MUNICIPALITY OF THAMES CENTRE

Trails & Cycling master plan

OCTOBER 2015

Monteith•Brown planning consultants

Municipality of Thames Centre

Trails & Cycling Master Plan

October 2015

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planning consultants

ACKNOWLEDGEMENTS

The Master Plan is a product of the vision and dedication of the Municipality of Thames Centre and Staff. We also extend our thanks to the many residents, organizations (including Middlesex County and the Upper Thames River Conservation Authority), and community groups throughout the Municipality of Thames Centre who provided valuable insights and opinions and whose feedback has made the Plan a document that is reflective of the needs of the community.

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1. INTRODUCTION

1.1 About the Master Plan

The importance of a cohesive and comprehensive active transportation network has never been greater as communities across the Province strive to promote healthier lifestyles through accessible physical activity opportunities. An integrated and maintained network of trails and cycling routes can also be a driver of economic activity and a key component of the local quality of life. This Trails & Cycling Master Plan will provide Council, staff, and community partners with a guiding document that will advance the Municipality's trail and cycling network (otherwise referred to as the "Active Transportation" network) through a series of recommended and prioritized routes and linkages, policy and management considerations, and wayfinding and awareness strategies.

Active transportation is any form of human-powered transportation[1] that facilitates low cost leisure and serves utilitarian purposes that links destinations, settlement areas within municipalities, and neighbouring communities. Examples include walking, jogging, hiking, cycling, skating, and skateboarding. As such, the scope of this Master Plan focuses on sidewalks, off-road routes such as park pathways, trails, and pedestrian linkages (largely within the settlements of Dorchester and Thorndale), as well as on-road cycling routes including bike lanes and shared roadways. Motorized forms of transportation and equestrian trails are not considered in this Master Plan, although there may be sections of the network where these activities are permitted.

[…the Master Plan focuses on sidewalks, off-road trail routes such as park pathways, trails, and pedestrian linkages (largely within the settlements of Dorchester and Thorndale), as well as on-road cycling routes including bike lanes and shared roadways…]

[1] Public Health Agency of Canada. (2010). What is active transportation? Retrieved from: http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/pa-ap/at-ta-eng.php

1.2 Master Plan Drivers

Through the Municipality's 2013 Community Services Master Plan Update, Thames Centre has recognized the key role active transportation routes can have in the community and has subsequently authorized the development of this Trails & Cycling Master Plan. With respect to bolstering active transportation opportunities in the Municipality, public consultation conducted for the most recent Community Services Master Plan revealed the following:

- Residents recognized that trail development in the Municipality was occurring;
- There is a lack of focus, direction, priority, and other challenges associated with Community Trails in Dorchester and Thorndale; and
- A Community Trails Master Plan is needed for the entire Municipality, incorporating a route to the soccer field from Dorchester, at Wye Creek Trail, trail additions, etc.

The Community Services Master Plan concluded that a plan was needed to establish a vision and guide the development of trails in the Municipality. Specially, it was identified that the Trails & Cycling Master Plan should focus on:

- Overcoming current gaps in the trail system;
- Providing trail heads, interpretational boards, rest areas, and other supporting amenities;
- Specific opportunities for expanding the Wye Creek Trail and establishing a safer trail connection between Dorchester and the Outdoor Sports Complex (a trail has since been created); and
- Facilitating connections to regional trail systems where feasible.

It should be noted that a Community Trails Master Plan was developed for the Township of North Dorchester in 1999. While only partially implemented, the findings and recommendations of this report have been considered as part of this current Master Plan.

Moreover, this process has informed the Municipality of Thames Centre's Official Plan Review by identifying policy considerations that align with the *Planning Act* and the new Provincial Policy Statement and that support building an active transportation network. These policies were recently adopted by Council on October 6th, 2014 as a part of Amendment No. 12 and are currently awaiting County approval.

1.3 Study Approach

The primary goal of this Master Plan is to develop a realistic, fiscally responsible, and integrated trail and cycling network that is supported by relevant trends, guiding principles, public engagement, policy development, and design standards. This has been accomplished through three project phases as expressed in Figure 1 below.

Figure 1: Study Approach

The first phase involved the review of background documents and studies. An assessment of the Municipality's demographic profile and relevant trends in active transportation was also undertaken, in addition to a public engagement strategy, the formulation of an active transportation classification hierarchy, and establishing a vision and guiding principles to support the development of future trails and cycling routes. These inputs created a foundation for a community responsive Master Plan.

The second phase involved the identification of active transportation routes and key destinations, design guidelines, policy considerations, financial considerations, and an implementation strategy. All processes were then synthesized to create the Draft Master Plan for review by the Project Team and Council.

The Draft Master Plan was then published for public review in the third and final phase. A public open house was held to formally present the Draft Master Plan and receive comments prior to finalizing the Master Plan and presenting to Council to be received.

1.4 Report Organization

The Trails & Cycling Master Plan is organized into six sections as described below.

Section 1: Introduction

This section describes the purpose, methodology, and organization of the Master Plan.

Section 2: Community Context

This section examines several factors that may have implications on the provision of the trails and cycling network in Thames Centre, including a summary of the Municipality's community profile, trends in active transportation, documentation of existing trails and cycling routes, and existing policy framework, together with opportunities and constraints to be considered.

Section 3: Community Engagement

This section provides a summary of the consultation strategy undertaken for the Master Plan, which includes the opinions, preferences, and priorities of the general public, stakeholders, Municipal staff, and Council.

Section 4: The Active Transportation Network

This section contains the recommended active transportation network based on the inputs contained in previous sections.

Section 5: Active Transportation Development Toolkit

This section contains the technical building blocks for developing trail and cycling infrastructure, including a trail hierarchy, design standards, policies, and considerations for wayfinding, awareness, and network management.

Section 6: Implementation Strategy

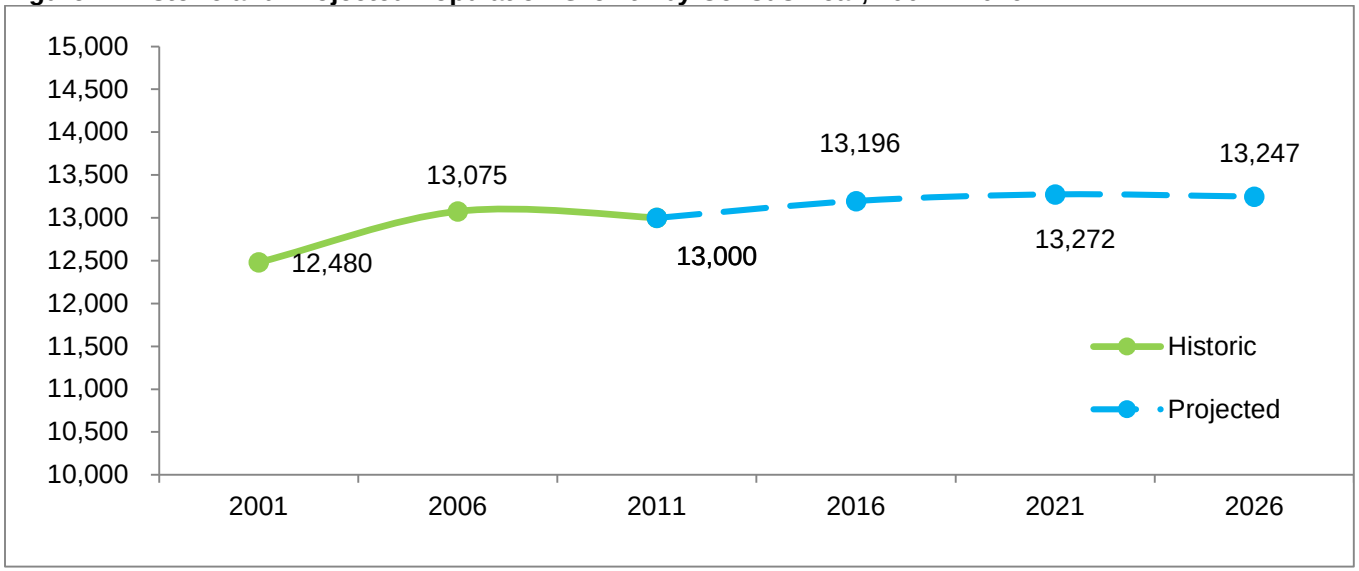
This section prioritizes the timing of trail and cycling recommendations contained in this Master Plan with implications on municipal resources, partnership opportunities, acquisition strategies, capital and operating estimates, potential funding sources, and processes for monitoring and updating the Master Plan.

2. COMMUNITY CONTEXT

2.1 Community Profile

Over the past decade, Thames Centre has experienced low population growth. Statistics Canada reported a 2011 population of 13,000 for the Municipality, a growth of 520 persons (4%) since 2001. Looking towards 2026, it is estimated that the Municipality will add another 247 residents, reaching a population of 13,247. While housing growth is expected to be strong, the population forecasts will be impacted by a declining persons per unit ratio (e.g., more empty nesters). It can be expected that most of this housing growth will be accommodated within the Municipality's two villages – Dorchester and Thorndale – as there are a number of subdivisions under construction or being considered in these areas. Nine hamlets are also scattered throughout the Municipality; however, given that these settlements are small and privately serviced, low growth is expected.

Figure 2: Historic and Projected Population Growth by Census Year, 2001 – 2026



Source: Statistics Canada, 2001, 2006, & 2011; Thames Centre Official Plan (2009).

Thames Centre's population is also aging. The number of residents over the age of 55 increased 35% between 2006 and 2011, a higher rate than the County (29%) and the Province (32%). All other age groups declined by 6% and 10%. Evidence of the Municipality's aging population is further illustrated by an increase in its median age from 41 to 44 years during the same time period. This finding aligns with national aging trends and it can be expected that Thames Centre's population will continue to age over the foreseeable future. Research has shown that older adults and seniors desire to remain active, resulting in greater demands for accessible recreation opportunities and active transportation linkages throughout the community.

The 2011 National Household Survey did not record residents' participation in walking or cycling for leisure, but it did evaluate residents' mode of transportation to place of work. Less than 4% of the Municipality's workforce utilizes non-motorized active transportation options (such as walking or cycling) to travel to work, which is lower than the County (7%) and the Province (6%). Unsurprisingly, a majority of the workforce travels to work by car as much of the workforce is employed in adjacent municipalities such as the City of London. While the Municipality's trails and cycling routes are generally utilized for leisure or non-work related utilitarian uses (such as connecting to commercial or institutional uses such as schools), an opportunity exists to increase work-related utilitarian travel through the extension of trail and cycling routes into local and regional employment areas.

2.2 Trends in Active Transportation

Regional and national trends are commonly interpreted to supplement local data and input to establish an understanding of what may occur with respect to active transportation needs in Thames Centre over the planning period and beyond. This section explores a broad range of trends that have been observed across the Province and their implications on the Municipality's active transportation system.

Physical Inactivity

Mounting research has revealed a growing trend in physical inactivity. This can be linked to a number of factors such as busy lifestyles that are centred on vehicular transportation and an increasing array of passive choices for leisure. The latter is particularly relevant to the demise of physical activity during this digital age, resulting in a dominance of sedentary activities. The

Health studies reveal that Canadians who are not getting an adequate level of physical activity are more likely to lead unhealthy lifestyles, resulting in an increased risk of obesity and other health problems. By contrast, studies report that those who regularly use active transportation for recreational or utilitarian purposes are generally healthier and are at a reduced risk of obesity and other diseases.[2]

Canadian Physical Activity Guidelines recommends that children and youth get a minimum of 60 minutes of moderate to vigorous physical activity per day, as well as 150 minutes per week for adults and older adults. Research has shown, however, that 85% of adults and 93% of children and youth are not meeting these minimum guidelines.[3] Locally, Statistics Canada reported that in 2013, 46% of the population over the age of 12 within the area governed by the Middlesex-London Health Unit was moderately active, which is a decline from 54.5% in 2012 and considerably lower than the Provincial average (54.2%), which suggests that Thames Centre's residents are generally less physically active compared to the rest of Ontarians.[4] Implementing programs that encourage active participation will provide an opportunity to curb declining physical activity rates in Middlesex County and facilitate long-term improvements in physical activity levels. Encouraging local governments and community partners to promote a healthy lifestyle through affordable recreation opportunities such as a connected trail network is an effective solution for combating obesity and physical inactivity at all age levels. For example, a number of municipalities have undertaken Master Plans to guide the development of a cohesive active transportation network. Most recently, it is recognized that the County of Middlesex is currently in the process of initiating a County-wide Cycling Strategy to connect lower-tier municipalities together and with the City of London. The Middlesex-London Health Unit has also been actively involved in promoting physical activity by introducing supporting policies that can also be integrated within municipal documents, collaborating with community stakeholders to prioritize physical activity, and developing other partnerships for action. A group consisting of the Health Unit and several local municipalities within Middlesex County – known

[2] Middlesex-London Health Unit. (2013). Healthy city / Active London.
[3] R.C. Colley, D. Garriguet, I. Janssen, C.L. Craig, J. Clarke, M.S. Tremblay. (2011). Physical activity of Canadian children, youth, and adults: Accelerometer results from the 2007 to 2009 Canadian Health Measures Survey. Health Reports 22(1):7-24.
[4] Statistics Canada. Canadian Community Health Survey. Health indicator profile, annual estimates by age group and sex (Comparison between Ontario and Middlesex London Health Unit).

as the Middlesex Active Community Partnership – was recently formed with the objective of increasing physical activity levels through enhancing structured and non-structured opportunities for active living. This partnership is a natural extension for those municipalities (including Thames Centre) that have endorsed the international Toronto Charter for Physical Activity.

Active Transportation

Active transportation forms a critically important part of an efficient and sustainable transportation system by reducing the number of motorized vehicles on the road, which in turn reduces road congestion and greenhouse gas emissions, consumption of land required for road-based infrastructure, as well as the amount of capital expended on road construction and maintenance. In addition to economic and environmental benefits, there are many other inherent benefits to active transportation, particularly when it comes to the human body. Emerging research has found that active transportation can combat symptoms of depression and anxiety, as well as chronic diseases and obesity. Active transportation has also been found to heighten community and social vibrancy by encouraging compact developments and more livable communities where people are more likely to have personal contact with each other. All these benefits can provide significant contributions to an improved quality of life for Thames Centre's residents.

Opportunities for active transportation are largely dependent on the proximity between residential areas and destinations such as commercial, recreational, institutional, and employment areas. Research has shown that residents in rural areas are less likely to use active transportation methods given the spatial distribution of destinations and the lack of supporting infrastructure (e.g., sidewalks), resulting in a greater reliance of automobiles. By contrast, urban residents are more likely to choose non-motorized forms of transportation in high density areas, particularly where driving and parking may be more difficult. Urban areas also tend to have a greater presence of pedestrian infrastructure such as sidewalks and cycle lanes, destination routes, and walkable neighbourhoods. Regardless of geographic characteristics, maximizing necessary infrastructure that facilitates safe, comfortable, and convenient usage can further enhance active transportation opportunities.

Multi-Use Trails

Providing an interconnected active transportation network is an important component of human health and ecological function. Linking destinations with a network of multi-purpose trails, sidewalks, cycling routes, and roads provides choices for people to travel to these areas while creating infrastructure for commuter, utilitarian, and recreational uses.

Trails are amongst the most desired features in a community, especially in new subdivisions, and are best established (or designated) prior to home construction to heighten awareness. Multi-use pathways are a cost-effective method to increase physical activity levels, of particular importance given the lack of physical activity across Canada. Not only do trail pathways support positive interaction between the community and the natural environment to facilitate recreation activities, they provide links between destinations and, in many cases, provide alternative commuting means if strategically linked to key employment areas.

Universal Design and Safety

The *Accessibility for Ontarians with Disabilities Act (A.O.D.A.), 2005,* maintains that all Ontarians should have an equal opportunity to participate in the community, regardless of their ability. As a result, the A.O.D.A. requires that municipalities design new and redeveloped recreational trails (as well as sidewalks and boardwalks) to meet accessible standards (where possible), incorporating design elements including, but not limited to, appropriate grade, surface material, width, and cross-slopes, as well as the need to consult with persons with disabilities and the local Accessibility Advisory Committee.[5]

While it may be impractical to ensure that all recreational trails are accessible (nature trails are largely exempt, as are trails that are in place prior to 2016), the development of accessible trails can be focused in locations where high levels of utilization are anticipated and the terrain is suitable. Such locations may include trail spines, park trails, and other high volume routes near residential areas. In addition, experiences in other communities suggests that the development

[5] Passo, M., Accessible Trails. National Trails Training Partnership. 2007. Retrieved from http://www.americantrails.org/resources/accessible/SustainPpasso.html

of supporting amenities (such as washrooms, rest areas, parking, wayfinding signage, etc.) may encourage usage, regardless of age or ability.

There are also a number of challenges with encouraging active transportation choices, not the least of which is Ontario's highly varied climatic and weather conditions. Whether in the form of rain, snow, or extreme heat or cold, people's choices will differ particularly if active transportation routes are not designed for multiple seasons (particularly spring, summer, or fall) or are not adequately shielded from the elements. Other barriers include the convenience factor of using a car (e.g., time saved, ability to easily load and transport goods, etc.) and a lack of connectivity and infrastructure (e.g., lack of bicycle routes or bike racks, unconnected or unmaintained pathways or sidewalks, absence of comfort amenities such as shade or benches, and simply the fact that communities tend to be designed with the perspective of automobile use). It is also important to recognize that persons with health issues or disabilities might not choose active transportation due to their physical limitations, thus accessibility must be a central consideration in design.

Trails can be designed with users' safety in mind through the application of C.P.T.E.D. (Crime Prevention Through Environmental Design) and other design principles. High volume areas should be well lit and low visibility areas should be limited, thus discouraging undesirable users and activities. Maintenance of municipal trails is now accepted in the industry as a key component of perceived "safety" and in deterring inappropriate behaviour.

Cycling Safety

Cycling is a popular physical activity that is pursued by many Canadians. A 2013 Ontario Ministry of Transportation survey found that over 10% of the adult population rides a bicycle daily outside of the wintertime, and 25% ride at least once a week. However, the primary deterrents to cycling are concerns over safety and a lack of infrastructure. The *Ontario Highway Traffic Act* considers bicycles as on-road vehicles, requiring cyclists to obey all traffic laws as other road users. This raises many issues among the cycling community as many cyclists are not comfortable with road-cycling, citing safety concerns, particularly along high volume County Roads. Safety concerns have also been raised by motorists who encounter large groups of cyclists, along rural roads throughout Middlesex County, including those within Thames Centre.

Some communities have alleviated these issues through the provision of dedicated on and off-road cycling lanes or paved shoulders, which are particularly effective to support urban commuting as well as recreational riding. The recently published Ontario Traffic Manual Book 18: Bicycle Facilities outlines guidelines for the design and construction of cycling infrastructure and is a useful resource for local municipalities. However, many municipalities, particularly rural communities, may not have the resources or land to implement this type of infrastructure. The Municipality of Thames Centre currently has one cycling lane along the south side of Byron Avenue, although it is not designed to any specific standard and the public has identified that this lane often conflicts with on-street parking.

Programs are available to encourage safe road cycling such as the Share the Road Signage Pilot Project. Launched in 2008, this program was designed to achieve three main goals: to enhance access to roads and trails for cyclists; to improve safety of cyclists; and to educate cyclists and drivers on the importance of safe cycling for healthy lifestyles and communities. This program has been spearheaded locally by Middlesex-London Health Unit, Middlesex County, Middlesex Centre, London Middlesex Road Safety Committee, and Healthy Communities Partnership.

Most recently, the County has supported this project and has installed Share the Road signage along selected County roads near the Middlesex Centre Wellness and Recreation Complex and the western periphery of the City of London to alert road users to practice safe road-sharing etiquette. This pilot project utilized several tools to engage the public in creating cycling awareness, including online surveys, signage, social media, and cycling counts. An evaluation of the project found a greater need to continue educating cyclists and drivers about the *Highway Traffic Act*, additional infrastructure improvements, and enforcement of the *Highway Traffic Act*. There are currently no Share the Road Signage in Thames Centre; however, it is clear that the County and its community partners are open to creating a more bike-friendly community.

Supporting Comfort Amenities

Ensuring that active transportation networks provide attractive and comfortable experiences to the user is paramount in ensuring successful utilization and attracting users. The presence of informative signage and attractive trail head features is the first impression that a user will have of the trail and trail system as a whole. Without proper signage, trail users may be confused

about their direction and divert from municipal lands. Signs develop a sense of place and, combined with good urban design, can create unique districts and foster aesthetic development. They also provide interpretive information that connects a user to the trail and may encourage the person to take further interest in their surroundings, including environmental stewardship initiatives. A good sign is clear, attractive, and designed in the context of its surroundings.

An effective network typically incorporates a number of convenience and comfort-based features at strategic locations along major routes and at trail heads. Users might be looking for amenities such as natural landscaping, shade, benches, bathrooms and rest areas, fitness equipment, and pavilions.

The provision of parking is also a convenience that many residents look for in accessing parks and trails, though parking is best suited for locations that are more intensively used, such as those containing parks, community centres, or multiple sports fields. For example, the provision of parking lots to serve neighbourhood and some community level trails may not be necessary given that these routes serve a smaller catchment area and tend to be walkable. The provision of parking at these locations may be counterproductive to goals which instead promote active transportation. Parking, however, may be necessary for higher volume trail and cycling routes serving a Municipal-wide or regional scale which are drive-to destinations. The presence of supporting amenities are found along many of Thames Centre's trails, such as trail head signage, seating, and parking, although the quality and condition of the available amenities vary by each location.

