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Township of Woolwich

Active Transportation Master Plan

Paradigm Transportation Solutions Limited

June 2023
220510

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Project Summary

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Township of Woolwich
Active Transportation Master Plan

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Executive Summary

Introduction

The Township of Woolwich is a vibrant, responsible, healthy, and progressive community located north and east of the City of Waterloo. The Township comprises a variety of rural and urban settlements, including Elmira, St. Jacobs, and Breslau. Approximately 27,000 residents call the Township home.

With Woolwich poised for continued growth and prosperity, the Township would benefit from a strategy that addresses future active transportation needs. The plan must address immediate transportation concerns raised by local constituents, which will likely be exacerbated by further development in the community.

Building on these directions, the Township has developed this **Active Transportation Master Plan (ATMP)** to define actions that strengthen and support its active transportation network. The plan provides a forward-looking strategy to guide the planning, coordination, implementation, and design of an integrated, sustainable transportation system capable of satisfying mobility needs for all members in the community.

Planning Context

The ATMP builds on the land use and transportation planning policy context defined by the Province of Ontario, Waterloo Region, and the Township of Woolwich. These include pertinent directives, regulations, and initiatives influencing the planning, design, construction, and operation of transportation services in the Township.

Although not required, the plan, in general, follows the Municipal Class Environmental Assessment (MCEA) process. This ensures the process captures the typical requirements of such a study but is not contained to the MCEA process where conditions do not apply.

Scope and Objectives

The ATMP is a high-level assessment of active transportation facility needs in the Township of Woolwich. The recommendations contained in this study can be integrated in related Township plans. Furthermore, the plan also provides a starting point for more detailed, engineering, and operational works.

When considering active transportation needs, this plan includes considerations for human-powered mobility, including walking, cycling,

and rolling, among other forms. As most active transportation trips are made via walking and cycling, the Plan focuses on these two core areas. Further active transportation modes can be incorporated into facilities at the design stage where necessary.

The ATMP recommends facilities, implementation strategies and design recommendations to meet active transportation needs in the Township of Woolwich to the year 2033 (and beyond). The objectives of the Plan are to:

- Establish a clear vision for the active transportation network that will accommodate planned growth and development in the Township;
- Articulate a local “Made in Woolwich” approach to active transportation that aligns with the unique features of the community and respects the Township’s vision; and
- Establish active transportation design practice and traffic management policies that produce consistent roadways meeting the users’ expectations for different road types while recognizing the uniqueness of each location serviced by those active transportation facilities.

Network Development

The existing active transportation network in Woolwich comprises sidewalks in the larger settlement areas, and a combination of paved and unpaved multi-use trails (MUTs) away from the road right-of-way. It should be noted that MUTs take various forms in the Township and are classified as such for study purposes. This network is generally used by commuters, and for general purpose recreational use. There are also a wide variety of private off-road path/trail connections that are used by the horse and buggy community. This historically established private network mainly supplements the existing trail network.

The Region of Waterloo maintains approximately 140 km of on-road cycling routes on Region of Waterloo roads within the Township boundaries. These facilities include reserved bike lanes, one-metre-wide paved edges (shoulders), and rural cycling lanes. Select off-road MUTs also allow for cycling.

The pedestrian network development process focused on providing a comprehensive and complete sidewalk network in each of the settlement areas. The process also focused on identifying gaps in each settlement area based on the Township policy of providing sidewalks on both sides of every road in these settlement areas.

The proposed cycling network was developed using a five-step process based on the Bicycle Facility Selection Tool contained in *Ontario Traffic Manual* Book 18[1] and shaped by input gathered through the Stakeholder Engagement Program and Public Engagement Program (see **Chapter 2**).

The development process included five steps:

- **Step 1**: Review Existing Network
- **Step 2**: Define Route Selection Criteria
- **Step 3**: Identify Proposed Routes and Facilities
- **Step 4**: Resolve Gaps and Discontinuities
- **Step 5**: Compile Proposed Network

In planning and designing the cycling network, consideration was given to ensuring safety, access, and connectivity for all users.

Map E.1 illustrates the planned sidewalk network including identified gaps in the Township wide sidewalk network. **Map E.2** illustrates the planned cycling network.

Network Phasing and Implementation Strategy

Successful implementation of the ATMP will depend on the cooperation and active participation of many stakeholders, including Waterloo Region, the provincial government, other public agencies, the business and development community, and local citizens.

Proposed infrastructure investments are incorporated into an action plan that prioritizes the capital projects into two horizons, short and long-term, based on route priority, as well as cost, trip data, feasibility and community needs. High-level phasing and cost estimates are also provided, as appropriate.

Table E.1 summarizes the recommended phasing and indicative costs to implement the proposed active transportation improvements shown on **Map E1.1** and **Map E1.2**. **Map E.3** illustrates the planned phasing of the cycling network.

The table lists the locations of pedestrian improvements by settlement area in alphabetical order for each horizon (short and long-term). The table also lists the indicative costs of the urban and rural cycling

[1] Ontario Ministry of Transportation, *Ontario Traffic Manual Book 18: Cycling Facilities,* (Toronto: Queen's Printer of Ontario, 2021), 121-122.

network improvements for each horizon (short- and long-term). Overall, the proposed investment totals $44,296,000 comprising:

- $29,801,900 in the short-term (0 to 10 years); and
- $14,494,100 in the long-term (beyond 10 years).

The cost estimates reflect only those improvements to Township owned roads. They do not include estimates to implement recommended regional or provincial routes identified in **Map E1.2**, or road improvements ancillary to the cycling facility (for example, paving a rural road to support paved shoulders). Conversely, coordination of the works contained in this plan with existing planned works would likely substantially reduce costs where synergies can be found. Overall, the costs are high-level estimates that can be better estimated once more detail, notably design considerations, are assessed for an individual route.

It is anticipated that the ATMP implementation strategy will be incorporated into existing Township capital plans and operations. Where opportunities and challenges exist, updates should be made. As the Township grows and the active transportation industry evolves, implementation efforts may need to adjust as well.

The Plan recommends developing an ongoing monitoring program and completing reviews of the ATMP every five years to determine the need for a formal update in the future. Monitoring will also provide an indication of progress to-date and changes with the Township's strategy and active transportation industry.

TABLE E.1: ESTIMATED ACTIVE TRANSPORTATION FACILITY COSTS

Initiative	Indicative Phasing and Cost		
	Short (0 – 10 Years)	Long (10+ Years)	Total
Pedestrian Network			
Bloomingdale	$657,100	$244,200	$901,300
Breslau	$3,560,500	$1,052,500	$4,613,000
Conestogo	$1,538,800	$1,376,500	$2,915,000
Crowsfoot Corner	$789,600	$0	$789,600
Elmira	$4,967,400	$4,122,200	$9,089,600
Floradale	$374,400	$273,200	$647,600
Heidelberg	$1,687,800	$120,400	$1,808,200
Maryhill	$847,200	$391,900	$1,239,100
St. Jacobs	$1,457,500	$1,559,100	$3,016,600
Stockyards	$316,100	$138,100	$454,200
West Montrose	$1,166,700	$0	$1,166,700
Winterbourne	$950,300	$38,900	$989,200
SUB-TOTAL	**$18,313,400**	**$9,317,000**	**$27,630,400**
Urban Cycling Network			
Paved Shoulders	$196,900	$0	$196,900
Multi-use Paths	$1,660,000	$0	$1,660,000
Signed Routes	$89,100	$300	$89,400
Sub-Total	**$1,946,000**	**$300**	**$1,946,300**
Rural Cycling Network			
Paved Shoulders	$9,540,300	$5,176,800	$14,717,100
Multi-use Paths	$0	$0	$0
Signed Routes	$2,200	$0	$2,200
Sub-Total	**$9,542,500**	**$5,176,800**	**$14,719,300**
SUB-TOTAL	**$11,488,500**	**$5,177,100**	**$16,665,600**
GRAND TOTAL	**$29,801,900**	**$14,494,100**	**$44,296,000**

Map E.1: Planned Sidewalk Network

WOOLWICH TOWNSHIP

paradigm TRANSPORTATION SOLUTIONS LIMITED

LURA LISTEN · UNDERSTAND · RELATE · ADVANCE

June 13, 2023

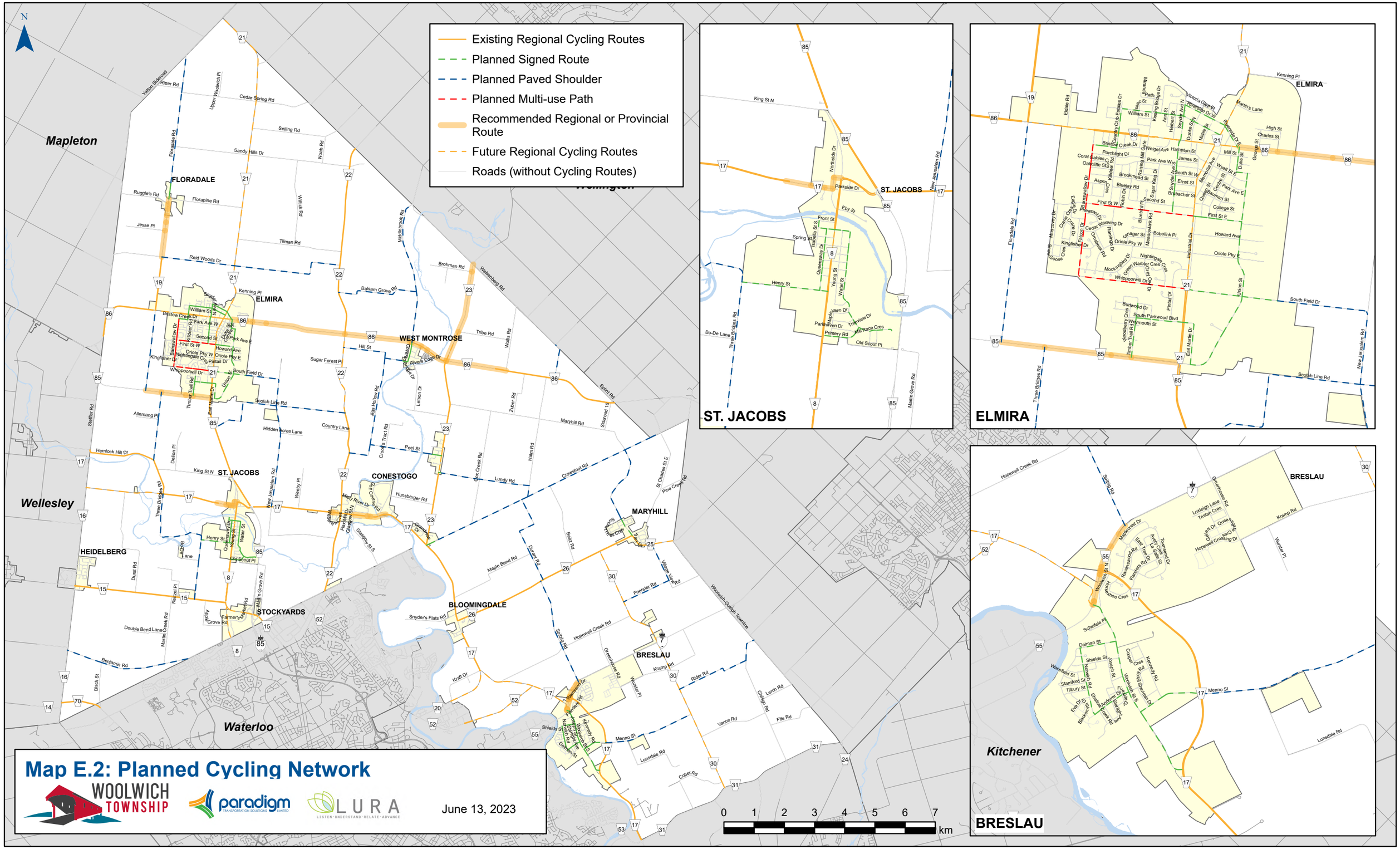
- Exsting Sidewalk
- Partial Sidewalk
- No Sidewalk

0 1 2 3 4 5 6 7 km

ST. JACOBS

ELMIRA

BRESLAU



Map E.2: Planned Cycling Network

WOOLWICH TOWNSHIP

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June 13, 2023

Map E.3: Planned Network Phasing

WOOLWICH TOWNSHIP

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LURA CONSULTING — LISTEN · UNDERSTAND · RELATE · ADVANCE

June 13, 2023

- Short Term Improvement
- Long Term Improvement

0 1 2 3 4 5 6 7 km

ST. JACOBS

ELMIRA

BRESLAU

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1 About this Plan

1.1 Context

The Township of Woolwich is a vibrant, responsible, healthy, and progressive community located north and east of the City of Waterloo. The Township comprises a variety of rural and urban settlements, including Elmira, St. Jacobs, and Breslau. Approximately 27,000 residents call the Township home.

Figure 1.1 illustrates the location of Woolwich and its context within Waterloo Region. The Township also shares boundaries with Wellington County, and the Townships of Centre-Wellington, Guelph-Eramosa, and Mapleton.

The community benefits from an existing regional multi-modal transportation network, supplemented by key Township-maintained facilities. The active transportation network comprises on-road routes, sidewalks, bicycle paths, and trails. The Township is responsible for the ongoing maintenance and operation of local roads and active transportation facilities in Woolwich. It is the intent of the Township to maintain a safe and efficient transportation system for the movement of the community.

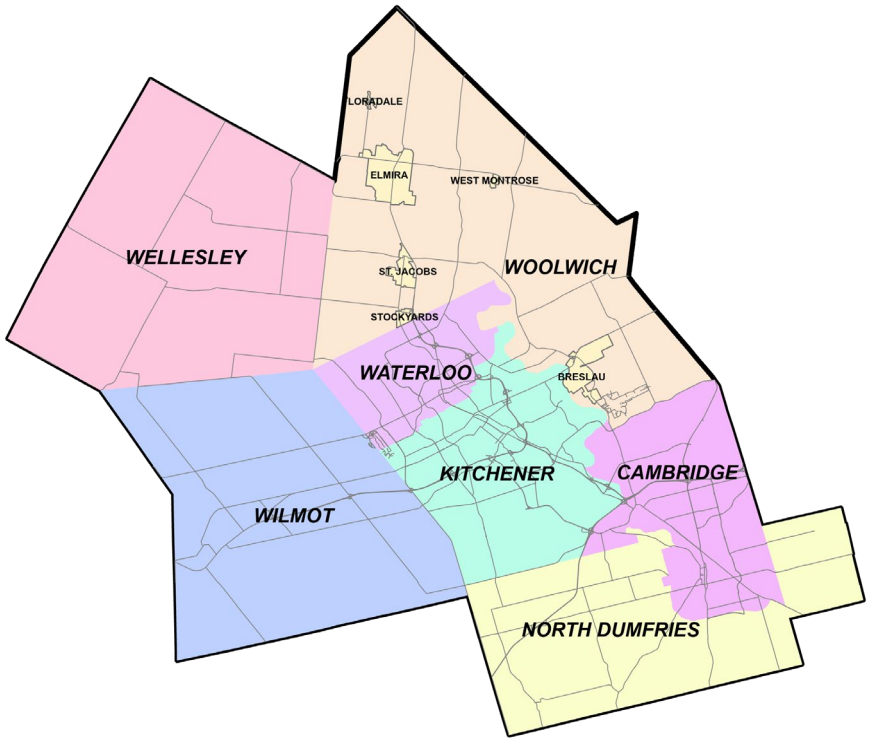

FIGURE 1.1: TOWNSHIP OF WOOLWICH

1.2 Purpose

Infrastructure Canada defines active transportation as "the movement of people or goods powered by human activity. [It] includes walking, cycling, and the use of human-powered or hybrid mobility aids such as wheelchairs, scooters, e-bikes, rollerblades, snowshoes, and cross-country skis."[2]

Active transportation can help reduce automobile dependence and carbon emissions, increase physical activity levels, improve public health, reduce infrastructure demands, and create more livable, vibrant, and equitable communities. Many Canadian jurisdictions have recognized the positive impact of providing attractive options for active travel and developed strategies to guide future infrastructure investments and program delivery supportive of these objectives.

With Woolwich poised for continued growth and prosperity, the Township would benefit from a strategy that addresses future active transportation needs. The plan must address immediate transportation concerns raised by the community, which may be exacerbated by further development in the Township and Region. The Township of Woolwich's *Official Plan* and the Region of Waterloo *Official Plan* set out broad active transportation system objectives, but do not articulate a comprehensive plan.

The purpose of this **Active Transportation Master Plan (ATMP)** is to provide a high-level assessment of active transportation facility needs in the Township. This plan provides a forward-looking strategy to guide the planning, coordination, and implementation of an integrated, sustainable transportation system capable of satisfying mobility needs for the community. It outlines short and long-term infrastructure works to improve the attractiveness and safety of walking and cycling in Woolwich.

Maintaining the high quality of life residents currently enjoy, safeguarding the environment, preserving the historic character of the community, and facilitating continued economic growth and prosperity are priorities of the plan.

1.3 Scope and Objectives

The ATMP recommends facility improvements and supporting policies and programs to meet active transportation needs in the Township of

[2] Infrastructure Canada, *National Active Transportation Strategy 2021-2026*, (Ottawa: Infrastructure Canada, 2021).

Woolwich to the year 2033 (and beyond). The objectives of the plan are to:

- Establish a clear vision for the active transportation network that will accommodate planned growth and development in the Township;
- Articulate a local "Made in Woolwich" approach to active transportation that aligns with the unique features of the community and respects the Township's vision; and
- Establish active transportation design practice and traffic management policies that produce consistent roadways meeting the users' expectations for different road classifications while recognizing the uniqueness of each location serviced by those active transportation facilities.

By providing direction and next steps for planning, building, and maintaining the Township's active transportation network, the ATMP serves as a "blueprint" for action by Township Council, with implementation aided through several tools, including:

- Development Charge By-laws and Annual Budgets – These documents will identify the necessary financial resources to implement the recommended infrastructure improvements identified in the ATMP;
- Land Use Planning Process – Elements of the ATMP will be or are already incorporated into the Waterloo Region *Official Plan* to enable implementation through policy direction and the review and approval of development applications;
- Environmental Assessments – The Township must complete the Municipal Class Environmental Assessment (MCEA) planning and design process to move forward with the implementation of certain infrastructure improvements identified in the Plan. This is necessary to satisfy provincial and federal statutory requirements. The extent of the MCEA planning and design process will depend on the scope of infrastructure improvement, and the dollar amount of the project; and
- Guideline Documents – Guidelines, such as those setting design specifications and recommended operating and maintenance procedures, will provide further implementation detail and complement the ATMP.

It should be noted that the time of writing this document, the Township of Woolwich is in the initial stages of their Parks and Recreation Master Plan. The ATMP can help to inform the Parks and Recreation Master Plan, notably content related to active transportation planning.

It is acknowledged that certain assumptions in the ATMP may prove imprecise over time because of changing conditions levels of detail not within the scope of this study. It is expected the ATMP will be periodically updated, ideally alongside mandated reviews of the respective Region and Township Official Plans, per the *Planning Act*.

Successful implementation of the ATMP will ultimately depend on the cooperation and active participation of many entities, including Waterloo Region, the provincial government, First Nations communities, conservation authorities, special interest groups, other public agencies, the business and development community, and local residents. The Plan provides a framework for cooperation between these interested parties and will be relied upon to guide the Township's future active transportation decisions and actions.

1.4 Report Organization

The remainder of this ATMP is organized into four chapters:

- **Chapter 2 – Community and Stakeholder Engagement** summarizes the engagement activities carried out in developing the ATMP with details of the program content, communication methods, and feedback received.
- **Chapter 3 – Plan Foundations** describes the policy context for the ATMP, the natural, cultural, and socio-economic environments and transportation system in place at the time of preparing the plan, the outlook for the Township, and the transportation vision and objectives for Woolwich.
- **Chapter 4 – Network Development** presents the proposed cycling and pedestrian networks and facility design guidance.
- **Chapter 5 – Network Phasing and Implementation** explains the process and tools for implementing the ATMP, provides phasing, costing, and potential financing for the recommended improvement program, highlights operating and maintenance considerations, and proposes monitoring strategies and a process of continual review and updates to the plans.

The report also includes a series of appendices containing the details of:

- The community and stakeholder engagement program (**Appendix A – Engagement Summary Report**)
- The policy framework governing the plan (**Appendix B – Policy Context**)

- The indicative costing of the future pedestrian and cycling networks (**Appendix C – Costing of Proposed Active Transportation Facilities)**

2 Community and Stakeholder Engagement

2.1 Program Overview

Consultation is a vital component of master plan studies and provides opportunities to engage with the public and other stakeholders. The **Engagement Program** for this ATMP offered all members of the Woolwich community a variety of opportunities to learn about the ATMP and provide input into the active transportation network for the Township.

The Engagement Program featured a wide range of consultation, outreach, and communication initiatives to involve a broad spectrum of participants. Members of the public and key internal stakeholders were involved two-way discussions throughout the plan development process to generate meaningful dialogue about active transportation and the solutions desired by the community.

The objectives of the Engagement Program were to engage Township residents and stakeholders in meaningful conversations that:

- Increased understanding and awareness of active transportation and its benefits;
- Identified current and future issues, safety concerns, opportunities, and constraints for active transportation; and
- Captured a range of perspectives to inform the development of the ATMP and its implementation.

2.2 Engagement Approach

2.2.1 Engagement Process

The engagement process for this study involved three rounds of engagement. Each round focused on one three “areas of influence,” within which public input could help to shape the project deliverables.

Round 1 (Evaluating Issues and Opportunities) took place from December 2022 to January 2023. The purpose of Round 1 was to define the current state of active transportation in the Township and understand:

- How do residents currently like to move around Woolwich?
- How often do residents currently use active transportation?

- Where are residents' favourite local destinations?
- How would residents like to move around Woolwich in the future?

