potential Evaluation Initiatives	
Description:	On-going evaluation and collection of data will assess the effectiveness of trail and active transportation planning initiatives in the Township and further develop priorities to make appropriate improvements over time.
Opportunity:	Evaluation programs can be undertaken through data collected in Centre Wellington public consultation events in partnership with Wellington-Dufferin-Guelph Public Health and other programs.
Potential Initiatives	
Data Collection: Implementation of the Township's Trail Network may be evaluated through data collected which assesses the effectiveness and contribution of trail and active transportation initiatives. Data collection can be used to: • Evaluate the overall implementation of the Township of Centre Wellington Trails Master Plan; • Evaluate statistics regarding the type and number of facility users in different locations throughout the Township's trail network; • Verify the route selection process; and • Evaluate the supply of, and demand for pedestrian and cycling facilities in the Township.	

Recommendation 4.11	The Township should work with partners including but not limited to the County, Grand River Conservation Authority and Wellington-Dufferin-Guelph Public Health to develop and deliver promotion, education, encouragement initiatives related to trails.

4.6 MANAGING TRAILS

4.6.1 Insurance, Liability and Risk Management

Liability concern is an important consideration because of the potential for lawsuits. Adhering to widely accepted design, construction and maintenance standards is one of a number of strategies to manage risk. Aside from proper design, signage and operation of on and off-road active transportation and recreation facilities, the Township should take steps to address potential hazards including accidents, theft, vandalism, and other problems. On-road routes identified as part of the local and county-wide trail and active transportation network should be considered in the same liability category as roadways. **Table 4.6** summarizes some general strategies that can be used to reduce risk and liability associated with providing designated trail and on-road cycling facilities.

Table 4.6 Strategies to Reduce Risk and Manage Liability on Trails
• Improve the physical environment, increase public awareness of the rights and obligations of users and improve access to educational programs. • Select, design, sign and designate facilities in compliance with prevailing standards. Regulatory signage included in MTO Manual for Uniform Traffic Control Devices should be used. • Designs should comply with all applicable laws and regulations (e.g. Ontario Highway Traffic Act, current Municipal and County by-laws, etc.). • When considering on-road network segments for implementation or when proposing modifications to the network, the assessment undertaken to select the preferred route should be properly documented using the Facility Selection tool identified in Ontario Traffic Manual Book 18 - Cycling Facilities. By documenting the process as well as the findings, the likelihood of issues as they relate to legal challenges may decrease. • Conduct regular safety audits, which can be included in annual safety and security audit for parks, playgrounds and recreation facilities. • Ensure that trails are properly designed and in the first place. Research indicates that trails properly constructed at initial installation had the fewest maintenance issues. This includes proper subgrade excavation, adequate base and proper drainage as keys to trail longevity. • Monitor on and off-road facilities on a regular basis to document the physical conditions and operation of the route. All reports of hazardous conditions received should be promptly and thoroughly investigated. • If hazards cannot be immediately removed, they should be isolated with a barrier or identified with warning signs. • Maintenance operations should conform to accepted standards. Develop a maintenance plan that is effective and reasonable for Centre Wellington and ensure that the conditions described in the plan are met or exceeded. • Written records of all monitoring and maintenance activities should be documented and maintained. • Avoid using descriptions such as “safe” or “safer” when describing and promoting trail and cycling routes. Instead, identify practices that enable users to assess their own capabilities or level of comfort and make their choices accordingly. • Maintain proper insurance coverage as a safeguard against having to draw payments for damages from the public treasury.

Recommendation 4.12	The suggested risk management and liability prevention strategies should be reviewed and incorporated into day-to-day decision making processes when implementing trails.

Section 6.3.6 in the County’s Active Transportation Master Plan provides additional details regarding potential liability concerns and mitigation strategies.

4.6.2 A Trail Maintenance Plan for the Township of Centre Wellington

Many jurisdictions have formalized programs to plan and construct trail systems, however the number that have formal programs for trail maintenance is lower.

The general objectives of a trail monitoring and maintenance plan are to:

- Provide users with safe, dependable and affordable levels of service;
- Preserve infrastructure assets;
- Manage risk;
- Protect the natural environment;
- Enhance the appearance and health of the community;
- Provide a reference framework against which to measure performance;
- Provide the basis of a peer review that is comparable with other municipalities; and
- Provide citizens and Council with a reference for expectations.

The first step in implementing a maintenance and management program is to determine its scope. Trail plans, maps, inventories, trail logs, traffic count information and condition surveys are all valuable sources of information for developing maintenance management programs.

The maintenance program template outlined below is based on current best practices from municipalities across Ontario and other jurisidictions in Canada. Tasks have been grouped according to the frequency with which they would typically be performed, specificially:

- Immediately (within 24 to 48 hours);
- Regularly (weekly/biweekly/monthly);
- Seasonally;
- Annually;
- Every 3 to 5 years; and
- Every 10 to 20 years.

Although it may represent some additional time or cost, it has often been demonstrated that simply reorganizing existing maintenance priorities can contribute significantly to an effective maintenance program, particularly for the on-road cycling network.