2.3 Local Active Transportation Inventory

Over 45 kilometres of municipal trail and cycling routes are found in the Municipality of Thames Centre. This total includes over 10 kilometres of off-road trail sections, over 24 kilometres of paved sidewalk and walkways, 8 kilometres of paved shoulder, and nearly 800 metres of on-road walking routes. One kilometre of cycling lane is also located in Dorchester along the south side of Byron Avenue.

In addition to the trails and cycling routes described in this section, the Fanshawe Conservation Area provides nearly 30 kilometres of biking and hiking trails, of which approximately 16 kilometres of trails are located within Thames Centre as the Conservation Area straddles the

boundary between the Municipality and the City of London. Private trails provided by the Thames Valley Trails Association and several undocumented / informal trails are also located in the Municipality. The recommendations emerging from this Master Plan will primarily focus on municipal trails and cycling routes.

The majority of Thames Centre's off-road walking trails are located in Dorchester, many of which form the spine of the Community Trail. The Community Trail was formed in 2002 and extends from the Thames River Fishing Hole in the west to the Dorchester Fair Grounds in the east, with several gaps in between. Some of the key trails that make up the Community Trail are described below.

Mill Pond Trail

The Municipality's most prominent and longest trail is the Mill Pond Trail in Dorchester. Owned by the Upper Thames River Conservation Authority and managed by the Municipality with the assistance of the Mill Pond Committee, this 3.5 kilometre trail loop provides users with picturesque views of the pond. A range of walking surfaces and widths are found along this trail including natural, granular, mulch, and some boardwalk areas. Given that the trail follows the natural terrain, some portions of the trail may be challenging to some users. Trail heads and access points are located at Mill Road, Wheeler Avenue, Hamilton Road, and Byron Avenue.

Several signs exist along the trail, including an interpretive wayfinding sign, and a sign of permitted uses, which includes canoeing, dog walking, walking and hiking, fishing, and picnics. Cycling is specifically prohibited. At the time of visit, trail head signage did not exist at the west or south access points from Mill Road. The presence of bollards was also observed at particular

Table 1: Existing Active Transportation Network

Municipal Trails		
Type		**Length (m)**
Off-Road Trails	Conservation Area Trail	541
	Harry Small Trail	840
	Lions Trail	729
	Mill Pond Trail	3,542
	Outdoor Sports Complex	652
	Sewage Treatment Plant Road	389
	Two Schools Trail	633
	Valleyview Crescent	188
	Valleyview II Trail	1,052
	Various Park Trails	2,232
	Weaver Trail	234
	Off-Road Trail Sub-Total	**11,033**
On-Street Trail		759
Sidewalk / Paved Walkway		24,213
Paved Shoulder		8,238
Cycling Route		1,008
	Municipal Sub-Total	**45,250**
Non-Municipal Trails		
Fanshawe Conservation Area*		15,914
	Non-Municipal Sub-Total	**15,914**
	Total	**61,164**

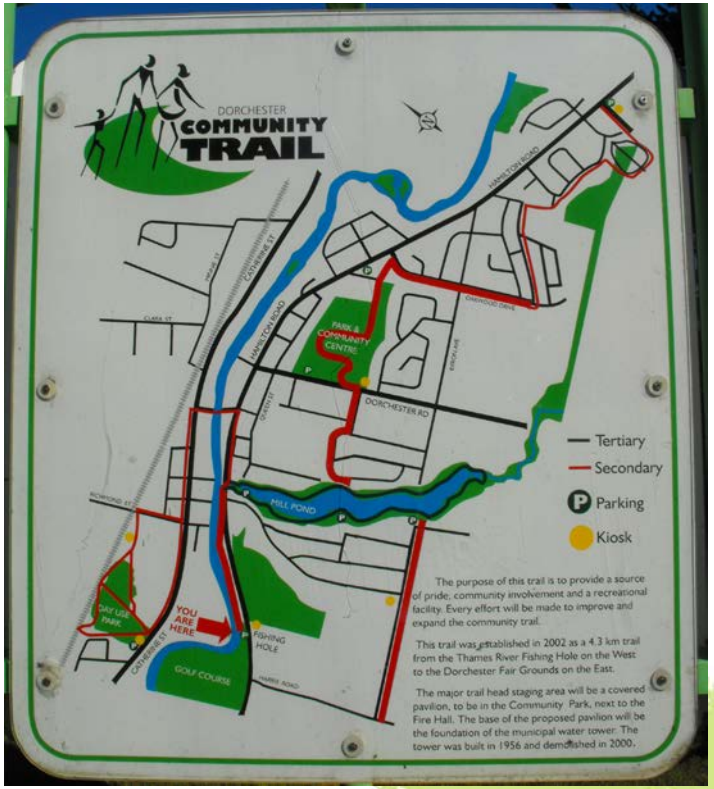
Note: The balance of trails is located within the boundaries of the City of London.

points along the trail to prevent prohibited uses and motorized vehicles from using the trail; however, this may be limiting to persons with disabilities.

Valleyview II Trail

The Valleyview II Trail is the Municipality's second longest trail, measuring over 1.0 kilometre in length. This natural trail is located in the southeast area of Dorchester, traversing behind a number of single detached residential dwellings along Forest Grove Crescent and Woodvale Drive. The trail is accessible from a small park along Woodvale Drive, which offers a small playground. This trail also links to the Sewage Treatment Plant Road Trail along the westerly perimeter of the Dorchester Fair Grounds, connecting to Hamilton Road.

The trail width varies between three and four feet, although it is much more narrow in certain areas due to vegetation overgrowth. Bollards are located at the access points along the trail to prevent prohibited uses; however, they may be restrictive to persons with disabilities.



Harry Small Trail

Harry Small Trail is the Municipality's newest trail, which connects users from Christie Drive to the new Field of Dreams outdoor recreation complex. This trail supports both pedestrian users and cyclists, although bollards at the Christie Drive entrance may be restrictive to some users, such as persons with disabilities. The trail primarily has a granular walking surface, although a boardwalk exists towards Harris Road.

Figure 3: Existing Trails and Cycling Routes - Dorchester

Catherine Street Day Park Trail

Two Schools Trail

Lions Trail

Mill Pond Trail

Harry Small Trail

Weaver Trail

Valleyview II Trail

RICHMOND ST
MARION ST
NEWTON AVE
SHAW RD
HAMILTON CRES
LEWIG ST
RON-ALLEN DR
ELIZABETH DR
ERIC DR
LINWOOD DR
AMBER DR
IDA ST
CLARA ST
NORTH ST
VILLAGE GATE CRES
VILLAGE GATE DR
EVA ST
MINNIE ST
HARRIS ST
SHEILS LANE
ROSS AVE
CARL ST
DAVID ST
PATRICIA AVE
CHARLES ST
HILL ST
BRIDGE ST
CATHERINE ST
DALE DR
MAPLE CRES
QUEEN ST
JANE ST
ANN ST
ELIZABETH ST
CALVERT PL
ALMA ST
THAMES CRES
CARLETON CRT
THE PARKWAY
CANTERBURY DR
HUNTINGTON CRES
OAKWOOD PL
CHITTICK CRES
OAKWOOD DR
SHERWOOD CRES
BYRON AVE
PINEHURST DR
PARKVIEW DR
MILL CRT
WHELER AVE
TURNER AVE
MITCHELL AVE
MITCHELL CRT
TURNBERRY DR
RINESS DR
QUAIL RUN DR
VALLEYVIEW CRES
MANLEY DR
MAPLERIDGE CRES
WOODVALE DR
FOREST GROVE CRES
FOXHOLLOW DR
HAMILTON RD
DORCHESTER RD
MILL RD
HARRIS RD
FERRAR RD

Legend

- Off Road Trail
- Sidewalk / Walkway
- Paved Shoulder
- On Street Trail
- Cycling Route
- Settlement Area Boundary (OPA No. 12)
- Municipal Property
- Conservation Authority Lands
- County Lands
- Trail Head Kiosk
- Parking
- Recreation Centre
- Library
- School
- Commercial Area
- Active Rail line

Data Provided by the Municipality of Thames Centre. Prepared by Monteith Brown Planning Consultants.
Note: OPA No. 12 awaiting County approval at time of writing.

N

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0 0.25 0.5 1 Kilometres

Figure 4: Existing Trails and Cycling Routes - Thorndale

Legend

- Sidewalk / Walkway
- Settlement Area Boundary (OPA No. 12)
- Municipal Property
- Parking
- Recreation Centre
- Library
- School
- Commercial Area
- Active Rail line

Data Provided by the Municipality of Thames Centre. Prepared by Monteith Brown Planning Consultants.
Note: OPA No. 12 awaiting County approval at time of writing.

SLAMMER TRAIL
ELLIOTT TRAIL
BROOKER TRAIL
TEMPERANCE ST
HARRISON ST
THORNDALE RD
KING ST
NISSOURI RD
AGNES ST
MARIA ST
LIONS LANE
UPPER QUEEN ST
RAILWAY ST
MAIN ST
HUESTON DR
MONTEITH AVE
FAIRVIEW RD
COUNTRYSIDE LANE
PARK LANE
MEADOWBROOK LANE

N

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0 125 250 500 Metres

2.4 Existing Policy Framework

Policies that support the development of active transportation infrastructure can be found in a number of key guiding documents. This section explores key active transportation policies that are pertinent to the development of this Master Plan.

Ontario *Planning Act*

The Ontario *Planning Act* contains policies regarding matters of provincial interest with respect to land use planning, including how land is used and controlled. With respect to the development of active transportation infrastructure in communities, section 51 of the *Planning Act* allows municipalities to require the dedication of land for the development of pedestrian and bicycle pathways as a condition of plan of subdivision approval. This tool ensures that communities have access to non-vehicular modes of transportation that connect residents within neighbourhoods as well as with adjacent communities and destinations.

Provincial Policy Statement (P.P.S.)

The 2014 P.P.S. (*Provincial Policy Statement*) is a land use planning document that provides policy direction on land use planning to support the development of strong, vibrant communities. Policies contained in the P.P.S. that have regard for active transportation include:

1.4.3 *Planning authorities shall provide for an appropriate range and mix of housing types and densities to meet projected requirements of current and future residents of the regional market area by:*

d) *promoting densities for new housing which efficiently use land, resources, infrastructure and public service facilities, and support the use of active transportation and transit in areas where it exists or is to be developed*

1.5.1 *Healthy, active communities should be promoted by:*

a) *planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity*

b) planning and providing for a full range and equitable distribution of publicly-accessible built and natural settings for recreation, including facilities, parklands, public spaces, open space areas, trails and linkages, and where practical, water-based resources

1.6.6 Public service facilities should be co-located in community hubs, where appropriate, to promote cost-effectiveness and facilitate service integration, access to transit and active transportation.

1.6.7.4 A land use pattern, density and mix of uses should be promoted that minimize the length and number of vehicle trips and support current and future use of transit and active transportation.

Municipality of Thames Centre Official Plan and Official Plan Amendment No. 12

Guided by the *Planning Act*, an Official Plan is a policy document that directs how land in a municipality is used over an established planning horizon, including direction on where new growth should be located and what community services are needed to serve emerging areas. Amendment No. 12 was completed as a part of the 5 Year Comprehensive Review to Thames Centre's Official Plan. This amendment was adopted by Council on October 6th, 2014; however, it is not yet in force and effect until approved by Middlesex County. Several policy changes were advanced to align with the 2014 Provincial Policy Statement and County Official Plan, and to respond to new development issues in the Municipality.

Relevant changes to the Official Plan were made to promote active transportation. Section 1.5 of the Official Plan describes the Plan's purpose and was amended to indicate that the Official Plan establishes policies that support active transportation choices for pedestrians and cyclists, including the development of a municipal-wide trails system and regional cycling route network. Section 1.10 (identifies issues and general land use strategies) was also revised to indicate that *"development should be designed in a manner which promotes safe, convenient, and attractive transportation options for pedestrians and cyclists within, and where feasible, between settlement areas."*

To align with the *Planning Act*, revisions to Section 2.26 on plans of subdivision and condominium now allow the Municipality to require the dedication of lands for the provision of pedestrian pathways and bicycle paths, consistent with the *Planning Act*.

Section 5.11 and 5.12 on trails and bicycling were also replaced with the following policy:

> *"5.11 Walking Trails and Cycling Paths*
>
> *Walking and cycling are recognized as active transportation modes that serve not only as popular recreational activities, but also as a means of purposeful transportation that is affordable and accessible for most of the population. The development, connection, and enhancement of trails and pathways for walking and cycling shall be encouraged as part of the development approval process, ongoing capital works, and community-sponsored initiatives. Design criteria and proposed routes may be established from time to time within a trails and cycling master plan."*

For greater clarity, the Amendment defines active transportation as:

> *"Any human-powered mode of transportation, including purposeful and recreational travel. Infrastructure for active transportation includes, but is not necessarily limited to, sidewalks, off-road trails, pathways, bike lanes, paved shoulders, and supporting amenities."*

Lastly, the site plan control policies in Section 7.6 were also revised to permit the Municipality to require sustainable design elements on an adjoining street or highway under municipal jurisdiction, including sidewalks, trails, pathways, and associated amenities to improve streetscapes in the urban settlement areas of Dorchester and Thorndale.

Accessibility for Ontarians with Disabilities Act (A.O.D.A.)

The *Accessibility for Ontarians with Disabilities Act* was enacted in 2005 to remove accessibility barriers in public and private spaces in the Province. This is achieved by *"developing, implementing, and enforcing accessibility standards in order to achieve accessibility for Ontarians with disabilities with respect to goods, services, facilities, accommodation, employment, buildings, structures and premises on or before January 1, 2025."* The A.O.D.A. also requires that groups including persons with disabilities, government agencies, and other organizations be involved in decision making processes. The A.O.D.A. establishes accessibility standards for five key areas – customer service, employment, information and communications, transportation, and the design of public spaces. As required by the Act, the Municipality has established an accessibility policy to express their commitment to providing accessible services. An Accessibility Advisory Committee and Accessibility Plan have also been jointly developed with Middlesex County and lower-tier municipalities to identify opportunities to remove accessible barriers to meet the requirements of this legislation.

By 2016, Thames Centre is required to meet the requirements of the Design of Public Spaces Standards (D.O.P.S.) under the Integrated Accessibility Standards (I.A.S.). These regulations identify the standards that the Municipality must abide by for the design and construction of new or redeveloping recreational trails or exterior paths of travel. The A.O.D.A. articulates that trails that fall within the scope of these standards include public trails that are intended for recreational and leisure purposes, exclusive of trails provided specifically for other uses such as cross-country skiing, mountain biking, equestrian, motorized recreational activity vehicles, wilderness and backcountry trails, and portage routes.

Standards for the design and construction of recreational trails and pathways are described in Section 80.6 of the I.A.S., which includes standards for a variety of trail considerations such as width, slope, cross slope, clearance height, amenities, and more. Section 80.21 of the I.A.S. outlines the standards for the design of exterior paths of travel such as sidewalks. It is also articulated that prior to construction, municipalities must consult with the public, persons with disabilities, and the Accessibility Advisory Committee during the decision making process. These standards have been taken into consideration in the preparation of the Active Transportation Development Toolkit described in Section 5.0 of this Master Plan and should be

used in conjunction with other standards and guiding documents such as the Ontario Building Code and Ontario Traffic Manual: Book 18.

2.5 Opportunities and Constraints

Through site investigations and findings from the public engagement, a number of preliminary opportunities and constraints were identified in connection with the development of the Municipality's active transportation network. The following opportunities and constraints are presented in no particular order and are explored further in subsequent sections of this Master Plan.

Key Opportunities

- Build upon the existing Dorchester Community Trail by addressing gaps and enhancing opportunities. Extend Community Trail branding to other sites as the network expands.
- Enhance accessibility of the Dorchester Community Park Trail to align with the expanding role of the Flight Exec Centre as a home-base for Paralympic sports.
- Connect residents to key destinations such as schools and commercial areas, recreational facilities including the Field of Dreams sports park, SloPitch City, and Thorndale Community Park, and trails provided by other community partners such as the Fanshawe Conservation Area.
- Link Dorchester and Thorndale and connect to adjacent municipalities, including the City of London and Counties of Oxford and Elgin.
- Identify safe cycling routes along roads with low traffic volume such as Fairview Road and Shaw Road.
- Formalize a trail through the Wye Creek Woodlot, behind St. George's Anglican Church in Thorndale.
- Connect the Valleyview II Trail with the Mill Pond and Harry Small Trail in Dorchester.
- Identify future trails and connection possibilities within draft and future plans of subdivisions.

- Establish policies, guidelines, and standards for the future planning, design, construction, and management of trails and cycling infrastructure.
- Coordinate with Middlesex County on the development of a County-wide Cycling Strategy.
- Form partnerships with service clubs and volunteer organizations for the development and/or management of trails.

Key Constraints

- Lack of appropriate active transportation amenities such as signage, seating, shade, etc., as well as accessible trails for persons with disabilities.
- The geographic location of Dorchester and Thorndale presents spatial challenges in linking communities together as well as with adjacent municipalities.
- Non-contiguous municipal / public land ownership along desired trail corridors. Non-municipal and informal trails located on private lands may be hazardous and unsafe, and may also result in conflicts between land-owners and trail users regarding access and liability.
- Crossing uncontrolled county roads such as Dundas Street, Hamilton Road, Dorchester Road, and Thorndale Road.
- Pedestrian crossings at railway lines in Dorchester and Thorndale, as well as along several narrow bridges in the Municipality.
- Steep slopes and environmental hazards on various public and private lands including along the Thames River in Dorchester.
- Limited financial resources and lack of a prioritized implementation strategy.
- Road safety for cycling and the incremental / piecemeal nature of public works projects as they relate to the establishment of cycling lanes.
- Inconsistent trail construction and management standards; some trails are becoming overgrown.

3. COMMUNITY ENGAGEMENT

A Community Engagement Strategy was crafted to guide the Master Plan's consultation efforts. Input from Thames Centre residents, Municipal staff and Council, and community partners was crucial in the preparation of the Master Plan as it provided ground-level insights into local active transportation needs. The consultation process was initiated by a page hosted on the Municipality's website that was dedicated to raising awareness about the Master Plan, receiving feedback, sharing information with the public, and identifying opportunities for the public to become involved. The key themes collected from each engagement session are summarized below. A public open house was also held at the end of the process to present the Draft Master Plan to the public and receive comments.

3.1 Community Open Houses

Two Community Open Houses were held on November 4th and 5th, 2014 in Thorndale and Dorchester, respectively. The purpose of these Open Houses was to solicit input from the community on what they think about trails and cycling in Thames Centre, where new trails and cycling routes should go, and other factors that should be considered in developing the Master Plan. The Open Houses were informal events with display boards describing the Master Plan process, background on the Municipality, mapping, and questions for attendees. Overall, over 30 people attended the events to provide their input, which is summarized in this section. A more detailed transcription is contained in Appendix A.

Existing Trails in Thames Centre

Participants enjoy a variety of trails in Thames Centre for recreational cycling, family gatherings and children's activities. The Fanshawe Lake Trails (U.T.R.C.A.) for example were noted as great trails for cycling, while the Wye Creek Trail was perceived as a suitable location for picnics and for small children. The Mill Pond Trail is also widely known and enjoyed.

With respect to improving existing trails, participants stated that the Valleyview II Trail was overgrown at certain portions and required additional maintenance work, while the bollards at access points for some trails were expressed as a barrier for persons for disabilities. It was noted that some sections of Mill Pond Trail were too narrow and hazardous along the pond. Additionally, the Two Schools Trail was identified as being too steep and rough for all users to enjoy.

Planning for New Trails and Cycling Routes

Many participants indicated that linkages to existing trails and communities (e.g. Fanshawe Lake Trails, Thorndale to Dorchester, etc.) should be a factor in selecting potential trail and cycling routes. They also suggested reducing the need for automobile commuting by having a cycling network that allows residents to bike to work. To this end, there were additional comments that called for paved shoulders and parallel bike lanes to encourage cycling.

Future Trails and Cycling Routes in Thames Centre

Residents pointed to the need for an improved trails system, which included enhancements to the wayfinding system, lighting, paved surfaces, parking provision, and additional linkages to existing trails. There were also suggestions for an online database to promote awareness of trails in Thames Centre.

Meeting participants were encouraged to draw potential trail and cycling routes on the maps provided. Many wanted to see connections between settlement areas and developing / future subdivisions. Others proposed specific routes that sought to expand on or connect existing trails, often across private lands. All input has been considered as part of this evaluation of future trail and cycling routes.

3.2 Online Community Survey

As a part of the Master Plan, an Online Community Survey was available through the Municipality's website during October and November 2014. The survey collected information regarding the use of trails and cycling routes within and outside of Thames Centre, as well as their preferences, opinions, and priorities for active transportation in the Municipality. A total of 71 surveys were completed and analyzed.

This Section contains a summary of principal findings from the survey. A detailed summary of all responses can be found in Appendix B. Given that this was a self-administered survey and was not a random sampling of the Municipality, the results are not statistically significant, although the data collected contributes to a greater understanding of existing trail and cycling conditions in Thames Centre. Where applicable, incomplete responses or those that indicated "Don't Know" were removed from the results.