Round 2 (Developing the Active Transportation Network) took place from February 2023 to April 2023. The purpose of Round 2 was to evaluate the draft active transportation network and understand:

- What are residents' initial impressions of the draft network?
- Does the draft network provide the connections that residents need?
- What types of facilities would residents like to see within the network?

Round 3 (Developing the Active Transportation Master Plan) took place from May 2023 to June 2023). The purpose of Round 3 was to review the draft ATMP and understand:

- What are residents' initial impressions of the draft ATMP?
- Does the draft ATMP provide the connections that residents' need?
- Does the draft ATMP address residents' safety concerns?

2.2.2 Engagement Audiences

Engagement activities for this study sought to secure participation from a broad range of community members to ensure that the development of the ATMP reflected the diverse range of perspectives in the Township, including families and youth, seniors, and the Mennonite Community. The study also engaged staff from various departments at the Township to inform the development of the ATMP.

- General Public
  - Families and Youth
    - Staffed community pop-up events were held at local community centres to reach family and youth at popular recreational activities.
    - Self-guided community pop-up displays were presented at local library branches and at a local high school.
  - Seniors
    - Staffed community pop-up events were held at local community centres to reach seniors at popular recreational activities.

        - Self-guided community pop-up displays were presented at local library branches.
        - Hard copies of surveys and comment forms were made available at the Township Administrative Office.
    - Mennonite Community
        - Hard copies of surveys and comment forms were made available at the Township Administrative Office.
        - Phone outreach was conducted with a representative of the Mennonite community.
- Township Staff: Held a one-hour virtual meeting with key Township staff, and engaged key staff from the following Township departments throughout the development of the ATMP:
    - Development Engineering Services
    - Emergency Services
    - Infrastructure Services
    - Planning Services
    - Recreation and Community Services

2.2.3 Engagement Activities

A summary of the engagement activities for each round of engagement is provided below. In total, 223 participants provided feedback during the three rounds of engagement. Participants represented a broad range of ages, from children and youth to retired seniors. Table 2.1 summarizes the

2.2.4 Communication Activities

The Township promoted the engagement opportunities using the Township's website and social media accounts as well as through the local newspaper:

- **Round 1:** 3,262 impressions and 135 engagements; and
- **Round 2**: 2,127 impressions and 70 engagements.

Table 2.2 summarizes the communication tools used in each engagement round, and the extent of reach of each tool.

TABLE 2.1: ENGAGEMENT ACTIVITY SUMMARY OF OUTREACH

Engagement Round	Engagement Activities	Location	Participation
Round 1 – Evaluating Issues and Opportunities (December 2022 to January 2023)	Public Survey	Online – Engage Woolwich Paper survey available at the Township's Administrative Office	159 surveys ▶ Online: 149 ▶ Paper: 10
	Mapping Activity	Online	3 participants contributing 28 pins
Round 2 – Developing the Active Transportation Network (February to April 2023)	Staffed Community Pop-up Events	Breslau Community Centre (Tuesday March 7, 2023) (5:00 PM to 7:00 PM) Woolwich Memorial Centre (Wednesday March 8, 2023) (3:30 PM to 5:30 PM) St. Jacobs Arena (Wednesday March 8, 2023) (6:30 PM to 8:30 PM)	71 informed ▶ 55 provided feedback
	Self-guided Community Pop-up Displays	Township of Woolwich Administration Office Region of Waterloo Library – St. Jacobs Branch Region of Waterloo Library – Elmira Branch Elmira District Secondary School	2 comment forms completed
	Online Comment Form	Online – Engage Woolwich	10 informed 1 comment form completed
Round 3 – Developing the Active Transportation Master Plan (May – June 2023)	Public Open House	Township Municipal Office (Tuesday May 9, 2023) (4:30 PM to 7:00 PM)	3 informed 2 provided feedback
	Phone Outreach with Mennonite Community	Phone	1 informed 1 provided feedback
	Online Comment Form	Online – Engage Woolwich	1 informed

TABLE 2.2: COMMUNICATION TOOLS AND EXTENT OF REACH

Engagement Round	Communication Tool(s)	Extent of Reach
Round 1 – Evaluating Issues and Opportunities (December 2022 – January 2023)	Twitter	Two posts (January 30 and February 10) with 1,923 impressions and 50 engagements
	Facebook	Two posts (January 30 and February 10) with 839 impressions and 65 engagements
	Instagram	Two posts (January 30 and February 10) with 500 impressions and 20 engagements
Round 2 – Developing the Active Transportation Network (February – April 2023)	Twitter	Two posts (March 6 and March 11) with 652 impressions and 32 engagements
	Facebook	Two posts (March 6 and March 11) with 821 impressions and 20 engagements
	Instagram	Two posts (March 6 and March 11) with 654 impressions and 18 engagements
Round 3 – Developing the Active Transportation Master Plan (May – June 2023)	Facebook	One post (April 25) with a total of 2 engagements
	Instagram	One post (April 25) with a total of 6 engagements
	Newspaper	One advertisement in the Woolwich Observer (May 4)

2.3 What We Heard

2.3.1 Round 1

The following summarizes the feedback received during Round 1:

- Approximately 75% of participants reported using active transportation to reach their destination(s).
- Exercise and recreation and taking children to school represent some of the top reasons for active transportation use in the community. Other participants noted that they use active transportation to visit friends and attend social events, to travel to local parks and trails, and to travel to local amenities (for example, restaurants, stores, community centres, and libraries).
- The primary reasons that prevent walking as a primary mode of transportation is the distance between destinations, unpleasant weather (especially in winter months), and a lack of destinations. Some participants also mentioned that a lack of safe pedestrian crossings makes walking or rolling feel unsafe, and that key destinations (such as schools and community centres) lack nearby pedestrian crossings.
- The primary reasons that prevent cycling as a primary mode of transportation are concerns related to safety and unpleasant weather. Participants noted a lack of separation from cars, and a lack of dedicated space for cycling. Some participants also identified concerns about cycling adjacent to higher speed vehicle traffic.
- Participants emphasized two main priorities that should be reflected in the plan:
  - The active transportation network should offer separation between different forms of transportation and provide a continuous network; and
  - The plan should include winter maintenance considerations to ensure facilities are accessible year-round.

2.3.2 Round 2

The following summarizes the feedback received during Round 2:

- Over 70% of participants responded that the Draft Active Transportation Network “got it right”, and expressed that the proposed routes:
  - Are located in the right places as residents already travel by active transportation on those routes.

    - Would contribute to them feeling safer getting around Woolwich using active transportation.
    - Would make getting around more accessible in Woolwich, particularly for seniors who use wheelchairs/scooters.
- Participants expressed a desire for additional active transportation linkages to:
    - Local schools and parks.
    - Existing trails/active transportation routes in Kitchener-Waterloo
    - Other neighbourhoods in Woolwich that are isolated from the population centres.
- Some participants expressed concern about active transportation facilities removing parking spots and space for motor vehicles and horse-drawn buggies.
- Some participants expressed concern about the cost of implementing active transportation facilities.

2.3.3 Round 3

The following summarizes the feedback received during Round 3:

- Participants expressed appreciation for how the ATMP considers the needs of different road users.
- Participants expressed appreciation for how the ATMP plans to phase implementation with planned road reconstruction works to reduce costs.
- Participants expressed a desire for more sidewalks in the Mennonite community located in Winterbourne.
- Participants expressed support for implementing wider shoulders throughout the Township. It was noted that on routes where motor vehicles, horse-drawn buggies, and cyclists all share the road, shoulders should have a three (3) metre width.
- Participants emphasized that the design of active transportation facilities in Woolwich should not disrupt the travel and safety of horse-drawn buggies.
    - It was noted that hard surface roads if not maintained can lead to severe injuries to horses due to large potholes.
    - It was noted that guard rails on routes adjacent to steep ditches can improve the safety of all road users.

- It was noted that routes relied on to cross the Grand River and to access local farmers markets should continue to be permissive of horse-drawn buggies.

For complete community and stakeholder engagement information, see **Appendix A**.

3 Plan Foundations

3.1 Policy Context

The Active Transportation Master Plan (ATMP) builds on the land use and transportation planning policy context defined by the Province of Ontario, Waterloo Region, and the Township of Woolwich. **Appendix B** details this Policy Context, summarizing the pertinent directives, regulations, and initiatives influencing the planning, design, construction, and operation of transportation services in the Township.

3.2 Existing Environment

3.2.1 Geographic Setting

The Township is situated immediately north of the City of Waterloo, and shares boundaries with several communities in Waterloo Region (Township of Wellesley, City of Waterloo, City of Kitchener, and City of Cambridge) and Wellington County (Township of Guelph-Eramosa, Township of Centre-Wellington, and Township of Mapleton). Most residents of Woolwich can access these regional centres with a drive of one hour or less. Connections for active transportation users are less established.

3.2.2 Natural Environment

The quality of life of a community is typically influenced by the quality of its natural environment. The health of natural heritage features and areas directly reflects the social, environmental, and economic health and well being of the whole community. It is the responsibility of the Township in partnership with Waterloo Region, the Province, and the conservation authorities to provide a high-quality natural environment for the community including a diverse and healthy natural heritage system.

Due to a strong agricultural resource base in Woolwich, many of the natural resource features present before settlement in the 1800s have either been cleared or drained in the pursuit of agricultural land use activities. The resulting natural resource features include wetland areas, wooded areas, and watercourses and valley lands that are to be protected and enhanced.

3.2.3 Socioeconomic and Demographic Profile

Woolwich is a predominately rural Township by land use; however, approximately 65% of the community resides in three designated Settlement Areas – Breslau, Elmira, and St. Jacobs. **Table 3.1**

summarizes the total population and population change between 2011 and 2021 for Woolwich and its three settlement areas, based on Statistics Canada Census of Population data.

The population of Woolwich is approximately 27,000 people, with about 17,800 (or 66%) of residents living in one of the three larger settlement areas. The Township experienced relatively similar population growth between 2011 and 2016, and 2016 and 2021. Between 2016 and 2021, Breslau experienced the greatest change in population growth among the three settlement areas.

TABLE 3.1: POPULATION TRENDS IN WOOLWICH

Census Year	Population (Population Change)			
	Woolwich	Breslau	Elmira	St. Jacobs
2011	23,145	2,415	9,677	1,891
2016	25,006 (+8.0%)	3,778 (+56.4%)	10,273 (+6.2%)	1,988 (+5.1%)
2021	26,999 (+7.9%)	5,053 (+33.8%)	10,790 (+5.0%)	1,959 (-1.5%)

3.3 Transportation System

3.3.1 Road Network

Woolwich is served by a combination of provincial highways, regional roads, and roads under Township jurisdiction. Highway 7 is the primary provincial highway in the Township travelling east-west between Breslau and the City of Guelph. A portion of Highway 85 also extends from the City of Waterloo, connecting to Waterloo Road 85 south of St. Jacobs.

A significant number of regional roads traverse the Township. These roads are intended to carry significant volumes of through traffic and heavy vehicles at higher speeds. They primarily connect the Township road network to the provincial highway network.

The municipal road network in the Township connects to the regional road network. The Township road network outside Elmira, Breslau, and St. Jacobs is somewhat disconnected, with the regional road network providing strong road network connectivity through the communities. Approximately 20% of the Township road network is unpaved, primarily in the rural areas. Average annual traffic volumes (AADTs) on the Township road network (specifically arterial and collector roads) range from 105 to 5,955 vehicles per day. The highest volume roads under

Township jurisdiction are Farmer's Market Road between Weber Street North and King Street North, and Benjamin Road between Farmer's Market Road and Weber Street North. **Map 3.**2 illustrates the AADT volumes on the Township road network.

3.3.2 Active Transportation Network

The active transportation network in Woolwich comprises sidewalks in the larger settlements, and a combination of paved and unpaved multi-use trails (MUTs) away from the road right-of-way. It should be noted that MUTs take various forms in the Township and are classified as such for study purposes. Some sidewalks are provided in smaller settlement areas such as Maryhill, West Montrose, and Conestogo.

In Elmira, Breslau, and St. Jacobs, sidewalks are typically provided on at least one side of the road, if not both sides of most Township roads. This aligns with Section 15.9.3 of the Township *Official Plan*, which specifies "where feasible, the Township will ensure that sidewalks are provided on both sides of the road in a Settlement Area." This existing policy promotes effective pedestrian access and mobility within the settlement areas of the Township.

In the rural part of the Township, an extensive trail system connects the settlement areas and neighbouring municipalities; however, some sections of this network are on private lands. **Map 3.1** illustrates the current trail network, which includes three main segments:

- **Avon Trail** – A 104 km linear trail between St. Marys and Conestogo, 14.7 km of which exists in Woolwich. Most of the trail crosses private and municipal lands, while also routing along the public right-of-way in some sections. The Avon Trail is a hiking only trail.
- **Grand Valley Trail** – A 275 km trail that generally follows the Grand River through Haldimand County, Brant County, Waterloo Region, Wellington County, Dufferin County, and Peel Region. Approximately 34 km of the route lies within Woolwich, connecting Breslau and the Woolwich/Centre Wellington boundary near Middlebrook Road and Woolwich-Pilkington Townline. It is a hiking only trail as well.
- **Health Valley Trail** – A 5.1 km multi-surfaced trail along the Conestogo River between St. Jacobs and the trailhead at 3075 University Avenue and St. Jacobs stockyards, that forms part of the Trans Canada Trail. Hiking, birding, and mountain biking are permitted on all sections. Other forms of cycling, cross-country skiing, and snowshoeing are permitted on some sections.

Map 3.1: Existing Active Transportation Network

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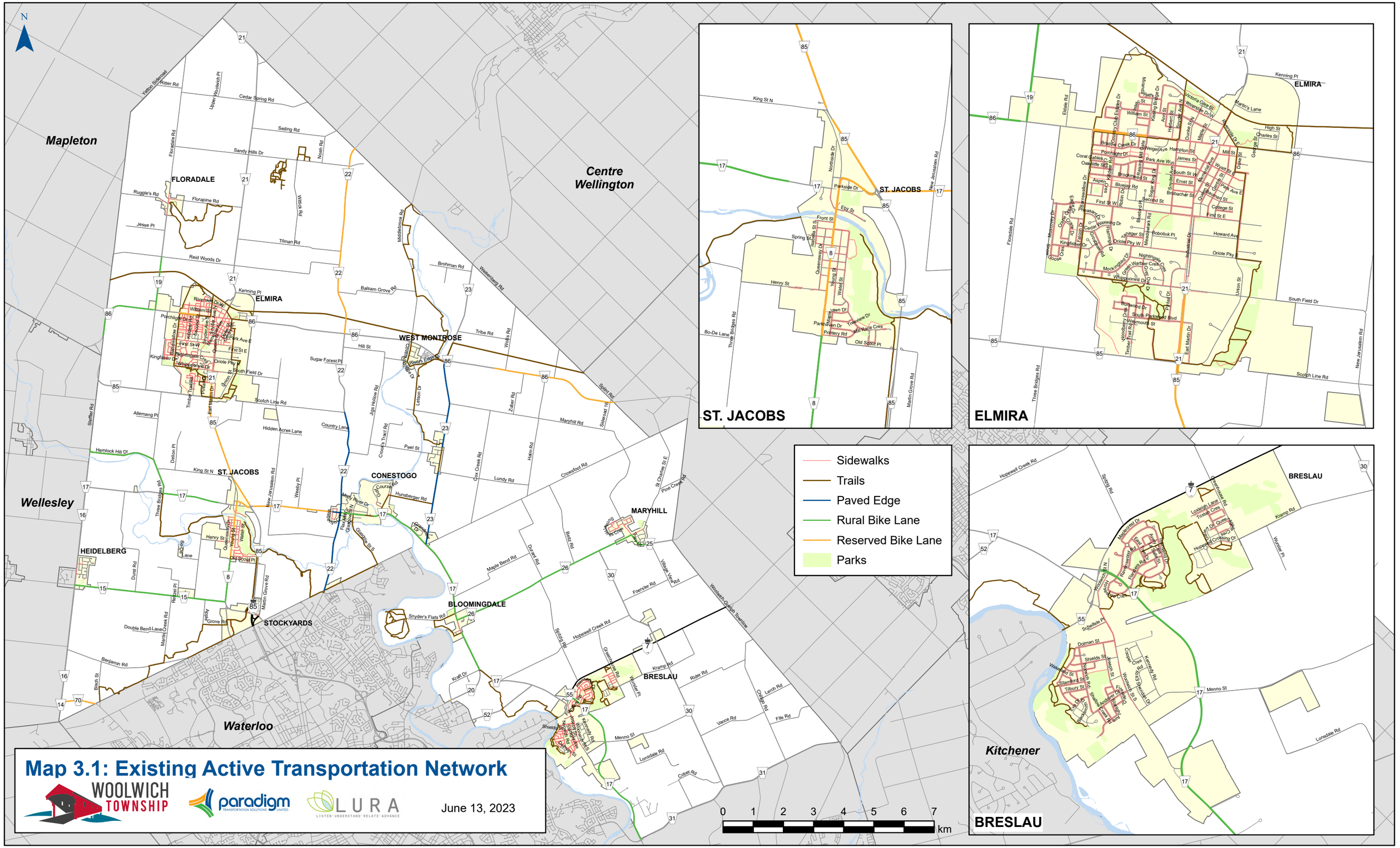

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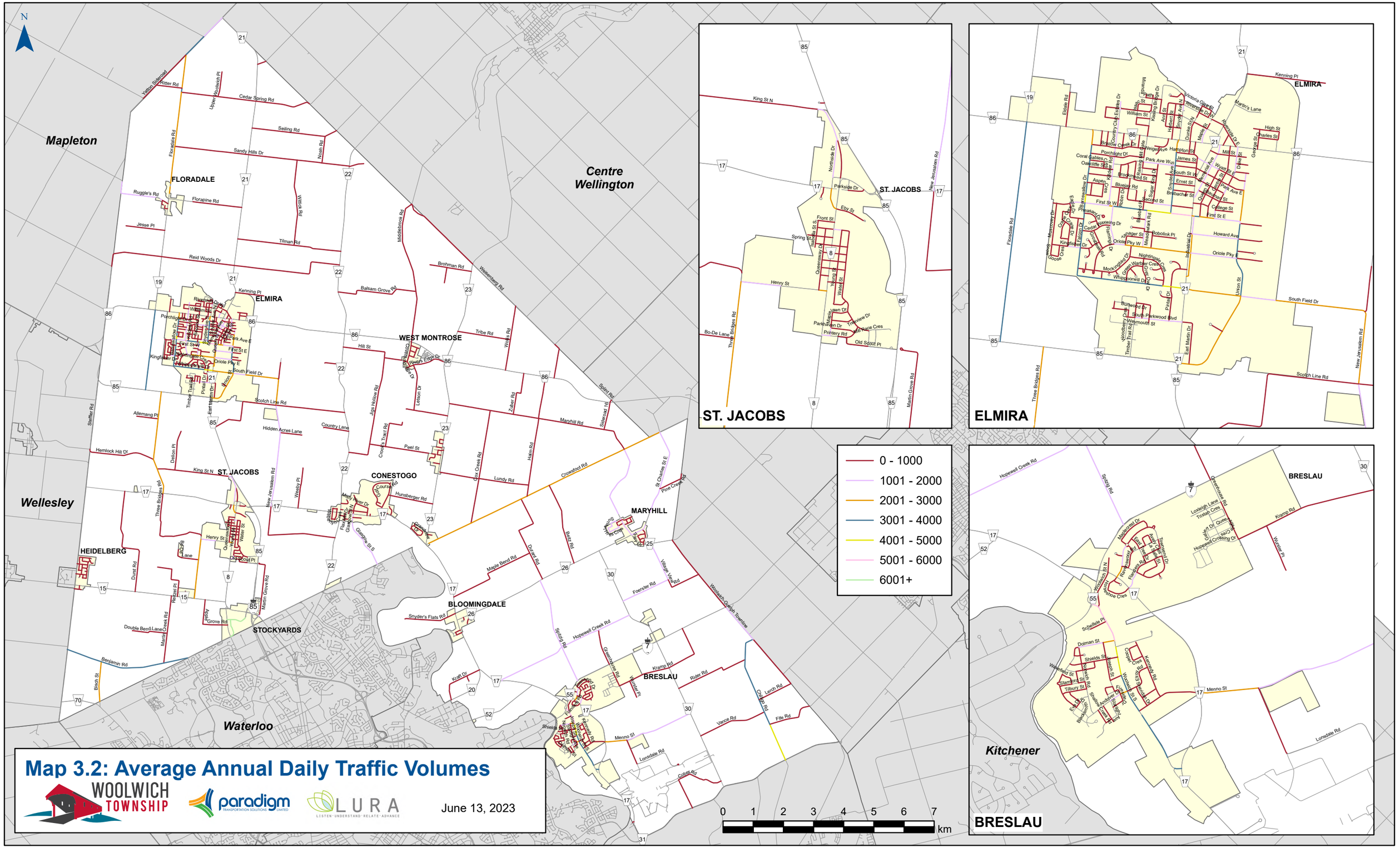

Map 3.2: Average Annual Daily Traffic Volumes

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- **Hopewell Heights Trail** – A 4 km hard-surfaced trail that surrounds the Hopewell subdivision and the forested valley of the Hopewell Creek. Hiking and cycling are permitted.
- **Kissing Bridge Trailway** – A 45 km trail that connects Maitland and Guelph via Elmira and West Montrose along a former Canadian Pacific Railway (CPR) right-of-way. This trailway forms part of the Trans Canada Trail. Approximately 16.5 km of the trail is within Woolwich, generally parallel to Line 86. Hiking, cycling, and cross-country skiing are permitted; snowmobiling is permitted in designated sections only.
- **Lions Lake Trail** – A 7 km loop, granular and natural path trail encircling the Woolwich Reservoir near Floradale. Hiking, mountain biking, cross-country skiing, snowshoeing, and birding are permitted.
- **Lions Ring Trail** – An 11 km loop trail encircling Elmira and connecting to the Kissing Bridge Trailway. The trail includes hard top, granular, natural path, and on-road surfaces. Permitted uses include hiking and cycling.
- **Market Trail** – A 1.5 km trail connecting the City of Waterloo and the Township of Woolwich which runs along the rail corridor between Northfield Drive and Farmer's Market Road. It also forms part of the Trans Canada Trail. Permitted uses include cycling and hiking, rollerblading, and scooter use. A granular side trail on township land connects with the Market Trail.
- **Mill Race Trail** – A 1.5 km granular trail between Three Bridges Road and the Canadian Pacific Railway line west of St. Jacobs. Permitted uses include cycling and hiking, and the trail forms part of the Trans Canada Trail.
- **Riverland Trail** – A 1 km granular surface trail adjacent to the Riverland subdivision and Grand River in Breslau. The trail does not connect to other trails in the Township. Permitted uses include hiking and cycling.
- **Sandy Hills Pinery Trails** – Two natural path loop trails (South Trail: 1.7 km, North Trail: 1.1 km) meandering through the Waterloo Region Agreement Forest. The trails do not connect to other trails in the Township. Permitted uses include hiking, cycling, snowshoeing, cross country skiing, and birding.
- **Snyder's Flats Trail** – A 4.5 km trail loop in a former gravel quarry on lands owned and operated by the Grand River Conservation Authority (GRCA). Hiking and birding are permitted; however, the trail does not connect to other trails in the Township.