4.6.2.1 Off-Road Trail Maintenance

Table 4.7 Maintenance Considerations for Off-Road Trails

Immediate (within 24 hours of becoming aware of the situation through a "hotline", email, other notification or observation)	• As a minimum, mark, barricade and sign the known hazard areas to warn trail users, or close the trail completely until the problem can be corrected. • Remove vegetation and/or windfalls, downed branches etc., where traffic flow on the trail is being impaired or the obstruction is resulting in a sight line issue. Remove hazard trees that have been identified. • Repair or replace items that have been vandalized or stolen/removed. This is especially important for regulatory signs that provide important information about trail hazards such as road crossings, steep grades, and sharp curves. • Removal of trash in overflowing containers or material that has been illegally dumped. • Repair of obstructed drainage systems causing flooding that poses a hazard to trail users or that is resulting in deterioration which in turn poses an immediate safety hazard. • Monitor trail areas and structures that are prone to erosion after severe storms and repair as required. • Repairs to structural elements on bridges such as beams, railings, access barriers and signs.
Regularly (weekly /biweekly / monthly)	• Trail patrols/inspections should review the trail conditions (as often as weekly in high-use areas), to assess conditions and prioritize maintenance tasks and monitor known problem areas. • Mow grass along edges of trails (in open, urban settings only). Depending on trail location this may be done weekly, biweekly or monthly and the width can vary according to the location (typically 0.5 to 1.0m). This helps to keep the clear zone open and can slow the invasion of weeds into granular trail surfaces. Not all trails will have mown edges. In woodland and wetland areas, pruning and brushing is typically the only vegetation maintenance needed. • Regular garbage pickup (10 day cycle or more frequent for heavily used areas). • Restock trailhead information kiosks with brochures as needed. • Repair within 30 days or less, partially obstructed drainage systems causing intermittent water backups that do not pose an immediate safety hazard, but if left unchecked over time will adversely affect the integrity of the trail and/or any other trail infrastructure or the surrounding area. • Repair or replace damaged or missing signage.

Table 4.7 Maintenance Considerations for Off-Road Trails	
Seasonally	• Patching/minor regrading of trail surfaces and removal of loose rocks from the trail bed. • Culvert cleanout where required. • Top up granular trail surfaces at approaches to bridges. • Planting, landscape rehabilitation, pruning/beautification. • Installation/removal of seasonal signage. • Repair or replace damaged or missing signage.
Annually	• Conduct an annual safety audit. This task is not necessarily specific to trails and may be included with general annual safety audits for parks and other recreation facilities. • Evaluate support facilities/trailside amenities to determine repair and/or replacement needs. • Examine trail surface to determine the need for patching and grading. • Topping up of wood chip trails and grading/grooming the surface of granular trails, in particular those where seasonal equestrian uses are permitted. • Pruning/vegetation management for straight sections of trail and areas where branches may be encroaching into the clear zone. This task is more of a preventative maintenance procedure. Cuttings may be chipped on site and placed appropriately or used as mulch for new plantings. Remove branches from the site unless they can be used for habitat (i.e. brush piles in a woodlot setting), or used as part of the rehabilitation of closed trails. Where invasive species are being pruned removed, branches and cuttings should be disposed of in an appropriate manner. • Inspect and secure all loose side rails, bridge supports, decking (ensuring any structural repairs meet the original structural design criteria). • Aerate soils in severely compacted areas. • Repair or replace damaged or missing signage.
Every 3 to 5 Years	• Clean and refurbish signs, benches and other trailside amenities.
Every 10 to 20 Years	• Resurface asphalt trails (assume approximately every 15 years). • Replace or reconstruct granular trails (assume approximately every 15 years, but this may not be necessary if adjustments/repairs are made on an annual basis). • Major renovation or replacement of large items such as bridges, kiosks, gates, parking lots, benches etc.

Note. A trail maintenance log should be used to document maintenance activities. The log should be updated when features are repaired, modified, replaced, removed, or when new features are added. Accurate trail logs also become a useful resource for determining maintenance budgets for individual items and tasks, and in

determining total maintenance costs for the entire trail. In addition, they are a useful source of information during the preparation of tender documents for trail contracts, and to show the location of structures and other features that require maintenance. Trail logs are also a critical document to demonstrate that the trail maintenance program for the Township is being appropriately carried out.

Winter Maintenance of Off-Road Trails

Research indicates that very few municipalities in Ontario maintain their off-road trails during winter months. For those municipalities that do offer winter maintenance services on trails, only certain routes are maintained and these tend to be primary routes hard-surfaced routes that serve a commuter function to key destinations such as schools and community centres or are heavily used by tourists and vistors. The following are some general criteria that are being used in other jurisdictions to identify candidates for winter maintenance of off-road trails. Many users actually prefer that trails are not maintained in winter so that activities such as cross country skiing, snowshoeing and snowmobiling (in approved locations) can be accommodated.

A. Trail Function and Location

- The trail's role in the overall transportation network and community connectivity (primary vs. secondary function);
- The trail does not provide an alternate route to a nearby sidewalk or trail that is already being maintained in winter;
- Determine if the trail is integral to the overall network such that it provides a primary route to schools, public facilities such as recreational centres and to other pedestrian generators such as senior's homes, shopping and commercial establishments;
- The trail is not merely a convenient short cut. If the trail is not available for winter use, the length of the detour required should be explored further. Although these should be explored on a case-by-case individual basis, 250m could be considered as a threshold guideline;
- The trail connects dead end streets or cul-de-sacs where alternative routes do not exist;
- Consideration is given to neighbouring land use(s) and how this relates to pedestrian origins, destinations and pedestrian generators; and
- Consideration is given to trails that have historically received winter maintenance, but winter maintenance has never been formally adopted.

B. Trail Design and Condition

The trail should be constructed to a minimum standard including:

- Adequate surface drainage to prevent ponding of water on the trail surface;
- A minimum width has been achieved so there is adequate access and buffer space for maintenance equipment;
- The trail has an asphalt surface (this factor may not apply if a snow blower is used instead of a plow); and
- There are hazards adjacent to the trail such as a steep drop off that could be a danger for equipment operators.

4.6.2.2 Maintenance of On-road Cycling Routes

Table 4.8 Maintenance Considerations for On-Road Routes	
Distortions in the road surface that may pose a potential hazard for cyclists	• Bumps or depressions causing ponding of water on at least one third of the width of the or cycling surface; • Drop-offs at the edges of pavement greater than 5cm in height over a horizontal distance of 20m. Vertical discontinuities greater than 2.5cm; • Cracks (especially those running parallel to the path of travel) greater than 5cm wide by 2.5cm deep; • Potholes greater than 10cm in diameter and 2.5cm in depth.
Street Sweeping and Debris Removal	• Sand left over from winter road maintenance and leaves allowed to accumulate in bike lanes and on paved shoulders can be hazardous to cyclists. Sweeping crews should be instructed to pay particular attention to the right edge of the road along designated bikeways. • Another useful strategy is to organize the spring sweep so that roads with bike lanes and bike routes are swept first.
Snow Plowing	• On-road routes should be cleared as part of the regular removal and de-icing of roadways. A priority-shift to include roads with bike lanes and routes that serve major origins/designations should be considered. Wherever possible minimize the use of bike lanes and paved shoulders for snow storage.
Catch Basin and Utility Access Covers	• Service covers and roadway edges are often the first place where cracking, heaving and breakup of asphalt occur. A 2cm vertical ridge and a 1cm groove paralleling the direction of travel can be hazardous to cyclists. The condition of road surfaces particularly near the curb and at corners/intersections is one of the most common complaints about on-road cycling facilities. • Patching and pavement overlay procedures may have to be increased to meet these tolerances within the traveled portion of the bikeway.
Signing and Pavement Marking	• Maintain on-road route and regulatory signs in the same manner that other roadway signs are maintained. Renew lane markings and symbols at the same time that other roadway lane markings are renewed.