Trail Usage

Over the past 12 months, 63% of survey respondents indicated that at least one member of their household used an off-road trail in Thames Centre. 23% of trail users used Municipal trails a few times a year, while 21% used trails almost daily, 19% once a week, and 19% a few times a month. The most popular trail activities were:

- Walking (88%)
- Cycling (51%)
- Hiking (33%)
- Jogging (28%)
- Cross-country skiing (9%)
- Motorized uses (7%)

Among the 37% of respondents who indicated that they have not used trails, the most common barrier that prevented their household from using trails in the Municipality was:

- There are no trails in their area (63%)
- The trails do not connect to their destinations / they were not convenient (36%)
- No interest in using trails / cycling routes (5%)
- Trails lack the amenities they desire (5%)

Nearly four-fifths (79%) of respondents indicated that their household uses trails outside of Thames Centre, although not very frequently. Nearly two-thirds (62%) of these trail users indicated that they use trails outside of the Municipality a few times a month or less, typically for walking (73%) and cycling (65%). Respondents use of trails outside of Thames Centre was for the following reasons:

- Variety (53%)
- Looped or connected (51%)
- Nature appreciation (49%)
- Longer (43%)
- Closer to home (24%)
- Better surfacing (24%)
- Friends or family in the area (18%)
- Closer to work or shopping (8%)

Cycling

More than two-thirds (68%) of survey respondents indicated that one or more members of their household used roads or streets in Thames Centre for cycling within the past 12 months. Cycling users identified that they typically use them once a week (37%) or a few times a year (21%). Some respondents also use them on a daily basis (21%). The majority of these respondents indicated that they cycle for:

- Fitness or recreational purposes (93%)
- Nature appreciation (40%)
- Short trips, errands, visiting (35%)
- Access parks (21%)
- Go to work (7%)
- Go to school (7%)

Of the respondents who indicated that they have not cycled within the past 12 months (32%), the most common barriers were:

- They have no interested in cycling (50%)
- There are no cycling routes in their area (22%)
- They do not feel safe using the cycling routes (22%)
- The cycling routes do not connect to their destinations / they are not convenient (11%)
- The cycling routes lack the amenities they desire (6%)

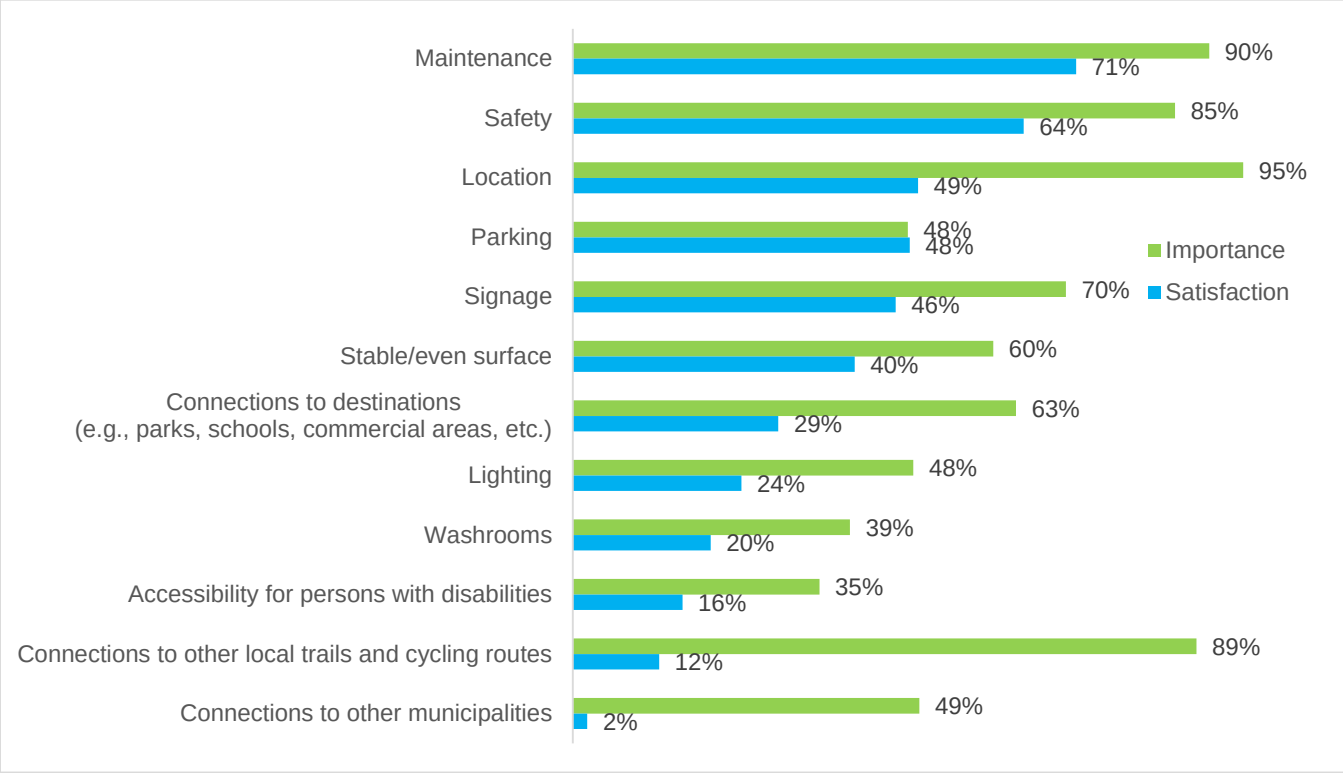
Nearly half (47%) of survey respondents indicated that they cycle outside of the Municipality. Most of these respondents indicated that they cycle outside of Thames Centre once a week (37%) or a few times a year (33%). The most common reasons for cycling outside of the Municipality were:

- Variety (53%)
- Longer routes (50%)
- Looped or connected routes (50%)
- Better surfacing (47%)
- Nature appreciation (40%)
- Feel safer (20%)
- Friends or family in the area (17%)
- Closer to my home (13%)

Satisfaction and Priorities for Trails and Cycling

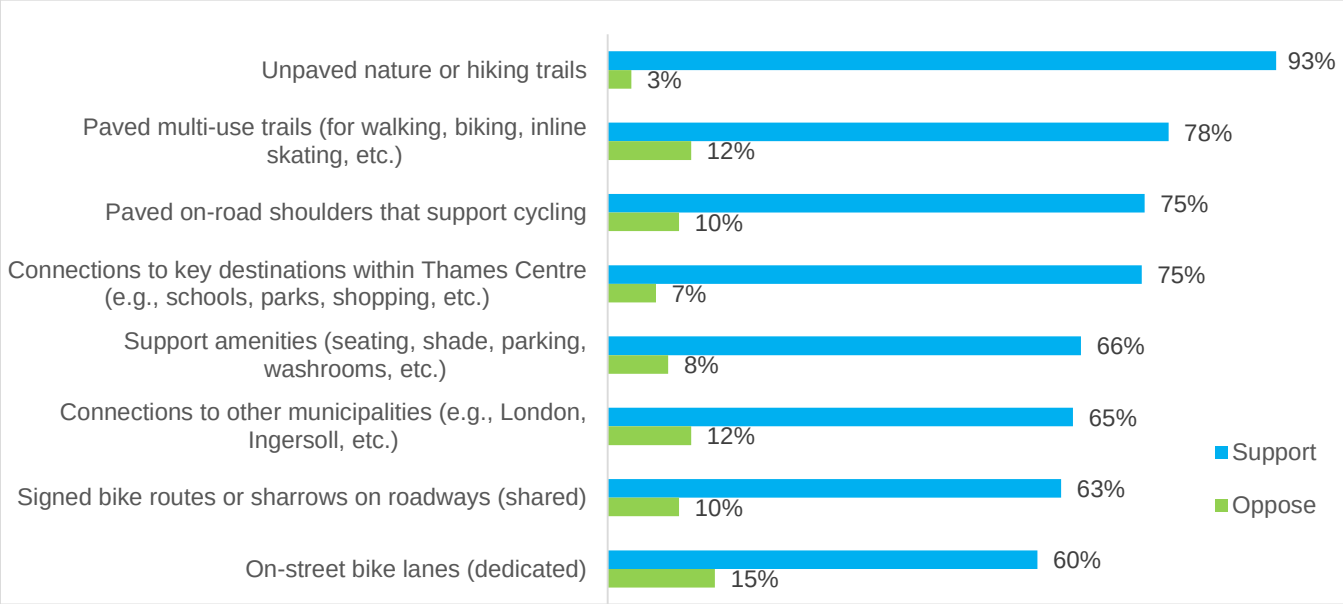
Respondents were asked to rate their level of importance for certain trail and cycling features, followed by their level of satisfaction with the trail and cycling features found in Thames Centre. As illustrated in the following figure, respondents' level of importance was higher than their level of satisfaction for every type of feature found in the Municipality (with the exception of parking**). This suggests that the existing trails and cycling routes in Thames Centre are not meeting respondents' expectations.** The most notable gaps are the lack of connections to the active transportation network and the location of existing trails and cycling routes. The following sections of this Master Plan will consider opportunities to enhance these features as a part of Thames Centre's active transportation network.

Figure 5: Importance and Satisfaction of Trail and Cycling Features



When respondents were asked to rate their support for spending additional public funds on improving or developing trail and cycling features in Thames Centre, the features that received the most support are summarized in the following figure. **If new off-road trails were developed in Thames Centre, a majority of respondents (95%) indicated that they would be likely or very likely to use them.** Longer trails (10 kilometres or more) were the most preferred length, although trails between two and nine kilometres in length were also desirable.

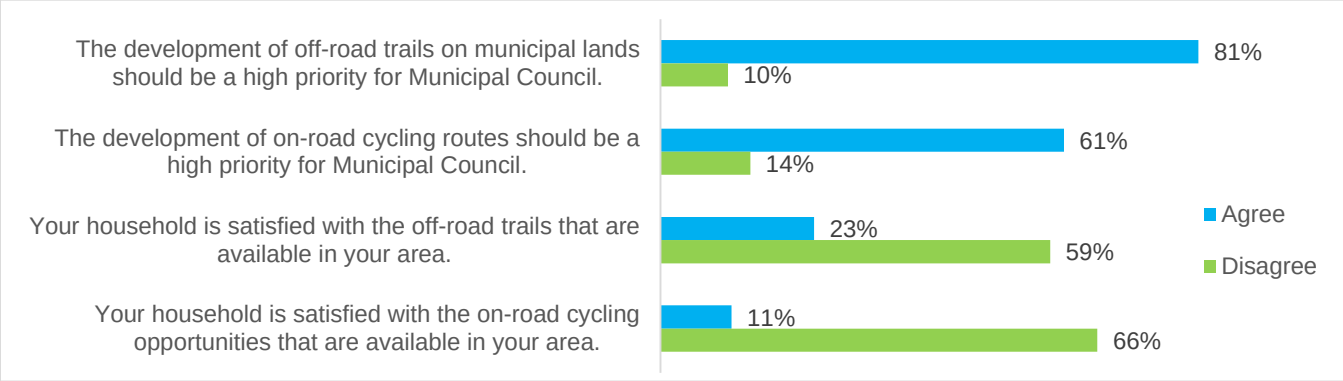
Figure 6: Support for Additional Public Spending for Improving or Developing Trail and Cycling Features



Three-quarters of respondents also supported additional spending for paved on-road shoulders for cycling. Signed bike routes (63%) and dedicated cycling lanes (60%) received the lowest support, which may suggest that these features are lower priorities at this time. If new cycling routes were developed the Municipality, two-thirds of respondents indicated that they would be very likely or likely to use them; however, 20% expressed that they would not use them at all.

As a final question, respondents were asked to rate their level of agreement with a number of statements, the results of which are summarized in the following figure. The findings from this question align with the themes that emerged throughout the Online Survey, which suggests that active transportation is highly valued in the Municipality. It is clear that there is a need to improve existing trail and cycling infrastructure to support existing needs and to identify gap areas to safely link users with key destinations and connections.

Figure 7: Level of Agreement



3.3 Interviews with Key Representatives

Interviews and discussions with key representatives were held during the planning process. It was essential to collect input from a broad range of perspectives in order to view active transportation needs in a holistic manner. Representatives that were engaged included municipal staff, Council and Mayor, County of Middlesex, and Upper Thames River Conservation Area. Due to the confidential nature of these conversations, a summary of the interviews have not been included in this Master Plan; however, the findings from each session have been taken into consideration throughout its preparation. Some of the common themes that were identified through these interviews are described below:

- There is great support for active transportation in Thames Centre.
- Emphasis should be placed on improving linkages and connectivity with existing trails and key destinations such as schools, community facilities, and commercial areas.
- There is a desire to connect Thorndale and Dorchester, as well as adjacent municipalities (particularly the City of London).
- Challenges have been identified with respect to enforcement, awareness, and maintenance.

4. THE ACTIVE TRANSPORTATION NETWORK

4.1 Vision

A vision statement has been developed in order to guide the development of Thames Centre's active transportation network. This vision was crafted to reflect the Municipality's intent to facilitate accessible physical activity opportunities and respond to community needs expressed throughout this planning process.

> **"The Municipality of Thames Centre's active transportation network will provide a healthy and sustainable outlet for recreation and connecting residents with key destinations and adjacent municipalities."**

4.2 Guiding Principles

Eight guiding principles have been developed to assist with realizing the Municipality's vision for building capacity for active transportation in Thames Centre. These principles were built upon a thorough understanding of trail and cycling development trends and best practices, together with local input to ensure that the recommended active transportation system is responsive to community needs. These guiding principles were considered in the selection of recommended trail and cycling routes (later in this section) and it is recommended that the Municipality apply these guiding principles when planning for new or expanding route opportunities and their ongoing management.

1. Connectivity / Linkages to Destinations and Regional Systems

The active transportation network should provide direct linkages to a broad range of destinations within settlement areas, such as commercial shopping, schools, residential areas, and more. Where possible, routes should be designed to form continuous loops within parks and communities, and ensure residents are connected to regional active transportation systems.

2. Safety

The active transportation network should be designed to minimize and reduce user risk and injury by emphasizing Crime Prevention Through Environmental Design (C.P.T.E.D.) principles and promoting routes that provide adequate separation from and/or awareness by vehicular traffic. Examples may include routing trails through open areas, ensuring unobstructed sight-lines, and properly maintaining parks and vegetation.

3. Visibility and Awareness

The active transportation network should be promoted within the Municipality and beyond to ensure that residents and visitors are aware of the recreational and utilitarian options in the area.

4. Multi-Modal

The active transportation network should be designed to maximize a multitude of human-powered transportation options, such as (but not limited to) walking and cycling.

5. Accessible

The active transportation network should be designed to be free of physical barriers and inclusive of persons with disabilities, wherever possible.

6. Cost-Effective

The active transportation network should make efficient use of municipal resources, focusing on the provision and maintenance of high traffic priority routes as new trail and cycling routes are phased in over time.

7. Supporting Amenities

The active transportation network should have regard for supporting amenities such as informative and wayfinding signage, seating, parking, and more in order to provide the creature comforts users desire.

8. Partnership Possibilities

Relationships with new and existing community partners and land owners should be encouraged in the expansion, maintenance, and promotion of the active transportation network.

Recommendation
1. Consider the vision and guiding principles contained in this Master Plan in the development of Thames Centre's active transportation network and in the planning of new trail and cycling opportunities.

4.3 Recommended Active Transportation Hierarchy

The Municipality currently utilizes a trail hierarchy to classify the Dorchester Community Trail network, although this is not currently recognized in the Thames Centre Official Plan. Building upon this classification system, Table 2 establishes a municipal-wide active transportation hierarchy that should be considered for all routes developed in the Municipality moving forward. It should be noted that uses such as motorized recreational vehicles and equestrian riding are excluded from the hierarchy as these uses should generally be prohibited from using any of these trails.

Table 2: Recommended Active Transportation Hierarchy

Trail Hierarchy	Description	Permitted Uses	Standards
Community Trail	Community trails are largely located within settlement areas and support the widest range of uses. These trails are multi-use and are located off-road, servicing both recreational and utilitarian purposes. **Supporting Amenities** Parking, signage, trail head, washrooms, seating, and trash receptacles	Walking, hiking, cycling, cross-country skiing, and other non-motorized recreational and utilitarian uses.	**Minimum Width:** 1.8 - 3.0 m **Surface Type:** Limestone screening, or other firm and stable surface, but may also be asphalt or concrete
Secondary Trail	Secondary trails are short pathways or loops located within municipal parks or connectors to community trails. Sidewalks are also considered forms of secondary trails. **Supporting Amenities:** Signage and seating	Walking, hiking, cycling (primarily serving recreational purposes, although some utilitarian uses may exist)	**Minimum Width:** 1.5 m (sidewalk) / 1.8 m (trail) **Surface Type:** Asphalt, concrete, limestone screening, or other firm and stable surface
Cycling Routes **Paved Shoulder** **Sharrow** **Dedicated Lane**	Paved shoulders are generally provided along roads in rural areas to support the flow of traffic and may be used as emergency stopping lanes or active transportation purposes. Sharrows are cycling routes that share the right-of-way with vehicular traffic and are typically supported by pavement markings and signage. Sharrows are most suitable for low volume roads. Dedicated cycling lanes are located within the traveled right-of-way via paved shoulder, removed from vehicular traffic and commonly denoted by pavement markings and signage. Dedicated bike lanes are most suitable for higher volume urban roads. **Supporting Amenities:** Signage and pavement markings	Recreational and utilitarian cycling	**Minimum Width:** 1.2 – 2.0 m **Surface Type:** Asphalt

Recommendation

2. Have regard for the recommended active transportation hierarchy in the planning, design, and development of trail and cycling routes.

4.4 Recommended Active Transportation Network

The recommended active transportation network identifies nearly 105 kilometres of new pedestrian and cycling routes to be developed and/or formalized in Thames Centre. Once complete, the Municipality's active transportation network will span over 165 kilometres (including the trails located within the Fanshawe Conservation Area).

Nearly 19 kilometres of proposed routes are pedestrian and multi-use trails. The majority of these trails are located within Dorchester and Thorndale, which includes a mix of community and secondary trails. Proposed trail routes includes those located on municipal and non-municipal lands, future plans of subdivisions, and undeveloped lands within settlement areas. Connections to key destinations were also considered, including the Grassroutes destinations identified by Middlesex County such as Mill Pond and Homestead County Market. Strategies to acquire lands and standards for trail development are discussed later in this Master Plan. Given that municipalities are often constrained by the resources that are available, this Master Plan advances a high level phasing plan, which focuses on priority areas.

The majority of the recommended network is comprised of over 85 kilometres of cycling routes proposed to be located along key County roads and/or low volume Municipal roads. Emphasis was placed on connecting recreational and utilitarian cyclists between Thorndale and Dorchester, as well as to adjacent municipalities. Consideration was also given to ensure that the proposed cycling routes align with the Active Transportation Master Plans in the surrounding communities to enhance inter-county linkages.

Pending additional direction from the County's Cycling Strategy, it is anticipated that the provision of future cycling infrastructure shall be provided in the form of paved shoulders or shared roadways (with the appropriate signage) outside of settlement areas as it is anticipated

that cycling volumes will not be sufficient to justify the provision of dedicated cycling lanes along rural roads. Within Dorchester and Thorndale, the Municipality shall use discretion in selecting the appropriate cycling lanes in consultation with the County. It will be pertinent for cycling routes to be supported with the appropriate signage to alert both cyclists and drivers to share the road and exercise a higher degree of safety. This should be implemented in partnership with the County and the Middlesex-London Health Unit. It is also be essential to coordinate construction of these cycling routes with capital road works projects to maximize the use of municipal resources. As an interim measure, the Municipality and/or County may consider the installation of Share the Road signage (e.g., Sharrows) in order to accelerate implementation of the proposed cycling network.

Recognizing the conceptual nature of the recommended active transportation network, unique terrain characteristics, and other land constraints, modifications to the proposed routes may be permitted provided that the guiding principles and general intent are maintained. Revisions to the recommended network should be made, as necessary, to recognize missing linkages and new opportunities during the life of the Master Plan. A summary of the recommended active transportation network is contained in Table 3.

Table 3: Recommended Active Transportation Network

Community	Existing (m)				Proposed (m)				Total
	Trail	Sidewalk / Walkway	Cycling Route	Sub-Total	Community	Secondary	Cycling Route	Sub-Total	
Dorchester	11,033	23,876	1,007	35,916	3,895	4,577	8,800	17,511	53,427
Thorndale		9,334	-	9,334	3,701	5,568	3,999	11,905	21,239
Rural	15,914*		-	15,914	2,056	-	75,626	75,270	91,184
Total	**26,947**	**33,210**	**1,007**	**61,164**	**9,653**	**10,145**	**88,425**	**108,223**	**169,387**

* Includes 15,914 metres of trails located within the Fanshawe Conservation Area (Thames Centre portion).

Key proposed active transportation network routes and actions include:

Dorchester

- Sidewalk linkages in the future Mill Pond subdivision with connections to the Valleyview II Trail to the east and the adjacent Mill Pond to the north.
- Improve maintenance of the Valleyview II Trail and extension of the trail to the south towards SloPitch City and to the west towards the future Mill Pond subdivision.
- Create a permanent pathway for the Valleyview I Trail and expand the trail towards the west, connecting to the park in the adjacent future subdivision.
- Formalize a trail loop around the storm water management pond along Oakwood Drive.
- Close the trail gap at the Catherine Street Day Park Trail, connecting with Ross Avenue to the west.
- Establish cycling routes (with appropriate signage) along Dorchester Road, Hamilton Road, Shaw Road, Catherine Street, and Richmond Street.
- Consider potential pedestrian and cycling linkages in undeveloped portions of Dorchester, particularly in the southwest and north area of the settlement area.

Thorndale

- Install sidewalks within proposed plans of subdivisions including Wye Creek and Foxborough subdivisions (some of these linkages may have already been identified).
- Create a walking loop within the woodlot adjacent to the Wye Creek subdivision to the east.
- Establish a trail head connection at the Thorndale Fire Department property with a connection to the walking loop within the woodlot to the north.
- Establish a trail loop through Thorndale Community Park (subject to change pending finalization of the Thorndale Community Park Master Plan).