- **Trans Canada Trail** – The Township includes 29 km of the Trans Canada Trail (the world's largest recreational trail) on varying trail surfaces including paved, granular, natural path, and on-road sections. Permitted uses include cycling, hiking, skiing and snowmobiling, as permitted by signs.
- **Walter Bean Trail** – The Walter Bean Trail is an extension of the Walter Bean Trail in Waterloo, Kitchener, and Cambridge. It includes on-road, paved, granular, and natural path sections. Permitted uses are cycling and hiking south of Winterbourne and hiking only north of Winterbourne.

The Township also includes a wide variety of private off-road connections that are used by the horse and buggy community. This historically established private network mainly supplements the existing trail network.

The Region of Waterloo also maintains approximately 140 km of on-road cycling routes on regional roads in the Township boundaries. These facilities include reserved bike lanes, one-metre-wide paved edges (shoulders), and rural bike lanes. **Map 3.1** illustrates the existing on-road regional cycling facilities in the Township. Select off-road MUTs also allow for cycling, as noted above.

3.4 Opportunities and Challenges

The assessment summarized in the preceding sections highlights existing conditions and prevailing trends that will shape and influence the Township of Woolwich active transportation system in the upcoming years. It is important to recognize and plan for these opportunities and challenges and develop an active transportation network that serves all users.

Key opportunities for the Township include:

- A connected public right-of-way and existing active transportation network that allows for relatively uninhibited movement of pedestrians, cyclists, and other active transportation users with appropriate facilities. Maintaining, enhancing, and adding to the existing active transportation network can reduce the need to introduce new active transportation facilities and roads;
- A network of existing and planned regional cycling facilities that provide relatively strong north-south and east-west connectivity, albeit on higher volume, higher speed roads; and
- An existing trail and sidewalk network in several settlement areas that provides a strong foundation for future active

transportation connectivity in the Township. Additional connections and accessible infrastructure would allow more people to travel around Woolwich in a healthy, equitable, and sustainable manner.

Key challenges for the Township include:

- Shifting public perception to encourage more frequent use of active transportation modes for trips within Elmira, Breslau, and St. Jacobs and reducing the reliance on motorized vehicles for local trips;
- Providing a network that both facilitates travel by active transportation modes while accommodating the horse and buggy community;
- Acknowledging that active transportation modes are likely to be used more in the larger settlement areas, which offer a greater variety of destinations within closer proximity to each other;
- Acknowledging that active transportation modes are more likely to be used during spring, summer, and autumn, as opposed to winter months; and
- Funding and resource constraints allocated to the development and maintenance of the active transportation network.

3.4.1 Vision, Goals, and Objectives

The Township's active transportation vision statement reads as follows:

"A(n) all ages and abilities active transportation system that provides safe and efficient movement of people and supports diverse transportation options, connecting the community and promoting healthy living to 2033 and beyond."

The transportation vision was shaped through input from key stakeholders, Township staff, and the Woolwich Strategic Plan (2020).

The active transportation vision statement is supported by four goals:

- **Safe Mobility** – An active transportation system that moves people and goods safely and efficiently and promotes cycling and walking.
- **Sense of Place** – A active transportation system that helps to support overall livability and quality of life.
- **Vibrant Local Economy** – An active transportation system that supports local business(es).

- **Financially Sustainable** – An active transportation system that improves financial sustainability, through innovative funding and delivery of services.

The transportation vision and goals will be achieved through the following objectives:

- Build on existing initiatives to reinforce goals and values of the Township.
- Create a connected network that provides safe connections to major attractions and destinations.
- Design for all ages and abilities to the extent possible to ensure all members of the community can safely use and benefit from the system.
- Develop a phasing strategy to implement the plans over time with short and long- term priorities.

4 Network Development

4.1 Overview

This chapter describes the recommended pedestrian and cycling networks for the Township of Woolwich. The following reference documents provided guidance in developing the pedestrian and cycling networks:

- **Geometric Design Guide for Canadian Roads (Transportation Association of Canada, 2017)** – This reference provides practical guidance on the planning, design, and operation of bicycle and pedestrian networks in Canada.
- **Ontario Traffic Manual (OTM) Book 15 (Pedestrian Crossing Facilities) (Ontario Ministry of Transportation, 2016)** – This reference provides guidance on the planning and design of pedestrian crossing treatments in Ontario.
- **OTM Book 18 (Cycling Facilities) (Ontario Ministry of Transportation, 2021)** – This reference provides guidance on the planning, design, and operation of on- and off-road cycling facilities in Ontario. Of note, the Bicycle Facility Selection Tool included in the document provides a three-step facility selection process that is straightforward to apply and uses readily available data.

Additional documents reviewed by the project team and considered in the network development process included the following:

- **Active Transportation – Making it Work in Canadian Communities (Transportation Association of Canada, 2010)** – This reference provides a summary of active transportation practices in a variety of Canadian municipalities.
- **Small Town and Rural Multimodal Networks (U.S. Department of Transportation, 2016)** – This reference provides transportation practitioners in small town and rural communities with multimodal design guidance drawn from successful case studies in the United States; and
- **Pedestrian and Bicycle Planning – Guide to Best Practice (Victoria Transport Policy Institute, 2009)** – This reference provides a detailed template for policy makers, planners, and advocates to implement active transportation plans and concepts.

4.2 Factors Affecting Active Transportation Use

The network development process for both the pedestrian and cycling network considered three primary factors that generally affect the use of active transportation facilities: user age, user skill and comfort, and trip purpose:

- **Age** – Between 2011 and 2021, the percentage of residents aged 65 or older has increased from 15.1% to 17.6%, whereas the percentage of residents between 15 and 64 decreased from 64.1% to 61.6%. The percentage of residents less than 15 years old remained relatively stable at approximately 20.7%.

  The active transportation network should include facilities to facilitate movement of an aging population. Seniors tend to engage in shorter distance cycling activities (1 to 5 kilometers) such as running errands or visiting nearby friends and family.
- **Skill and Comfort Level** – Specific to cycling facilities, research has shown typical cyclists can be categorized into four groups, as illustrated in **Figure 4.1**:
  - **Strong and Fearless** cyclists mostly ride for recreational and utilitarian purposes. These individuals are comfortable riding beside motor vehicles of all sizes and will typically cycle regardless of traffic and roadway conditions;
  - **Enthused and Confident** cyclists are like the strong and fearless type. They are generally comfortable sharing the road with motor vehicles but prefer to ride within areas designated for exclusive cyclist use such as bike lanes or trails;
  - **Interested but Concerned** cyclists avoid riding in higher volumes of vehicular traffic and tend to be discouraged by extreme topographic conditions and/or inconsistent bicycle facilities. These individuals do not cycle frequently but would like to ride more since they may not have their own automobile (e.g., children or seniors). They may be drawn to cycling with implementation of separated facilities that provide additional space between cyclists and motorists; and
  - **No Way, No How** individuals have never been (and may never be) drawn to cycling. Factors contributing to this avoidance could include topography, lack of skill, capability, and/or preference.

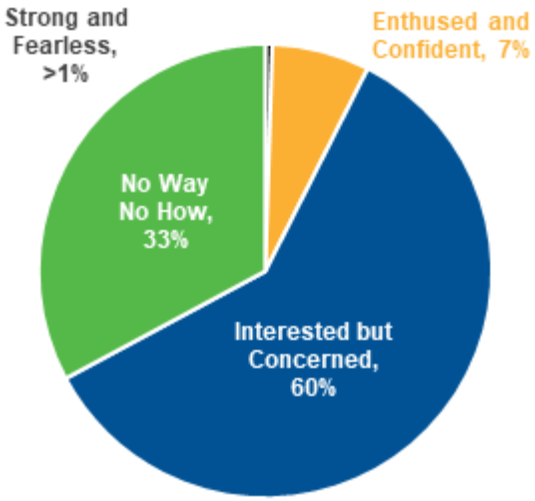

FIGURE 4.1: FOUR TYPES OF CYCLISTS

- **Trip Purpose** –The purpose of the trip affects travel patterns differently. For example:
  - Cyclists making utilitarian trips (for example running errands or visiting members of the community) tend to seek the most direct path but may be willing to go short distances out of the way for routes with fewer traffic control devices or lower traffic volumes or speeds;
  - Recreational trips are typically made on low volume rural roadways, quiet neighbourhood streets or off-road bicycle facilities. These trips are defined by the level of enjoyment, scenery and company of other cyclists experienced by the rider.
  - Touring trips (i.e., longer recreational trips) involve travel between urban areas or to specific points of interest. These trips involve more planning with cyclists often arranging overnight accommodation and mapping out preferred routes; and
- **Other Potential Users** – While other active modes of travel, including in-line skates, e-bikes and scooters, may travel on the active transportation network in Woolwich, the plan focuses on cyclists and pedestrians. These users typically use sidewalks, paved shoulders, signed routes and MUPs. Where there is evidence of frequent use of an alternative form of active transportation, efforts should be made to allow for safe and effective use of this mode.

4.3 Pedestrian Network

4.3.1 Overview

Pedestrian networks must be safe, comfortable, and enjoyable. Compared to other modes of transportation, pedestrians cannot travel as far in a similar time frame, and their experience is most directly impacted by the road environment. Pedestrians are also the most vulnerable roadway users and must rely on all senses to safely navigate their trips.

The pedestrian facilities in Woolwich primarily consist of sidewalks and multi-use trails (MUT). Many residents and visitors rely on these corridors to complete daily errands and other short trips. Unfortunately, some roads within the Township do not yet have complete pedestrian facilities on both sides of the entire segment, creating connectivity challenges and safety concerns. In addition, some sections of the trail network operate on private property thereby adding an element of long-term planning uncertainty for the Township to formalize these segments for public use.

4.3.2 Network Development and Design Guidance

The pedestrian network development process focused on providing a comprehensive and complete sidewalk network in each of the settlement areas. The pedestrian network development process focused on identifying gaps in each settlement area on the principle that sidewalks should be provided on both sides of all Township-owned roads in these settlement areas.

In planning and designing the pedestrian network, consideration was given to ensuring routes are:

- Connected and Permeable – Providing continuous routes serving pedestrian desire lines;
- Accessible and Comfortable – Minimizing impediments to barrier-free travel;
- Safe – Situated in appropriate locations and limited road crossings;
- Relevant to Context – Suited to the Township and leveraged existing facilities.

Additional design considerations for the pedestrian network are as follows:

- Sidewalks should be designed in accordance with OPSD 310 requirements and other applicable standards and guidelines. Key features include the use of concrete, appropriate joint type and spacing, surface texturing and width. A sidewalk width of 1.8 metres allows for two wheeled mobility devices to pass without conflict. A sidewalk width of 2.1 metres allows this to occur with a buffer space. Hydro poles, utilities and vegetation are common obstacles when updating a boulevard with new sidewalk.
- Depending on surrounding land use, sidewalks can be monolithic (directly adjacent to curb) or with a buffer space between the facility and the road. A buffer space between the outer edge of a sidewalk and live vehicle lanes is typical where vehicles are moving at higher rates of speed. Buffer spaces can range from 0.5 metres to 10+ metres. Depending on applicable standards (mainly municipal maintenance standards), buffer spaces greater than specified widths may require vegetation, which leads to ongoing maintenance costs. Permeable pavers in buffer zones can help reduce water runoff impacts.
- At intersections, sidewalks should connect to the opposite side of the road through crosswalks were stop control or an alternative form of intersection control allows for such a condition. Where applicable, alternate forms of crossings can be implemented, such as pedestrian crossovers, school crossings and crossrides. Options exist for features like curb bump-outs and refuge islands where they are deemed beneficial.
- Crosswalks should follow OTM Book 15 guidance and other relevant Township standards, policies and by-laws. Where required, intersections should include tactile plates, crosswalk lines, ladder crosswalk markings and relevant signage to support pedestrians as they cross the road. The crosswalks should be at least 2,5 metres wide and free of obstructions such as manholes, catch basins pedestrian pushbutton poles and signage. At signalized crossings, aspects such as APS pushbuttons, pedestrian countdown timers and relevant traffic signal signage should be considered in additional to the previously mentioned items. Roundabouts require proprietary signage for intersection crosswalks. For further details on intersection requirements, refer to OTM Book 15.

Map 4.1 illustrates the identified gaps in the Township wide sidewalk network as either roads without any sidewalk facilities, or those with a partial sidewalk network. This latter category includes roads with sidewalk on only one side, and roads with a gap in the sidewalk network.

Map 4.1: Planned Sidewalk Network

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Exsting Sidewalk
Partial Sidewalk
No Sidewalk

0 1 2 3 4 5 6 7 km

ST. JACOBS

ELMIRA

BRESLAU

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4.4 Cycling Network

4.4.1 Overview

The recommended cycling network was developed in two stages. First, a shortlist of facility types was developed based on an overall assessment of the Township road network, and discussions with Township staff. These provided the basis for which cycling facilities would and could be adopted by the Township.

The project team then conducted a review of existing Township, regional, and provincial facilities to identify gaps in the network. The project team developed a set of route selection criteria and identified potential routes and remaining gaps. The existing routes, identified routes, and identified gaps were then combined to form a cohesive cycling network.

The following sections detail the facility selection and network developments processes for the Township cycling network.

4.4.2 Facility Selection and Design Guidance

Ontario Traffic Manual (OTM) *Book 18 Cycling Facilities* defines a broad range of cycling facilities, divided into three broad categories: physically separated bikeways, bicycle lanes, and shared cycling facilities. Each category includes three to four different facility types to provide municipalities with different options.

To simplify the number of different cycling facilities employed in the Township, and based on feedback from staff during the network development phase, three cycling facilities were carried forward:

- **Physically Separated Bikeways**: In-Boulevard Multi-Use Paths
- **Shared Cycling Facilities**: Paved Shoulders and Mixed Traffic Operation.

Each facility is described as follows:

- **Multi-use Paths (MUPs)** and **Multi-use Trails (MUTs)** are paved (asphalt or concrete) or unpaved (stone dusted) linear facilities physically separated from motor vehicle traffic. These facilities are often used by both pedestrians and cyclists, requiring users to be more attentive to potential conflicts given the speed differential.

  Located within the road right-of-way but separated by a boulevard from the travel lanes, a MUP is typically implemented adjacent to roadways with higher motor vehicle speeds and

volumes along key cycling corridors. Situated on property outside the road allowance, a MUT offers more scenic and indirect routes for recreational cyclists but can also provide a direct commuter link in corridors not served by on-road bicycle facilities.

- **Paved Shoulders** provide space for cyclists to the right of the travel lane, between the white painted line and the edge of pavement/curb, to operate separately from motor vehicles. Used more commonly on rural roads (albeit some communities will denote “urban shoulders”), the additional paved surface is not designated or marked as a bicycle lane and will still serve stopped, disabled and emergency vehicles.
- Under the Highway Traffic Act, all roadways in Ontario are deemed shared facilities for cycling unless signed otherwise. That said, routes expressly forming part of a cycling network should be signed and marked to designate their role for awareness, consistent, and wayfinding. These treatments are defined as **Mixed Traffic Operations** and are typically only considered for local and (sub)urban roads with lower traffic volumes and lower motor vehicle operating speeds.

Additional design considerations for the cycling network are as follows:

- Cyclists are not permitted to ride through crosswalks. To avoid having to dismount at crosswalks, crossrides can be installed where cycling facilities cross roads and private driveways. Mixed, combined, and separate crossrides can be considered depending on the adjoining pedestrian and cycling facilities. Depending on intersection control and configuration, bicycle signals may be required for crossrides.
- Cyclist crossings may require detection, depending on traffic signal control. If a cyclist approaches a signalized intersection from an approach that has an actuated phase, the proper phase or duration may not be available to the cyclists if there is no detection. In this case, cyclists may be forced to dismount from their bicycle and activate a nearby pedestrian pushbutton or wait for certain vehicle traffic to be detected.
- Cycling facility widths should follow OTM Book 18 guidance. See **Table 4.1** for details. The Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR) details road lane widths in Section 4.2 and more notably in Tables 4.2.1 and 4.2.2. Along narrow roads, road authorities should be cognizant of additional right-of-way width requirements when reconstructing the road. Municipalities can plan for future road needs by enacting policies and plans to

ensure adequate right-of-way widths can be obtained when a road is set for reconstruction. It should be noted that excessive right-of-way widths can lead to undesirable vehicle speeds and discourage active transportation use as it detracts from the human-scale experience.

Notes on surface treatment types:

- Paved shoulders and MUPs/MUTs are typically paved with asphalt. The depth and asphalt mix are important to consider for long-term maintenance. Sidewalks are typically paved with concrete. Wheeled devices typically appreciate asphalt surfaces over concrete due to the joint spacing requirements for concrete along with surface treatments needed to maintain adequate friction on concrete surfaces (i.e., impressed horizontal lines). Concrete cycling facilities do exist, but research conducted for this study have found these cases to be less frequent or specific to particular cases. For example, MUPs connecting through existing road bridges often maintain concrete over the bridge portion. Signage indicating the need to dismount a bicycle when crossing the bridge have been found in some examples. Signage at these locations can also be attributable to other features of the bridge, including facility width and railing height.
- The paving of shoulders for cycling use should only be considered when the vehicle portion of the road is paved as well. When selecting road and cycling facility surface types, the number of users for each mode of travel (vehicle, cycling, pedestrian, horse, etc.) should be considered.
- Given the unique nature of the Township's existing trail network, specific attention should be directed towards surface treatment types for shoulders, MUPs and MUTs. Where the cycling mode shares is high, a paved surface is recommended. Where horses are more frequent for a specific trail, a stone-dust surface treatment is more applicable. Paved surfaces are typically more expensive.
- Where a facility is be frequented by any mode of active travel, partially paved surfaces are not recommended. Reasons for this include complex maintenance requirements and traveller confusion. Partially paved surfaces may also lead to the interpretation of two partial facilities instead of one clearly defined facility.

Table 4.1 summarizes the desired minimum width and suggested minimum width for each of each facility type.

TABLE 4.1: CYCLING FACILITY DESIGN GUIDELINES

Facility	Desired Width	Suggested Minimum
Rural Paved Shoulder[a]	1.5 m – 2.0 m[b]	1.2 m
Multi-use Path (Low-to-moderate volume path (< 100 users/hour))[c]	3.5 m	3.0 m[d]
Multi-use Path (High-volume path (> 100 users/hour))[c]	≥ 4.0 m[e]	3.0 m[d]

Source: Ontario Ministry of Transportation, *Ontario Traffic Manual Book 18: Cycling Facilities,* (Toronto: Queen's Printer of Ontario, 2021), 72 & 106.

Notes:

a. On rural roads with higher-speed or higher-volume traffic, a paved shoulder buffer is recommended.

b. Paved shoulders of 2.0 m or more should be marked with a buffer.

C Multi-use trail capacity is significantly affected by the pedestrian/cyclist mode split. Narrower trails may accommodate higher user volumes if there is a very high percentage of cyclists. Wider trails should be considered if there is a high percentage of pedestrians.

d. Path width may be reduced to 2.4 m over very short distances in constrained areas or in complex circumstances. These include the avoidance of utility poles or other infrastructure that may be costly to relocate, or in cases where a very low volume of users is anticipated. If a multi-use path needs to narrow below 2.4m due to constraints, a sign should indicate that the path narrows.

e. When the volume of users exceeds any one of the following conditions, consideration should be given to separating pedestrians and cyclists into a two-way cycle track plus an adjacent sidewalk (See Section 4.3.3 of OTM Book 18).

4.4.3 Network Development

The proposed cycling network was developed using a five-step process based on the Bicycle Facility Selection Tool contained in *Ontario Traffic Manual Book 18*[3] and shaped by input gathered through the Stakeholder Engagement Program and Public Engagement Program (see **Chapter 2**).

The development process included five steps:

- **Step 1**: Review Existing Network
- **Step 2**: Define Route Selection Criteria
- **Step 3**: Identify Proposed Routes and Facilities
- **Step 4**: Identify and Resolve Gaps and Discontinuities
- **Step 5**: Compile Proposed Network

In planning and designing the cycling network, consideration was given to ensuring safety, capacity, and connectivity for all users. The following summarizes the steps completed in developing the proposed cycling network for the Township:

Step 1 – Review Existing Network

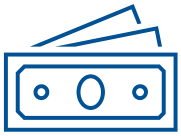
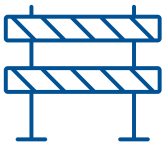
The existing cycling network depicted in **Map 3.1** served as the starting point for the network development process. The map was supplemented by future regional facilities identified in the 2014 *Walk Cycle Waterloo Region Active Transportation Master Plan (ATMP)* and the 2018 *Moving Forward Transportation Master Plan*.