Recommendation 4.13	The Township should use the trail and cycling route maintenance strategies identified in the Trails Master Plan to prepare a maintenance plan that is appropriate for Centre Wellington. The maintenance budget should be increased over time to correspond with the increase in number of kilometers of trails and on-road cycling routes.

4.6.3 Monitoring Implementation & Performance Measures

It is recommended that the Township utilize the approach for measuring performance outlined in Chapter 6 of the County's Active Transportation Master Plan as a basis for the assessment of trails in Centre Wellington.

Collecting data to evaluate the different and changing aspects of trail users' behaviour will assist in evaluating the effectiveness and overall contribution of various activities to achieve the vision and goals of this Plan. This data collection should build upon the various Trails Master Plan initiatives, and may include public attitude surveys. The data will establish a benchmark with which to compare future data collected as the Trails Master Plan is implemented.

The Goals of Data Collection & Monitoring are to:

- Confirm the overall direction and implementation of the Trails Master Plan;
- Confirm statistics regarding the number and type of trail users; and
- Verify the route selection process.

It is recommended that information be collected at least every two years and during the peak trail use season.

Data collected through evaluation/monitoring programs along with information collected through on-going public consultation exercises, such as user and public attitude surveys will inform the preparation of annual priorities and measurments related to the performance of the Plan.

Recommendation 4.14	Continue to work with partners in the development, delivery and refinement of a performance measurement program for the trail system.

4.6.4 Updating the Trails Master Plan

The Centre Wellington Trails Master Plan has been developed as a flexible and adaptable strategy for long-term trail development. The plan is intended to be used to facilitate and coordinate existing efforts and provide the Township and its partners with a blueprint for future design, development and implementation.The recommendations and action items identified in the Master Plan have been designed to provide direction on how to move forward with the facilitation / coordination of the trails network. The contents of this Plan were developed to reflect the goals and ambitions of Centre Wellington and the many partners who have contributed to its development.

Although the strategy has been developed as a guide for future trail planning and development, it must be recognized that priorities change over time and additional or alternate opportunities may arise. The timing and details related to the network's implementation should evolve through ongoing community consultation, discussions with private landowners (where applicable), and Council decisions. As network changes or additions arise the overall intent and direction of the plan should be respected. To help facilitate this, the following should be considered:

- The validity of each route should be confirmed when it is being considered for implementation. Where it is determined that a particular route is no longer valid, or is impossible to achieve, a parallel route performing the same network function should be selected.
- Where applicable, trail routes, trail crossings and in particular on-road cycling connections are considered as part of the Environmental Assessment process for municipal infrastructure studies.
- Performance of the facilities should be regularly monitored so that improvement in trail routing, design and maintenance can evolve as new information and new opportunities arise.
- The Centre Wellington Trails Master Plan should be updated on a regular basis, with a target to update the Plan every five years.

Recommendation 4.15	The Centre Wellington Trails Master Plan should be updated on a regular basis, at least every five years.

*Please note that the Trails Master Plan for the Township of Centre Wellington was developed in conjunction with the County's Active Transportation Master Plan. As such, there are a number of sections throughout the document where reference is made to the County's Master Plan. Readers are meant to reference both documents when addressing Township trail development, design and implementation.

5.0 SUMMARY OF RECOMMENDATIONS

For ease of reference this section provides a consolidation of all recommendations in Chapters 3 and 4 of the Trails Master Plan.

Chapter 3 Recommendations	
Recommendation 3.1	Adopt the on and off-road trails network as illustrated in the Trails Master Plan as the blueprint for the development of a comprehensive trails network in Centre Wellington.
Recommendation 3.2	Consider the route selection principles as described in the Trails Master Plan when future network changes are being explored, new opportunities are identified and when individual routes are in the detailed planning and design stage of implementation.
Recommendation 3.3	Recognize that adjustments to the approved network plan will occur from time to time and that this is consistent with the goal of ensuring the network plan is flexible and can respond to changes and new opportunities.
Recommendation 3.4	Have regard for the proposed route network in the Wellington County Active Transportation Master Plan when changes are being contemplated for the Centre Wellington route network.
Recommendation 3.5	Pedestrians and cyclists should be considered the primary user groups when planning and designing the trail network. Equestrians, skateboarders and in-line skaters have more specific design considerations and requirements. These should be considered when designing facilities intended to accommodate a wide range of user groups.