- Formalize the trail from Wye Creek Park toward the easement to the south. This trail should continue westward towards Nissouri Road and the Municipality shall explore opportunities to establish a connection to the Fanshawe Conservation Area.
- Consider potential pedestrian and cycling linkages in undeveloped portions of Thorndale as development occurs.

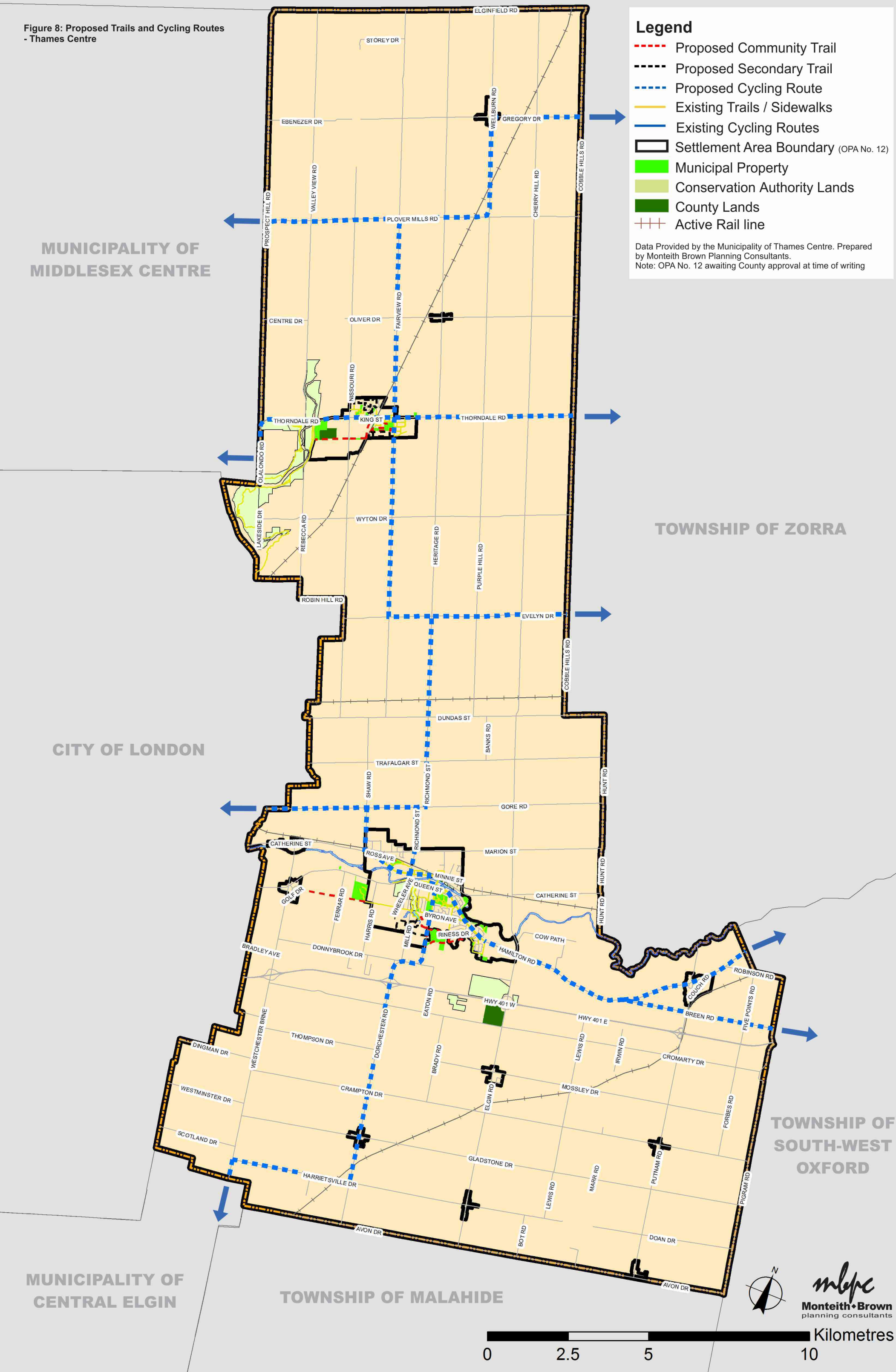
Rural

- Extend the Harry Small Trail west of Dorchester, behind the Field of Dreams Sports Park towards Nilestown.
- Shared cycling routes have been identified along County and local roads including, but not limited to, Gore Road, Richmond Street, Dorchester Road, Hamilton Road, Evelyn Drive, Fairview Road, Plover Mills Road, and Gregory Drive. The finalization of these routes is subject to the County's Cycling Strategy.

Recommendations

3. Support the phased implementation of the recommended trails and cycling routes identified in this Master Plan in order to enhance the active transportation network and bolster physical activity.
4. The Municipality will ensure paved shoulders and/or other cycling improvements are provided when reconstructing Municipal roads that are identified as cycling routes in this Master Plan (as revised time to time). The Municipality will coordinate with the County regarding the extension of the active transportation network along County roads. As an interim measure, the Municipality and/or County may consider the installation of Share the Road signage (e.g., Sharrows) in order to accelerate implementation of the proposed cycling network.
5. As necessary, undertake revisions to the recommended active transportation routes to respond to physical geography and constraints, new opportunities, and missing linkages, provided that the guiding principles and general intent of the Master Plan are maintained.

Figure 8: Proposed Trails and Cycling Routes - Thames Centre

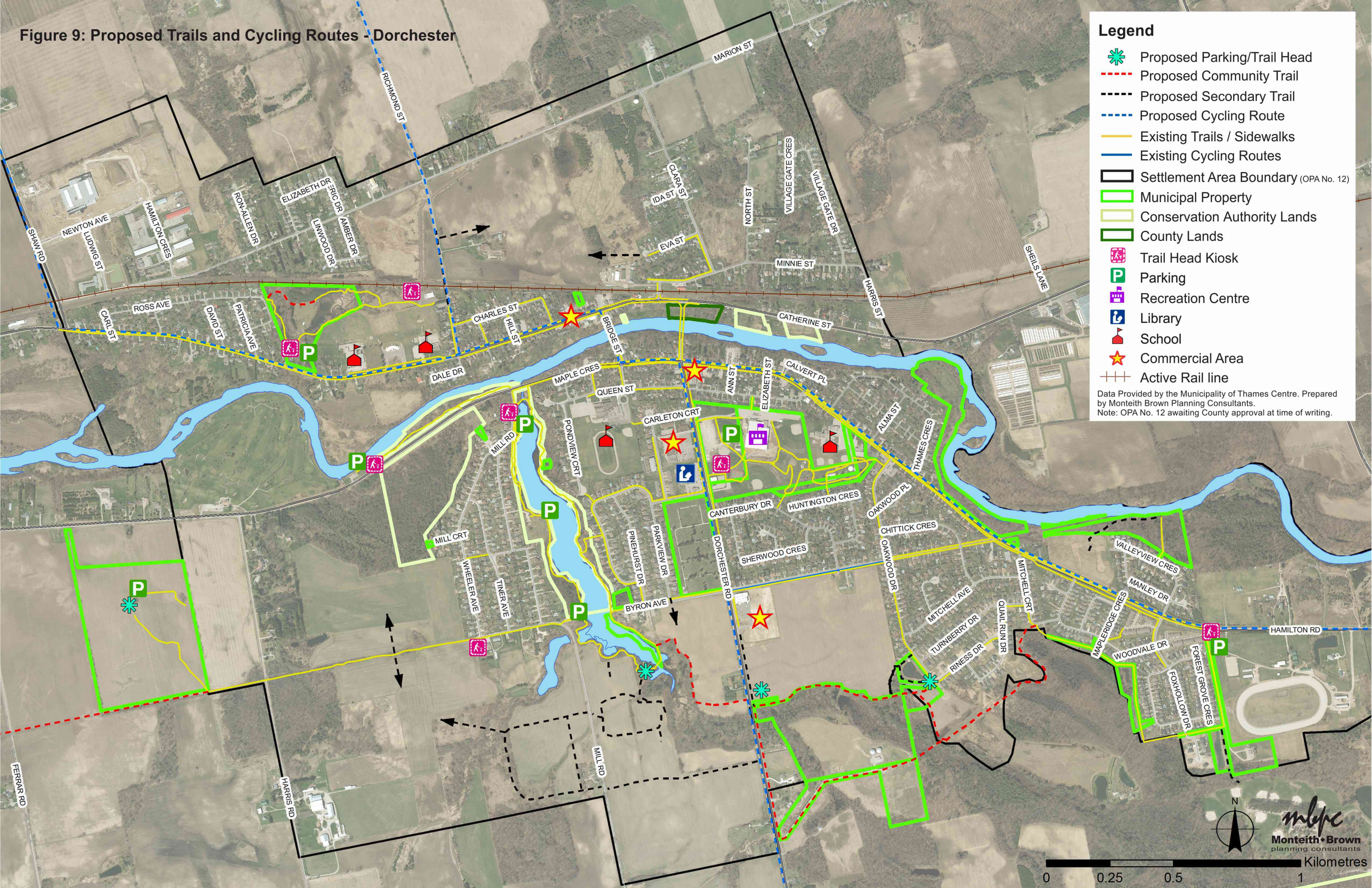


Legend

- Proposed Community Trail
- Proposed Secondary Trail
- Proposed Cycling Route
- Existing Trails / Sidewalks
- Existing Cycling Routes
- Settlement Area Boundary (OPA No. 12)
- Municipal Property
- Conservation Authority Lands
- County Lands
- Active Rail line

Data Provided by the Municipality of Thames Centre. Prepared by Monteith Brown Planning Consultants.
Note: OPA No. 12 awaiting County approval at time of writing

Figure 9: Proposed Trails and Cycling Routes - Dorchester



Legend

- Proposed Parking/Trail Head
- Proposed Community Trail
- Proposed Secondary Trail
- Proposed Cycling Route
- Existing Trails / Sidewalks
- Existing Cycling Routes
- Settlement Area Boundary (OPA No. 12)
- Municipal Property
- Conservation Authority Lands
- County Lands
- Trail Head Kiosk
- Parking
- Recreation Centre
- Library
- School
- Commercial Area
- Active Rail line

Data Provided by the Municipality of Thames Centre. Prepared by Monteith Brown Planning Consultants.
Note: OPA No. 12 awaiting County approval at time of writing.

Figure 10: Proposed Trails and Cycling Routes - Thorndale

Legend

- Proposed Parking/Trail Head
- Proposed Community Trail
- Proposed Secondary Trail
- Proposed Cycling Route
- Existing Trails / Sidewalks
- Settlement Area Boundary (OPA No. 12)
- Municipal Property
- Parking
- Recreation Centre
- Library
- School
- Commercial Area
- Active Rail line

Data Provided by the Municipality of Thames Centre. Prepared by Monteith Brown Planning Consultants.
Note: OPA No. 12 awaiting County approval at time of writing.

ELLIOTT TRAIL
SLAMMER TRAIL
BROOKER TRAIL
TEMPERANCE ST
HARRISON ST
THORNDALE RD
KING ST
NISSOURI RD
AGNES ST
MARIA ST
LIONS LANE
FAIRVIEW RD
UPPER QUEEN ST
RAILWAY ST
MAIN ST
HUESTON DR
MONTEITH AVE
COUNTRYSIDE LANE
PARK LANE
MEADOWBROOK LANE

N

Monteith•Brown planning consultants

0 125 250 500 Metres

5. ACTIVE TRANSPORTATION DEVELOPMENT TOOLKIT

5.1 Design Standards, Requirements, and Guidelines

Understanding the standards, requirements, and guidelines associated with the development of trails and cycling facilities is fundamental to providing a safe and accessible active transportation network. This section contains an overview of the items that Thames Centre must consider in order to implement the recommended active transportation network identified in this Master Plan. It should be noted that this toolkit only applies to trails and cycling facilities that are maintained by the Municipality and excludes informal trails on private lands, wilderness and equestrian trails, trails for motorized recreational vehicles, portage routes, or any other non-municipal active transportation facilities that does not support pedestrian and cycling activities. It should be recognized that there may be unforeseen instances where terrain and other physical constraints pose challenges to comply with the standards in this toolkit and as a result, exceptions may be permitted.

This toolkit has been developed utilizing several key documents including Ontario Regulation 413/12 (Design of Public Spaces Standards – Accessibility for the Built Environment Standards) made under the *Accessibility for Ontarians with Disabilities Act, 2005*, the Ontario Building Code, accessibility standards prepared by the City of London and York Region, and the Ontario Traffic Manual Book 18: Cycling Facilities. The design and development of all future trail and cycling facilities in Thames Centre shall have regard for this toolkit together with the supporting provincial and municipal construction standards and in consultation with persons with disabilities and the County's Accessibility Advisory Committee.

5.1.1 Trail Routes

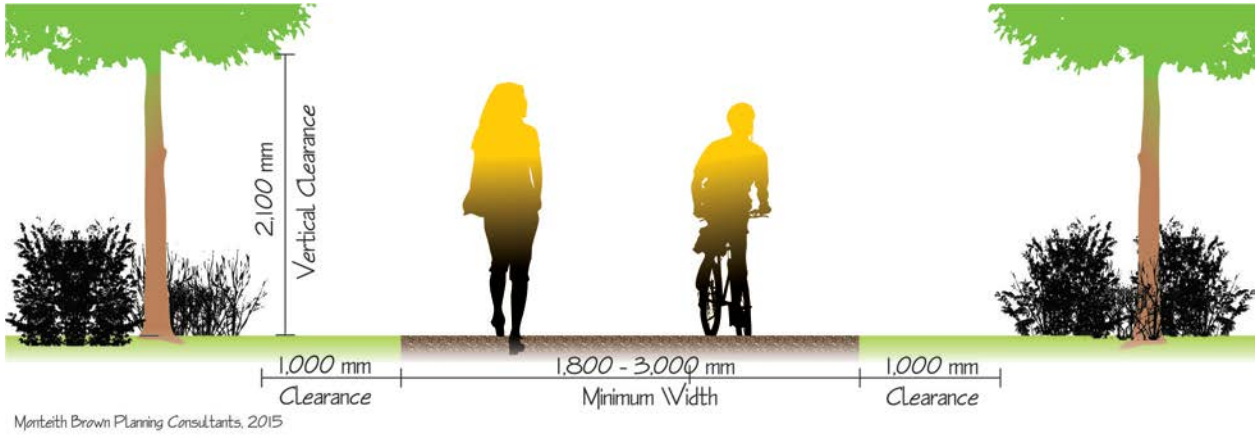
Trail Surface Materials

A range of trail surface types may be utilized as described in the recommended trail classification hierarchy, provided that they are firm and stable, and contain no tripping hazards. Limestone screening is the preferred surface type for all trail routes as it is a firm, stable, and permeable material. The use of woodchip surfaces should only be considered for woodland trails and environmentally sensitive areas. Asphalt or concrete paving may also be appropriate for developed areas that may attract high volumes of use or areas of steeper slope or that are susceptible to erosion. The trail surface may be selected at the discretion of the Municipality with consideration given to the trail hierarchy, trail type, location, and resources available.

Trail Width

The width of trails in Thames Centre shall have regard for the classification hierarchy identified in this Master Plan. A minimum trail width of 1,800 mm (1.8 m) shall be maintained along all new community trails as these multi-use routes accommodate the widest range of active transportation modes (pedestrian and cycling) and facilitate bi-directional movement with ease. New secondary trails shall maintain a minimum width of 1,500 mm (1.5 m).

Figure 11: Sample Community Trail Width



Trail Entrance

The Municipality may provide traffic control structures at all trail heads and access points to the trail such as a gate, bollard, or other entrance design to deter prohibited uses (e.g., motorized recreational vehicles) along the trail. A minimum clear opening of 850 mm (0.85 m) shall be maintained to ensure that the trail entrance is accessible to all users.

Trail Vertical Height

A minimum vertical clearance of 2,100 mm (2.1 m) above grade shall be maintained along all trail routes.

Separation Zone / Buffer

Separation zones should be provided to partition trail routes with competing activities or sensitive lands uses. A common concern raised among pedestrians is the unsafe feeling of sharing the right-of-way with vehicular traffic and are less likely to choose active forms of mobility as a result. Separation zones physically remove pedestrians and trail users from vehicular traffic and establish a defined walking pathway. Communities typically establish a range of separation distances depending on the width of the right-of-way and can vary between 2,000 mm (2.0 m) and 6,000 mm (6.0 m). Wherever possible, the Municipality shall target a minimum separation of 2,000 mm (2.0 m) from the vehicular travel lane or shoulders along County and local roads. In some cases, a ditch or swale may also serve as an acceptable separation zone. Recognizing that the target separation width may be a considerable deviation from existing conditions in addition to obstacles such as utilities and trees within the planned walking route, the Municipality shall exercise discretion in determining separation widths on a case-by-case basis.

Trail Cross and Running Slope

The A.O.D.A. does not identify specific guidelines for the slope of recreational trails, recognizing that the terrain may vary considerably across most routes. On a project-specific basis it is recommended that the Municipality consult with the Accessibility Advisory Committee for guidance on this matter.

Trails along Railway Corridors

Trails along active railways may be located within the transportation corridor (provided approval from the appropriate authority) or adjacent to the corridor through land dedication in new development. In all instances, an appropriate separation buffer and/or fencing should be provided between the railway and pedestrian to enhance safety. Thames Centre does not currently have any abandoned railway lines; however, should the opportunity arise, the Municipality shall engage the appropriate transportation authorities to identify an appropriate separation distance as a part of the design and development of trails along active railway corridors (including railway crossings), as necessary.

Clearance Width

A clearance width should be provided along all sides of trails to accommodate manoeuvrability and minimize intrusions along the walking path, such as hanging vegetation or signage. Clearance widths vary depending on the trail classification. A 1,000 mm (1 m) clearance width should be maintained along community trails and 500 mm (0.5 m) along secondary trails**.**

Figure 12: Sample Minimum Trail Clearance (Secondary Trail)

Boardwalks

Boardwalks are typically raised pathways constructed over waterways or areas that experience continuous moisture such as marshes and wetlands. The following design regulations shall apply to the new construction or reconstruction of boardwalks:

- Minimum width of 1,000 mm (1.0 m)
- Minimum vertical clearance of 2,100 mm (2.1 m)
- Constructed with firm and non-slip materials
- No openings along the boardwalk greater than 20mm
- If the boardwalk is located adjacent to water or a drop-off, a curbed edge / edge protection shall be provided with a minimum height of 50 mm
- If a boardwalk has a slope greater than 1:20, it must be treated as a ramp

Ramps

New or redeveloped ramps for recreational trails shall have regard for the following regulations:

- Minimum clear width of 900 mm (0.9 m)
- Height clearance of 2,100 mm (2.1 m)
- Firm and stable surface
- Running slope no greater than 1:10
- Landings must be provided:
    - at top and bottom of all ramps
    - when there is a change in direction of ramp
    - at horizontal intervals not greater than 9,000 mm (9.0 m) apart
- Landings must be designed to a minimum of 1,670 mm (1.67 m) by 1,670 mm (1.67 m) wherever they are required to be provided and must have maximum cross slope of 1:50
- Handrails must be included on both sides of the ramp and must:
    - Be continually graspable along the entire length of the ramp and have a circular cross-section with a minimum outside diameter of 30 mm and maximum outside diameter of 40 mm, or any non-circular shape with a graspable portion that has a

perimeter not less than 100 mm and not more than 155 mm and whose largest cross-sectional dimension is not more than 57 mm
    - Be 865 mm (0.865 m) to 965 mm (0.965 m) in height, measured vertically from the surface of the ramp
    - Terminate in a manner that will not obstruct pedestrian travel or create a hazard
    - Extend horizontally not less than 300 mm (0.3 m) beyond the top and bottom of the ramp
    - Be provided with clearance of not less than 50 mm between the handrail and any wall to which it is attached
- For ramps greater than 2,200 mm (2.2 m) in width:
    - One or more intermediate handrails which are continuous between landings must be provided and located so that there is no more than 1,650 mm between handrails
- The ramp must have a wall or guard on both sides and where a guard is provided, it must:
    - Be not less than 1,070 mm (1.07 m)measured vertically to the top of the guard from the ramp surface
    - Be designed so that no member, attachment or opening located between 140 mm (0.14 m) and 900 mm (0.9 m) above the ramp surface being protected by the guard will facilitate climbing
- The ramp must have the same edge protection as a boardwalk

Trail Heads

Trail heads should be located at the key entrances to a recreational trail and also serve as a staging area for users to meet. Trail heads should be accessible, conveniently located in open areas, and be highly visible. All existing and new trail heads should incorporate features including (but not limited to) parking, signage, seating, waste receptacles, washrooms, or other amenities deemed necessary by the Municipality. Where possible, trail heads should be located near community facilities to leverage existing amenities or be located adjacent to sidewalks.

Trail Signage

Signage and wayfinding are critical components to any active transportation network as they are essential awareness tools to promote low cost physical activity in the Municipality. Utilizing high tonal contrast and a sans serif font style, signage should be clear, consistent, and accessible, serving many purposes including, but not limited to:

- Identifying the name of the trail with the Municipality's logo to signify municipally-own lands.
- Providing information regarding trail length, surface, width, slope, and difficulty, accompanied by a map.
- Identifying key points of interest along the trail.
- Identifying permitted uses (hiking, cycling, etc.).
- Describing rules pertaining to the use of the trail.
- Hours of operation, winter maintenance, etc.