Step 2 – Define Route Selection Criteria

The next step identified primary east-west and north-south routes to connect settlement areas to one another or provide parallel routes to regional and provincial roads. Routes were selected based on the route selection criteria outlined in **Table 4.2**. The criteria reflect common measures used by municipalities in assessing the appropriateness of candidate cycling routes.

[3] Ontario Ministry of Transportation, *Ontario Traffic Manual Book 18: Cycling Facilities,* (Toronto: Queen's Printer of Ontario, 2021), 121-122.

TABLE 4.2: ROUTE SELECTION CRITERIA

	**Accessible and Equitable:** The route should provide adequate space to develop a facility that meets AODA requirements. The route should serve a wide range of users, regardless of differences in capabilities and socio-economic circumstances. The route should connect key origins and destinations.
	**Connected:** Routes should provide a complete connection, connecting to other routes, key places of interest, and other modes of transportation. The shortest routes to key destinations are preferred, although less direct routes may be necessary to improve comfort and safety.
	**Safe and Comfortable:** Routes should minimize risk and provide adequate comfort to users. Routes with higher vehicular speeds and volumes should have space available to provide adequate separation between vehicles and pedestrians and cyclists. Routes without on-street parking are preferred.
	**Cost Effective:** Facilities should be cost effective and at an appropriate scale for the Township to implement. Routes should build on existing infrastructure where possible.
	**Physical Barriers:** Routes with few or no barriers (such as rivers, narrow bridges, or topography) are preferred. If physical barriers are unavoidable, an appropriate level of safety and comfort should be provided while maintaining connectivity and directness.

Step 3 – Identify Proposed Routes and Facilities

The proposed Township cycling network reflects the use of the *Desirable Cycling Facility Pre-Selection* tool in OTM Book 18 for both an urban/suburban context and a rural context. Although all rural Township roads operate with average annual daily traffic (AADT) volumes less than 3,000 vehicles per day (vpd) (which would suggest a shared operating space is appropriate), paved shoulders are recommended to enhance the cycling network on these routes.

In the settlement areas, nearly all Township roads meet the OTM guideline for a designated operating space, primarily due to their speed

limit which is generally unposted and assumed to be 50 km/h. From a traffic volume perspective, many of these same road segments meet the OTM guidelines for a shared operating space (with AADT volumes less than 3,000 vpd). Notable exceptions include First Street West (Elmira), Barnswallow Drive (Elmira), Whippoorwill Drive (Elmira), Snyder Avenue South (Elmira) and Woolwich Street South (Breslau).

Cycling routes in the settlement areas were developed as either a mixed traffic operation (e.g., signed route) or a multi-use path (MUP). Multi-use paths were prioritized on First Street West, Barnswallow Drive, and Whippoorwill Drive because of the higher AADT volumes as compared to other roads in Elmira. All three roads operate with AADT volumes greater than 3,000 vpd. MUPs were not recommended on Snyder Avenue South (Elmira) or Woolwich Street South (Breslau) due to limited right-of-way to support these facilities.

Step 4 – Identify and Resolve Gaps and Discontinuities

The proposed routes identified in Step 3 provided the foundation for a connected and complete cycling network; however, gaps and discontinuities inevitably remain. Eliminating these gaps in the cycling network reduces the need for cyclists to merge with vehicular traffic or mix with traffic on higher volume roads. This can lead to improved connectivity, safety, and user satisfaction, which can hopefully encourage “interested but concerned” cyclists to travel more regularly by bike.

The project team identified the following five gaps in the network, all of which relate to the regional and provincial road networks and will require coordination with Waterloo Region and the Ontario Ministry of Transportation to address:

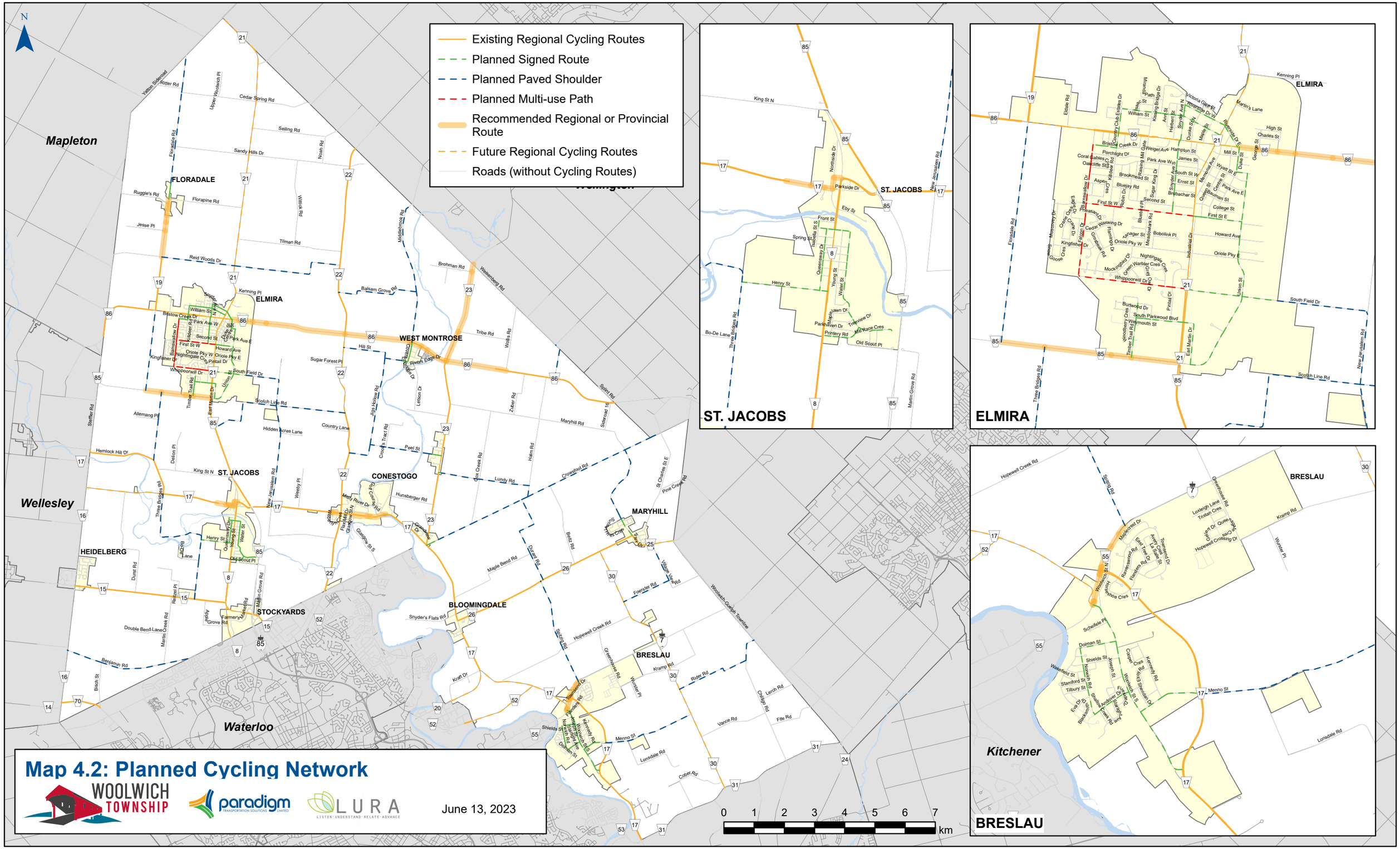
- Regional Road 19: Reid Woods Drive to Florapine Road;
- Regional Road 23: Regional Road 86 to Weisenberg Road;
- Regional Road 85: Arthur Street South to Floradale Road;
- Regional Road 86: Duke Street to Wollis Road; and
- Highway 7: Regional Road 17 to Spitzig Road.

Several smaller gaps were also identified on Regional Road 17 between St. Jacobs and Conestogo.

Step 5 – Compile Proposed Network

Map 4.2 illustrates the proposed cycling network. Building on the existing network of regional cycling facilities, the network provides a variety of connected routes between the settlement areas, and within

Elmira, Breslau, and St. Jacobs, themselves. Opportunities to travel beyond the Township boundaries are also facilitated by the network concept.



Map 4.2: Planned Cycling Network

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June 13, 2023

5 Network Phasing and Implementation Strategy

5.1 Overview

This chapter outlines the process and tools to implement the respective pedestrian and cycling networks, and improvements. Phasing and cost estimates for the proposed infrastructure are also provided, where appropriate.

5.2 Facility Implementation Process

Figure 5.1 details the four-step process for implementing the active transportation facilities identified in **Chapter 4**. The process is structured into four phases as follows:

- **Phase 1**: Identify the network implementation opportunity.
- **Phase 2**: Confirm the feasibility of the route and facility type at time implementation is proposed and revise the concept if necessary.
- **Phase 3**: Design the facility and supporting features based on the guidelines recommended in Chapter 4 and construct/install the facility per the design.
- **Phase 4**: Maintain the facility, monitor its use and operation, and refine the design if needed.

5.2.1 Identify Network Opportunities

The first step is to identify and communicate opportunities to implement the proposed active transportation facility by monitoring the following Township and Waterloo Region initiatives:

- Capital projects scheduled in both annual and forecasted budgets;
- Acquisition and disposition of land; and
- Budgets relevant to active transportation.

If a potential project is identified:

- Note the departments, jurisdictions, and/or organizations involved in the project;
- Compare the timing of the project to the priorities identified in the recommended phasing plan contained in **Section 5.3**;

- Determine if the project would permit implementation of the preferred active transportation facility type in a cost-effective manner; and
- Advise the affected department, jurisdiction and/or organization that the project may be a candidate for an active transportation facility.

5.2.2 Confirm Route Feasibility

The second step is to confirm the feasibility and costs to implement the proposed active transportation route as part of the candidate project. For each candidate project:

- Review current roadway characteristics including traffic volumes, collision history, and commercial vehicle percentage;
- Conduct a field check to identify potential site-specific implementation challenges, such as sight distance limitations;
- Confirm facility type;
- Prepare a preliminary functional design and cost estimate. The design should follow the guidelines recommended in **Chapter 4**; and
- Undertake a high-level cost/benefit analysis to assess whether the proposed implementation is fiscally prudent at this time, or if another option may be more practical.

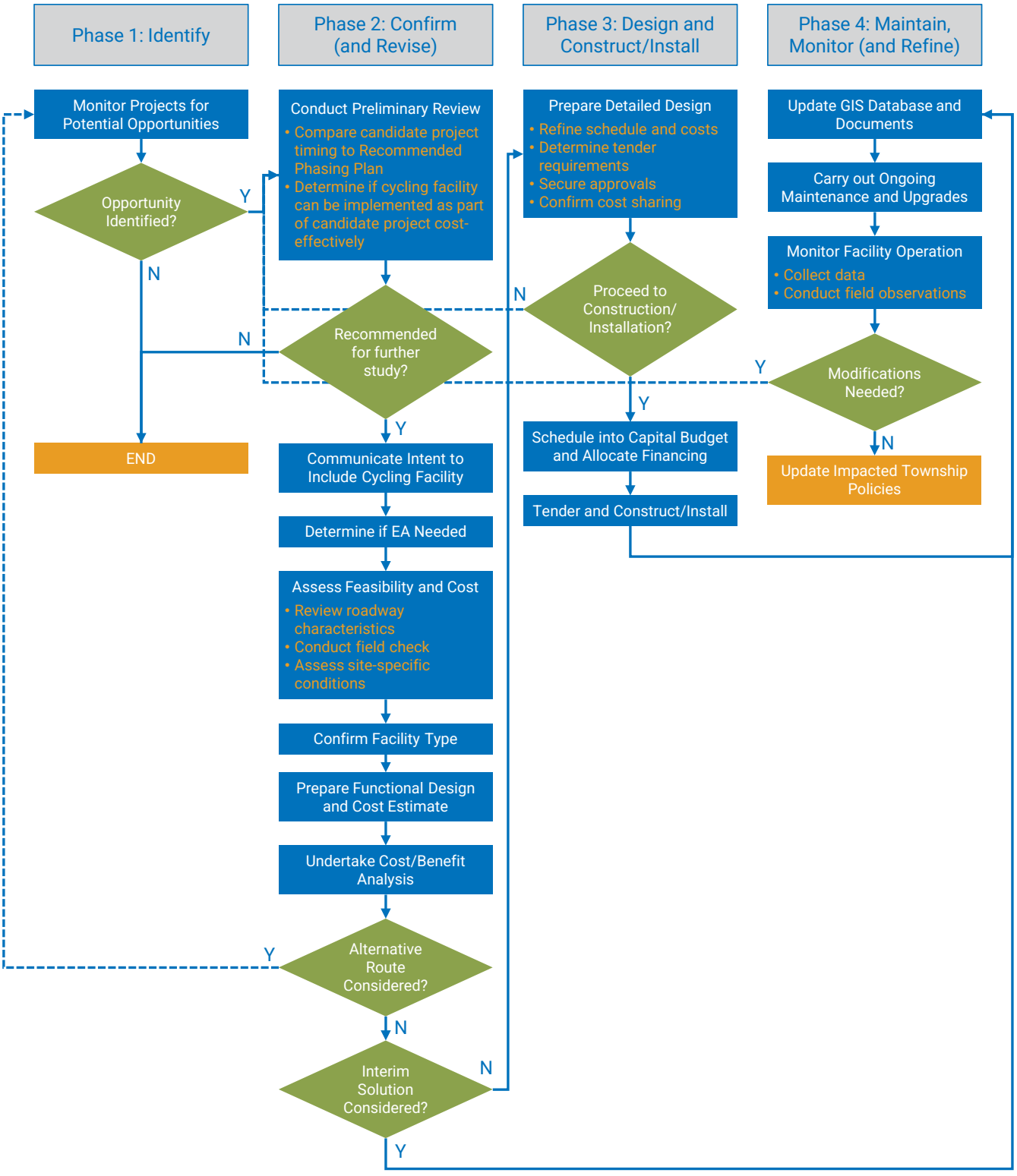
This step may take place in conjunction with or as input to a MCEA study or functional design for the candidate project.

Phasing should generally follow the plan outlined in **Section 5.3**. Priorities can be adjusted in response to community demand and/or the desire to advance a specific active transportation route. Exact implementation timing will be determined through this process.

If site-specific circumstances preclude construction of the recommended facility type as part of the candidate project, consider:

- Altering the facility type to better fit the route. The facility selection process should follow the guidelines detailed in OTM Book 18 and **Section 4.4.2** where applicable to ensure an appropriate solution;
- Assessing nearby parallel routes for suitability as an alternative (return to Step 1); or
- Implementing an interim solution such as sharrow pavement markings as a precursor to a bike lane.

FIGURE 5.1: ACTIVE TRANSPORTATION IMPLEMENTATION PROCESS



5.2.3 Prioritize Feasible Routes

Multiple routes may be able to be implemented based on an initial review of opportunities and route feasibility. In this case, routes should be prioritized based on standard Township practice. Prioritization can follow route selection criteria guidance detailed in **Table 4.2**.

Of primary importance is the ability for the route to provide safe access to non-vehicle and transit users to communities and its key origins and destinations (OD pairs) (e.g., major economic hubs, schools, places of worship, other active transportation facilities, etc.). Where limited resources exist, higher priority projects should be implemented first.

Prioritization factors should consider the need to:

- Address key safety issue more effectively than other options;
- Provide primary access to a community or key origin or destination;
- Be economically efficient compared to other options or be able to secure external funding;
- Unlock synergies with other infrastructure that is scheduled for reconstruction; and
- Provide a balanced approach to the entire Township network, considering urban and rural areas and all communities and stakeholders.

It should be noted that all routes identified in this plan exhibit the potential ability to generate users if implemented effectively. When prioritizing potential projects, updated and more detailed information can reveal increased or decreased induced demand for specific routes. In these cases, projects with the potential to induce further active transportation trips should increase in priority, while less desirable routes could be disincentivized where they do not address key safety, accessibility and mobility issues. Furthermore, facility type may need to be altered if further information dictates such a change.

The listed prioritization factors can be applied through a systematic approach. Weightings can be assigned to each priority factor depending on their specific properties. Scores can then be assigned to each route to determine top priorities. These systematic results can be measured against stakeholder feedback to ensure a comprehensive decision-making process.

5.2.4 Design Facility

The fourth step is to prepare the detailed design for the recommended facility. The design is typically completed in conjunction with the candidate project and should not require significant additional resources. Where required, the project schedule, cost estimate, and tender documents should also be refined. External approvals, property acquisition, and potential cost sharing opportunities should be confirmed as well.

In most cases, the candidate project with the active transportation facility will need to be programmed in the Capital Budget and financing allocated. Coordination with other department initiatives should also be explored. Finally, the candidate project is issued for tender where required. Construction/ installation proceeds once financing is authorized.

It is possible that the Township may decide not to proceed with the facility due to unexpected costs and/or constraints that arise during the detailed design process. If this occurs, alternative routes or facilities should be considered (return to Step 2).

5.2.5 Maintain and Monitor Route and Facility

The fifth and final step is to maintain and monitor the implemented facility.

Ongoing maintenance and upgrades to the facility should be carried out to ensure continued safe and efficient use by pedestrians and cyclists. **Section 5.5** details recommended maintenance practices.

Specific to cycling facilities, once implemented, the route should be monitored regularly to ensure it operates as planned. Monitoring will involve data collection and field observations to evaluate safety and operational efficiency. **Section 5.6** outlines recommended monitoring procedures.

If the monitoring program identifies the need for modifications, alternative routes or facilities may need to be considered (return to Step 2) or revisions to the design (return to Step 3).

The Township's Geographic Information System (GIS) database and relevant municipal documents should also be updated once the facility is opened. The database should be used to track new and upgraded network segments as implemented to ensure accurate, real-time information is available for maps and analysis.

5.3 Cost Estimates and Implementation Phasing

The costs of implementing the proposed active transportation facilities identified in **Chapter 4** were estimated based on indicative benchmark unit costs obtained from other recently completed active transportation plans in Ontario factored to 2023 dollars.[4]

Table 5.1 summarizes the unit costs used for linear facilities. The following assumptions were made in applying the unit costs:

- They account for normal or average construction conditions.
- Unless otherwise stated, the costs for on-road cycling facilities assume bi-directional facilities, but do not include costs for crossing facilities (e.g., bicycle signals);
- They exclude costs for property acquisition, utility relocation, engineering design, contingency, and taxes; and
- They do not include an annual allowance or other form of estimate for broader program items such as end-of-trip amenities, wayfinding signs (other than for signed bike routes), outreach initiatives, and program monitoring.

Unit costs for off-road MUT improvements are provided for information only. Due to the ownership arrangement of most trails in the Township, these facilities are not included in the network development process. The Township may wish to improve these facilities at its discretion.

Implementation of the proposed pedestrian projects was prioritized based on the extent of existing sidewalk on each Township-owned road. Roads without any sidewalk were prioritized over those roads where a partial sidewalk network is provided. The sidewalk assessment did not include an assessment of existing sidewalk condition.

Implementation of the proposed cycling network was based on prioritizing the establishment of networks in each settlement area. Short-term projects in the rural areas of the Township are those where a parallel route is not currently in place (such as an existing Township road or other higher-order road), or where the road is already paved. Longer-term projects are intended to enhance connectivity in the Township by providing alternate routes to higher-order and higher-volume roads. However, many of these roads are unpaved and will

[4] Town of Ajax, *Town of Ajax Integrated Transportation Master Plan, Appendix D: Active Transportation and Road Network Costing Analysis* (Ajax: Town of Ajax, 2019).

require significant works beyond the scope of this study to support the recommended AT facilities.

Table 5.2 summarizes the recommended phasing and indicative costs to implement the proposed pedestrian and cycling improvements shown on **Map 4.1** and **Map 4.2**. The table lists the locations of pedestrian improvements by settlement area in alphabetical order for each horizon (short- and long-term). The table also lists the indicative costs of the urban and rural cycling network improvements for each horizon (short- and long-term). **Appendix C** details the Costing of the Proposed Active Transportation Facilities, including a further breakdown by road.

Overall, the proposed investment totals $44,296,000 comprising:

- $29,801,900 in the short-term (0 to 10 years); and
- $14,494,100 in the long-term (beyond 10 years).

The cost estimates reflect only those improvements to Township owned roads. They do not include estimates to implement the recommended regional or provincial routes identified in **Map 4.2**, or road improvements ancillary to the cycling facility (for example, paving a rural road to support paved shoulders).

The total cost of the planned works should be considered over a long-term basis (i.e., 20 years). The annual cost to implement the plans is reduced as additional horizon years are added to schedule (i.e., $2,200,000 annually over 20 years). Where funding is not available to execute elements of the plan, additional funding sources can be pursued, as detailed in **Section 5.4**. Projects can also be prioritized based on the criteria detailed in **Section 5.2.3**.

It is assumed that at least some, if not most, of the planned cycling and pedestrian network improvements will be completed as roads are rehabilitated through existing Township processes such as the capital works program. Coordination of the works contained in this plan with existing planned works would likely reduce costs where synergies can be found. Overall, the costs are high-level estimates that can be better estimated once more detail, notably design considerations, are assessed for individual routes.

It is anticipated that the ATMP implementation strategy will be incorporated into existing Township capital plans and operations. Where opportunities and challenges exist, updates should be made. As the Township grows and the active transportation industry evolves, implementation efforts may need to adjust as well.

Routes that may be able to be implemented immediately have been identified in **Table 5.3**. The five potential routes vary in terms of geographic area, cost and travel modes they accommodate. This allows for flexibility in decision-making when deciding to pursue certain works. All routes serve as critical connections within and between communities, enabling safe access to those who do not have access to a vehicle or transit.