Recommendation 3.6	Ensure that Primary off-road trails meet or exceed minimum accessibility requirements as outlined in the Ontarians with Disabilities Act, 2005. Secondary multi-use trails will be designed to meet minimum accessibility requirements where feasible and practical. Hiking trails will not typically be designed to meet accessibility requirements.
Recommendation 3.7	Signage and maps should be designed to communicate which trails meet minimum accessibility requirements so that users can make their own decision in advance of using the route.
Recommendation 3.8	Guidelines presented in Section 3.2 of the Trails Master Plan should form the basis of trail design in Centre Wellington. With regard to the design of on-road facilities, provincial guidelines (i.e. Ontario Traffic Manual Book 18 - Bicycle Facilities) should be used to complement those presented in the Trails Master Plan.
Chapter 4 Recommendations	
Recommendation 4.1	Over the short-term coordinating the implementation and management of the Trails Master Plan should be the responsibility of a staff member in the Community Services Department Parks and Recreation Division.
Recommendation 4.2	The existing Parks Recreation and Culture Advisory Committee will have an important role in advancing local trail initiatives. Projects will be considered on an individual basis, and where deemed necessary a special subcommittee will be established to manage input and seek assistance from the local community.
Recommendation 4.3	Adopt the route network priorities described in the Trails Master Plan as the guide for implementation of the trail network in Centre Wellington, and use this guide as part of the annual priority setting and budgeting process.
Recommendation 4.4	Ensure that all departments responsible for the design and implementation of major infrastructure projects regularly review the Trails Master Plan to determine if upcoming projects offer synergies for the development of trail links, and incorporate the trail(s) into appropriate projects, beginning in the early stages of the project.
Recommendation 4.5	In addition to capital funding, the Township should explore other outside funding sources and cost-sharing opportunities to support implementation of the trails network, outreach and promotion.
Recommendation 4.6	The GIS database developed during the preparation of the Master Plan should be integrated with the Township and County GIS databases and regularly updated as part of the network tracking, management and budgeting process.

Recommendation 4.7	The GIS database should be considered for a starting point in the development of a trail and active transportation map.
Recommendation 4.8	As part of the next Municipal Official Plan update for the urban areas of Fergus, Elora-Salem and Belwood, the Township should consider including policy suggestions developed during the preparation of the Trails Master Plan.
Recommendation 4.9	Review and refine municipal processes for working with the development community to ensure that off-road trail and on-road cycling facilities are planned, designed and constructed as part of the development process. Developers shall be expected to create a trails network within their development that reflects the intent of the Centre Wellington Trails Master Plan.
Recommendation 4.10	As part of the detailed design process Township staff and others responsible for the Plan's implementation should review the need for further consultation with key stakeholders, agencies and adjacent landowners on a project-by-project basis when network routes are being considered for implementation.
Recommendation 4.11	The Township should work with partners including but not limited to the County, Grand River Conservation Authority and Wellington-Dufferin-Guelph Public Health to develop and deliver promotion, education, encouragement initiatives related to trails.
Recommendation 4.12	The suggested risk management and liability prevention strategies should be reviewed and incorporated into day-to-day decision making processes when implementing trails.
Recommendation 4.13	The Township should use the trail and cycling route maintenance strategies identified in the Trails Master Plan to prepare a maintenance plan and budget that is appropriate for Centre Wellington. The maintenance budget should be increased over time to correspond with the increase in number of kilometers of trails and on-road cycling routes.
Recommendation 4.14	Continue to work with partners in the development, delivery and refinement of a performance measurement program for the trail system.
Recommendation 4.15	The Centre Wellington Trails Master Plan should be updated on a regular basis, at least every five years.

Appendix A- Unit Price Schedule

ITEM	DESCRIPTION	UNIT	VALUE	COMMENTS/ASSUMPTIONS
1.0	GENERAL ACTIVE TRANSPORTATION FACILITIES			
	Shared Lanes / Paved Shoulders			
1.1	Signed Bike Route in Urban Area	linear KM	$1,500.00	Price for both sides of the road, assumes one sign a minimum of every 330m / direction of travel (e.g. 6 signs / km).
1.2	Signed Bike Route in Rural Area	linear KM	$1,000.00	Price for both sides of the road, assumes one sign a minimum of every 500m / direction of travel (e.g. 4 signs / km)
1.3	Signed Bike Route with Sharrow Lane Markings	linear KM	$3,500.00	Price for both sides of the road, includes route signs every 330m ($1,500/km both sides), and sharrow stencil every 75m as per Ministry Guidelines (Painted $75 each x 26/km = $1,950 in table) If thermoplastic type product is used assume $250 / each x 26 = $6,500 source Flint Trading Inc.
1.4	Signed Bike Route with Wide Curb Lane with Construction of a New Road	linear KM	$60,000.00	Price for both sides of the road, assumes 0.5m to 1.0m widening on both sides of the road (3.5m to 4.0m)
1.5	Signed Bike Route with Wide Curb Lane with Road Reconstruction Project	linear KM	$240,000.00	Price for both sides of the road, includes curb replacement, catch basin adjustments, lead extensions and driveway ramps
1.6	Signed Bike Route with Paved Shoulder in conjunction with existing road reconstruction / resurfacing	linear KM	$55,000.00	Price for both sides of the road, 1.5m paved shoulder, assumes cycling project pays for additional granular base, asphalt and edge line (assume $110,000 per kilometre if additional widening of granular base required)
1.7	Signed Bike Route with Buffered Paved Shoulder in conjunction with existing road reconstruction / resurfacing project	linear KM	$150,000.00	Price for both sides of the road, 1.5m paved shoulder + 0.5 to 1.0m paved buffer, assumes cycling project pays for additional granular base, asphalt, edge lines and signs (buffer zone framed by white edge lines)
1.8	Addition of Rumble Strip to Existing Buffered Paved Shoulder (rural)	linear KM	$3,000.00	Price for both sides
1.9	Granular Shoulder Sealing	linear KM	$3,000.00	Both sides spray emulsion applied to harden the granular shoulder. This will reduce gravel on the paved portion of the shoulder and significantly reduce shoulder maintenance.
1.10	Upgrade existing gravel road to a chip seal surface	linear KM	$40,000.00	Includes pulverizing existing surface with a double treatment of tar and chip at 7m wide.
	Conventional and Separated Bike Lanes			
1.11	Conventional 1.5m-1.8m Bicycle Lanes by Adding Bike Lane Markings and Signs	linear KM	$7,500.00	Price for both sides of the road, includes signs, stencils and edge line. Price is for conventional paint, (assumes painted lane line at $1 / m + $75 / symbol x 26 + $2000 for signs)increase budget to $20,000 /km for Thermoplastic) e.g. lane line in thermo is $5.50/m compared to $1.00/m for paint
1.12	Conventional 1.5m-1.8m Bicycle Lanes through Lane Conversion from 4 lanes to 3 lanes	linear KM	$35,000.00	Price for both sides. Includes grinding of existing pavement, markings, signs, line painting and symbols
1.13	Conventional 1.5m-1.8m Bicycle Lanes in Conjunction with a New Road or Road Reconstruction Project	linear KM	$250,000.00	Price for both sides of the road, assumes 1.5m bike lanes on both sides of the roadway (1.5m x 2 sides = 3.0m). Includes catch basin leads, asphalt, signs, pavement markings sub-base only. Road project funds all other improvements
1.14	Conventional 1.5m-1.8m Bicycle Lanes by Retrofitting / Widening Existing Road	linear KM	$700,000.00	Price for both sides of the road, includes the cost for excavation, adjust catch basins, lead extensions, new curbs/driveway ramps, asphalt and sub-base, pavement markings and signs.
1.15	Wide Bicycle Lane (2.0m - 2.5m BL) in Conjunction with New Road or Road Widening Project	linear KM	$300,000.00	Price for both sides of the road, assumes 2.0m to 2.5m bike lanes on both sides of the roadway . Includes catch basin leads, asphalt, signs, pavement markings sub-base only
1.16	Buffered Bicycle Lane with Hatched Pavement Markings - Assumes New Road or Road Reconstruction/Widening already Planned	linear KM	$350,000.00	Price for both sides of the road, assumes 1.5m bike lanes + 0.5m - 1.0m buffer zone with hatched pavement markings on both sides of the roadway. Includes catch basin leads, asphalt, signs, pavement markings sub-base only. Road project funds all other components
1.17	Buffered Bicycle Lane with Flex Bollards - Assumes New Road or Road Reconstruction/Widening Already Planned	linear KM	$365,000.00	Price for both sides of the road, assumes 1.5m bike lanes + flex bollards centred in hatched buffer zone at 10m intervals. Includes catch basin leads, asphalt, signs, edge line pavement markings (both sides of buffer zone) sub-base only
1.18	Buffered Bicycle Lane with Pre-Cast Barrier - Assumes New road or Road Reconstruction/Widening Already Planned	linear KM	$400,000.00	Price for both sides of the road, assumes 1.5m bike lanes + pre-cast and anchored curb delineators . Includes catch basin leads, asphalt, signs, edge line pavement markings (both sides of buffer zone) sub-base only