Effective signage plays an important role in the trail network as it attracts, guides, and directs users along designated pathways. Trail signage can generally be categorized into six types, as described in greater detail below. Each signage type should be considered for the Municipality's existing and future trail routes. In certain instances, some signage types may be incorporated together into a single sign.

Trail Head

Trail head signage must be provided at the primary entrance to each recreational trail, although there may be more than one trail head for each trail. Trail head signage should be located in highly visible areas that commonly serve as meeting places, located near parking, and be co-located with other amenities, features, or uses, or be located near a main or frequently traveled road. Trail heads must include the following information: trail length, type of surface, average and minimum trail width, average and maximum running slope and cross slope, and location of amenities where provided.

Regulatory Signs

Rules of the trail are generally located at all trail heads or all access points. Regulatory signage may describe an assortment or rules, information, and conduct in which the user must follow, including permitted uses, hours of operation, seasonal restrictions, trail etiquette, as well as key contact information should a user wish to report a hazard or unsafe use of the trail. These rules are typically enforced by provincial law or municipal by-law, and should be stated on the sign. The use, protection, and regulation of public parks and recreation areas in Thames Centre is established in By-Law No. 70-2013.

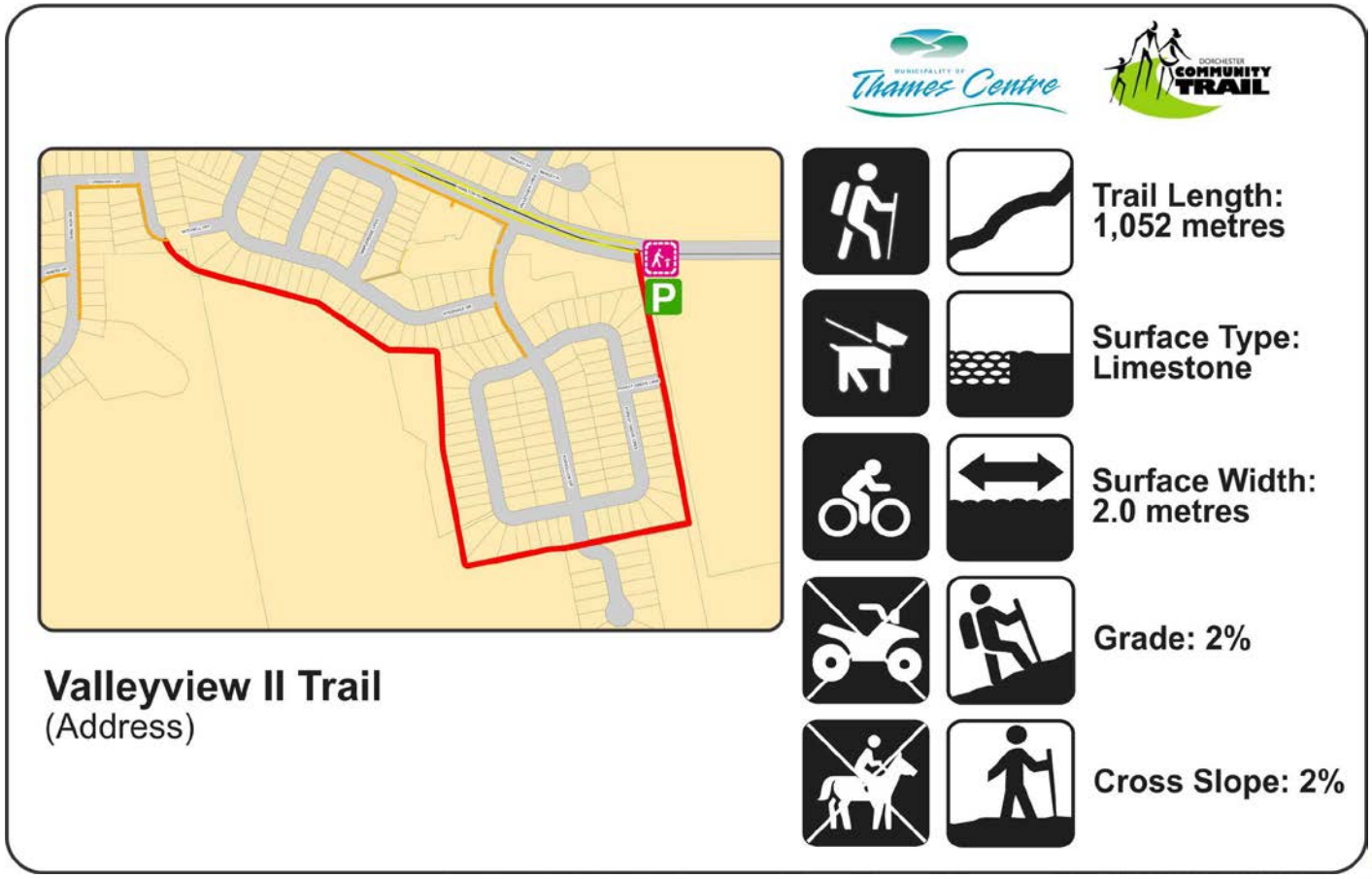
Wayfinding

Wayfinding signs generally provide trail users with a graphic representation of the trail, supported by similar information presented on a trail head sign such as the trail direction, length, points of interest, settlement areas, and other key details. Wayfinding signs should be displayed prominently at all access points to the trail and as well as at key points along the trail to inform users of their current location.

Interpretive

Interpretive signs may serve as an opportunity to showcase information that relates to the trail and its surrounding environment. The information presented on the interpretive sign may vary and include, but not be limited to, the history of the trail or environment it is located in, native fauna and flora, or other historical, cultural, or environmental facts that may interest the user. These signs may be designed to be consistent with other trail signage; however, opportunities may exist to inject some creative flair into the sign's design to generate excitement and interest. As a result, these signs should be attractive and located in prominent areas such as at key points of interest, look-outs, or rest areas along the trail. Interactive interpretive displays and contact information for stewardship opportunities may also be considered to engage the user.

Figure 13: Sample Trail Head Sign



Route Markers

Route markers provide users with information pertaining to the distance from a specified reference point, typically to a key point of interest or trail head. Route markers should be located at regular intervals along the trail (e.g., every 100 metres), although the interval may vary depending on the trail type.

Warning Signs

Warning signs should be displayed in the most visible locations to warn users of potentially hazardous areas due a range of possibilities that may include, but not be limited to, uneven trail surfaces or naturally occurring hazards from changing weather conditions. To minimize liability, municipalities may also articulate that users accept the risks associated with recreational trails and are not responsible for user injuries provided that the trails are maintained regularly and appropriately, or are closed.

Figure 14: Sample Route Marker

Washrooms

Where possible, the Municipality shall encourage the use of existing washroom facilities, particularly those located at existing community facilities and parks. The provision of permanent or temporary (e.g., portable) washroom facilities shall be provided at the Municipality's discretion. Regard shall be given to the Ontario Building Code and National Building Code for standards relating to the construction and design of accessible washrooms facilities.

Seating

Seating areas are particularly important features for persons with disabilities, older adults, children, and people of all ages. As such, convenient seating areas are key amenities that should be provided along trail routes as they provide opportunities for users to rest and enjoy the outdoors. Seating shall not be located within the walking path to ensure that pathways remain barrier-free. Seating areas shall be located on a firm and level surface in meaningful locations including (but not limited to) trail heads, along high traffic trail routes, areas with high visibility, and viewing points. To bolster the visibility and creativity of seating areas, the design should have consideration to ensuring a high contrast with the walking path, including colour, texture, and materials.

To ensure that seating areas are accessible, the design of seating shall have regard for the following. Seating areas should:

- Have back and arm rests
- Be designed with a contrasting colour to its surroundings

- Be located on a firm and stable surface that is a minimum of 920 mm x 1,370 mm (0.92 m x 1.37 m) in size
- Have a clear area next to the seating areas to accommodate mobility aids, strollers, or waste receptacles

Lighting

Lighting shall only be provided in specific areas identified by the Municipality. For example, lighting may be desirable along well-used trail routes and sidewalks along major roads, trails within parks and public spaces, trail heads and seating areas, or trails that intersect with streets. Lighting provides many benefits such as increased visibility and deterring illicit activities; however, lit trails may not be appropriate for more secluded trails as lighting provides an illusion of safety and as a result, they should not be used where safety concerns exist. When considering the installation of lights along trails or at trail heads, the Municipality should consider safety, intensity of use, impact on adjacent uses (light pollution), costs, maintenance, and impact on the environment.

Landscaping & Screening

In many instances, the surrounding natural environment will provide ample landscaping and screening to buffer trails with adjacent land uses. However, there may be some cases in new trail construction that require buffering, such as in cases where a trail route abuts residential properties. The Municipality shall consider the use of landscaping or vegetative buffering to provide adequate screening and maintain residential privacy.

Further, landscaping may also be considered in areas where shade is limited, such as in open spaces, or be co-located with other trail amenities, such as seating and signage. Elements of landscaping and screening may also be considered in areas of new construction where trails are proposed, and should be included in reviews of proposed plan of subdivisions. Vegetation shall not be located within the traveled pathway and a vertical clearance of 2,100 mm (2.1 m) shall be maintained.

5.1.2 Sidewalks

Sidewalk Surface

The preferred sidewalk surface shall be concrete or asphalt.

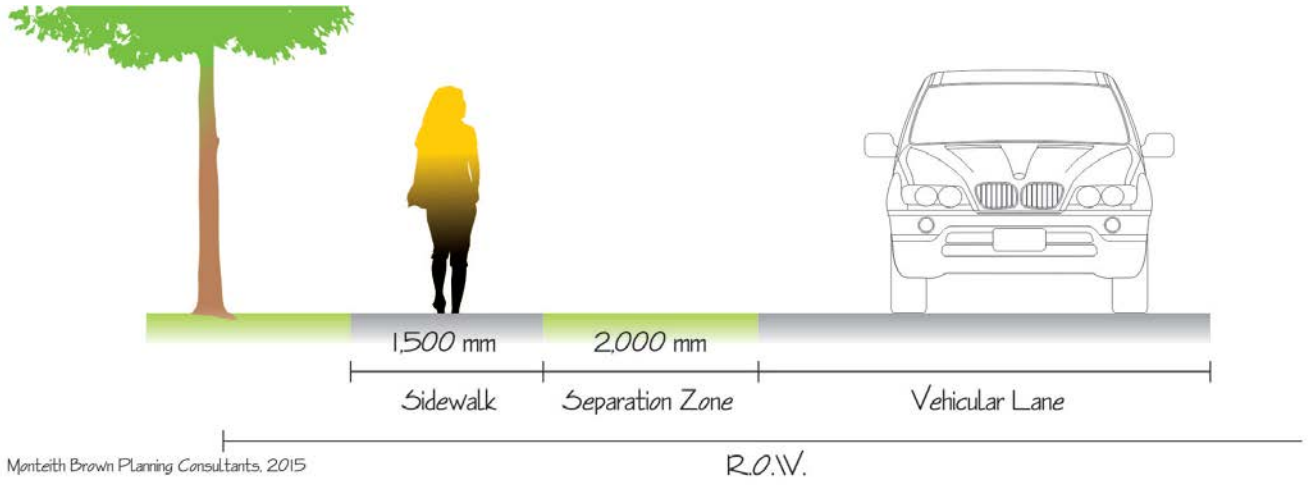
Sidewalk Width

Sidewalks located within settlement areas shall be physically separated from the road of travel with a grass boulevard or separation zone, although sidewalks adjacent to curbs are acceptable. Sidewalks shall have a minimum width of 1,500 mm (1.5 m) when a separation zone exists. Where a sidewalk directly abuts the road of travel, the minimum sidewalk width shall be 1,800 mm (1.8 m).

Sidewalk Vertical Height

A minimum vertical clearance of 2,100 mm (2.1 m) above grade shall be maintained along all sidewalks.

Figure 15: Sample Sidewalk



Ramps

Ramps for sidewalks shall have regard for the following regulations:

- Minimum clear width of 900 mm (0.9 m)
- Height clearance of 2,100 mm (2.1 m)
- Firm and stable surface
- Running slope no greater than 1:15
- Landings must be provided
    - at top and bottom of all ramps
    - when there is a change in direction of ramp
    - at horizontal intervals not greater than 9,000 mm (9.0 m) apart
- Landings must be designed to a minimum of 1,670 mm (1.67 m) by 1,670 mm (1.67 m) wherever they are required to be provided and must have maximum cross slope of 1:50
- Handrails must be included on both sides of the ramp and must:
    - Be continually graspable along the entire length of the ramp and have a circular cross-section with a minimum outside diameter of 30 mm and maximum outside diameter of 40mm, or any non-circular shape with a graspable portion that has a perimeter not less than 100 mm and not more than 155 mm and whose largest cross-sectional dimension is not more than 57 mm
    - Be 865 mm (0.865 m) to 965 mm (0.965 m) in height, measured vertically from the surface of the ramp
    - Terminate in a manner that will not obstruct pedestrian travel or create a hazard
    - Extend horizontally not less than 300 mm (0.3 m) beyond the top and bottom of the ramp
    - Be provided with clearance of not less than 50 mm between the handrail and any wall to which it is attached

- For ramps greater than 2,200 mm (2.2 m) in width:
  - One or more intermediate handrails which are continuous between landings must be provided and located so that there is no more than 1,650 mm (1.65 m) between handrails
- The ramp must have a wall or guard on both sides and, where a guard is provided, it must:
  - Be not less than 1,070 mm (1.07 m) measured vertically to the top of the guard from the ramp surface
  - Be designed so that no member, attachment, or opening located between 140 mm (0.14 mm) and 900 mm (0.9 m) above the ramp surface being protected by the guard will facilitate climbing
- The ramp must have the same edge protection as a boardwalk

Sidewalk Cross and Running Slope

Sidewalk cross and running slope should generally not exceed 1:20. If this is slope cannot be achieved, the slope should not exceed 1:10. Sidewalks may have a slope greater than 1:20 provided the slope is not greater than the slope of the adjacent roadway.

5.1.3 Cycle Lanes

Middlesex County is currently in the process of initiating a County-wide Cycling Strategy to strengthen cycling connections across all lower-tier municipalities. Until this strategy is approved and in effect, the following design considerations should be applied in Thames Centre and, where required, be supplemented by Provincial design guidelines for cycle lanes, including the Ontario Traffic Manual (O.T.M.) Book 18.

There are several cycling solutions that the Municipality can utilize; however, in order for cycling infrastructure to be effective, the most appropriate solution must respond to the surrounding context as well as available resources. There three most common on-road cycling solutions are paved shoulders, shared roadways (sharrows), and dedicated cycling lanes. Each facility type should be considered on a case-by-case basis together with the County and other stakeholders,

where appropriate. Regardless of the cycling facility selected, it is essential that Thames Centre's cycling network is supported by the appropriate cycling signage and education initiatives to heighten awareness and maximize the safety of cyclists.

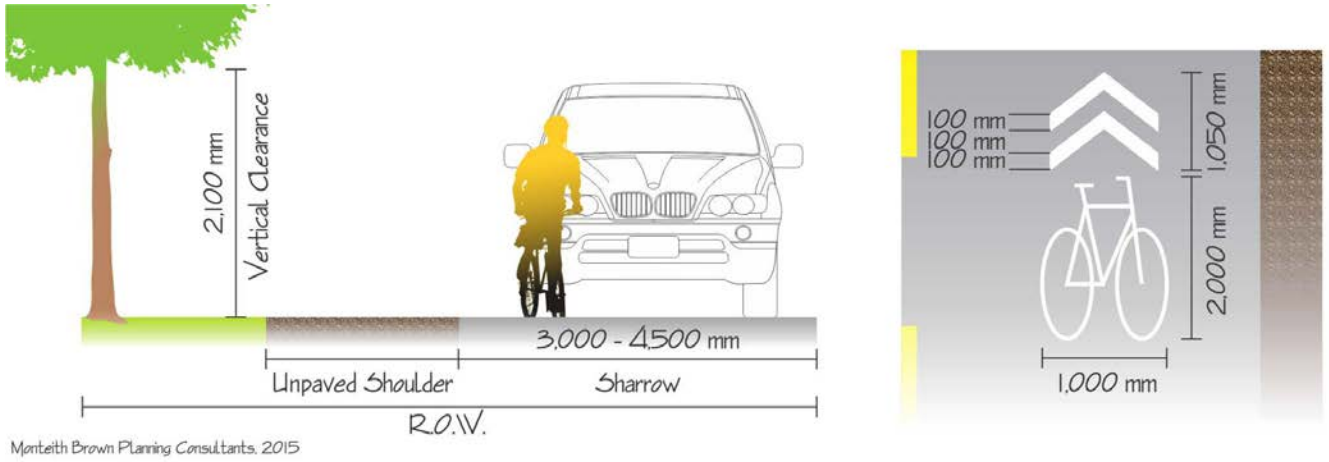
Shared Roadway (Sharrows)

Bicycles are identified as vehicles under the *Ontario Highway Traffic Act* and as such, have a right to share the roadway with other vehicles. This type of cycling currently exists in the County along roads without paved shoulders and where there are no dedicated cycling lanes. Share the Road signage or "Sharrows" shall be clearly posted on all roadways that have been identified as a cycling route to notify both motorists and cyclists to share the road appropriately. Along narrow roads, cyclists are permitted to utilize the centre of the road; however, should the roadway be wide enough, cyclists should be encouraged to use the right side of the roadway to allow vehicles to safely pass.

Figure 16: Sample Share the Road Signage

Source: O.T.M. Book 18

Figure 17: Sample Sharrow



Monteith Brown Planning Consultants, 2015

Paved Shoulder Lane

A limited selection of County roads in Thames Centre currently has paved shoulders, such as the recently paved Gore Road. Paved shoulders are generally provided along high volume roads to support the flow of traffic by serving many purposes such as an emergency stopping lane, or for active transportation purposes. According to the O.T.M. Book 18 and the *Highway Traffic Act*, cycling along paved shoulders is permitted and is the preferred facility type to encourage safe cycling in Thames Centre, particularly in the Municipality's rural areas.

O.T.M. Book 18 identifies that the preferred paved shoulder width should range between 1,500 mm to 2,000 mm (1.5 m to 2.0 m), although the minimum width is 1,200 mm (1.2 m). A wider width should be provided along roads that exhibit greater volume, speed and traffic. It is also suggested that for paved shoulders with a width of 2,000 mm (2.0 m) or more, a buffer zone of 500 mm (0.5 m) be provided between the paved shoulder and the roadway to provide for greater separation between vehicular traffic and cyclists. This may be facilitated through the provision of painted markings or a rubble strip to alert drivers that they are diverting from the travelled lane. These standards should be interpreted together with applicable construction and design standards.

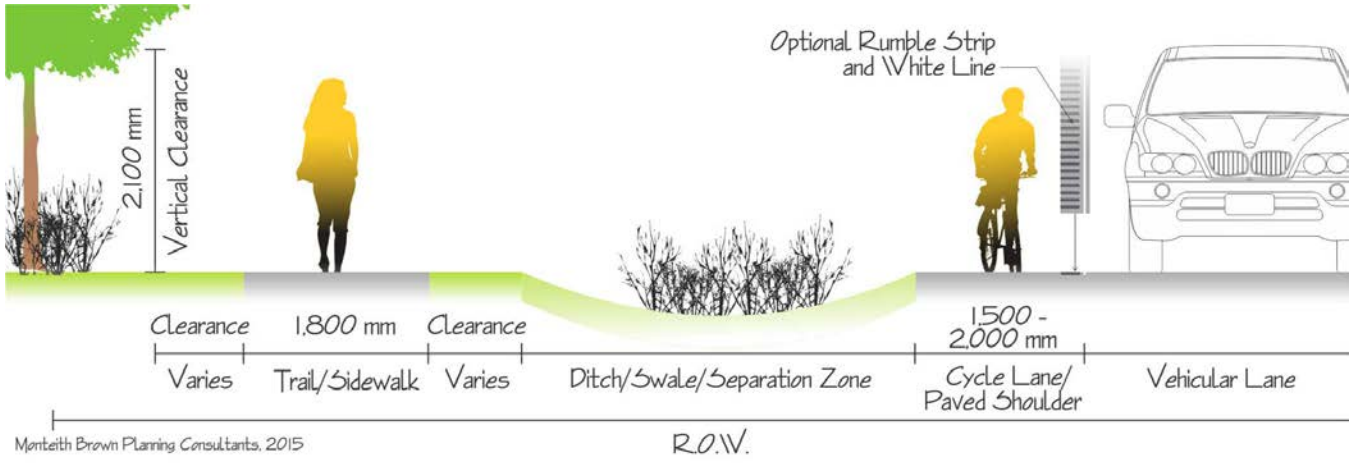
Figure 18: Sample Paved Shoulder

Dedicated Cycle Lane

A dedicated cycle lane physically removes cyclists from other motorists and provides users with a designated lane exclusively for cyclists. These lanes are typically unidirectional and located on the right side of the lane and are commonly separated from vehicular traffic by pavement markings. Thames Centre's only dedicated cycling lane is located along the south side of Byron Avenue, although this was not designed to meet any particular standard and is not currently used effectively as this lane is often utilized for vehicular parking.

The minimum width of a dedicated cycling lane shall be 1,500 mm (1.5 m). Should the Municipality consider implementing bi-directional cycling lanes, the minimum width shall be 3,000 mm (3.0 m). Where available, cyclists should be encouraged to utilize paved road shoulders, which can often be found along County roads. Where space permits, paved shoulders should be provided alongside dedicated cycle lanes to provide cyclists with additional separation from vehicular traffic.