Map 5.1 illustrates the recommended phasing of the proposed cycling network.

TABLE 5.1: UNIT COSTS FOR ACTIVE TRANSPORTATION FACILITIES

Route Type	Cost (Linear km)	Comments
On-Road Routes		
Signed on-road bike route – rural area	$4,000	Route signs every 350 metres (approximately), both sides of the road.
Signed on-road bike route – urban area	$3,000	Route signs every 600 metres (approximately), both sides of road.
Paved shoulder (1.5 metres) on scheduled resurfacing of existing road	$182,000	Asphalt shoulder and route signs on both sides of the road. Assumes project already includes other costs (e.g., granular shoulder, any ditch/drainage works, longitudinal pavement markings, etc.). Price ranges from $120,000 to $245,000 depending on needs.
Off-Road Routes		
Paved boulevard multi-use path (3.0 metres) within road right-of-way	$395,000	Asphalt surface pathway on one side of the road. Could include removal of existing sidewalk. Assumes no utility relocations.
Concrete sidewalk (1.5 metres) within right-of-way	$219,000	Concrete sidewalk on one side of road. Includes site prep, select utility relocation, and minor drainage modifications.
Off-Road Routes (see Note 1)		
Granular off-road multi-use trail outside of road right-of-way in an urban setting (e.g., park)	$201,000	Compacted stone dust surface trail with trail marker signs. Does not include trail lighting.
Upgrade granular to paved off-road multi-use trail (3.0 metres) outside of right-of-way in an urban setting (e.g., park)	$213,000	Asphalt surface trail upgraded from granular surface with trail marker signs. Some new base work (approx. 25%), with half of the material removed from site. Does not include trail lighting. Assumes no utility relocations.
Paved off-road multi-use trail (3.0 metres) within right-of-way in an urban setting (e.g., park)	$365,000	Asphalt surface pathway with trail marker signs. Does not include trail lighting. Assumes no utility relocations.

Notes:

1. Cost estimates for off-road multi-use trails are provided for information only. Due to the existing ownership arrangement of the trail network (much of which traverses private property), potential improvements to the trail network are not included in this ATMP. The Township, at its discretion, may wish to consider improvements to the trail network, as deemed necessary from further review and study.

TABLE 5.2: ESTIMATED COST FOR ACTIVE TRANSPORTATION FACILITIES

Initiative	Indicative Phasing and Cost		
	Short (0 – 10 Years)	Long (+10 Years)	Total
Pedestrian Network			
Bloomingdale	$657,100	$244,200	$901,300
Breslau	$3,560,500	$1,052,500	$4,613,000
Conestogo	$1,538,800	$1,376,500	$2,915,000
Crowsfoot Corner	$789,600	$0	$789,600
Elmira	$4,967,400	$4,122,200	$9,089,600
Floradale	$374,400	$273,200	$647,600
Heidelberg	$1,687,800	$120,400	$1,808,200
Maryhill	$847,200	$391,900	$1,239,100
St. Jacobs	$1,457,500	$1,559,100	$3,016,600
Stockyards	$316,100	$138,100	$454,200
West Montrose	$1,166,700	$0	$1,166,700
Winterbourne	$950,300	$38,900	$989,200
SUB-TOTAL	**$18,313,400**	**$9,317,000**	**$27,630,400**
Urban Cycling Network			
Paved Shoulders	$196,900	$0	$196,900
Multi-use Paths	$1,660,000	$0	$1,660,000
Signed Routes	$89,100	$300	$89,400
Sub-Total	**$1,946,000**	**$300**	**$1,946,300**
Rural Cycling Network			
Paved Shoulders	$9,540,300	$5,176,800	$14,717,100
Multi-use Paths	$0	$0	$0
Signed Routes	$2,200	$0	$2,200
Sub-Total	**$9,542,500**	**$5,176,800**	**$14,719,300**
SUB-TOTAL	**$11,488,500**	**$5,177,100**	**$16,665,600**
GRAND TOTAL	**$29,801,900**	**$14,494,100**	**$44,296,000**

TABLE 5.3: HIGH PRIORITY ROUTES

Route	Facility Type	Estimated Cost	Additional Considerations
Barnswallow Drive, between Whippoorwill Drive and Church Street	MUP	$629,100	MUPs on Whippoorwill Drive and First Street connecting schools with residential areas and central Elmira.
Crowsfoot Road, between Maryhill Road and Regional Roads 17 and 23	Paved Shoulder	$1,488,900	Paved shoulders on Maryhill Road to the community of Maryhill and Regional Roads 25 and 26.
Woolwich Street, between Regional Road 55 and Regional Road 17	Signed Route	$9,200	Signed routes along Dolman Street, Norwich Road, Andover Drive and Township Road 80 connecting the community of Breslau.
Water Street, between Mill Race Crescent and Albert Street East Albert Street East between King Street North and Water Street	Signed Route	$6,300	Signed routes along Albert Street West and Isabella Street connecting to central St. Jacobs and the external trail network.
Northside Drive, between Regional Road 17 and Regional Road 8	Sidewalk	$319,200	Sidewalk on King Street North enhancing the connection from Northside Drive to and central St. Jacobs.

Map 5.1: Planned Network Phasing

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June 13, 2023

- Short Term Improvement
- Long Term Improvement

0 1 2 3 4 5 6 7 km

ST. JACOBS

ELMIRA

BRESLAU

5.4 Potential Funding Sources

Financing for implementation of the recommended active transportation plan identified in **Section 4** will be drawn from the following sources:

- **Property Taxes** – Taxes levied by the Township on land and structures are the primary method for the municipality to raise revenue. The Township sets the tax rate needed to fund community programs and services through the annual budget.
- **Development Charges** – Fees levied by the Township on land development and redevelopment projects help fund the capital costs of infrastructure needed to serve planned growth.
- **Canada Community-Building Fund** – This permanent source of funding provided by the Federal government to municipalities (via the Association of Municipalities of Ontario (AMO)) supports local infrastructure priorities including roads and active transportation facilities. Municipal allocation is on a per capita basis and split on a 50:50 basis between upper- and lower-tier jurisdictions.
- **Other Provincial and Federal Programs** – Conditional and unconditional transfer payments to municipalities by senior levels of government can provide needed funding for transportation initiatives meeting the program eligibility criteria. Recent examples include:
  - **Active Transportation Fund** – This federal fund is providing $400 million over five years to support a modal shift away from cars and toward active transportation.
  - **Ontario Builds** – This provincial program has financed a range of transportation infrastructure projects in urban and rural communities across Ontario;
  - **Green Municipal Fund** – This $1 billion program delivered by the Federation of Canadian Municipalities (FCM) and funded by the Government of Canada finances a share of eligible costs for studies, capital projects, and pilot projects that “reduce the number of vehicles on the road, the number of kilometres they travel, or the amount of time they spend transporting people or goods” or “get people to use their vehicles more efficiently or switch to less polluting forms of transportation (i.e., a modal shift to public transit, walking, or cycling)”; and
  - **Investing in Canada Infrastructure Program** – The public transit stream of this $20.1 billion federal program provided

funding to address the construction, expansion, and improvement of transit infrastructure, and support active transportation projects that integrate “first-mile, last-mile” connectivity within a transit system. Under the program, the Federal government provided up to 40% funding for projects with municipal partners.

- **Developer, Private Sector, and Other Alternative Funding** – In-kind or cash contributions from non-government sources can play an important role in financing the cost of public amenities like sidewalks, parking, and trails, and community programs through sponsorships and focussed advertising.

While property taxes, development charges, and CCBF funds represent the most reliable and consistent sources of financing for the Township, other provincial and federal programs could offer potential funding sources to implement the AT and TMP recommendations. Regional, developer, private sector, and other alternative funding sources should also be leveraged to the extent possible.

5.5 Network Maintenance

5.5.1 Minimum Maintenance Standards for Municipal Highways

The Minimum Maintenance Standards for Municipal Highways (MMS) Regulation under the *Municipal Act, 2001* defines standards for the maintenance of road and active transportation infrastructure in the Province of Ontario. Ontario Regulation 232/02 clarifies the scope of the statutory defence available to a municipality under the Act by establishing maintenance standards that are non-prescriptive as to the methods or materials to be used in complying with the standards but instead describe a desired outcome.

The MMS is intended to provide municipalities with a “due diligence” defense in the event of a vehicular collision, a pedestrian slip, trip or fall, or other incident on its roads, sidewalks, and bicycle facilities. The standards set out in the MMS are not mandatory, so the Township does need to explicitly follow the Regulation. If the Township cannot meet the MMS standards specified, the municipality can still rely on Section 44(1) of the Act to demonstrate that the service provided was reasonable in the circumstances for both weather and road conditions. In short, the Township can set local maintenance standards based on its needs and resources.

5.5.2 Winter Maintenance

The MMS specifies maintenance standards for municipal roads (highways) based on Average Daily Traffic (ADT) volume and speed

limit, with roadways assigned a corresponding classification ranging from Class 1 (highest level of service/priority) to Class 6 (no specified standards). All Township roads are categorized as Class 3, 4, 5 or 6 based on these criteria.

The Township's regular winter maintenance program includes plowing snow and applying "winter sand" or salt to treat icy conditions consistent with the MMS provisions. The municipality plows roads, sidewalks (in Elmira), and Township facility parking lots after 8 cm of snow accumulation, which meets the standard for Class 3 and 4 roads and exceeds for Class 5 and 6 facilities. After this depth is exceeded, the Township is responsible for deploying resources (i.e., contracted services) as soon as practicable to address the accumulation.

For on-road bicycle facilities, it is assumed winter maintenance will be performed concurrently with the roadway. The Township does not maintain off-road bicycle facilities in the winter, but may wish to consider formalizing (i.e., Market Trail) or expanding service to (some of) these routes in the future to facilitate and promote year-round cycling These facilities could form part of a Priority Cycling Network of active transportation routes, intersections, crossrides, and amenities (e.g., bike racks) targeted for higher levels of service.

5.5.3 Ongoing Maintenance of Active Transportation Facilities

Active transportation facilities need to be properly maintained during all seasons to remain safe, effective, and in a state of good repair. This helps to improve usability, alleviate potential safety hazards, maximize utility, minimize lifecycle costs, reduce risk, limit exposure to liability, and enhance the user experience.

To encourage walking, rolling, and cycling throughout the year, the program should comprise of the following maintenance activities:

- **Sweeping** – Cycling facilities located at the edge of the roadway should be swept to remove accumulating debris. The Township may wish to consider increasing sweeping frequency on Priority Cycling Network routes (subject to additional funding).
- **Surface Repairs** – The Township repairs typical cycling facility surface issues, such as bumps and depressions, cracking, potholes, and pavement drop-offs at shoulders, through its ongoing maintenance operations until such time as the road (including the bike lane) is resurfaced. Continuing to perform interim treatments such as patching and catch basin repairs on cycling facilities is important.

- **Vegetation Management** – Roadside vegetation maintenance activities, including the installation of root barriers and trimming of shrubs and trees, should be carried out to avoid encroachment onto cycling facilities and maintain sightlines. Removal of obstructions at intersections should be prioritized.
- **Sign and Pavement Marking Maintenance** – Sign and pavement marking inspections, repainting of faded pavement markings, and replacement of discoloured and damaged signs and signs that have lost reflectivity should be conducted regularly per the MMS.
- **Drainage Improvements** – Drainage features along or adjacent to cycling facilities should be cleaned. Locations with greater vegetation will need more attention.
- **Parking** – Bicycle parking facilities should be regularly inspected. Bikes parked for extended periods of time should be tagged for removal and removed if remaining after the specified time. Severely damaged or stripped bikes should also be removed.

The additional budget will depend on the facility types added, with typical estimated annual maintenance costs ranging from[5]:

- $5,000 to $9,000 per kilometre for on-road cycling facilities; and
- $4,000 to $6,000 per kilometre for off-road multi-use trails depending on the level of service standard and trail condition.

Appendix C of OTM Book 18 provides further guidance on maintenance related matters.

5.6 Measuring Success

5.6.1 Monitoring Program

The success of the ATMP in fulfilling the Township's transportation vision, goals, and objectives will ultimately depend on the effectiveness of the recommended policies, programs, and infrastructure improvements in transforming community travel behaviour. Since a change of this nature can take time, regular monitoring of key indicators should be conducted to track progress and assess the need for remedial actions to correct course.

Figure 5.2 illustrates the recommended monitoring process. The process begins with identifying goals and objectives for the monitoring

[5] Town of Milton, *Town of Milton Transportation Master Plan, Appendix A: Active Transportation Strategy* (Milton: Town of Milton, 2018).

program consistent with the overarching direction for the ATMP. **Subsection 3.4.1** defines the transportation goals of the plans as:

- Providing safe, efficient mobility options;
- Helping form a complete community and a sense of place;
- Supporting economic development and tourism; and
- Providing a financially sustainable transportation system

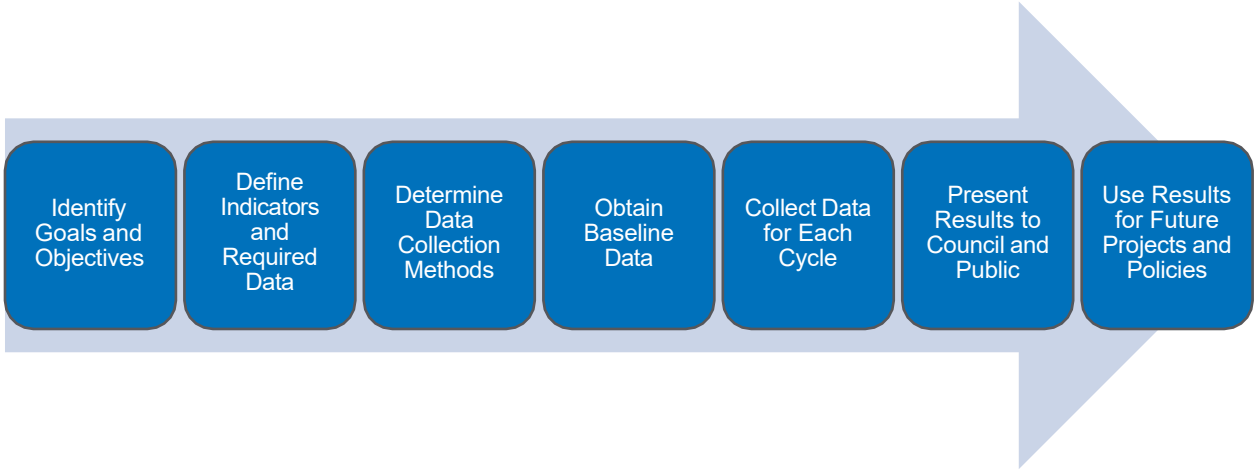

FIGURE 5.2: MONITORING PROCESS

The specific performance indicators (and targets) and data needed to quantify these measures are then defined based on the goals and objectives. Baseline data for the indicators is collected and updated with each monitoring cycle. The results and implications (including key trends) are presented publicly and used to inform future Township projects and policies. The reporting will also highlight progress towards fulfilling the transportation vision, goals, and objectives and any needed plan refinements to ensure further success.

The indicators should examine user preference for facilities, levels of use, and other key factors over an extended timeframe to avoid immediate response bias (which occurs right after a new improvement is implemented). Data should be collected every two to three years (maximum every five years) and at the same time/season during each monitoring cycle.

Conducting regular public consultation as part of the monitoring program helps identify potentially emerging transportation issues, barriers, motivators, and opportunities in the Township. Surveys like the type used in the Engagement Program for the ATMP Study (see **Chapter 2**) would offer insight into community sentiment on transportation in Woolwich and possibly provide a series of data to track change over time.

Results of the monitoring program could be reported to Council and the community through highly visual information reports and publications. The document could report progress made in implementing the ATMP, summarize the performance measures and targets for the previous period, and outline upcoming initiatives.

Table 5.4 outlines the proposed performance monitoring framework. For each transportation goal, the table identifies a series of performance indicators, the primary data source for each indicator, and the future sign of success (either trending up ↑ or down ↓).

5.6.2 Additional Monitoring

Additional monitoring should be done using surveys and before-and-after monitoring studies to assist in measuring infrastructure and program performance. There may also be opportunities to link monitoring programs to other agencies such as Waterloo Region, Metrolinx, and the Ministry of Transportation.

Before-and-after studies, including project pilots, provide an effective means of evaluating the merits of novel and emerging transportation policies, projects, and programs. Such studies can help inform Township staff and Council on what works, what does not work, and how to learn and improve in the future. The specific metrics assessed, and methods used to collect data will depend on the nature of the project.

5.6.3 Data Sources

There are several potential sources of data available to help monitor progress. On site, trail counting devices, such as the ones deployed on the Market Trail, and Heath Valley Trail, provide specific information that can inform active transportation planning decisions. With rapid advances in technology, it is anticipated that even more data sources will become available in the future. The opportunity to apply new data sets through big data, as well as collaboration with educational institutions, non-governmental agencies, and other community partners, provides new avenues to improve the quantity and quality of information and decision making.

The public is also becoming an important direct source of information. Whether through contribution of data through crowdsourcing (e.g., WAZE) or through feedback received directly or by third party “see-click-fix” mobile applications, the experiences and contributions of citizens are valued.

TABLE 5.4: PROPOSED PERFORMANCE MONITORING FRAMEWORK

Goal	Performance Indicator	Potential Data Source	Future Sign of Success
Safe, Efficient Mobility Options	Bicycle and pedestrian mode shares (%) by trip purpose	Transportation Tomorrow Survey	↑
	Auto mode share (%) by trip purpose	Transportation Tomorrow Survey	↓
	Per-trip rate of fatal and serious collisions	Waterloo Region/Township Collision Database	↓
	Kilometres of on-road and off-road active transportation facilities	GIS Data	↑
	Respondents that feel safe and comfortable on cycling facilities	Public Survey	↑
Complete Community and a Sense of Place	Average trip time (min)	Transportation Tomorrow Survey	↓
	Average journey to work trip distance (km)	Transportation Tomorrow Survey	↓
	Share of residents (%) meeting recommended level of physical activity through transportation	Public Survey	↑
Supporting Economic Development and Tourism	Number of cycling related jobs and businesses	Township Records	↑
	Number of tourists that participate in active travel	Public Survey	↑
Financially Sustainable Transportation System	Funding for transportation initiatives per capita	Annual Budget	↑
	Funding for cycling and pedestrian initiatives share (%) of overall transportation expenditures	Annual Budget	↑

5.7 Plan Review and Updates

Regular reviews and updates of the ATMP allow for the ongoing assessment of the performance and effectiveness of the plans. Establishing this stable transportation planning cycle ensures the strategies can respond to unforeseen conditions and imprecise assumptions, remain relevant, and fulfil the Township's transportation vision and goals.

Generally, master plans should be reviewed every five years to determine the need for a detailed formal update. The need to renew the ATMP should be examined in conjunction with a similar assessment of the Township Official Plan and Development Charges Background Study, which are also required every five years per the *Planning Act* and *Development Charges Act*, respectively. The monitoring program outlined in **Section 5.6** will also provide an indication of the necessity for an update. In the intervening period, individuals seeking a current statement of Township transportation policies must consult the record of Council decisions in addition to the plans.

Appendix A

Engagement Summary Report

LURA
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2023

Township of Woolwich: Active Transportation Master Plan (ATMP)

ENGAGEMENT SUMMARY: ROUND 1

PREPARED BY LURA CONSULTING

Contents

Appendices

Introduction

Active transportation (AT) is any mode of transportation that involves human-power to get from one place to another. It includes walking, cycling or rolling (in-line skating, skateboarding or using a wheelchair). Using AT has many benefits for your physical and mental health. Using AT also reduces traffic on our roads, reduces emissions and improves our air quality. A safe and well-connected AT network provides access to those who do not drive.

The Township of Woolwich is developing an Active Transportation Master Plan (ATMP). The plan will establish a vision for active transportation in Woolwich to the year 2051 that:

- Promotes the development of a well-connected and safe active transportation network; and
- Supports active transportation as an affordable and convenient transportation mode for different trip purposes and users of various abilities and ages.

Engagement Objectives

Community engagement is critical to the success of this study. Members of the public and key stakeholders will be involved in meaningful two-way discussions throughout the plan development process. **This report summarizes "what we heard" from the community during the first round of engagement, which focused on identifying current issues and future opportunities for active transportation in Woolwich.** Two additional opportunities for engagement will be provided before the ATMP is finalized.

The overall engagement objectives of this project are to engage the Township of Woolwich residents and stakeholders in meaningful conversations that:

- Increase understanding and awareness of active transportation and its benefits.
- Identify current and future issues, safety concerns, constraints, and opportunities for active transportation.
- Capture a range of perspectives to inform the development of the ATMP and its implementation.

Engagement Activities

The first round of engagement consisted of a public survey and a mapping activity. The survey and the mapping activity were both hosted on the Township's Engage Woolwich website from **January 30 to February 20, 2023**. The Engage Woolwich page received over **400 visitors** during this period.

Hard copies of the survey were also made available at the Township's administrative office.

Engagement Activities	Participation

Public Survey	• 159 surveys
	  • Online: 149
	  • Paper: 10

Mapping Activity	• 3 participants contributing a total of 28 pins

Participants represented every age group (from under 18 to over 85), with the majority of participants aged 35 and above.

The Township's website and social media accounts were used to promote the abovementioned engagement opportunity.

Social Media Tool	Reach
Twitter	• Two posts (Jan. 30 and Feb. 10) with a total of 1923 impressions and 50 engagements
Facebook	• Two posts (Jan. 30 and Feb. 10) with a total of 839 impressions and 65 engagements
Instagram	• Two posts (Jan. 30 and Feb. 10) with approximately 500 impressions and 20 engagements

What We Heard

The following summarizes "what we heard" from the public survey portion of the engagement activities. Results from the public survey are summarized by question. Both online and paper submissions are included below.