Appendix A- Unit Price Schedule

ITEM	DESCRIPTION	UNIT	VALUE	COMMENTS/ASSUMPTIONS
	Cycle Tracks			
1.19	Uni-directional Cycle Tracks: Raised and Curb Separated - Retrofit Existing Roadway	linear KM	$500,000 - $1,200,000	Both sides. Includes construction but excludes design and signal modifications. Form of cycle track and materials as well as related components such as bike signals, upgrade/modification of signal controllers, utility/lighting pole relocations, bike boxes etc. are project specific and will impact unit price
1.20	Two Way Cycle Track - Retrofit Existing Roadway	linear KM	$500,000 - $800,000	One side. Includes construction but excludes design and signal modifications. Form of cycle track and materials as well as related components such as bike signals, upgrade/modification of signal controllers, utility/lighting pole relocations, bike boxes etc. are project specific and will impact unit price
	Active Transportation Paths and Multi-Use Trails			
1.20	Two Way Active Transportation Multi-use path within road right-of-way	linear KM	$275,000.00	3.0m wide hard surface pathway (asphalt) within road right of way (no utility relocations)
1.21	Two Way Active Transportation Multi-use path within road right-of-way on one side with removal of existing sidewalk	linear KM	$320,000.00	3.0m wide hard surface pathway (asphalt) within road right of way on one side of road in place of 1.5m concrete sidewalk (includes crushing of existing sidewalk and compacting for trail base)
1.22	Concrete Splash Strip placed within road right-of-way between Active Transportation Multi-Use Path and Roadway	M^2	$90.00	Colour Stamped Concrete
1.23	Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (New)	linear KM	$250,000.00	3.0m wide hard surface pathway (asphalt) within park setting (normal conditions)
1.24	Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (Upgrade existing granular surface)	linear KM	$100,000.00	includes some new base work (25% approx.), half of the material excavated is removed from site, and an average of 20 regulatory signs per kilometre
1.25	Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting	linear KM	$140,000.00	3.0m wide, compacted stone dust surface normal site conditions
1.26	Upgrade existing granular surface trail to meet 3.0m wide compacted granular trail standard	linear KM	$50,000.00	Includes some new base work (25% approx.) and an average of 20 regulatory signs per kilometre
1.27	Off-Road Multi-Use Trail Outside of Road Right-of-Way on Abandoned Rail Bed in a Rural Setting	linear KM	$130,000.00	3.0m wide, compacted stone dust surface, includes signage along trail and gates at road crossings
1.28	Granular Surfaced Multi-use Trail in a Woodland Setting	linear KM	$120,000.00	2.4m wide, compacted stone dust surface
	2.0 STRUCTURES AND CROSSINGS			
2.1	Pedestrian Boardwalk (Light-Duty)	linear M	$1,500.00	Structure on footings, 3.0m wide with railings
2.2	Self weathering steel truss bridge	M^2	$2000 - $2500	footings/abutments additional, assume $30,000 per side for spread footings; $90,000 per side for piles
2.3	Grade separated cycling/overpass of major arterial/highway	each	$1,000,000- $8,000,000	Requirements and design vary widely, use price as general guideline only
2.4	Metal stairs with hand railing and gutter to roll bicycle	vertical M	$3,000.00	1.8m wide, galvanized steel
2.5	Pathway Crossing of Private Entrance	each	$1500 - $2000	Adjustment of existing curb cuts to accommodate 3.0m multi-use pathway
2.6	Pathway / Road transition	each	$2,500.00	Typically includes warning signs, curb cuts and minimal restoration (3.0m pathway)
2.7	Pathway / Road transition at existing intersection	each	$3,000.00	(At intersection with pedestrian crosswalk) typically includes warning signs and minimal restoration
2.8	At grade mid-block crossing	each	$5,000.00	Typically includes pavement markings, warning signs, curb cuts and minimal restoration. Does not include median refuge island.
2.9	Median Refuge	each	$20,000.00	Average price for basic refuge with curbs, no pedestrian signals
2.10	Mid-block Pedestrian Signal	each	$75,000-$100,000	Varies depending on number of signal heads required
2.11	At grade railway crossing	each	$120,000.00	Flashing lights, motion sensing switch (C.N. estimate)
2.12	At grade railway crossing with gate	each	$300,000.00	Flashing lights, motion sensing switch and automatic gate (C.N. estimate)
2.13	Below grade railway crossing	each	$500,000-$750,000	3.0m wide, unlit culvert style approx. 10 m long for single elevated railway track
2.14	Multi use subway under 4 lane road	each	$1,000,000-$1,200,000	Guideline price only for basic 3.3 m wide, lit.
2.15	Retaining Wall	M^2	$600.00	