Figure 19: Sample Sidewalk with On-Road Cycle Lane



Recommendation

6. Utilize the Active Transportation Development Toolkit in the planning, design, and development of trails and cycling routes in Thames Centre, in consultation with the persons with disabilities and County's Accessibility Advisory Committee. The standards and guidelines contained in this Toolkit should be read in conjunction with other Provincial and Municipal construction documents.

5.2 Policy Development

Several new policies were advanced as a part of Amendment No. 12 to the Thames Centre Official Plan (locally adopted October 6, 2014 and currently awaiting County approval) to provide greater emphasis and support for the development of an active transportation network. Such revisions included policies to encourage active transportation choices for pedestrians and cyclists and land use strategies to facilitate the development of the active transportation network. Moreover, new policies also allow the Municipality to require the dedication of land for the development of pedestrian and bicycle infrastructure as a condition of plan of subdivision approval. It is recommended that the Municipality continue to support and apply these policies in order to enhance Thames Centre's active transportation network over the foreseeable future. Given that these considerations have been previously advanced, the Municipality is armed with the policies needed to build upon its existing trail network, although further guidance can be provided to strengthen support for active transportation development and awareness.

For example, it is recognized that there are a number of undeveloped areas within Dorchester and Thorndale, some of which are identified in the Official Plan as residential areas. While it may not be possible to identify all potential network routes in these areas, the Municipality should be cognizant of identifying future trail and cycling linkages through future plans of subdivisions to maximize connectivity with the overall active transportation network.

Experiences in other communities have found that creating awareness is a crucial process in achieving community support and buy-in as the provision of trails and cycling can often generate cause for concern. As a result, it is essential to articulate future trail and cycling development in

these areas to the public. To minimize future residential concerns for active transportation development in emerging residential areas, the Municipality should encourage developers to disclose future active transportation infrastructure within the surrounding area or on adjacent properties to potential homebuyers so they are well informed of future development plans prior to purchase. Developers should be encouraged to convey this information through a number of mediums such as subdivision renderings, information packets, and through the Purchase Agreement. To avoid conflicts with new residents, the Municipality should require developers to construct trail routes concurrently with the construction of community services, infrastructure, and dwellings.

With regard to active transportation development within established areas, it is essential to engage surrounding residents early in the process to inform them of new trail and cycling infrastructure and to solicit public input to consider in the planning approvals stage. Furthermore, public awareness regarding new trail and cycling infrastructure can be achieved by including the recommended active transportation network on an Official Plan Schedule. Integrating the recommended network as a part of the Official Plan would be complementary to the vision, guiding principles, Active Transportation Development Toolkit, and Active Transportation Hierarchy established in this Master Plan. Additional strategies for increasing public awareness and support for active transportation choices are described in section 5.5.

Recommendations

7. Consider integrating the recommended active transportation network as a part of an Official Plan schedule to serve as an awareness tool for municipal staff, developers, planners, and interested members of the public.
8. Encourage developers to communicate information to potential homebuyers about future trail development within and adjacent to new residential development through means including, but not limited to, brochures, information packages, subdivision renderings, and Purchase Agreements.
9. Engage the public in the planning and design process in advance of trail and cycling construction to facilitate opportunities for public input and to promote the social, physical, and environmental benefits of an active transportation network.

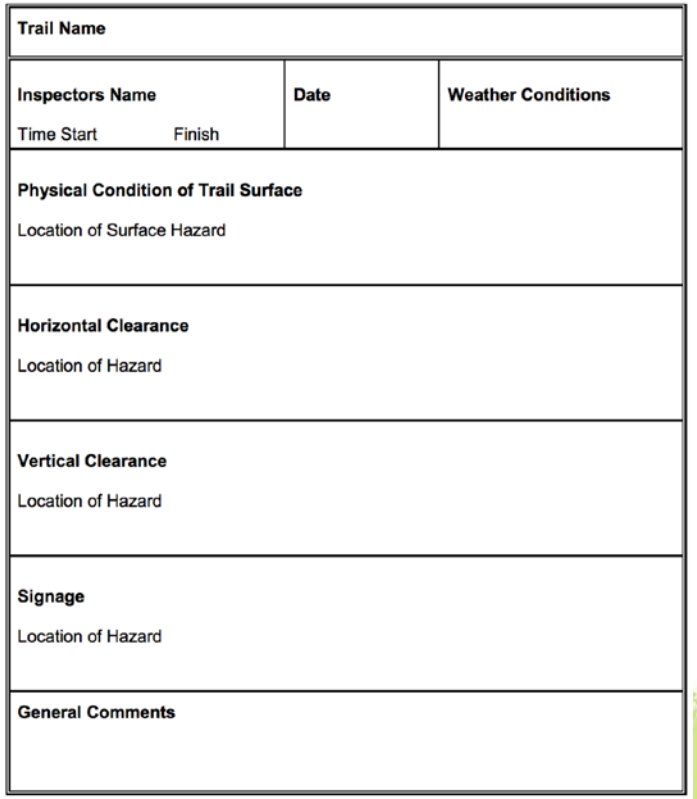
5.3 Management & Maintenance

Regular maintenance of Thames Centre's active transportation network is crucial to ensure that it is safe, accessible, and used appropriately to manage risk and minimize potential liabilities. By identifying and resolving deficiencies in trails and cycling infrastructure early on, Thames Centre can reduce long-term costs associated with the provision of such facilities and maximize the life of the active transportation network.

Given that Thames Centre's cycling infrastructure is located along the traveled right-of-way, maintenance is completed through regular street and snow clearing. Where available, however, bicycle pavement markings should be inspected on an annual basis to ensure that they are visible to cyclists and motorists. Municipal sidewalk maintenance is also generally minimal. Ontario Regulation 239/02 requires that all municipalities undertake a sidewalk inspection on an annual basis to identify surface deficiencies, which must be addressed and remediated within 14 days.

The maintenance of municipal trails can be more involved due to their location, design, and construction methods. Ontario Trails indicates that trails should be designed with ease of maintenance in mind to minimize future challenges, which may relate to trail routing or the use of sustainable and environmentally-friendly construction materials that will not degrade over time. In many communities, trail maintenance has not been a priority due to competing requirements for other core services and the availability of municipal funding and resources. The consultation undertaken for this Master Plan found that while trails and cycling were highly valued community features, the maintenance of trails in Thames Centre has not met the expectations of residents and that there is room for improvement.

Figure 20: Sample Trail Inspection Form



Trail Name		
Inspectors Name Time Start Finish	**Date**	**Weather Conditions**
Physical Condition of Trail Surface Location of Surface Hazard		
Horizontal Clearance Location of Hazard		
Vertical Clearance Location of Hazard		
Signage Location of Hazard		
General Comments		

It is recognized that Thames Centre does not currently have a trails maintenance policy. A number of municipalities have established trail maintenance policies to ensure local trails are maintained regularly and appropriately. These policies cover a broad range of practices and procedures including the actions required to manage trail routes, which may involve a number

of tasks including, but not limited to, grass-cutting, vegetation control, litter and debris clearing, emptying trash receptacles, and more. The frequency of inspections and performance of these tasks generally vary and can be based on the type of trail and the volume of use it receives. At a minimum, trails should be inspected on an annual basis. It is recommended that the Municipality develop a trail maintenance policy with consideration given to the factors described above. The development of this maintenance policy may also consider incorporating the annual sidewalk inspection.

A higher priority needs to be placed on maintaining existing trails in Thames Centre and an excellent point of departure in the process is to identify areas for improvement along existing trail routes that may be undertaken immediately. During the consultation process, particular concerns along the Valleyview II Trail were raised with respect to overgrown vegetation and inaccessible entrance bollards. It is recommended that the Municipality validate and address these concerns to minimize potential user risks.

With respect to staff deployment, a trail maintenance inspector is not required as an additional full-time employee. Instead, this role should be integrated within an existing position or as a part of a future operations position.

Recommendations

10. Prepare a Trail Maintenance Policy to establish a framework for maintaining municipal trails in Thames Centre. This policy should consider tasks required to manage trail routes and the frequency of documented inspections, which should be based upon factors such as the type of trail and the volume it receives. This Maintenance Policy may also consider sidewalk inspections as required by Ontario Regulation 239/02.
11. Identify and address deficiencies along existing trail routes in Thames Centre, such as along Valleyview II Trail, with particular attention given to vegetation management, accessibility, and other concerns raised in this Master Plan.
12. Appoint an existing or future municipal staff member to undertake trail and sidewalk inspections on a regular basis.

5.4 Risk Management & Liability

The guiding principles expressed in this Master Plan identify that safety is an important consideration to minimize and reduce user risk and injury, as well as municipal liability. The best approach for limiting municipal liability with respect to the active transportation network is to ensure that trails and cycling routes are designed and constructed safely, and maintained appropriately. As a result, is it crucial that the Municipality ensure that all existing and future active transportation routes are managed and maintained in accordance with the directions and recommendations contained throughout this Master Plan and other leading guidelines.

As previously identified, cycling lanes must be maintained at the same standard as road maintenance given that they are located within the vehicular right-of-way. The Municipality should exercise greater care in maintaining trail routes to minimize municipal liability. Municipal liability with respect to recreational trails is guided by the *Occupiers Liability Act (O.L.A.)*, which maintains that any occupier[6] of property must take care to ensure that the lands are safe and that the occupier does not deliberately create a danger with the intention of doing harm. The occupier must also not act with reckless disregard of the presence of the person or property. Under the O.L.A., any person who enters property for the purposes of permitted recreational activities shall be deemed to have willingly assumed all risks, provided that no fee is paid for entry or activity and the person is not being provided with living accommodations.

Thames Centre's winter season also poses particular challenges with respect to maintenance and the Municipality currently offers limited snow clearing to sidewalks only. It is noted that at present, there is no signage indicating that trails are not maintained during the winter. This is an area that requires attention to minimize potential injuries and can be achieved through the placement of signage at trail heads.

[6] The Occupiers' Liability Act (1990) describes an "occupier" as a person who is in physical possession of premises, or a person who has responsibility for and control over the condition of premises or the activities there carried on, or control over persons allowed to enter the premises.

In addition to maintenance, public education plays an essential role in minimizing risk and injury. Broad strategies for educating and promoting active transportation are described in the following section; however, strategies specific to reducing risk and injury include:

- Informing users of the risks assumed when using trails and cycling routes
- Educating users on safe trail and cycling etiquette
- Encouraging users to remain on designated trails at all times
- Reporting issues and deficiencies to the Municipality and do not attempt to address concerns themselves
- Contacting 911 in case of an immediate emergency

It is also recognized that there are a number of informal hiking trails through privately-owned lands that have occurred with or without the consent of the land-owner. This is common in municipalities with large rural and agricultural properties. Some land-owners have been open to residents accessing their properties for this purpose, while others have raised concerns regarding liability impacts. Generally speaking, it is recommended that Thames Centre discourage the use of informal trails in the Municipality to minimize user risks and the liabilities of private land-owners.

Recommendations

13. Ensure that Thames Centre's active transportation network is maintained in accordance with the maintenance strategies (including procedures for preventative and emergency maintenance) articulated in this Master Plan and other leading guidelines in order to minimize user risks and municipal liability.
14. While public trails on private lands are generally discouraged, in situations where these arrangements are necessary to create a connected trail network, the Municipality should consider long-term access and maintenance agreements.

5.5 Education & Promotion

Educating residents and promoting the use of active transportation choices in Thames Centre has been a reoccurring theme throughout the development of this Master Plan. This guiding document is a step forward in creating awareness for where trails and cycling routes are currently located and opportunities to continue bolstering the active transportation network through the provision of new infrastructure and strategies to improve existing routes.

It is vital that the Municipality continue this momentum to engage residents in active, accessible leisure choices, thereby translating into an enhanced quality of life and other benefits associated with a high quality trails and cycling network. There are a number of strategies that the Municipality can utilize to educate citizens and promote the use of active transportation choices in Thames Centre, some of which have been identified earlier in this Master Plan. This section describes a number of approaches that have been successfully utilized in other communities to raise awareness about active transportation. It is recommended that Thames Centre explore these strategies (in partnership where appropriate) to encourage the use of trails and cycling routes within the Municipality.

Figure 21: Sample Signage found in Thames Centre

Signage and Wayfinding

Often times, residents are unaware of the trails and cycling routes in their community. As such, raising awareness of where active transportation facilities are located in the community and appropriate etiquette is equally as important as providing high quality trails and cycling routes. There are a number of tools at the Municipality's disposal to ensure that residents are aware of these facilities and how to use them safely. At present, Thames Centre provides some trail signage along the Dorchester Community Trail, indicating the trail access point, name, ownership and partners, permitted and prohibited uses, and code of conduct. However, enhancement opportunities exist with respect to establishing a modern signage program that is consistent throughout the Municipality so that it is easily recognizable to residents and visitors. Updated trail signage should consider the signage types and guidelines identified in the Active Transportation Development Toolkit described in this Master Plan and that have regard for the requirements articulated in the A.O.D.A., particularly with respect to the information required in order to be considered accessible.

Online and Traditional Media Presence

Today's digital age has transformed how most people receive information. This has proven to be beneficial for municipalities in engaging residents as there are numerous options for conveying information about active transportation use, mapping, maintenance alerts, closures, photographs, and more. Some of the most popular online mediums available to Thames Centre include interactive active transportation mapping on the Municipality's or other community organizations websites (e.g., Ontario Trails), mobile mapping applications, Facebook, YouTube, Twitter, Instagram, Snapchat, and more. Thames Centre currently utilizes some of these online resources, including a Municipal Facebook page that boasts over 650 followers.

While online resources generally cater to younger generations and tech-savvy residents, alternative mediums should also be made available for those who desire traditional and hard copy materials such as hard copy maps, newsletters, newspapers, and brochures. Given that these materials are not as readily accessible as online resources, efforts should be made to provide hard copies at as many civic locations as possible to maximize visibility, such as at municipal buildings, libraries, and schools, in addition to distributing them to community organizations. A partnership with Middlesex County may be an option in this regard given the County's role in tourism promotion and marketing.

Programming and Special Events

There are a number of programming opportunities for the Municipality to get involved in to promote active transportation. Organized walking or cycling groups provide residents an opportunity to participate in a leisure activity and socialize with a group of friends, family, and other participants who share similar interests in staying active. Other programs can be implemented to promote using active transportation facilities in Thames Centre, such as volunteer patrols and safe walk groups or clean up days and tree plantings within parks or other public areas, in order to emphasize environmental stewardship and encourage residents to take ownership of local trails.

Establishing informational display booths during special events such as the Thorndale Fall Fair, Dorchester Fair, or sports tournaments also provides excellent opportunities to engage large groups of people. A broad range of topics can be covered in these booths such as new programs

in support of active transportation and physical activity and appropriate trail and cycling etiquette. These stations can also be used as a forum to collect feedback to improve the network or identify issues that may be unknown to the Municipality. These or similar strategies in the Municipality can be provided in partnership with local service organizations and community groups such as the Middlesex Active Communities Partnership or Lions/Optimist Clubs. Local youth should also be engaged, who may be eligible to receive volunteer hours for their services.

Youth Engagement

Children and youth have often been identified as a vulnerable segment of the population for being inactive and engaging in sedentary activities. As a result, youth outreach in Thames Centre's schools can be explored to encourage children and youth to get active by using trails and cycling routes. Engaging youth and children in schools can also serve as an opportunity to assist the Municipality in planning future network routes to connect destinations that matter to them, and educate students on safe active transportation practices and etiquette through the Active & Safe Routes to School (A.S.R.T.S.) initiative.

A.S.R.T.S. is a community-led initiative that promotes physical activity by using active transportation choices to travel to school, rather than being driven or taking the school bus. It is recognized that there are a number of schools located within Thorndale and Dorchester including, the Lord Dorchester Secondary School, Northdale Public School, River Heights Public School, and West Nissouri Public School. This initiative in Thames Centre would be particularly beneficial to children and youth who live within walking distance of these schools. The Thames Valley District School Board has recognized the importance of encouraging walking to school (or by other means) by providing bus transportation to students who live more than 1.6 kilometres from their public school or 3.2 kilometres from their secondary school. The initiative promotes a number of programs targeted at promoting safe active transportation choices to schools such as School Travel Planning, International Walk to School Day/Month, and Walking School Bus. Locally, the Middlesex-London Health Unit is responsible for implementing these programs within schools in surrounding communities. It is recommended that the Municipality engage the Health Unit in exploring potential programming opportunities within schools under the A.S.R.T.S. initiative.

Cycling Safety

While cycling infrastructure in Thames Centre is limited, the need to provide and promote safe cycling routes was a common theme identified by the public and all levels of government. The *Ontario Highway Traffic Act* identifies bicycles as a vehicle, which requires cyclists to share the roadway with other vehicles. This presents a number of safety concerns, particularly with large transportation trucks and slow-moving farming equipment. This Master Plan advances a number of recommended cycling routes that utilize low-volume roads or County roads with the potential to add supporting cycling infrastructure such as paved shoulders and/or signed routes. It is essential that these cycling routes are promoted to raise awareness in the Municipality and that cyclists, motorists, and the general public are educated in safe cycling practices, which may include, but not be limited to, encouraging cyclists to wear a helmet and use hand signals and motorists to slow down and maintain an appropriate separation distance (1,000 mm / 1.0 m) when passing cyclists.

Implementing a Share the Road signage program has also proven to be an effective method of encouraging safe cycling along roads. As previously articulated, this program has been successfully implemented in the City of London and Middlesex Centre and it is recommended that the Municipality engage the County and Health Unit in initiating a similar program in Thames Centre.

Recommendations

15. Explore strategies to educate and promote awareness of Thames Centre's active transportation network, including safe active transportation use and etiquette, as well as encouraging physical activity through the use of trails and cycling.
16. Engage potential community groups and organizations to leverage resources in delivering the education and promotion strategies contained in this Master Plan.
17. Maintain and regularly update trails and cycling mapping in GIS for use in promotional materials and to share with key community partners.

6. IMPLEMENTATION STRATEGY

This section contains a framework for implementing the Trails & Cycling Master Plan, which includes a phasing plan for the recommended active transportation network, capital cost estimates, land acquisition strategies, funding sources, partnership opportunities, and a guide to monitoring and updating the Master Plan. All recommendations identified in this Master Plan are also summarized, along with their suggested priorities for implementation.

6.1 Active Transportation Phasing

A phased-approach is recommended in order to ensure that the recommended active transportation network is implemented in a sustainable and logical manner. This section identifies the timing and phasing for each proposed trail and cycling route. The timing of constructing or expanding the active transportation network is prioritized as follows:

- Short-term: Year 2015 – 2020
- Medium-term: Year 2021 – 2026
- Long-term: Year 2027 and beyond

A variety of factors may require the Municipality to adjust the proposed phasing plan to adjust for project costs, funding, or timing. For example, budget pressures, timing of residential development approvals, coordination of road reconstruction projects, partnerships, and other key inputs may impact the implementation process. Due to limited staff resources, not all recommendations can be implemented immediately or during the prescribed periods.

Recommendation
18. Implement the recommended active transportation network as opportunities arise, adjusting for project costs, funding, and timing.

Figure 22: Proposed Phasing - Thames Centre

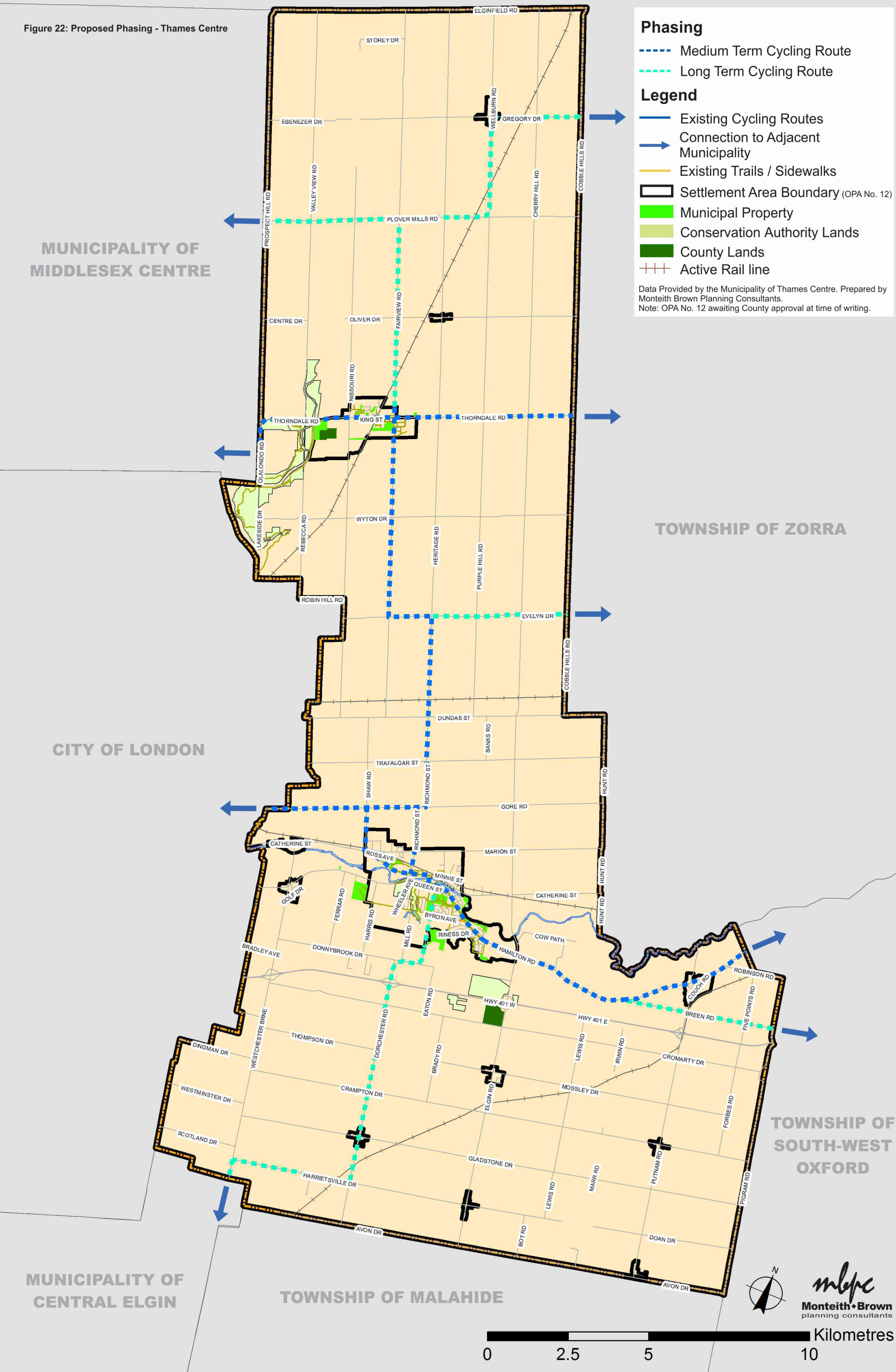


Figure 23: Proposed Phasing - Dorchester

Phasing

Short Term
- Community / Secondary Trail

Medium Term
- Community / Secondary Trail
- Cycling Route

Long Term
- Community / Secondary Trail
- Cycling Route

Legend

- Proposed Parking/Trail Head
- Existing Trails / Sidewalks
- Existing Cycling Routes
- Settlement Area Boundary (OPA No. 12)
- Municipal Property
- Conservation Authority Lands
- County Lands
- Trail Head Kiosk
- Parking
- Recreation Centre
- Library
- School
- Commercial Area
- Active Rail line

Data Provided by the Municipality of Thames Centre. Prepared by Monteith Brown Planning Consultants.
OPA No. 12 awaiting County approval at time of writing.