Moving Around Woolwich

What forms of transportation do you use most often to move around Woolwich?

First, participants were asked what forms of transportation they use most often. **"Car, as a driver" was the most popular response (87%)**, followed by "walking" (57%), "cycling" (43%) and "car, as a passenger" (24%).

Of those who selected "other":

- Several participants noted that they use horse & buggy to move around Woolwich.
- Participants also indicated that they use running, motorcycles and pickup trucks.

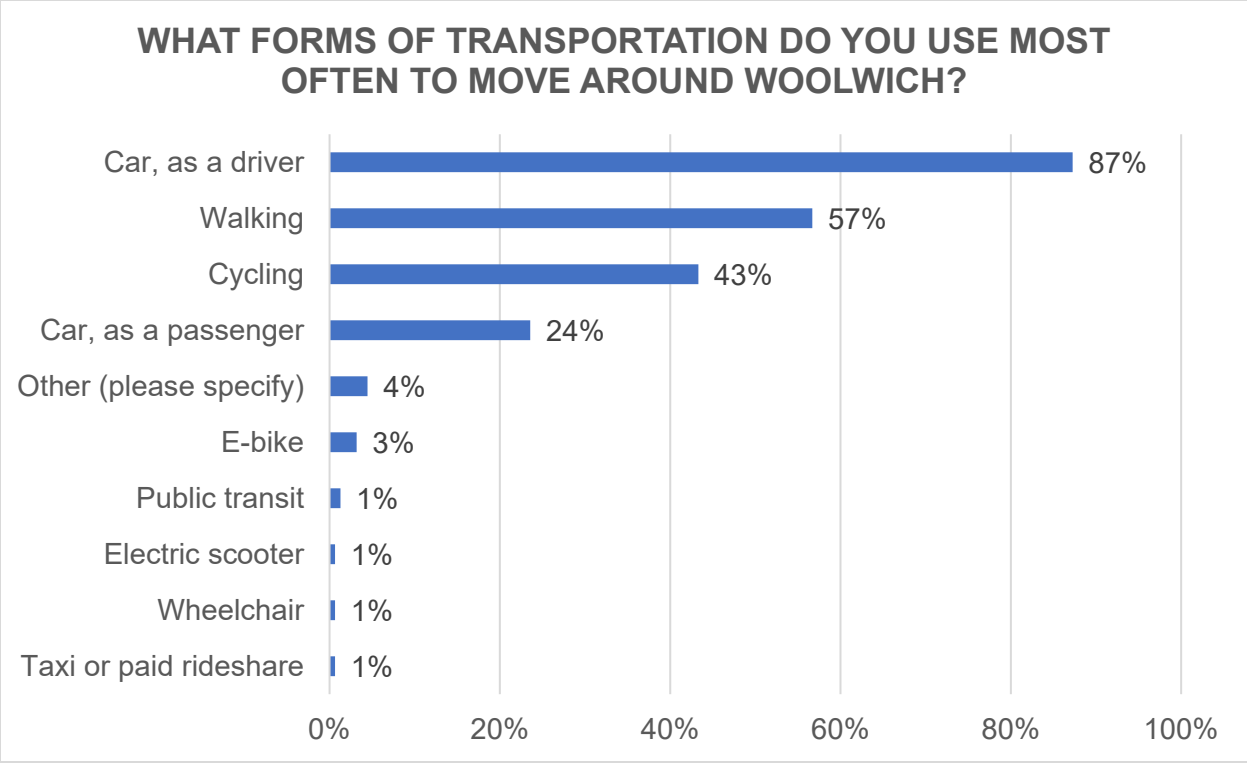


Figure 1: Response to "What forms of transportation do you use most often to move around Woolwich?", select up to 3, n=157

On a daily basis, where do you generally travel?

When asked where they travel on a daily basis (for work, school, errands, etc.), **more than half (53%) selected "to a nearby municipality (less than forty minutes by car)"**. This was followed by "within Woolwich" (40%) and "within my neighbourhood" (35%).

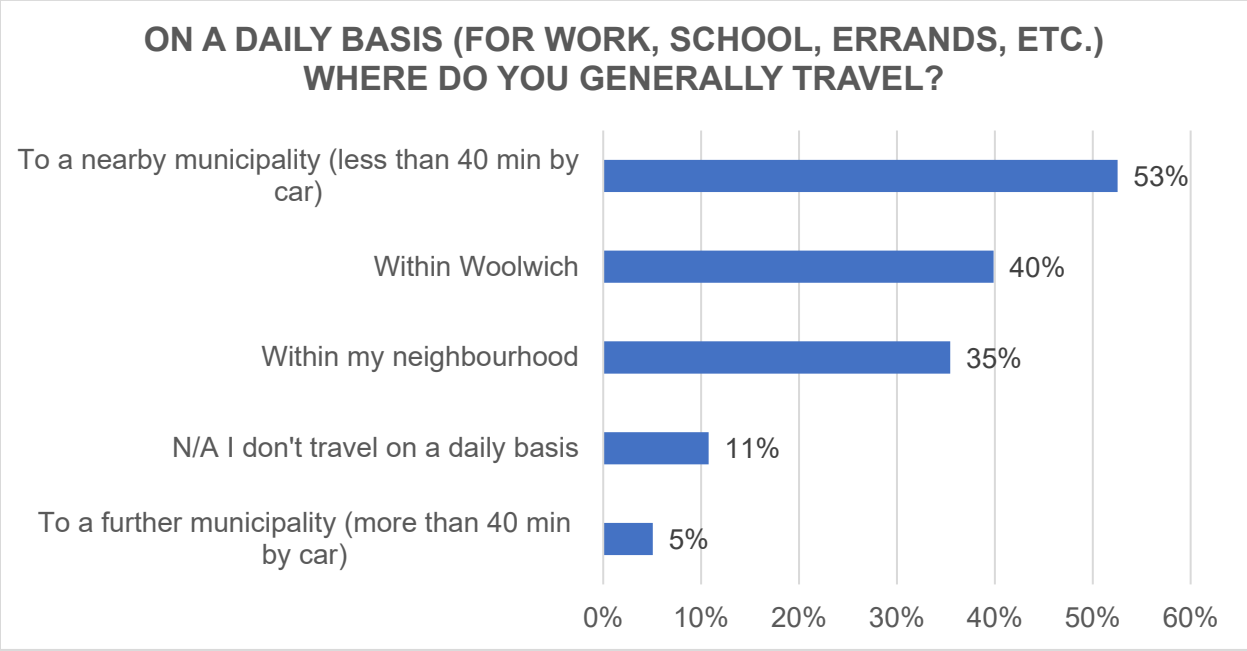


Figure 2: Response to "On a daily basis (for work, school, errands, etc.), where do you generally travel?", select all that apply, n=158

Do you ever use active transportation to reach a destination?

Three-quarters of participants report using active transportation to reach their destination. *Note: total does not equal 100% due to rounding.

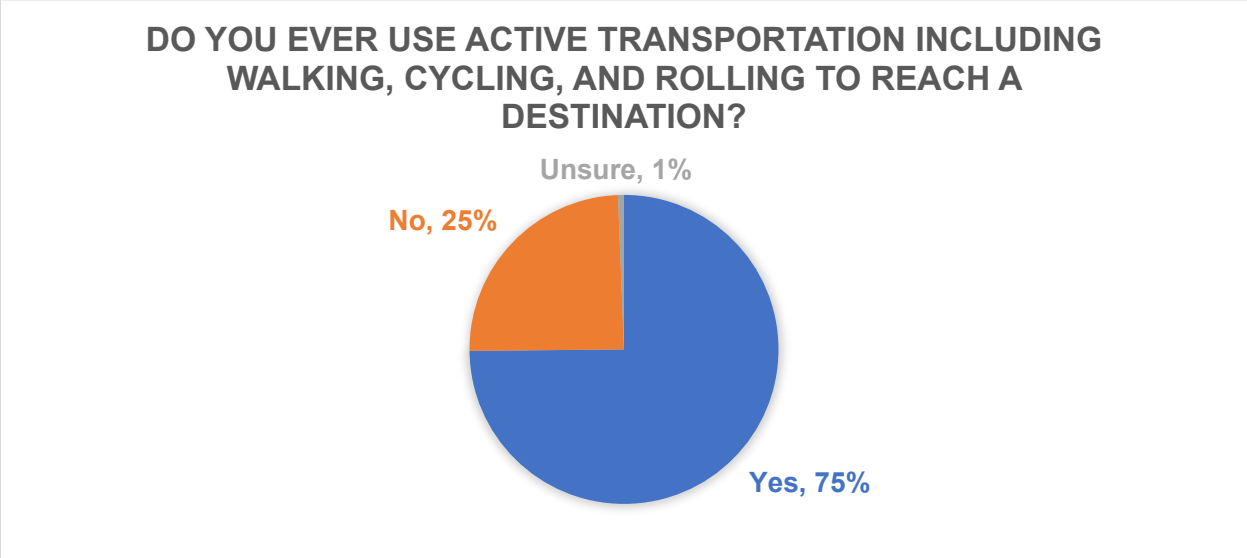


Figure 3: Response to "Do you ever use active transportation including walking, cycling, and rolling (using a wheelchair, skateboard, roller skates, etc.) to reach a destination?", n=159

When are you most likely to use active transportation?

Participants indicated that they are most likely to use active transportation for other reasons, such as:

- For exercise and recreation.
- When going for a walk, run, or bike ride with family members and pets.
  - Participants noted using active transportation primarily to take their children to school.
- To visit friends and attend social events.
- To travel to local parks and trails.
- To travel to local amenities such as restaurants, cafes, stores, community centres and libraries.

One-third of participants (36%) are most likely to use active transportation to run errands. Only 10% of participants report using active transportation when travelling to work.

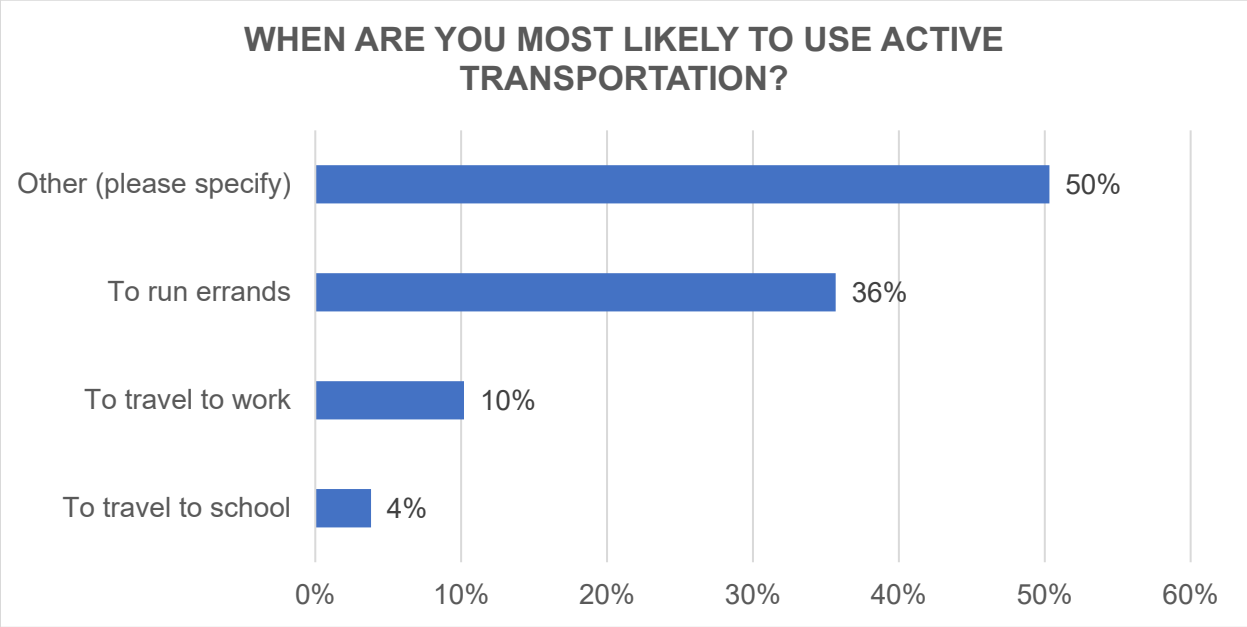


Figure 4: Response to "When are you most likely to use active transportation?", n=157

Which of the following describes your level of interest in active transportation?

When asked about their level of interest in active transportation, **over two-thirds (37%) indicated they are "interested in using active transportation in combination with other modes such as public transportation"**. Another 30% indicated they "use active transportation all or some of the time".

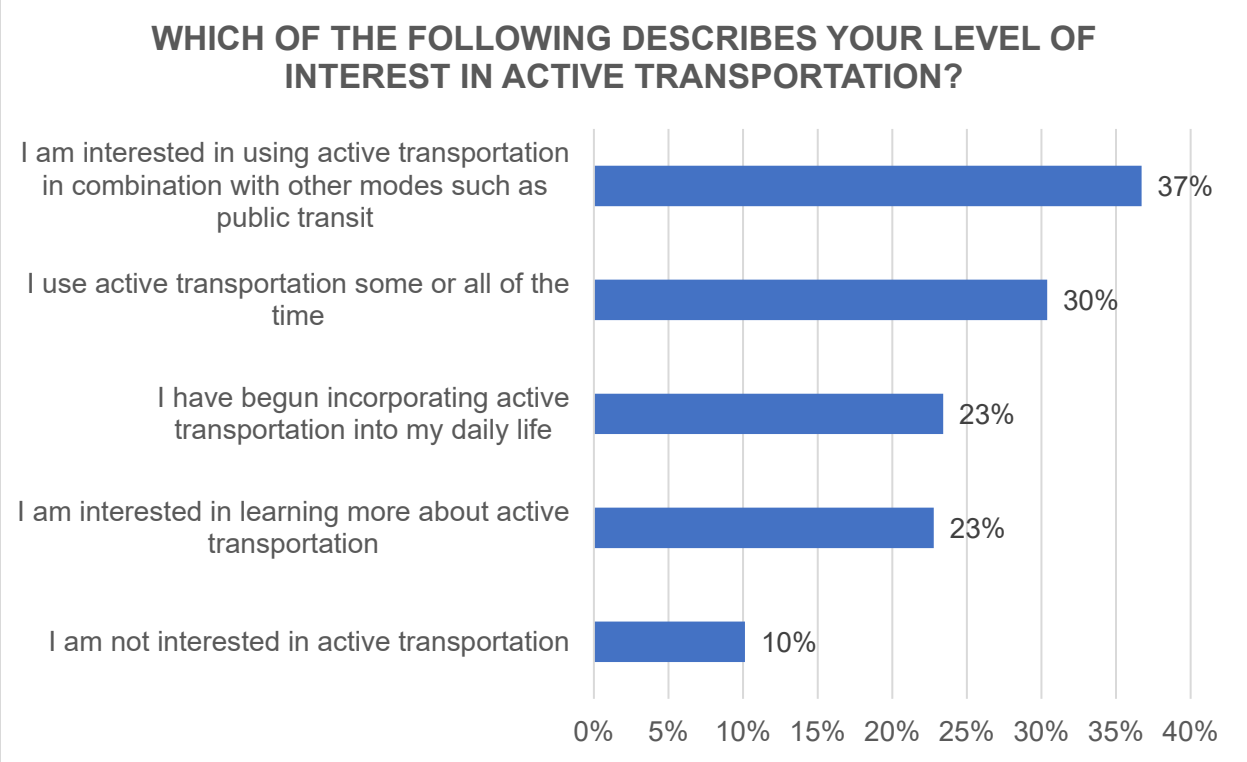


Figure 5: Response to "Which of the following describes your level of interest in active transportation?", select all that apply, n=158

Walking & Rolling in Woolwich

How often do you use walking or rolling to reach your destination?

Next, participants were asked how often they use walking or rolling (using a wheelchair, skateboard, roller skates, etc.) to reach their destination. **Half of participants (50%) indicated they use walking or rolling either "every day" or "a few times a week"**.

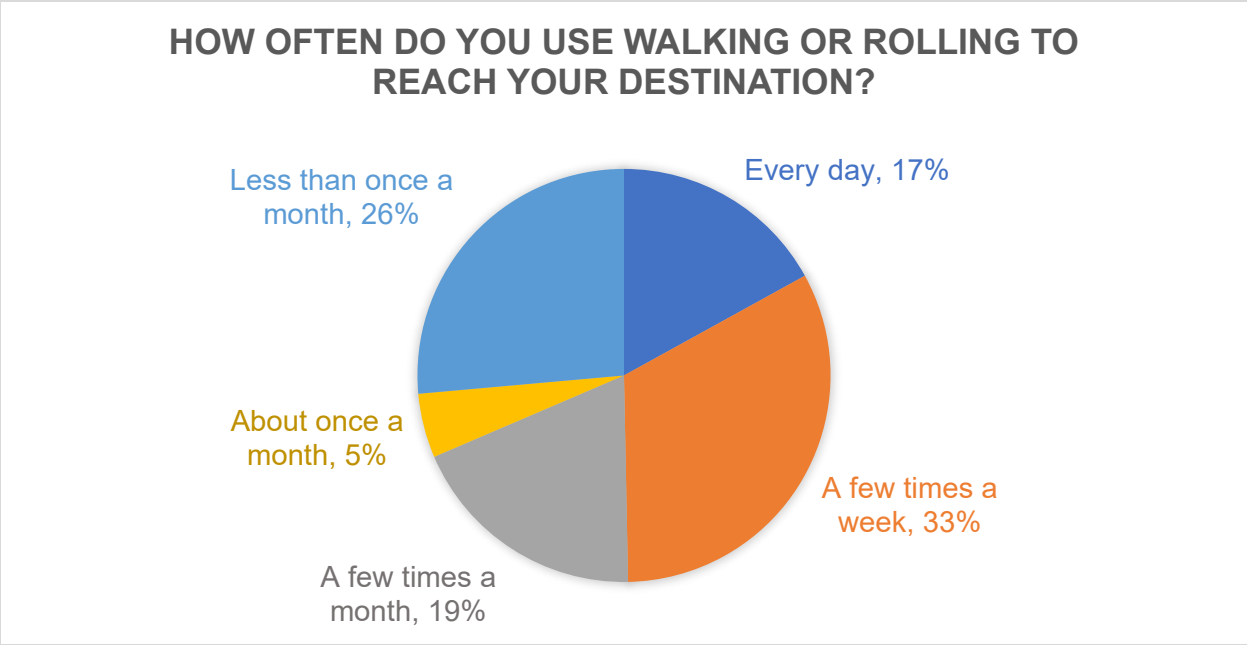


Figure 6: Response to "How often do you use walking or rolling (using a wheelchair, skateboard, roller skates, etc.) to reach your destination?", n=159

What prevents you from walking or rolling more often?

Participants were asked what prevents them from walking or rolling more often. The most selected options were **the distance between destinations, unpleasant weather, and lack of destinations.**

Participants who selected "other" noted that:

- Sidewalks seem unsafe to use in the winter due to snow and ice.
- A lack of safe pedestrian crossings makes walking or rolling feel unsafe.
    - It was noted that key destinations, such as some schools and community centres, lack pedestrian crossings.
    - It was noted that King Street in St. Jacobs is difficult to cross due to a lack of traffic lights, stop signs, and pedestrian crossings.
- Many sidewalks do not have adequate drainage and are unsafe due to large amounts of water pooling.
    - It was noted that some properties drain sump out unto the sidewalks and walking paths.
- Walking or rolling close to large vehicles and heavy traffic feels unsafe.
    - It was noted that Arthur Street is used by many large trucks, and it was suggested that having a pedestrian bypass on Arthur Street would make walking or rolling safer.
- Sharing sidewalks with cyclists or off-leash dogs makes walking or rolling feel unsafe.

- Individual physical challenges such as sore knees are a deterrent.

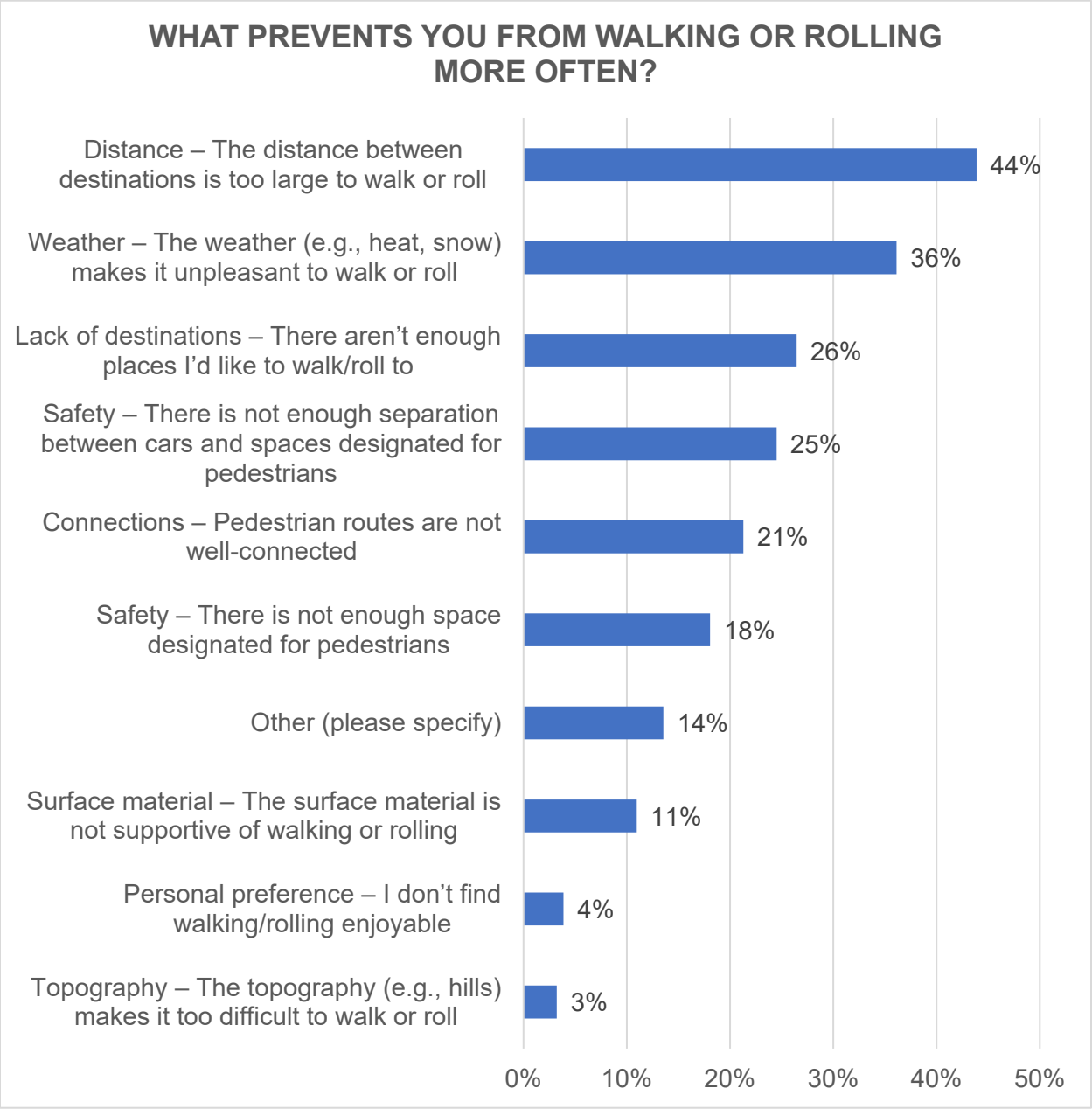


Figure 7: Response to "What prevents you from walking or rolling more often?", select up to 3, n=155

Cycling in Woolwich

How often do you use cycling to reach your destination?