Appendix A- Unit Price Schedule

ITEM	DESCRIPTION	UNIT	VALUE	COMMENTS/ASSUMPTIONS
3.0 BARRIERS AND ACCESS CONTROL FOR MULTI-USE TRAILS OUTSIDE OF THE ROAD RIGHT-OF-WAY				
3.1	Lockable gate (2 per road crossing)	each	$5,000.00	Heavy duty gates, price for one side of road (2 required per road crossing). Typically only required in rural settings or city boundary areas
3.2	Metal offset gates	each	$1,200.00	"P"-style park gate
3.3	Removable Bollard	each	$500-$750	Basic style (e.g. 75mm diameter galvanized), with footing. Increase budget for decorative style bollards
3.4	Berming/boulders at road crossing	each	$600.00	Price for one side of road (2 required per road crossing)
3.5	Granular parking lot at staging area (15 car capacity-gravel)	each	$12,000-$15,000	basic granular surfaced parking area (i.e. 300mm granular B sub-base with 150mm granular A surface), with precase bumper curbs
3.6	Page wire fencing	linear M	$20.00	1.5m height with peeled wood posts
3.7	Chain link fencing	linear M	$100.00	Galvanized, 1.5m height
4.0 SIGNAGE				
4.1	Regulatory and caution Signage (off-road pathway) on new metal post	each	$150-$250	300mm x 300mm metal signboard c/w metal "u" channel post
4.2	Signboards for interpretive sign	each	$500-$800	Does not include graphic design. Based on a 600mm x 900mm typical size and embedded polymer material, up to 40% less for aluminum or aluminum composite panel
4.3	Staging area kiosk	each	$2,000-$10,000	Wide range provided. Price depends on design and materials selected. Does not include design and supply of signboards
4.4	Signboards for staging area kiosk sign	each	$1,500-$2,000	Typical production cost, does not include graphic design (based on a 900mm x 1500mm typical size and embedded polymer material). Up to 40% less for aluminum or aluminum composite panel
4.5	Pathway directional sign	each	$500-$750	Bollard / post (100mm x100mm marker) , with graphics on all 4 sides
4.6	Pathway marker sign	each	$250.00	Bollard / post (100mm x100mm marker), graphics on one side only
4.7	Pathway marker sign	linear KM	$1,000.00	Price for both sides of the path, assumes one sign on average, per direction of travel every 0.5 km

Appendix A- Unit Price Schedule

ITEM	DESCRIPTION	UNIT	VALUE	COMMENTS/ASSUMPTIONS
		5.0 OTHER		
5.1	Major rough grading (for multi-use pathway)	M^3	$10-$25	Varies depending on a number of factors including site access, disposal location etc.
5.2	Clearing and Grubbing	M^2	$2.00	
5.3	Bicycle rack (Post and Ring style)	each	$150-$250	Holds 2 bicycles , price varies depending on manufacturer (includes installation)
5.4	Bicycle rack	each	$1,000-$1,200	Holds 6 bicycles, price varies depending on manufacturer (includes installation)
5.5	Bicycle Locker	each	$3,000.00	Price varies depending on style and size. Does not include concrete mounting pad
5.6	Bench	each	$1000-$2,000	Price varies depending on style and size. Does not include footing/concrete mounting pad
5.7	Safety Railings/Rubrail	linear M	$100-$120	1.4m height basic post and rail style
5.8	Small diameter culverts	linear M	$150-$250	Price range applies to 400mm to 600mm diameter PVC or CSP culverts for drainage below trail
5.9	Pathway Lighting	linear M	$130-$160	Includes cabling, connection to power supply, transformers and fixtures
5.10	Relocation of Light / Support Pole	each	$4,000.00	Adjustment of pole offset (distance between pole and roadway)
5.11	Relocation of Signal Pole	each	$8,000.00	Adjustment of pole offset (distance between pole and roadway)

NOTES:

1. Unit Prices are for functional design purposes only, include installation but exclude contingency, design and approvals costs (unless noted) and reflect 2014 dollars, based on projects in southern Ontario
2. Estimates do not include the cost of property acquisitions, signal modifications, utility relocations, major roadside drainage works or costs associated with site-specific projects such as bridges, railway crossings, retaining walls, and stairways, unless otherwise noted
3. Assumes typical environmental conditions and topography
4. Applicable taxes and permit fees are additional

APPENDIX B

The Township of Centre Wellington adopted its Official Plan on November 24, 2003 and it was approved in May 2005. This official plan, in addition to other Township policies and plan was reviewed as part of Phase 1 of the Township's Trails Master Plan. The intent of the review was to identify areas within the Official Plan pertaining to trail development and ways in which these areas can be strengthened and / or additional policies which could be developed to provide support for the development and promotion trails and active transportation within the municipality.

It is important to note that the Official Plan for the Township currently only applies to the urban areas of Fergus, Elora-Salem and Belwood. The remainder of the Township is governed by policies outlined in the County's Official Plan (refer to policies in the Greenlands and Rural sections of the County Official Plan).

The Official Plan contains a number of policies encouraging the development of trails, improving the connections to existing trails and connecting parks and open space through green space corridors. The vision includes reference to the expansion and diversification of trailways and parks.

Notes in italics in the following sections represent actual policy wording contained in the Official Plan and notes underlined and in italics are suggested modifications/additions to policies.