RICHMOND ST
MARION ST
SHAW RD
NEWTON AVE
LUDWIG ST
HAMILTON CRES
RON ALLEN DR
ELIZABETH DR
ERIC DR
LINWOOD DR
AMBER DR
IDA ST
CLARA ST
NORTH ST
VILLAGE GATE CRES
VILLAGE GATE DR
EVA ST
MINNIE ST
HARRIS ST
ROSS AVE
CARL ST
DAVID ST
PATRICIA AVE
CHARLES ST
HILL ST
BRIDGE ST
CATHERINE ST
DALE DR
MAPLE CRES
QUEEN ST
ANN ST
ELIZABETH ST
CALVERT PL
CARLETON CRT
ALMA ST
THAMES CRES
MILL RD
PONDVIEW CRT
MILL CRT
WHEELER AVE
TINER AVE
PINEHURST DR
PARKVIEW DR
BYRON AVE
DORCHESTER RD
CANTERBURY DR
HUNTINGTON CRES
OAKWOOD PL
CHITTICK CRES
SHERWOOD CRES
OAKWOOD DR
MITCHELL AVE
TURNBERRY DR
RINESS DR
QUAIL RUN DR
MITCHELL CRT
VALLEYVIEW CRES
MANLEY DR
MAPLERIDGE CRES
WOODVALE DR
FOXHOLLOW DR
FOREST GROVE CRES
HAMILTON RD
FERRAR RD
HARRIS RD
MILL RD

N

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Figure 24: Proposed Phasing - Thorndale

Phasing

Short Term
- Community / Secondary Trail

Medium Term
- Community / Secondary Trail
- Cycling Route

Long Term
- Community / Secondary Trail

Legend

- Proposed Parking/Trail Head
- Existing Trails / Sidewalks
- Potential Future Trail Route
- Settlement Area Boundary (OPA No. 12)
- Municipal Property
- Recreation Centre
- Library
- School
- Commercial Area
- Active Rail line

Data Provided by the Municipality of Thames Centre. Prepared by Monteith Brown Planning Consultants.
Note: OPA No. 12 awaiting County approval at time of writing.

ELLIOTT TRAIL
SLAMMER TRAIL
BROOKER TRAIL
TEMPERANCE ST
HARRISON ST
THORNDALE RD
KING ST
NISSOURI RD
AGNES ST
MARIA ST
LIONS LANE
FAIRVIEW RD
UPPER QUEEN ST
RAILWAY ST
MAIN ST
HUESTON DR
MONTEITH AVE
COUNTRYSIDE LANE
PARK LANE
MEADOWBROOK LANE

N

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0 125 250 500 Metres

6.2 Land Acquisition Strategies

The recommended active transportation network contained in this Master Plan includes trail and cycling routes on municipal lands as well as non-municipal lands, including lands that have not yet been developed. It is in the best interest of the Municipality to acquire access to any lands not owned by the Municipality for the purposes of expanding trail and cycling opportunities in order to maximize connectivity throughout Thames Centre. To achieve this, there are a number of mechanisms that the Municipality can deploy to secure future lands, such as purchasing land or gaining access to privately-owned lands through formal agreements and easements.

It is recognized that informal trails on private properties, which have been created by trail users and cyclists, exist throughout the Municipality. This is commonly found in many rural communities where formal municipal trails and cycling routes are limited. Informal strategies to acquiring lands for active transportation network development, such as verbal agreements, should be discouraged as there are a number of challenges that may arise with regard to access, pathway routing, and safety and liability. It is recommended that the Municipality exercise the following acquisition tools to secure future lands to expand the active transportation network, many of which are supported by the *Municipal Act* and the *Planning Act*. It should be noted that each tool is unique and should be applied on a situational basis.

Dedication through Plan of Subdivision

As identified by section 51 of the *Planning Act*, this strategy allows the Municipality to require the dedication of lands for pedestrian and bicycle pathways as a condition of draft subdivision approval and ensures protection of lands within settlement areas for the purposes of enhancing the active transportation network. This acquisition strategy will prove to be the most appropriate in developing new portions of Dorchester and Thorndale.

Easement

Securing an easement with a property owner gives the Municipality the right to use lands for a specified activity without purchasing the lands. This method is typically used to protect municipal service corridors or conservation or heritage lands as governed by the Conservation Lands Act and the Ontario Heritage Act. This formal agreement is registered on the title of the property and the right to access the lands remains through the length of the agreement should the ownership of the property change. This low cost strategy may ensure public access and provide flexibility in the use of the lands. There are a number of easements that exist within the Municipality that may be utilized in enhancing Thames Centre's active transportation network.

Land Purchase

This strategy allows the Municipality to purchase all or a portion of land at fair market value. Although this strategy ensures protection for public access, it can be financially challenging to purchase significant amounts of privately-owned lands for the purposes of constructing an active transportation network. The land-owner must be a willing seller and an agreeable purchase price must be identified.

Land Exchange / Land Swap

The Municipality may make an exchange (or swap) of lands with a private land-owner for lands that may lie within the proposed trail or cycling route. While this strategy will guarantee public access, the lands proposed to be exchanged must be agreeable to both parties. Land exchanges are typically based on the appraised value, not the size of land.

Right of First Refusal

The Right of First Refusal is an agreement established by the Municipality and the land-owner that grants the Municipality an opportunity to match another party's offer to purchase a specific property. This agreement may not give the Municipality immediate access to the lands but provides an opportunity to purchase property at a later date and discourage competition from other potential buyers.

Donation or Bequest of Land

The Municipality may accept a donation of land from a land-owner, at which point the land owner receives a tax receipt at an appraised value for their charitable donation, provided the donation meets the requirements under the Federal Income Tax Act. This strategy is typically used for the donation of environmentally sensitive lands as a part of the Ecogifts Program, while donations outside this program are subject to capital gains. Alternatively, land-owners may choose to bequeath lands to the Municipality after death, which is more advantageous from a tax perspective.

Lease / License Private Lands

Similar to an easement, the Municipality may enter into a lease or license agreement with a land-owner to establish public access through private lands. By contrast, this form of agreement does not bind future land-owners and, as a result, public access is not guaranteed. This option should generally be discouraged.

Recommendation
19. Utilize a range of strategies to secure new lands for active transportation network development.

6.3 Capital Cost Estimates

An estimate of costs have been articulated in Table 4 in order to provide the Municipality with a high level overview of the capital costs required for implementing the trails component of the recommended active transportation network. These estimates should be used to identify long-term financial planning needs and should not be considered as absolute. Detailed costs should be identified through the planning process and confirmed on a project-by-project basis. Estimates do not consider inflation and are subject to change over the life of this Master Plan. Costs for implementing the on-road cycling component of the Plan have not been identified as the majority of these routes are proposed on County roads and will require confirmation through the County's pending Cycling Strategy.

It should be recognized that these estimates reflect actual trail construction costs, and exclude the purchasing of amenities such as signage, benches, and waste receptacles, in addition to the costs associated to acquire lands and sidewalks within future plans of subdivisions. The estimates represented in the following table reflect the costs that are anticipated to be borne by the Municipality (and can be partially covered by development charges). Trail routes and sidewalks located within plans of subdivision have been excluded as it is expected that these pathways will be constructed by the developer as a condition of plan of subdivision approval.

Table 4: Capital Cost Estimates – Proposed Trail Network

	Cost $/m	Short Term (2015 – 2020)		Medium Term (2021 – 2026)		Long Term (2027+)		Total Cost
		Length (m)	Sub-Total	Length (m)	Sub-Total	Length (m)	Sub-Total	
Community Trails	$160	2,785	$445,600	4,246	$679,360	2,621	$419,360	$1,418,560
Secondary Trails	$75	1,678	$125,850	1,200	$90,000	518	$38,850	$253,800
Total		**4,463**	**$571,450**	**5,446**	**$769,360**	**3,139**	**$458,210**	**$1,799,020**
Average Per Year		**893**	**$114,290**	**1,089**	**$153,872**	**-**		

Note: Estimates exclude costs for land acquisition, support amenities, and inflation, sidewalks within future plans of subdivisions, as well as on-road cycling routes.

The total cost for implementing the recommended active transportation network (off-road component only) is approximately $1.8 million, including $571,450 over the next five years (an average of approximately $115,000/year). The medium term (2021 – 2026) costs are estimated to be $769,360 (an average of approximately $150,000/year) and long term costs are estimated to be $458,210 beyond 2027. The Municipality should focus on the highest priority recommendations based upon its fiscal capacity. It is recognized that the Municipality has allocated $50,000 per year towards trail development, 90% of which is funded through development charges. Additional Municipal investment will be required and/or this funding should be augmented with grants available to support the enhancement of trails, cycling, and general physical activity, in addition to potential partnerships that are explored in greater detail in the following sections. It is further recommended that the Municipality increase the trails maintenance budget over time in line with active transportation network development projects to ensure that new and existing routes can be adequately maintained.

Recommendation
20. Evaluate opportunities to increase the Municipality's trail maintenance budget over time (in line with active transportation network development projects) to ensure that new and existing routes can be adequately maintained.

6.4 Funding Opportunities

The availability of sustainable funding will be a critical factor in the implementation of Thames Centre's active transportation network. Fortunately, there are a number of funding opportunities available at all levels of government and within the community to offset taxpayer costs. With approximately 19 kilometres of trails and 86 kilometres of cycling routes proposed to be added to the existing active transportation network, it is recommended that the Municipality seek potential funding from the following sources. The funding programs listed in this section are not an exhaustive list; it is essential that the Municipality regularly explore new funding sources and grant programs as opportunities emerge throughout the life of this Master Plan.

Federal

Federal / Provincial Gas Tax Fund

The Gas Tax Fund is collected based on fuel sales and distributed to every municipality in Canada for infrastructure projects that contribute clean air, water, and greenhouse gas emissions.

Green Municipal Fund

The Green Municipal Fund is a program initiated by the Federation of Ontario Municipalities to support municipally-led initiatives that focus on enhancing air, water, and soil, and mitigating the impacts of climate change.

Provincial

Ontario Municipal Cycling Infrastructure Program

The Ontario Municipal Cycling Infrastructure Program is one of the Province's newest grant programs. Expected to launch in spring 2015, this project dedicates $10 million towards expanding local cycling routes, connecting provincial cycling routes, and supporting emerging programs targeted at improving cycling infrastructure.

Ontario Trillium Foundation

The Ontario Trillium Foundation funds a variety of groups and initiatives that work to enhance the quality of life of residents across Ontario. This program provides funding to support a broad range of programs and causes that focus on promoting physical activity, building inclusive communities, environmental sustainability, arts and culture, economic well-being, and developing youth and children.

Municipal / Local

Development Charges

Many communities accept development charges for the development of trails and cycling routes. Thames Centre anticipates development charge revenues of $450,000 (including the 10% deduction) for trail development over a ten year period, representing an annual allocation of $45,000 (plus $5,000 per year from other Municipal sources).

Trails & Sidewalks in New Development

Recent amendments to the Thames Centre Official Plan (locally adopted but awaiting County approval) provide opportunities for the Municipality to require the dedication of lands for the purposes of pedestrian and cycling pathways as a condition for plan of subdivision approval, thereby minimizing land acquisition costs to the Municipality. However, the operational costs for any portion of pedestrian trail, cycling route, or sidewalk assumed thereafter are the responsibility of the Municipality.

Donations & Contributions

Monetary or other resource donations and contributions from businesses and private groups, service clubs and community groups (Mill Pond Committee), and residents can enhance community ties and should be encouraged to promote a sense of ownership and pride. The strength of local service and volunteer groups is often showcased in projects focused on the betterment of Thames Centre.

Recommendations

21. Full implementation of this Master Plan will require additional investment in trail development. The Municipality should pursue external sources and cost-sharing opportunities to supplement municipal funding for the development of Thames Centre's active transportation network.

6.5 Trails Advisory Council & Partnerships

Effective implementation of this Master Plan is required to ensure that this document remains relevant to the changing fabric of the Municipality. This may prove to be challenging in Thames Centre due to resource constraints and more pressing community priorities that may hinder implementation progress.

Best practices in other communities suggest that the formation of a trails advisory committee has been proven to be successful in advancing active transportation projects. A Community Trail Advisory Committee once existed in the Municipality and was responsible for coordinating the development of Thames Centre's trail system, including seeking funding and fundraising through special events and community activities. The Mill Pond Committee also exists in Dorchester, which is an ad-hoc community group that assists the Municipality and U.T.R.C.A. with managing the Mill Pond. It is recommended that an incorporated not-for-profit Trails Advisory Council be formed, which would be responsible for overseeing the recommendations described in this Master Plan, including Municipal-wide and area specific projects. These Councils generally consist of interested community volunteers, with a minimum of one Council member.

Not-for-profit Trails Advisory Councils offer a number of benefits compared to municipally-led initiatives. In addition to being able to champion active transportation projects more efficiently, Trails Advisory Councils have the ability to apply for additional external funding sources, receive donations, fundraise and operate independently from the municipality. As these groups are made up of dedicated volunteers with a shared interest in enhancing the active transportation network, they are generally inexpensive to operate. The Municipality is encouraged to provide assistance in coordinating the assembly of the Trails Advisory Council and provide initial guidance (including the preparation of a Terms of Reference), as necessary. A municipal staff member should also be assigned to work with the Trails Advisory Council and other Municipal departments on capital projects, grant applications, and education and awareness initiatives.

Pursuing partnership opportunities with local service clubs, community groups, government bodies, agencies, and private businesses also provides an opportunity to leverage resources, celebrate active transportation, and encourage physical activity in Thames Centre. Several active community partners exist in Thames Centre and it is recommended that the Trails Advisory Council and Municipality build upon these relationships and explore future projects that have regard for the strategies and recommendations contained in this Master Plan. Most recently, it is recognized that the Municipality is working with the Thorndale Lions Club to provide a number of seating areas along the walking path that loops around the Wye Creek storm water pond. A broad range of other partnership opportunities may exist including, but not limited to, promoting the use of active transportation routes within local groups, joint publications and programs encouraging safe trail use and cycling, volunteer clean-up and walking programs, monetary donations, and more.

While trail development and management activities should be driven largely by volunteer efforts (with municipal support), the Municipality and/or Trails Advisory Council should exercise caution when entering into partnerships with community groups as not all organizations possess similar visions and desires regarding desired projects, roles, and responsibilities, depending on the abilities and resources of those involved. As a result, it may be necessary to establish mutually agreed upon terms through a formal partnership agreement.

Recommendations

22. Work with community stakeholders to establish a Trails Advisory Council to assist in implementing the Master Plan and provide guidance on future trail or cycling projects.
23. Develop a policy for community funding and management contributions to trail and cycling projects that are aligned with this Master Plan.

6.6 Monitoring & Updating the Master Plan

It is recommended that this Trails & Cycling Master Plan be adopted in principle to serve as a guide to the Municipality and the community. Implementation will occur on a project specific basis, dependent on opportunity, funding, partners, and related factors. To ensure that this Master Plan is implemented in a timely fashion, an annual review of this Master Plan should be undertaken to ensure that its recommendations are reflective of Municipal goals and objectives for establishing a connected active transportation network. This includes evaluating and revising recommended routes and priorities based on new information, capital projects, development applications, funding and other resources, and other linkage opportunities. The following tasks should be considered when monitoring and updating this Master Plan:

- Working with the proposed Trails Advisory Council, prepare an annual staff report to Council on the status of the implementation strategy, including completed trail and cycling routes, partnerships, newly acquired lands, funding opportunities, as well as a strategy to advance the Master Plan for the upcoming year.
- Undertake an update to the Trails & Cycling Master Plan in five to ten years. This process should include a community engagement process to solicit input from the public, municipal staff, council, and stakeholders.

Recommendations

24. Adopt this Trails & Cycling Master Plan in principle to serve as a guide to the Municipality and the community. Implementation will occur on a project specific basis, dependent on opportunity, funding, partners, and related factors.
25. Working with the proposed Trails Advisory Council, prepare an annual staff report to Council on the status of the implementation strategy, including completed trail and cycling routes, partnerships, newly acquired lands, funding opportunities, as well as a strategy to advance the Master Plan for the upcoming year.
26. Undertake an update to the Trails & Cycling Master Plan in five to ten years. This process should include a community engagement process to solicit input from the public, municipal staff, council, and stakeholders.

6.7 Summary and Timing of Recommendations

Throughout the body of this Master Plan, recommendations have been identified at the end of each subsection or topic area. This is not intended to be a definitive list, as additional capital items, operating expenditures, and other initiatives outside the scope of this Plan may be identified and prioritized on a case-specific basis. By approving this Plan, the Municipality is not bound to implementing every recommendation or undertaking projects in the timing indicated; rather, this Plan provides guidance on community priorities and sets a general course for meeting the needs as they are presently defined. **It is expected that the Municipality of Thames Centre will make decisions on individual projects and funding sources annually through the capital budget process.**

This implementation strategy provides guidance for ensuring that the most critical recommendations are dealt with in a timely fashion, while the less critical (yet important) recommendations are implemented over time. The timing of the projects proposed in this Master Plan recognizes the need for phased implementation as some recommendations are based upon what is needed and not necessarily what may be financially achievable at the present time. As part of the annual budget process, this Plan will be reviewed to identify areas where the availability of resources may affect the timing of implementation.

Determining priorities is an exercise that should be revisited each year prior to the Municipality's budget development exercise. Readjusting resource allocations is critical in a climate where base funding is not increasing substantially and resources need to be maximized in order to garner the greatest gain to the community.

In addition to funding availability, factors that might change priorities year to year may include:

- capital lifecycle and considerations of safety;
- legislation and mandated requirements;
- development applications;
- changes to service standards;
- public input and community interests;
- coordination with other capital projects (e.g., road reconstruction);
- partnership and grant opportunities; etc.

The Municipality has limited resources and cannot afford to do everything that the community desires; thus meeting the widest range of needs possible through the efficient use of resources is paramount. Although the Municipality of Thames Centre may be challenged in providing the appropriate financial resources to meet the Master Plan's recommendations, the Municipality has an obligation to make every reasonable effort to implement these strategies through a variety of appropriate and acceptable means. The full implementation of this Plan will require the pursuit of development charges, grants, alternative funding, and the establishment of various partnerships and collaborations with community organizations, agencies, and other partners.

Priority is often, but not always, synonymous with timing – the higher the priority, the sooner the recommendation should be implemented. Priority has been determined based on an assessment of need, as identified throughout the planning process (including public engagement, trend analysis, assessments of existing routes, policies, and procedures, etc.).

Within the following table, the priority and timing of recommendations are organized into the following categories:

Priority

- High Priority: Immediate attention is recommended during the timeframe recommended.
- Medium Priority: Attention is required when high priority recommendations have been initiated or completed, or when suitable partners have been identified for funding.
- Low Priority: Attention is required when high and medium priority recommendations have been initiated/completed.

Timing

- Short-term: Year 2015 – 2020
- Medium-term: Year 2021 – 2026
- Long-term: Year 2027 and beyond
- Ongoing: Best practices to be followed on a continual basis

Note: In the following tables, the recommendations are numbered according to the order in which they are presented in the body of the Master Plan. They are not listed in priority order.