Next, participants were asked how often they use cycling to reach their destination. **Nearly half of participants (49%) indicated they cycle "a few times a week" or "a few times a month"**.

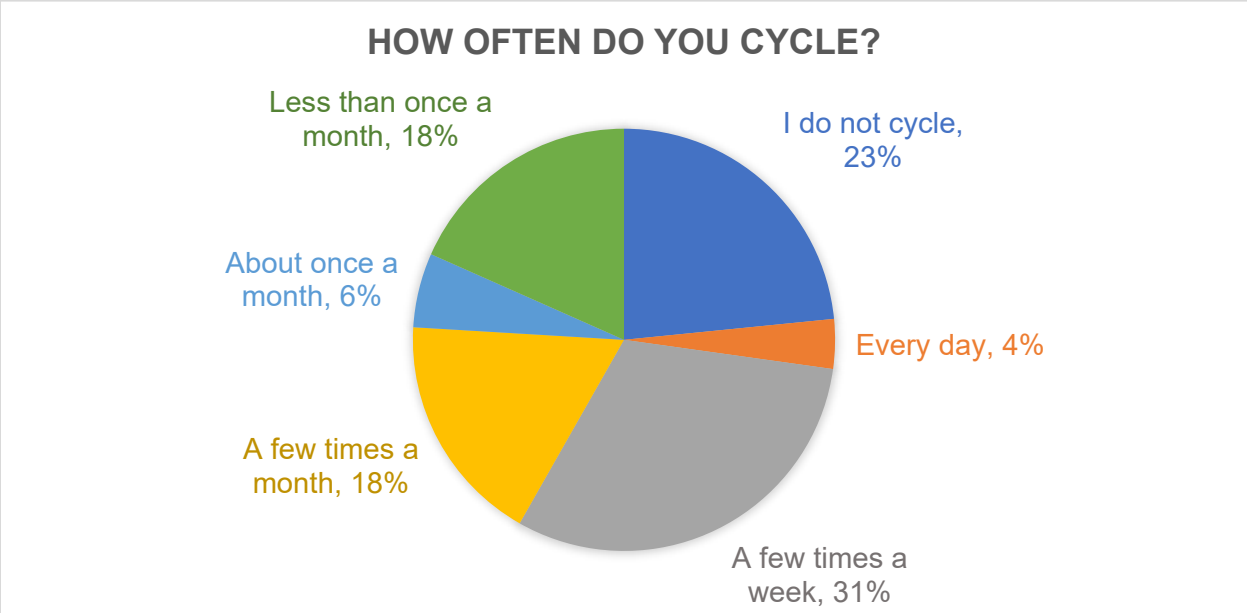


Figure 8: Response to "How often do you use cycling to reach your destination?", n=158

What prevents you from cycling more often?

Participants were asked what prevents them from cycling more often. **Safety (both lack of separation from cars and lack of space for cyclists) and unpleasant weather** were the most selected options.

Participants who selected "other" noted that:

- A lack of secure and designated spaces to lock bicycles at their destination is a deterrent to cycling.
- They will not cycle if they are purchasing a large amount of stuff that needs to be carried.
- The speed of motor vehicles on busy roads makes cycling feel unsafe.
- Cycling feels unsafe in the winter due to uncleared snow and ice.
- Not owning a personal bicycle is a deterrent.
- Individual physical challenges and old age are deterrents.

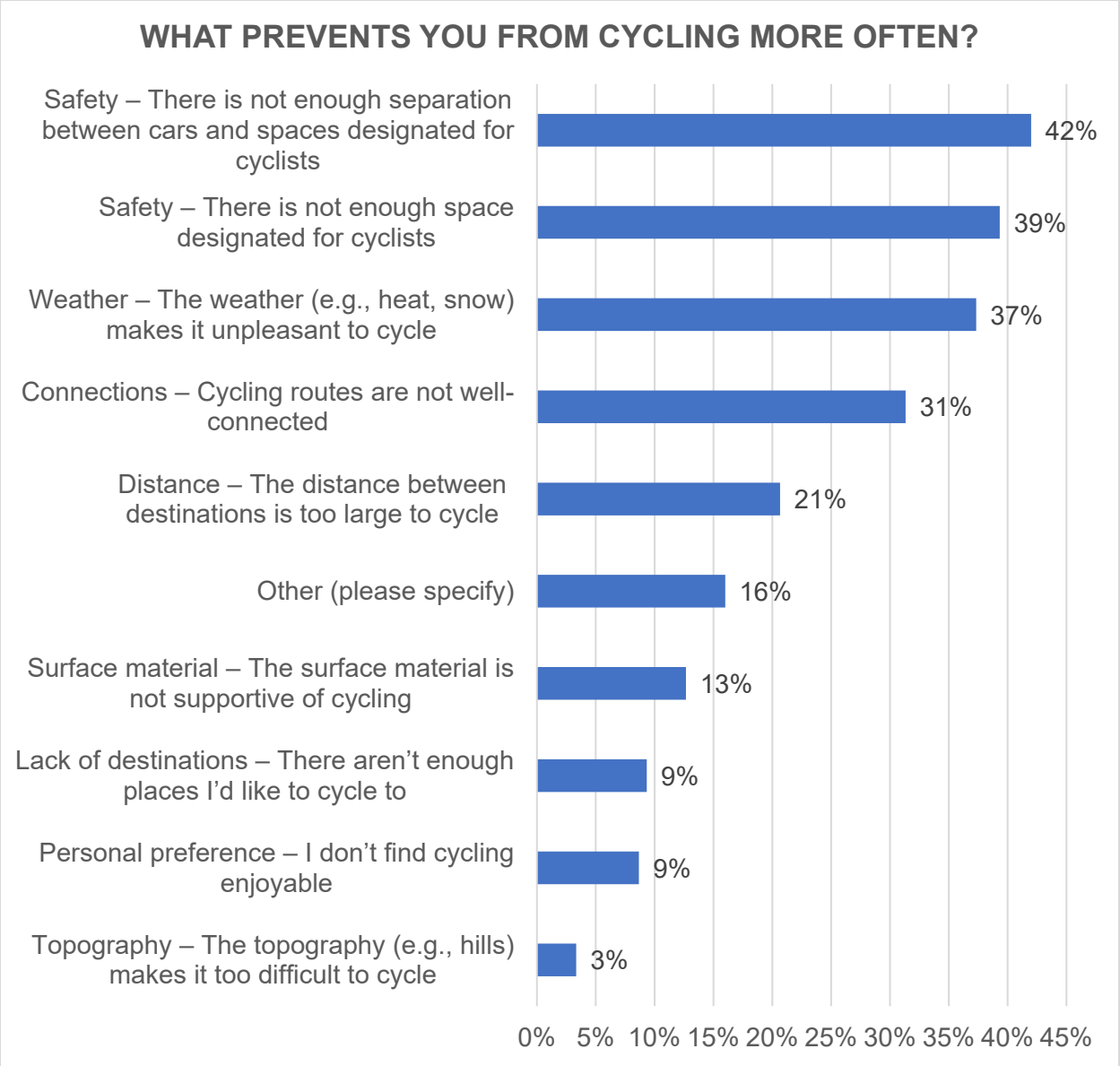


Figure 9: Response to "What prevents you from cycling more often?", select up to 3, n=150

Which type of cycling infrastructure would you most like to see in Woolwich?

Three main categories of cycling infrastructure are being considered as part of this study (noted below). **Physically separated bikeways were the most desired option, followed by bicycle lanes.**

a) **Physically separated bikeways** – dedicated cycling space that is separated from vehicles on the road by a barrier or other physical elements.



b) **Bicycle lanes** – dedicated cycling space that is separated from vehicles on the road with no physical barrier.



c) **Shared cycling facilities** – the travel space is shared between bicycles and vehicles.


Other Comments & Ideas

Other comments received through the survey are summarized below.

- Participants emphasized that the active transportation network should offer separation between different forms of transportation and provide a continuous network.
    - It was noted that cycling lanes seem to disappear when approaching intersections, contributing to cycling feeling unsafe.
    - Participants felt that cyclists and horse & buggies should be able to share a lane that is separate from motor vehicle traffic.
    - It was emphasized that cyclists should not share lanes with those walking and rolling.
    - It was suggested that active transportation paths should be prioritized on secondary and rural roads so that they are distant from the noise and emissions of motor vehicles and are more welcoming.
- Participants expressed a desire for active transportation connections between the different communities within Woolwich and between these communities and Kitchener/Waterloo.
    - Participants noted that they would bike to work if there were safe cycling connections to Kitchener and Waterloo.
    - More cycling connections between communities would give youth broader access to employment opportunities.
- Participants emphasized the need for pedestrian crossings nearer to key community destinations and amenities rather than further down the road.
- There was concern about cycling lanes removing parking spots and space for motor vehicles and horse-drawn buggies.
    - Participants felt that Arthur Street should not become narrower due to the large number of trucks that use this corridor.
- There was concern about the cost of implementing active transportation facilities.
- Participants suggested that there needs to be communications and outreach with motor vehicle drivers to educate them on how to share the road with active transportation users.
- Participants emphasized the need for winter maintenance of the active transportation network to ensure it is accessible year-round.
- There is a desire for more active transportation connections to downtown, public transit, and community amenities such as grocery stores.
- There is a desire for more active transportation connections to trails, with many recommending connections to the Guelph to Goderich (G2G) trail.

Next Steps

Results from the first round of engagement, including the Mapping Activity, will inform the development of the draft active transportation network for Woolwich. Additional opportunities for engagement will be made available as the plan development continues.

Appendix A – Survey Form

Planning for Active Transportation in Woolwich

EngageWR

Please submit completed surveys to:
Woolwich Township Administrative Office
24 Church Street West, P.O. Box 158,
Elmira, ON, N3B 2Z6
ATTN: Jeremy Vink

Issues & Opportunities for Active Transportation

Thank you for your interest in Woolwich Township's Active Transportation Master Plan (ATMP)!

Active transportation refers to any human-powered transportation, including walking, cycling, and rolling (using a wheelchair, skateboard, roller skates, etc.). Through the ATMP, the Township seeks to support active transportation as a safe, affordable, and convenient mode for different trip purposes and for users of all ages and abilities.

We invite you to complete the following online survey to **help us identify current issues and future opportunities for active transportation in Woolwich**.

This survey will be open from Jan. 30 to Feb. 20, 2023.

How do you move around Woolwich?

First, we would like to understand how you currently move around Woolwich.

What forms of transportation do you use most often to move around Woolwich?

(Choose any 3 options)

- [ ] Car, as a driver
- [ ] Car, as a passengar
- [ ] Public transit
- [ ] Taxi or paid rideshare
- [ ] Walking
- [ ] Cycling
- [ ] E-bike
- [ ] Wheelchair
- [ ] In-line skating
- [ ] Skateboarding
- [ ] Electric scooter
- [ ] None
- [ ] Other (please specify)

On a daily basis (for work, school, errands, etc.), where do you generally travel?

(Choose all that apply)

- [ ] Within my neighbourhood
- [ ] Within Woolwich
- [ ] To a nearby municipality (less than 40 min by car)
- [ ] To a further municipality (more than 40 min by car)
- [ ] N/A I don't travel on a daily basis

Do you ever use active transportation including walking, cycling, and rolling (using a wheelchair, skateboard, roller skates, etc.) to reach a destination?

(Choose any one option)

- [ ] Yes
- [ ] No
- [ ] Unsure

When are you most likely to use active transportation?

(Choose any one option)

- [ ] To travel to work
- [ ] To travel to school
- [ ] To run errands
- [ ] Other (please specify)

Which of the following describes your level of interest in active transportation?

(Choose all that apply)

- [ ] I am not interested in active transportation
- [ ] I am interested in learning more about active transportation
- [ ] I am interested in using active transportation in combination with other modes such as public transit
- [ ] I have begun incorporating active transportation into my daily life
- [ ] I use active transportation some or all of the time

How can we improve walking and rolling in Woolwich?

We would like to understand your experience with active transportation more generally (walking and rolling) in Woolwich, including any concerns or frustrations and your desires for how walking and rolling can be improved.

How often do you use walking or rolling (using a wheelchair, skateboard, roller skates, etc.) to reach your destination? *Please note that we will be asking about cycling later in the survey.*

(Choose any one option)

- [ ] Every day
- [ ] A few times a week
- [ ] A few times a month
- [ ] About once a month
- [ ] Less than once a month

What prevents you from walking or rolling more often?

(Choose any 3 options)

- [ ] Safety – There is not enough space designated for pedestrians
- [ ] Safety – There is not enough separation between cars and spaces designated for pedestrians
- [ ] Connections – Pedestrian routes are not well-connected
- [ ] Distance – The distance between destinations is too large to walk or roll
- [ ] Topography – The topography (e.g., hills) makes it too difficult to walk or roll
- [ ] Weather – The weather (e.g., heat, snow) makes it unpleasant to walk or roll
- [ ] Surface material – The surface material is not supportive of walking or rolling
- [ ] Personal preference – I don't find walking/rolling enjoyable
- [ ] Lack of destinations – There aren't enough places I'd like to walk/roll to
- [ ] Other (please specify)

How can we improve cycling in Woolwich?

Next, we would like to understand your experience with cycling in Woolwich, including any concerns or frustrations and your desires to improve cycling.

How often do you cycle?

(Choose any one option)

- [ ] I do not cycle
- [ ] Every day
- [ ] A few times a week
- [ ] A few times a month
- [ ] About once a month
- [ ] Less than once a month

What prevents you from cycling more often?

(Choose any 3 options)

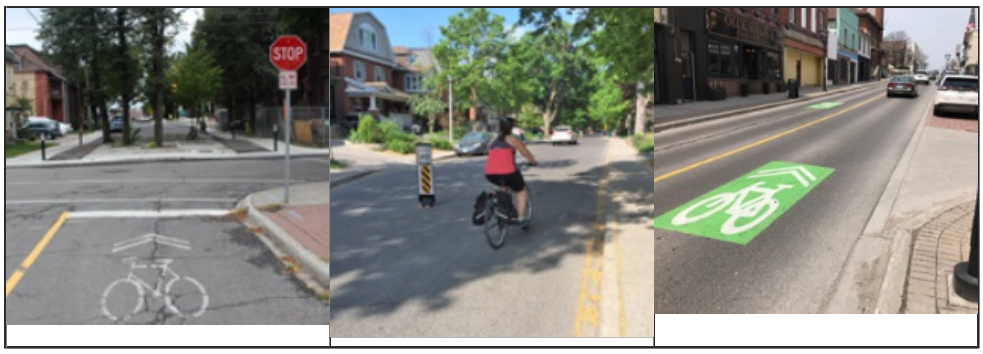
- [ ] Safety – There is not enough space designated for cyclists
- [ ] Safety – There is not enough separation between cars and spaces designated for cyclists
- [ ] Connections – Cycling routes are not well-connected
- [ ] Distance – The distance between destinations is too large to cycle
- [ ] Topography – The topography (e.g., hills) makes it too difficult to cycle
- [ ] Weather – The weather (e.g., heat, snow) makes it unpleasant to cycle
- [ ] Surface material – The surface material is not supportive of cycling
- [ ] Personal preference – I don't find cycling enjoyable
- [ ] Lack of destinations – There aren't enough places I'd like to cycle to
- [ ] Other (please specify)

There are three main categories of cycling infrastructure being considered as part of this study:

- **Physically separated bikeways** – dedicated cycling space that is separated from vehicles on the road by a barrier or other physical elements

- **Bicycle lanes** – dedicated cycling space that is separated from vehicles on the road with no physical barrier

- **Shared cycling facilities** – the travel space is shared between bicycles and vehicles



Which type of cycling infrastructure would you most like to see in Woolwich?

(Rank each option)

_____ Physically separated bikeways
_____ Bicycle lanes
_____ Shared cycling facilities

Do you have any additional comments or ideas about active transportation in Woolwich?

Tell us about yourself

If you feel comfortable, please tell us a little about yourself to help us understand how we can support active transportation as a safe, affordable, and convenient mode for users of various ages and abilities.

Which age group applies to you?

(Choose any one option)

- ☐ Younger than 18
- ☐ 18 - 24
- ☐ 25 - 34
- ☐ 35 - 44
- ☐ 45 - 54
- ☐ 55 - 64
- ☐ Older than 65
- ☐ Prefer not to answer

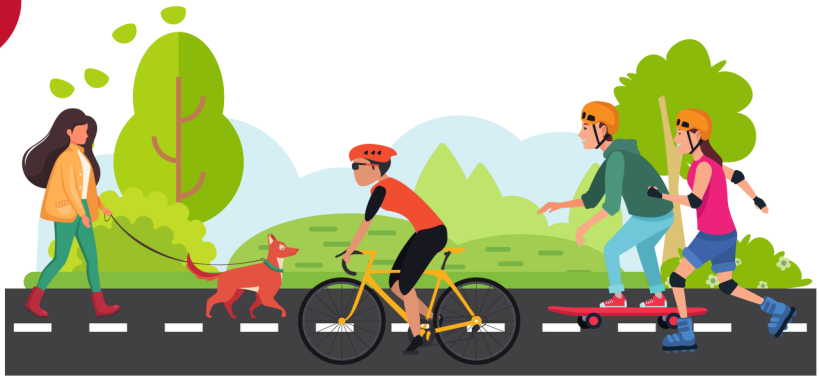
Appendix B – Promotional Poster

WOOLWICH
TOWNSHIP

ACTIVE TRANSPORTATION MASTER PLAN

The Township of Woolwich is completing an Active Transportation Master Plan

Active transportation involves using your own power to get from one place to another. It includes walking, cycling or rolling.



Have Your Say: Complete our survey to help us identify issues and opportunities for active transportation in Woolwich.

VISIT **ENGAGE WOOLWICH** OR SCAN THE **QR CODE** TO COMPLETE THE SURVEY BEFORE FEBRUARY 20TH

HARDCOPIES AVAILABLE AT TOWNSHIP OF WOOLWICH ADMINISTRATION OFFICE

This project is funded in part by the Government of Canada.

Canada Ontario

LURA
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2023

Township of Woolwich: Active Transportation Master Plan (ATMP)

ENGAGEMENT SUMMARY: ROUND 2

PREPARED BY LURA CONSULTING

Contents

Introduction

Active transportation (AT) is any mode of transportation that involves human-power to get from one place to another. It includes walking, cycling or rolling (in-line skating, skateboarding or using a wheelchair). Using AT has many benefits for your physical and mental health. Using AT also reduces traffic on our roads, reduces emissions and improves our air quality. A safe and well-connected AT network provides access to those who do not drive.

The Township of Woolwich is developing an Active Transportation Master Plan (ATMP). The plan will establish a vision for active transportation in Woolwich to the year 2051 that:

- Promotes the development of a well-connected and safe active transportation network; and
- Supports active transportation as an affordable and convenient transportation mode for different trip purposes and users of various abilities and ages.

Engagement Objectives

Community engagement is critical to the success of this study. Members of the public and key stakeholders will be involved in meaningful two-way discussions throughout the plan development process. **This report summarizes "what we heard" from the community during the second round of engagement, which focused on gathering feedback on the Draft Active Transportation Network.** One additional opportunity for engagement will be provided before the ATMP is finalized.

The overall engagement objectives of this project are to engage the Township of Woolwich residents and stakeholders in meaningful conversations that:

- Increase understanding and awareness of active transportation and its benefits.
- Identify current and future issues, safety concerns, constraints, and opportunities for active transportation.
- Capture a range of perspectives to inform the development of the ATMP and its implementation.

Engagement Activities

The second round of engagement consisted of a series of community pop-up engagements and an online comment form and mapping activity.

The community pop-ups consisted of staffed community pop-up events as well as self-guided community pop-up displays at public locations. The staffed community pop-up events were facilitated by community engagement staff from the project team on **March 7 and 8, 2023**. The self-guided community pop-up displays were posted from **March 7 to 21, 2023** and invited participants to share feedback through hard copy comment forms. The materials for the staffed community pop-up events can be found in **Appendix A**, and the materials for self-guided community pop-up displays can be found in **Appendix B**.