1.0 Existing Policies which reference trails and trail related Facilities

Based on the detailed review of the Official Plan, the following is a list of policies that currently refer to trail or trailway development throughout the Township. Also included are policies which support trail development indirectly through the promotional of healthy and sustainable communities and pedestrian and cycling environments.

- **Section "B" Subsection B.3 "Vision Statement"**
- **Section "B" Subsection B.4 "Major Goals"**
- **Section "C" Subsection C.12.5.2 "Local Parks"**
- **Section "C" Subsection C.8.5 "Gateways"**
- **Section "C" Subsection C.8.11 "Bicycling"**
- **Section "C" Subsection C.12 "Parkland"**
- **Section "C" Subsection C.15 "Community Design"**
- **Section "D" Subsection D.3 "Central Business District"**
- **Section "D" Subsection D.7 "Recreational"**

2.0 Proposed Policy Changes to Existing Policies

Of those policies identified above, there are some additional policy changes which have been recommended for consideration when updating the Official Plan document. These potential changes include:

- **Section "B" Subsection B.3 "Vision Statement" –**
  - *That is Well Planned…* additional bullet *"Connected community using sustainable transportation choices."*

- **Section "B" Subsection B.4 "Major Goals" –**
  - "*promote a safe and efficient road and on and off-road pedestrian and cyclist system in the Township*."

- **Section "B" Subsection B.5 "Urban Area Expansion" –** "g) *in determining the most appropriate direction and location for expansion, the following are addressed*: **(**additional bullet) *x. the impacts on the on and off-road pedestrian and cyclists connections and facilities.*"

- **Section "C" Subsection C.1 "The Grand River" –** *Public access to the river is encouraged. Development adjacent to the river should respect the riverscape. Vistas to the river should be maintained. Buildings should be designed to be attractive in appearance from both the street side and from the river side of the building. Trail connections to the river should be explored where possible off-road connections can be facilitated."*

- **Section "C" Subsection C.3.12 "Natural Heritage Corridors" –** additional bullet*"3. To support active recreation and active transportation, consider the inclusion of off-road trail connections within or adjacent to natural heritage corridor provided that the ecological function of the corridor is not compromised."*

- **Section "C" Subsection C.5.5. "Residential Intensification" –** additional bullet *"j) encouraging residential intensification in areas which are supportive of, and connect to existing and proposed on and off-road active transportation and trail routes as outlined in the Township's Trails Master Plan and the County's Active Transportation Plan."*

- **Section "C" Subsection C.8 "Transportation"**
  Subsection C.8.4 "Road Design" - "*The following design guidelines shall be promoted during the design of Roads*: (additional bullet) *6. The active transportation and trail design guidelines developed by the County of Wellington should be consulted when designing roadways to accommodate these user groups to promote a safe and balanced network of facilities."*

- ***Subsection C.8.5 "Gateways" -*** "*A gateway refers to the entry points to the Urban Centres located on major roads such as Provincial Highways and County Roads*: (additional bullet) *4. pedestrian and cyclist facilities and connections should be provided to key destinations and attractions within the Township's urban centres and should facilitate access to the urban centres via all transportation modes. The Township should also consult the County's Active Transportation Master Plan for direction on the location of connections and facility types to be considered."*

- ***Subsection C.8.6 "Road Widenings"*** – (Additional bullet) *5. When considering road widenings, the Township should refer to the Township's Trails Master Plan and the County's Active Transportation Plan and associated guidelines for direction on facility types."*

- ***Subsection C.8.11 "Bicycling"***
  Additional Text: *"The Township shall refer to the Trails Master Plan to guide the development of new / additional facilities in urban areas of Elora-Fergus, Salem and Belwood. In addition, the Township shall refer to the County's Active Transportation Master Plan for facilities outside of the urban areas, and shall refer to the facility design guidelines in the County's Active Transportation Master Plan for trail and active transportation facilities to ensure consistency.*

  In addition for all other new developments the Township will consider the following:
  - *Wherever possible and feasible, new and infill development areas will be accessible by the trail and active transportation network regardless of land use designation. This also includes areas of the Township that may be in transition from one land use to another.*
  - *All Secondary Plans and new community plans shall incorporate cycling facilities as outlined in the Township's Trails Master Plan and County's Active Transportation Master Plan. This implies appropriate links to surrounding neighbourhoods and a trail and active transportation network of facilities in the new community plan area that is consistent with the trail and Active Transportation network character throughout the remainder of the Township."*

- **Section "C" Subsection C.9 "Community Improvement"**
  Subsection C.9.2 "Objectives" - "The following are the objectives of the Township with respect to community improvement: *7. To provide additional transportation alternatives including on and off-road pedestrian and cycling connections."*

- ***Subsection C.9.6 "Implementation"*** - *"The Township of Centre Wellington intends to implement these policies in order to achieve its Community Improvement objectives by one or more of the following methods*: (Additional bullet)
- *8. Township of Centre Wellington Trails Master Plan and the Wellington County Active Transportation Master Plan will be the guiding document that provides the framework for the design and development of trail facilities throughout the Township. Schedule X provides the location of existing and future trails throughout the Township. Changes to the location of individual routes may be made at the Director level to accommodate the actual on-ground route, and to respond to new opportunities that arise from time-to-time without the need for an amendment to the Official Plan.*

- **Section "C" Subsection C.12 "Parkland"**

- ***Subsection C.12.5.1 – C.12.5.3 "Neighbourhood Parks, Local Parks & District Parks"***
  "*Parks shall generally be developed in accordance with the following guidelines: 3. should be linked to other open space areas, trail networks and active transportation facilities where possible*."

- ***Subsection C.12.5.4 "Waterfront Parks"***
  "*Waterfront Parks shall generally be developed in accordance with the following guidelines:*(additional bullet) *8. Waterfront Parks should provide appropriate connections and linkages to the trail network and active transportation facilities."*

- **Section "C" Subsection C.15 "Community Design"**
  Subsection C.15.2 "Objectives"
  "8. To encourage the design of urban and rural spaces to be pedestrian and cyclist friendly environments which provide multi-modal opportunities for users to efficiently access key destinations throughout the community."