Table 5: Summary of Recommendations

Recommendation – Guiding Principles	Priority	Timing
1. Consider the vision and guiding principles contained in this Master Plan in the development of Thames Centre's active transportation network and in the planning of new trail and cycling opportunities.	High	Ongoing
Recommendation – Recommended Active Transportation Hierarchy		
2. Have regard for the recommended active transportation hierarchy in the planning, design, and development of trail and cycling routes.	High	Ongoing

Recommendations – Recommended Active Transportation Network	Priority	Timing
3. Support the phased implementation of the recommended trails and cycling routes identified in this Master Plan in order to enhance the active transportation network and bolster physical activity.	High	Ongoing
4. The Municipality will ensure paved shoulders and/or other cycling improvements are provided when reconstructing Municipal roads that are identified as cycling routes in this Master Plan (as revised time to time). The Municipality will coordinate with the County regarding the extension of the active transportation network along County roads. As an interim measure, the Municipality and/or County may consider the installation of Share the Road signage (e.g., Sharrows) in order to accelerate implementation of the proposed cycling network.	Medium	Ongoing
5. As necessary, undertake revisions to the recommended active transportation routes to respond to physical geography and constraints, new opportunities, and missing linkages, provided that the guiding principles and general intent of the Master Plan are maintained.	Medium	Ongoing
Recommendation – Design Standards, Requirements, and Guidelines		
6. Utilize the Active Transportation Development Toolkit in the planning, design, and development of trails and cycling routes in Thames Centre, in consultation with persons with disabilities and the County's Accessibility Advisory Committee. The standards and guidelines contained in this Toolkit should be read in conjunction with other Provincial and Municipal construction documents.	High	Ongoing
Recommendations – Policy Development		
7. Consider integrating the recommended active transportation network as a part of an Official Plan schedule to serve as an awareness tool for municipal staff, developers, planners, and interested members of the public.	High	Short

Recommendations – Policy Development		
8. Encourage developers to communicate information to potential homebuyers about future trail development within and adjacent to new residential development through means including, but not limited to, brochures, information packages, subdivision renderings, and Purchase Agreements.	High	Ongoing
Recommendations – Policy Development	**Priority**	**Timing**
9. Engage the public in the planning and design process in advance of trail and cycling construction to facilitate opportunities for public input and to promote the social, physical, and environmental benefits of an active transportation network.	High	Ongoing
Recommendations – Maintenance & Management		
10. Prepare a Trail Maintenance Policy to establish a framework for maintaining municipal trails in Thames Centre. This policy should consider tasks required to manage trail routes and the frequency of documented inspections, which should be based upon factors such as the type of trail and the volume it receives. This Maintenance Policy may also consider sidewalk inspections as required by Ontario Regulation 239/02.	High	Short
11. Identify and address deficiencies along existing trail routes in Thames Centre, such as along Valleyview II Trail, with particular attention given to vegetation management, accessibility, and other concerns raised in this Master Plan.	High	Ongoing
12. Appoint an existing or future municipal staff member to undertake trail and sidewalk inspections on a regular basis.	High	Ongoing
Recommendation – Risk Management & Liability		
13. Ensure that Thames Centre's active transportation network is maintained in accordance with the maintenance strategies (including procedures for preventative and emergency maintenance) articulated in this Master Plan and other leading guidelines in order to minimize user risks and municipal liability.	High	Ongoing

Recommendation – Risk Management & Liability	Priority	Timing
14. While public trails on private lands are generally discouraged, in situations where these arrangements are necessary to create a connected trail network, the Municipality should consider long-term access and maintenance agreements.	Low	Ongoing
Recommendation - Education & Promotion		
15. Explore strategies to educate and promote awareness of Thames Centre's active transportation network, including safe active transportation use and etiquette, as well as encouraging physical activity through the use of trails and cycling.	High	Ongoing
16. Engage potential community groups and organizations to leverage resources in delivering the education and promotion strategies contained in this Master Plan.	High	Ongoing
17. Maintain and regularly update trails and cycling mapping in GIS for use in promotional materials and to share with key community partners.	Medium	Ongoing
Recommendation - Active Transportation Phasing		
18. Implement the recommended active transportation network as opportunities arise, adjusting for project costs, funding, and timing.	High	Ongoing
Recommendation – Land Acquisition Strategies		
19. Utilize a range of strategies to secure new lands for active transportation network development.	Medium	Ongoing
Recommendation – Capital Cost Estimates		
20. Evaluate opportunities to increase the Municipality's trail maintenance budget over time (in line with active transportation network development projects) to ensure that new and existing routes can be adequately maintained.	Medium	Ongoing

Recommendation – Funding Opportunities		
21. Full implementation of this Master Plan will require additional investment in trail development. The Municipality should pursue external sources and cost-sharing opportunities to supplement municipal funding for the development of Thames Centre's active transportation network.	High	Ongoing
Recommendations – Trails Advisory Council & Partnerships	**Priority**	**Timing**
22. Work with community stakeholders to establish a Trails Advisory Council to assist in implementing the Master Plan and provide guidance on future trail or cycling projects.	High	Short
23. Develop a policy for community funding and management contributions to trail and cycling projects that are aligned with this Master Plan.	High	Short
Recommendations – Monitoring & Updating the Master Plan		
24. Adopt this Trails & Cycling Master Plan in principle to serve as a guide to the Municipality and the community. Implementation will occur on a project specific basis, dependent on opportunity, funding, partners, and related factors.	High	Short
25. Working with the proposed Trails Advisory Council, prepare an annual staff report to Council on the status of the implementation strategy, including completed trail and cycling routes, partnerships, newly acquired lands, funding opportunities, as well as a strategy to advance the Master Plan for the upcoming year.	High	Ongoing
26. Undertake an update to the Trails & Cycling Master Plan in five to ten years. This process should include a community engagement process to solicit input from the public, municipal staff, council, and stakeholders.	Low	Medium

Appendix A – Community Open Houses

Two Community Open Houses were held on November 4th and 5th, 2014 in Thorndale and Dorchester, respectively. The purpose of these Open Houses was to solicit input from the community on what they think about trails and cycling in Thames Centre, where new trails and cycling routes should go, and other factors that should be considered in developing the Master Plan. The responses received from these sessions are summarized below in no particular order. It should be recognized that the following comments do not represent recommendations, but have been considered in the development in the Trails & Cycling Master Plan.

Trails in Thames Centre

- Mill Pond trail is excellent
- The Fanshawe Lake Trails are great for recreational cycling
- Wye Creek Trail is great for families with children
- The bridge on Main Street (Thorndale) near the convenient store too busy for kids
- Some portions of Wye Creek are overgrown
- Sections of Mill Pond Trail is too narrow and hazardous near the pond
- Two Schools Trail is too steep & rough

Planning for New Trails and Cycling Routes

- Cycling as a good option for commuting to school and work.
- Paved shoulders on highway
- Alternate path parallel to, but away from traffic
- Pedestrian friendly walkways over the Wye Creek for child safety
- Joining proposed trails to the Fanshawe Trails
- Proposed trails should join Thorndale to Dorchester
- Close proximity to Thorndale to eliminate the need for driving
- Maximize wooded areas
- Provide cycling connections for all directions through Thames Centre

Future Trails and Cycling Routes in Thames Centre

- Improved wayfinding system
- Lighted trails
- Paved surfaces
- Adequate parking
- Linkage to existing trails
- Hiking trails north and south of Main Street
- Comprehensive online database on trails
- Off-road bike route from the City to Thorndale and Fanshawe
- Bike trail to allow children to cycle to school in new and future developments
- Speak to land-owners about trails behind Wye Creek Trails
- Walking/cycling trails through natural municipal areas adjacent to new developments in Thorndale
- Trail behind Riness Dr. to join to Oakwood Dr.
- Linkage between Thorndale and Dorchester
- Linkage between Thorndale and the Fanshawe Lake Trails
- Thorndale Main Street on-road trail
- Paved highway shoulders for Thorndale/London cycling trail

Appendix B – Online Community Survey

As a part of the Master Plan, an Online Community Survey was available through the Municipality's website during October and November 2014. The survey collected information regarding the use of trails and cycling routes within and outside of Thames Centre, as well as their preferences, opinions, and priorities for active transportation in the Municipality. A total of 71 surveys were completed and analyzed. Given that this was a self-administered survey and was not a random sampling of the Municipality, the results are not statistically significant, although the data collected contributes to a greater understanding of existing trail and cycling conditions in Thames Centre.

1. In the past 12 months, have you or members of your household used any off-road trails in Thames Centre, such as the Mill Pond Trail or Dorchester Community Trail?

	#	%
Yes	45	63%
No	26	37%
Total	**71**	**100%**

2. In the past 12 months, have you or members of your household used any off-road trails in Thames Centre, such as the Mill Pond Trail or Dorchester Community Trail?

	#	%
There are no trails in my area	14	64%
Trails do not connect to my destinations or are not convenient	8	36%
I have no interest in using trails and/or cycling routes	1	5%
Trails lack the amenities that I desire	1	5%
Trails are not maintained well	0	0%
I don't feel safe using the trails	0	0%
Total	**22**	**109%**
Don't Know	*3*	

3. Over the past 12 months, how often did you or members of your household use the off-road trails in Thames Centre?

	#	%
Everyday	2	5%
Almost daily	9	21%
Once a week	8	19%
A few times a month	8	19%
Once a month	5	12%
A few times a year	10	23%
Once a year	1	2%
Total	**43**	**100%**
Don't Know	*0*	

4. What activities do you or members of your household do the most when using off-road trails in Thames Centre? (select all that apply)

	#	%
Walking	38	88%
Cycling	22	51%
Hiking	14	33%
Jogging	12	28%
Cross-Country Skiing	4	9%
Motorized Uses	3	7%
In-line Skating / Rollerblading	0	0%
Equestrian	0	0%
Total	**43**	**216%**
Don't Know	*0*	

5. What are the main reasons you or members of your household use the off-road trails in Thames Centre? (select all that apply)

	#	%
For fitness or recreation	39	91%
For nature appreciation	31	72%
To access parks	9	21%
To make trips to shop, run errands, or visit friends and family	5	12%
To go to school	1	2%
To go to work	0	0%
Total	**43**	**198%**
Don't Know	*0*	

6. In the past 12 months, have you or members of your household used any off-road trails OUTSIDE of Thames Centre, such as those in nearby communities or conservation areas?

	#	%
Yes	52	79%
No	14	21%
Total	**66**	**100%**

7. Over the past 12 months, how often did you or members of your household use off-road trails outside of Thames Centre?

	#	%
Everyday	0	0%
Almost daily	1	2%
Once a week	9	18%
A few times a month	15	29%
Once a month	6	12%
A few times a year	17	33%
Once a year	3	6%
Total	**51**	**100%**
Don't Know	*0*	

8. What activities do you or members of your household do the most when using off-road trails outside of Thames Centre? (select all that apply)

	#	%
Walking	37	73%
Cycling	33	65%
Hiking	25	49%
Jogging	12	24%
Cross-Country Skiing	5	10%
Motorized Uses	5	10%
Equestrian	1	2%
In-line Skating / Rollerblading	0	0%
Total	**51**	**231%**
Don't Know	*0*	

9. What are the main reasons you or members of your household use the off-road trails outside of Thames Centre? (select all that apply)

	#	%
More variety	27	53%
Looped or connected	26	51%
Nature appreciation	25	49%
Longer	22	43%
Closer to my home	12	24%
Better surfacing	12	24%
Friends or family in the area	9	18%
Closer to work, school, shopping	4	8%
Feel safer	4	8%
Special event	4	8%
Total	**51**	**284%**
Don't Know	*0*	

10. In the past 12 months, have you or members of your household used any sidewalks in Thames Centre?

	#	%
Yes	56	88%
No	8	13%
Total	**64**	**100%**
Don't Know	*1*	

11. In the past 12 months, have you or members of your household used any roads or streets in Thames Centre for cycling? (including road shoulders, but excluding sidewalks and off-road trails)

	#	%
Yes	44	68%
No	21	32%
Total	**65**	**100%**
Don't Know	*0*	

12. You indicated that you have not used any roads or streets in Thames Centre for cycling in the past 12 months. What barriers exist that prevent you from using roads for cycling in the Municipality? (select up to two responses)

	#	%
I have no interest in using cycling routes	9	50%
There are no cycling routes in my area	4	22%
I don't feel safe using the cycling routes	4	22%
Cycling routes do not connect to my destinations or are not convenient	2	11%
Cycling routes lack the amenities that I desire	1	6%
Cycling routes are not maintained well	0	0%
Total	**18**	**111%**
Don't Know	*1*	

13. Over the past 12 months, how often did you or members of your household use roads or streets in Thames Centre for cycling?

	#	%
Everyday	3	7%
Almost daily	9	21%
Once a week	16	37%
A few times a month	6	14%
Once a month	0	0%
A few times a year	9	21%
Once a year	0	0%
Total	**43**	**100%**
Don't Know	*0*	

14. Why do you or members of your household cycle on Thames Centre roads/streets? (select all that apply)

	#	%
For fitness or recreation	40	93%
For nature appreciation	17	40%
To make trips to shop, run errands, or visit friends and family	15	35%
To access parks	9	21%
To go to work	3	7%
To go to school	2	5%
Total	**43**	**200%**
Don't Know	0	

15. In the past 12 months, have you or members of your household used any on-road cycling routes OUTSIDE of Thames Centre, such as those in nearby communities?

	#	%
Yes	30	47%
No	34	53%
Total	**64**	**100%**

16. Over the past 12 months, how often did you or members of your household use roads or streets in Thames Centre for cycling?

	#	%
Everyday	0	0%
Almost daily	1	3%
Once a week	11	37%
A few times a month	7	23%
Once a month	0	0%
A few times a year	10	33%
Once a year	1	3%
Total	**30**	**100%**
Don't Know	*0*	

17. What are the main reasons you or members of your household use the on-road cycling routes outside of Thames Centre? (select all that apply)

	#	%
More variety	16	53%
Longer	15	50%
Looped or connected	15	50%
Better surfacing	14	47%
Nature appreciation	12	40%
Feel safer	6	20%

	#	%
Friends or family in the area	5	17%
Closer to my home	4	13%
Closer to work, school, shopping	2	7%
Special event	1	3%
Total	**30**	**300%**
Don't Know	*0*	

18. In general, how important are the following trail and/or cycling features to your household?

	Not at all important / Not important		Neither important or unimportant		Very important / Important		**Total**		*Don't Know*
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**
Location	2	3%	1	2%	59	95%	**62**	**100%**	*0*
Maintenance	4	6%	2	3%	56	90%	**62**	**100%**	*0*
Connections to other local trails and cycling routes	3	5%	4	7%	54	89%	**61**	**100%**	*1*
Safety	4	6%	5	8%	53	85%	**62**	**100%**	*0*
Signage	9	15%	9	15%	42	70%	**60**	**100%**	*0*
Connections to destinations (e.g., parks, schools, commercial areas, etc.)	8	13%	15	24%	39	63%	**62**	**100%**	*0*
Stable/even surface	9	15%	16	26%	37	60%	**62**	**100%**	*0*
Connections to other municipalities	13	21%	18	30%	30	49%	**61**	**100%**	*1*
Lighting	18	30%	13	22%	29	48%	**60**	**100%**	*0*
Parking	11	18%	21	34%	29	48%	**61**	**100%**	*0*
Washrooms	13	21%	24	39%	24	39%	**61**	**100%**	*1*
Accessibility for persons with disabilities	19	32%	20	33%	21	35%	**60**	**100%**	*1*

19. Thinking about the trails and cycling routes that you use the most, how would you rate your level of satisfaction with the following trail and/or cycling features in Thames Centre?

	Not at all satisfied / Not satisfied		Neither satisfied or unsatisfied		Very satisfied / Satisfied		Total		*Don't Know*
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**
Maintenance	8	16%	6	12%	35	71%	49	100%	*10*
Safety	6	12%	12	24%	32	64%	50	100%	*9*
Location	18	35%	8	16%	25	49%	51	100%	*6*
Parking	7	15%	17	37%	22	48%	46	100%	*12*
Signage	15	31%	11	23%	22	46%	48	100%	*10*
Stable/even surface	14	28%	16	32%	20	40%	50	100%	*9*
Connections to destinations (e.g., parks, schools, commercial areas, etc.)	16	33%	18	38%	14	29%	48	100%	*11*
Lighting	12	26%	23	50%	11	24%	46	100%	*11*
Washrooms	13	28%	24	52%	9	20%	46	100%	*11*
Accessibility for persons with disabilities	13	29%	25	56%	7	16%	45	100%	*13*
Connections to other local trails and cycling routes	30	61%	13	27%	6	12%	49	100%	*9*
Connections to other municipalities	24	49%	24	49%	1	2%	49	100%	*9*

20. To what degree do you support or oppose spending additional public funds on improving or developing the following trail and cycling features in Thames Centre?

	Strongly Oppose / Oppose		Neither support or oppose		Strongly Support / Support		Total		*Don't Know*
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**
Unpaved nature or hiking trails	2	3%	2	3%	56	93%	60	100%	*0*
Paved multi-use trails (for walking, biking, inline skating, etc.)	7	12%	6	10%	47	78%	60	100%	*0*
Paved on-road shoulders that support cycling	6	10%	9	15%	45	75%	60	100%	*0*
Connections to key destinations within Thames Centre (e.g., schools, parks, shopping, etc.)	4	7%	11	19%	44	75%	59	100%	*0*
Support amenities (seating, shade, parking, washrooms, etc.)	5	8%	15	25%	39	66%	59	100%	*0*
Connections to other municipalities (e.g., London, Ingersoll, etc.)	7	12%	14	23%	39	65%	60	100%	*0*
Signed bike routes or sharrows on roadways (shared)	6	10%	16	27%	38	63%	60	100%	*0*
On-street bike lanes (dedicated)	9	15%	15	25%	36	60%	60	100%	*0*

21. If additional off-road trails were developed in Thames Centre, how likely would you or members of your household be to use them?

	#	%
Not likely at all	1	2%
Unlikely	1	2%
Neither likely or unlikely	1	2%
Likely	12	21%
Very likely	43	74%
Total	**58**	**100%**
Don't Know	*1*	

22. On average, how far would you like to travel on an off-road trail at any one time?

	#	%
10 kilometres or more	24	42%
2 to 5 kilometres	16	28%
6 to 9 kilometres	15	26%
1 kilometre or less	1	2%
I would not use this type of facility	1	2%
Total	**57**	**100%**
Don't Know	*2*	

23. If additional on-road cycling routes were developed in Thames Centre, how likely would you or members of your household be to use them?

	#	%
Not likely at all	8	14%
Unlikely	7	12%
Neither likely or unlikely	5	8%
Likely	17	29%
Very likely	22	37%
Total	**59**	**100%**
Don't Know	*0*	

24. On average, how far would you like to travel on an on-road cycling route at any one time?

	#	%
10 kilometres or more	33	60%
I would not use this type of facility	11	20%
2 to 5 kilometres	7	13%
6 to 9 kilometres	3	5%
1 kilometre or less	1	2%
Total	**55**	**100%**
Don't Know	*3*	

25. To what degree do you agree with the following statements?

	Strongly Disagree / Disagree		Neither agree or disagree		Strongly Agree / Agree		Total		*Don't Know*
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**
The development of off-road trails on municipal lands should be a high priority for Municipal Council.	6	10%	5	8%	48	81%	59	100%	*0*
The development of on-road cycling routes should be a high priority for Municipal Council.	8	14%	15	25%	36	61%	59	100%	*0*
Your household is satisfied with the off-road trails that are available in your area.	33	59%	10	18%	13	23%	56	100%	*3*
Your household is satisfied with the on-road cycling opportunities that are available in your area.	37	66%	13	23%	6	11%	56	100%	*3*

26. Additional Comments

Survey respondents were provided with an opportunity to provide any further comments with respect to active transportation. The responses were collected and analyzed, which revealed several common themes that were consistent with what was heard throughout the community engagement process. While some respondents expressed that they appreciate what is available and recognize the benefits of having access to trails and cycling, the lack of trail and cycling opportunities was the most prominent theme. Some respondents also indicated that they were unaware of what is available in the Municipality.

Respondents advanced opportunities that should be considered in the planning of new routes in Thames Centre such as along the Thames River, connecting to London and Ingersoll, between Dorchester and Thorndale, and to Fanshawe Conservation Area.

Another common theme that was identified was the need to improve existing trail and cycling infrastructure. It was suggested that the Municipality undertake select sidewalk replacement and repairs, pave shoulders, construct bike lanes, and widen trail sections (e.g., Mill Pond Trail). Some respondents also identified the need for washrooms and to remove bollards at certain access points as they were found to be restrictive to persons with disabilities.

27. Including yourself, how many people live in your household?

	#	%
1	2	3%
2	23	40%
3	10	17%
4	17	29%
5	5	9%
6	1	2%
Total Respondents	**58**	**100%**
Total Persons	**177**	
Average Persons Per Household	**3.1**	

28. Please indicate the total number of persons within your household that fall within the following age categories.

	#	%
Under 10 years	29	10%
10-19 years	51	18%
20-34 years	40	14%
35-54 years	110	38%
55-69 years	52	18%
70 years and over	6	2%
Total Respondents	**288**	**100%**

29. In what year were you born?

	#	%
Prior to 1944 (70 years or older)	0	0%
1944 to 1958 (55 to 69 years old)	11	21%
1959 to 1978 (35 to 54 years old)	36	68%
1979 to 1994 (20 to 34 years old)	6	11%
After 1994 (19 years or younger)	0	0%
Total	**53**	**100%**
Average Age	**48**	
Median Age	**49**	

30. Do you live within the Municipality of Thames Centre?

	#	%
Yes	56	95%
No	3	5%
Total	**59**	**100%**
Don't Know	*0*	

31. Which settlement area do you live closest to?

	#	%		#	%
Thorndale	28	51%	Nilestown	1	2%
Dorchester	20	36%	Wellburn	1	2%
Gladstone	2	4%	Harrietsville	0	0%
Avon	1	2%	Putnam	0	0%
Crampton	1	2%	Wabauno	0	0%
Mossley	1	2%	**Total**	**55**	**100%**