- ***Subsection C.15.3 "Design Guidelines"*** (additional bullets)
  "13. When designing pedestrian and cycling facilities and linkages, The Township will consult with the facility design guidelines in the County's Active Transportation Master Plan to ensure a consistent approach for their development."

  "14. Appropriately designed and properly located facilities shall be required at all new municipal facilities and at key locations throughout the Township's trail network as well as the County's Active Transportation network connections found throughout the Township."

  "15. The Township shall require all proposed developments in the future to be designed to include pedestrian and cyclist connections and facilities which contribute to the Township's trail network and the County's Active Transportation Network. The Township shall require the implementation of such facilities as part of the Developer-build portion of new developments, prior to occupancy."

- **Section "D" Subsection D.2.2. "Objectives for Residential Development"** (additional bullet)
  "10. To provide appropriate pedestrian and cycling connections within residential communities and consideration for links to key destinations external to the subject residential community."

- **Section "D" Subsection D.3 "Central Business District"**
  Subsection D.3.2 "Objectives"
  "To facilitate vehicular ~~and~~, pedestrian and cyclist movement in the downtowns through improvements to roads, parking areas, pedestrian paths and bicycle facilities (e.g. Bike lanes)."

- **Section "D" Subsection D.6 "Industrial"**
  Subsection D.6.4 "Design Considerations" - *"In developing new industrial areas, consideration shall be given to the following:* (additional bullet) *7. Connections to existing and proposed trail and active transportation facilities should be encouraged where safe and feasible, to provide additional pedestrian and bicycle route opportunities to places of employment."*

- **Section "D" Subsection D.7 "Recreational"**
  Subsection D.7.2 "Objectives"
  "The objectives with respect to Recreational Areas are as follows: (additional bullet) *6. to provide key destination points and connections to the existing and proposed Township trail network and County active transportation network and engage utilitarian and recreational pedestrians and cyclists."*

  "With regard to recreational uses, the Township shall adhere to the following policies:
  - *As part of day-to-day business practice the Township shall recognize that trail and active transportation facilities form part of a vital transportation system with inherent*

environmental, health and economic benefits.

- *The Township shall work collaboratively with other agencies and the County to plan for, and develop trail and active transportation routing and related facilities.*
- *All development applications, including but not limited to, plans of subdivision, severances, Official Plan amendments, zoning bylaw amendments, site plans shall be reviewed by staff to ensure that they are consistent with the Trails Master Plan and the County's Active Transportation Master Plan.*
- *Utility corridors, abandoned rail lines, unused / unopened road allowances and other right-of-way shall be utilized for trail development where possible.*
- *Where possible and practical trails shall be designed to meet universal access requirements used to encourage use by people of all levels of ability and mobility. Trail condition (e.g. level of difficulty) will be communicated at access points to allow users to make their own decision on use."*

- **Section "D" Subsection D.9 "Future Development"**
  Subsection D.9.4 "Redesignation of future Development Areas"
  "A comprehensive review of the need and impacts of developing this land on the surrounding are shall be undertaken with regard for the following: 3. That adequate development plans which indicates the type of development and facilities be provided (such as, streets, schools, parks, trail and active transportation facilities and shopping facilities)

3.0 Proposed Policy Additions

The following is a list of proposed new policies for consideration by the Township for inclusion in the Official Plan. One "new" potential section as well as other policy "areas" which could be incorporated into the existing document have been included. For some of the proposed policies, specific areas where they could be included have been identified. For the others a specific location in the Official Plan has not been identified for their placement.

- ***Subsection C.8.12 "Pedestrians"***
  New Text*: "In an effort to develop a 'balanced' transportation network, the Township will work to encourage and promote walking and hiking as an alternative mode of transportation within and between the urban centres, and to provide for additional safe and efficient connections to the bicycle network as well as key destinations throughout the Township.*

  The Township has developed a Trails Master Plan which identifies a pedestrian and cycling network. In addition, the County has developed an Active transportation Master Plan network and standards for facility development. Together these two plans will be used as the guide for the development of on and off-road pedestrian routes and facilities. Wherever possible and feasible, the Township will provide pedestrian connections to parks and recreation areas and provide linkages between intensification areas and adjacent neighbourhoods.

  The Township may require, as a condition to the approval of development, the provision of sufficient pedestrian facilities and amenities including but not limited to benches, trail heads, and signage. In addition for all other new developments the Township will consider the following:

  - *The Township shall ensure that wherever possible new and infill development will be accessible by the trail and active transportation network regardless of land use designation. This also includes areas of the Township that may be in transition from*

one land use to another.

- *All Secondary Plans and new community plans shall incorporate pedestrian facilities as outlined in the Township's Trails Master Plan and County's Active Transportation Master Plan. This implies appropriate links to surrounding neighbourhoods and a trail and active transportation network of facilities in the new community plan area that is consistent with the trail and active transportation network character throughout the remainder of the Township.*

- *Urban design policies, standards and guidelines shall be guided by the County's Active Transportation Master Plan which includes the planning and design objectives and requirements for the implementation of the active transportation and trail networks within all developments."*

Land Stewardship and Ownership

1. *It is recognized that trail and active transportation routes located on private property will only be established and / or remain open with the approval of the property owner. Where critical missing links are needed to complete sections of the network and no public land is currently available, the Township shall consider other means of securing access such as land purchases, leases, easements, right-of-way, dedications and any other applicable means.*

2. *The Township shall support and assist in the protection of abandoned rail lines, unopened road allowances, and other parklands and corridors for trail and active transportation routes and facilities. The Township shall carefully consider the value that these corridors have in the development of a well-connected active transportation and trail network. On a case-by-case basis, the Township shall research, document and publicize the opportunities and constraints related to each unused road allowance, abandoned rail line and other parkland spaces prior to making the decision to dispose of these lands or declaration of "no interest" in retaining them for trail or active transportation facility development. The Township shall consider the various means of protection and / or acquire such corridors.*

Design and Construction

1. *Prior to the design and construction of trail or active transportation facilities, design issues including land use compatibility, safety, integration with the County's active transportation plan and operational matters will be considered as well as the cultural, scenic and other environmental attributes through which the designated routes pass.*