The online comment form and mapping activity mirrored the engagement activities available at the community pop-up events and were both hosted on the Township's Engage Woolwich website from **March 7 to 21, 2023**. The Engage Woolwich page received over **50 visitors** during this period.

A summary of number of participants by location is provided below. At least **80 individuals were informed,** and, in total, **58 participants provided feedback** during the second round of engagement. Participants represented a broad range of ages, from children and youth to retired seniors.

Engagement Activities	Location	Participation
Staffed Community Pop-up Events	Breslau Community Centre, Tuesday, March 7, 2023, 5:00 to 7:00 pm	• 28 informed • 22 of which provided feedback
	Woolwich Memorial Centre, Wednesday, March 8, 2023, 3:30 to 5:30 pm	• 28 informed • 25 of which provided feedback
	St. Jacobs Arena, Wednesday, March 8, 2023, 6:30 to 8:30 pm	• 15 informed • 8 of which provided feedback
Self-guided Community Pop-up Displays	Township of Woolwich Administration Office	• 2 comment forms completed
	Region of Waterloo Library – St. Jacobs Branch	
	Region of Waterloo Library – Elmira Branch	
	Elmira District Secondary School	
Online Comment Form	Online – Engage Woolwich	• 10 informed • 1 comment form completed

The Township's website and social media accounts were used to promote the abovementioned engagement opportunity.

Social Media Tool	Reach
Twitter	• Two posts (March 6 & 11) with a total of 652 impressions and 32 engagements
Facebook	• Two posts (March 6 & 11) with a total of 821 impressions and 20 engagements
Instagram	• Two posts (March 6 & 11) with a total of 654 impressions and 18 engagements

What We Heard

The following sections summarize "what we heard" from the various engagement activities, organized by questions participants were asked to respond to.

Feedback on Draft Network

Participants were first asked to review a map of the Draft Active Transportation Network. When asked whether the draft network “got it right”, **over two-thirds (70%) responded “yes"**. Another 26% responded "somewhat”, while 4% responded “no”.

Of those who selected "yes":

- Several participants noted that the proposed routes are located in the right places. Residents already travel by active transportation on those routes.

- Several participants expressed that the Draft Active Transportation Network would contribute to them feeling safer getting around Woolwich using active transportation.
- Participants expressed appreciation that the Draft Active Transportation Network would make getting around more accessible in Woolwich, particularly for seniors who use wheelchairs/scooters.

Of those who selected “somewhat”:

- Participants expressed support for the Draft Active Transportation Network but also encouraged additional active transportation linkages to:
    - Local schools and parks
    - Existing trails/active transportation routes in Kitchener-Waterloo
    - Neighbourhoods that are isolated from the population centres
- Some participants expressed concern about potential congestion, especially during winter, if vehicle parking spots and driving lanes were to be replaced with active transportation infrastructure.

Of those who selected “no”:

- Participants expressed that while they support active transportation in Woolwich, they believe that investing in a network is not a fiscal priority.

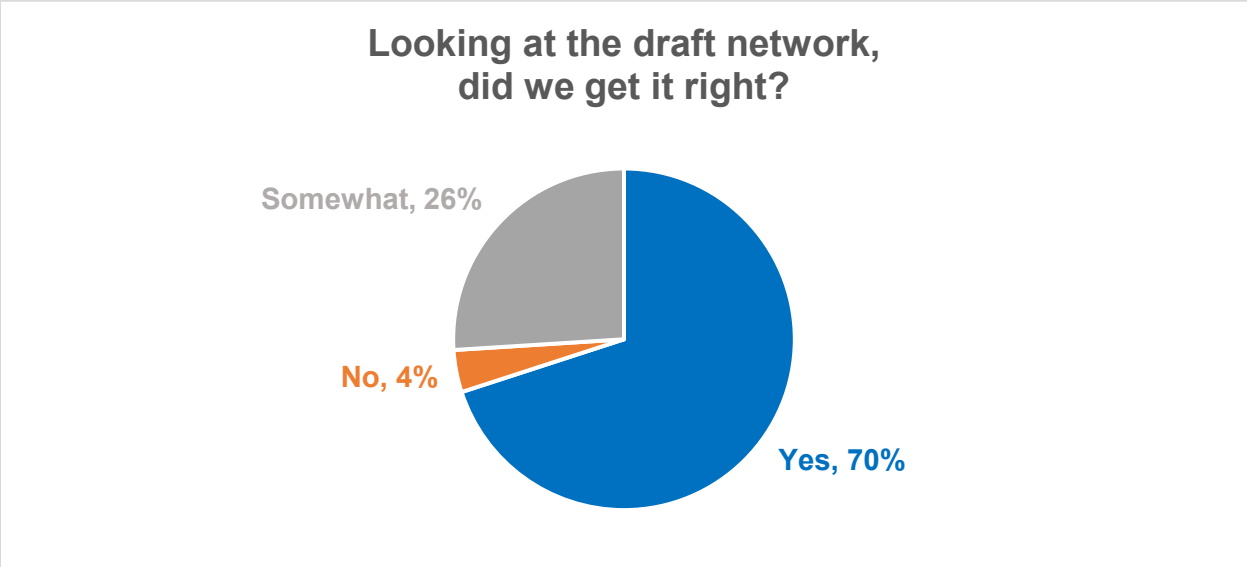


Figure 1: Response to "Looking at the draft network, did we get it right?", n=50

Other Comments

Additional feedback from participants is summarized below, organized by area.

Breslau

- It was noted that Victoria Street does not have sidewalks and that this should be a priority for active transportation infrastructure.
- It was noted that Shields Street and Wakefield Street are heavily used by children to travel to and from school.
- It was recommended that new cycling infrastructure should provide connections between Andover Drive, Norwich Road, and Dolman Street.

- It was recommended that the proposed active transportation route on Woolwich Street South should connect to Spitzig Road, which is a popular road for cycling.
- It was noted that it currently feels unsafe to cross Fountain Street North, and that active transportation infrastructure such as a pedestrian bridge should be considered.
- Participants noted the following places as key destinations that should be considered as part of the network:
    - The Schwaben Club (50 Scheifele Place) – popular social club
    - 2057 Victoria Street North – plaza with local businesses
    - 10 Dolman Street – plaza with convenience store and fast food

Elmira

- It was recommended that a sidewalk be installed all along Barnswallow Drive, as this is a popular route for running.
- It was suggested that active transportation routes in Elmira can be connected to the off-road trails along the creek at Whippoorwill Drive.
- Participants noted the following places as key destinations that should be considered as part of the network:
    - Park Manor Senior Public School (18 Mockingbird Drive) and Park Manor Park (22 Mockingbird Drive)
    - Riverside Public School (250 William Street)
    - Bristow Park (5 First Street E) – popular skatepark for youth

St. Jacobs

- It was recommended that the footbridge to the Mill Race Trail from Isabella Street and Front Street should be accessible.

General Comments

- Participants emphasized that the active transportation routes should be wide enough for different uses and provide separation between different forms of transportation.
- Participants recommended that the active transportation network provide more connections between the different routes.
- Participants emphasized that active transportation infrastructure should not inhibit transportation by horse and buggy.
- Concern was expressed about adding more concrete surfaces in the Township if roads are expanded.

Next Steps

Results from the second round of engagement will inform the development of the draft active transportation network for Woolwich. One additional opportunity for engagement will be provided before the ATMP is finalized.

Appendix A – Staffed Community Pop-up Event Materials

Informational Board:

ACTIVE TRANSPORTATION MASTER PLAN

WOOLWICH TOWNSHIP

The Township of Woolwich is developing an Active Transportation Master Plan (ATMP) that will establish a vision for active transportation in Woolwich to the year 2051 that:

- Promotes the development of a well-connected, safe, and accessible active transportation network.
- Supports active transportation as an affordable and convenient transportation mode for different trip purposes and users of various abilities and ages.

WHAT IS ACTIVE TRANSPORTATION?

Active transportation (AT) is any mode of transportation that involves human-power to get from one place to another. It includes walking, cycling or rolling (in-line skating, skateboarding or using a wheelchair).

WHAT ARE THE BENEFITS OF ACTIVE TRANSPORTATION?

Using AT has many benefits for your physical and mental health. It reduces traffic on our roads, reduces motor vehicle emissions and improves air quality. A safe and well-connected AT network provides access to those who do not drive.

LEARN MORE AND GET INVOLVED!

SCAN THE QR CODE
OR
VISIT **ENGAGEWR.CA/ACTIVE-TRANSPORTATION**

ACTIVE TRANSPORTATION MASTER PLAN TIMELINE

Evaluating Issues and Opportunities	Developing the Active Transportation Network	Developing the Active Transportation Master Plan	Completing the Plan and Approval
December 2022 - January 2023	*February - April 2023*	*May - June 2023*	*July 2023*

Ontario

This project is funded in part by the Government of Ontario and the Government of Canada.

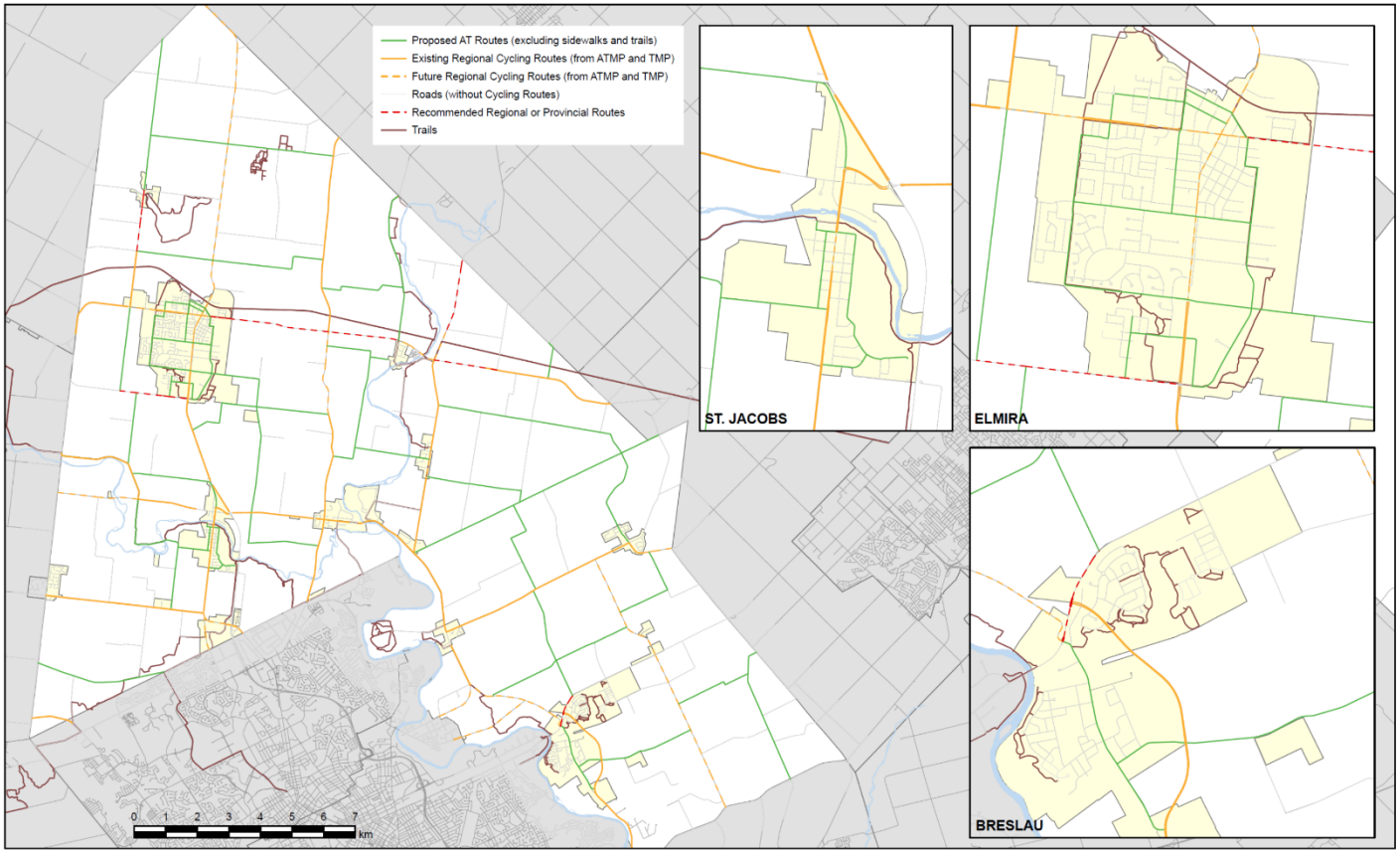
Canada

Activity Board:

DRAFT NETWORK

Let us know if we got it right by voting Yes, No, or Somewhat and sharing any additional comments below.

YES	NO	SOMEWHAT



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Appendix B – Self-guided Community Pop-up Display Materials

Poster:

ACTIVE TRANSPORTATION MASTER PLAN

WOOLWICH TOWNSHIP

The Township of Woolwich is developing an Active Transportation Master Plan (ATMP) that includes a network that's well-connected, safe, and accessible for everyone, no matter how old you are or what your abilities are.

A Draft Active Transportation Network has been developed and we want your input.

Your feedback is important and will help shape the plan.

Share your feedback and comments on the Draft Active Transportation Network using the comment form below.

WHAT IS ACTIVE TRANSPORTATION?

Active transportation (AT) is any mode of transportation that involves human-power to get from one place to another. It includes walking, cycling or rolling (in-line skating, skateboarding or using a wheelchair).

WHAT ARE THE BENEFITS OF ACTIVE TRANSPORTATION?

Using AT has many benefits for your physical and mental health. It reduces traffic on our roads, reduces motor vehicle emissions and improves air quality. A safe and well-connected AT network provides access to those who do not drive.

TO LEARN MORE, STAY INFORMED, AND PARTICIPATE IN THE INTERACTIVE MAPPING ACTIVITY

VISIT **ENGAGEWR.CA/ACTIVE-TRANSPORTATION**
OR SCAN THE QR CODE

Ontario

This project is funded in part by the Government of Ontario and the Government of Canada.

Canada

Comment Form:

Planning for Active Transportation in Woolwich

Comment Form

Thank you for your interest in Woolwich Township's Active Transportation Master Plan (ATMP)!

Active transportation refers to any human-powered transportation, including walking, cycling, and rolling (using a wheelchair, skateboard, roller skates, etc.). Through the ATMP, the Township seeks to develop an active transportation network that is well-connected, safe, and accessible for users of all ages and abilities.

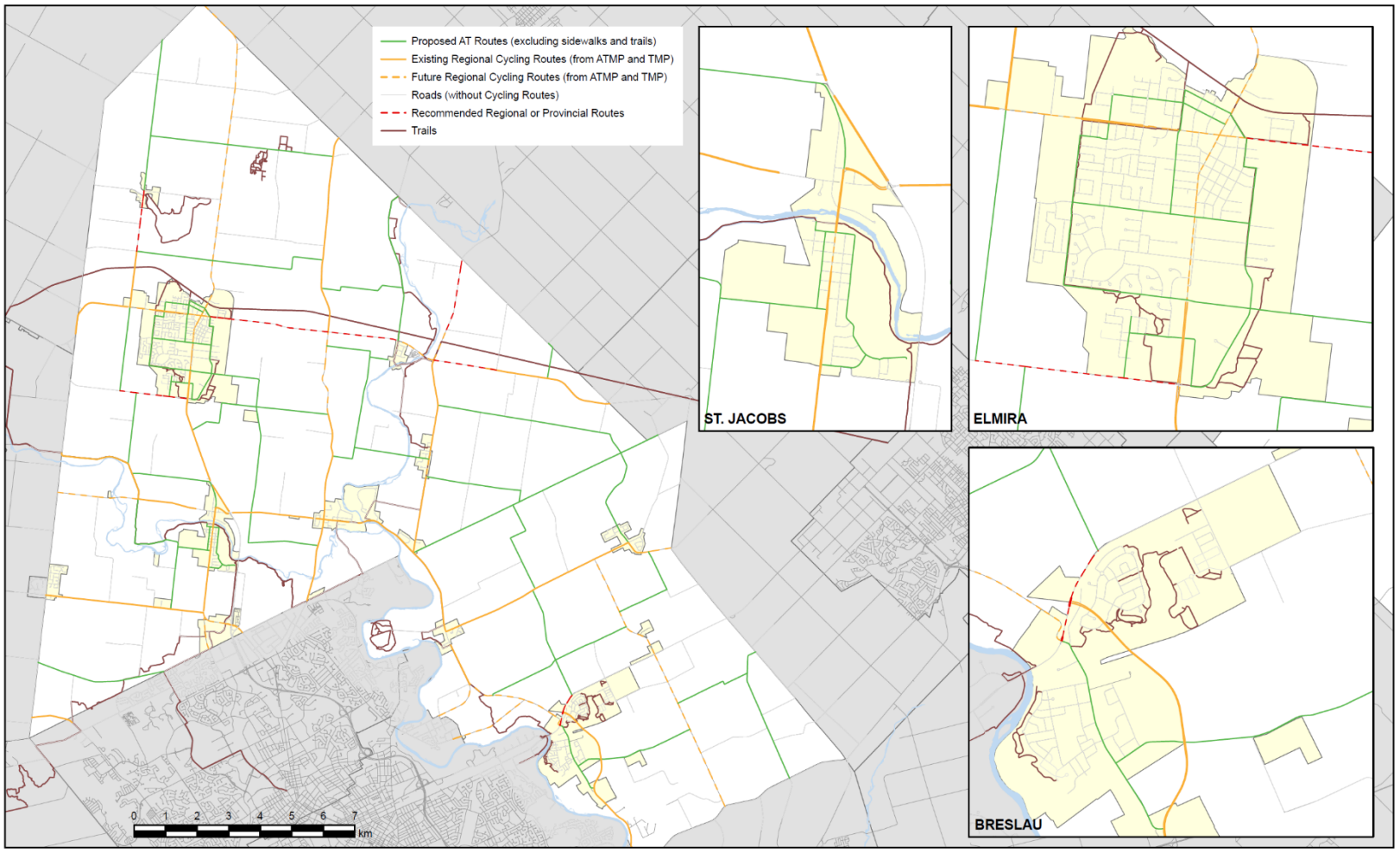
We invite you to complete the following comment form to share your feedback and comments on the **Draft Active Transportation Network.**

This comment form is open until March 21, 2023. Once completed please submit your comment form in the comment box or at Woolwich Township Administrative Office (24 Church Street West, P.0. Box 158, Elmira, ON, N3B 2Z6, ATTN: Jeremy Vink)

Please review the draft network on the back of this page and respond to the questions below.

1. **Looking at the draft network, did we get it right?**
   (Circle one, and let us know why or why not in the comment box below)
   a. **Yes**
   b. **No**
   c. **Somewhat**

2. **Please let us know if there are any other areas that should be considered as part of the network? Show us by adding an X to the draft network map, and providing comments below.**



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Thank you for your input!

To learn more about this project, visit **www.engagewr.ca/active-transportation**, or contact:

Jeremy Vink, Manager of Planning, Township of Woolwich (Phone: 519-669-6038, Email: jvink@woolwich.ca)

LURA
LISTEN · UNDERSTAND · RELATE · ADVANCE

2023

Township of Woolwich: Active Transportation Master Plan (ATMP)

ENGAGEMENT SUMMARY: ROUND 3

PREPARED BY LURA CONSULTING

Contents

Introduction

Active transportation (AT) is any mode of transportation that involves human-power to get from one place to another. It includes walking, cycling or rolling (in-line skating, skateboarding or using a wheelchair). Using AT has many benefits for your physical and mental health. Using AT also reduces traffic on our roads, reduces emissions and improves our air quality. A safe and well-connected AT network provides access to those who do not drive.

The Township of Woolwich is developing an Active Transportation Master Plan (ATMP). The plan will establish a vision for active transportation in Woolwich to the year 2051 that:

- Promotes the development of a well-connected and safe active transportation network; and
- Supports active transportation as an affordable and convenient transportation mode for different trip purposes and users of various abilities and ages.

Engagement Objectives

Community engagement is critical to the success of this study. Members of the public and key stakeholders have been involved in meaningful two-way discussions throughout the plan development process. **This report summarizes "what we heard" from the community during the third and final round of engagement, which focused on inviting the public to review key elements of the draft ATMP before it is presented to Council.**

The overall engagement objectives of this project are to engage the Township of Woolwich residents and stakeholders in meaningful conversations that:

- Increase understanding and awareness of active transportation and its benefits.
- Identify current and future issues, safety concerns, constraints, and opportunities for active transportation.
- Capture a range of perspectives to inform the development of the ATMP and its implementation.

Engagement Activities

The third round of engagement consisted of an in-person public open house event, phone outreach with a representative of the Mennonite Community and an online comment form.

The open house took place on **May 9, 2023**. It was promoted as a drop-in format and featured a series of display boards summarizing key elements of the draft ATMP. Staff from the Township and the project consultant team were on hand to address any questions and record feedback. Participants were also invited to share feedback through hard copy comment forms. No formal presentation was provided. The materials for the open house can be found in **Appendix A** and the comment form can be found in **Appendix B**.

Following the event, the open house materials along with an online comment form that mirrored the engagement activities available at the open house were posted on the Township's Engage Woolwich website. Members of the public were encouraged to review the open house materials and provide feedback through the online comment form from **May 9 to 16, 2023**. The Engage Woolwich page received **15 visitors** during this period.

The project consultant team also conducted outreach with a representative of the local Mennonite Community and received their feedback over the phone during the comment period.

A summary of participants by engagement activity is provided below. At least **five individuals were informed**, and in total, **three participants provided feedback** during the third round of engagement.

Engagement Activities	Location	Participation
Public Open House	Township Municipal Office, Tuesday, May 9, 2023, 4:30 to 7:00 pm	• 3 informed • 2 provided feedback
Phone Outreach with Mennonite Community	Phone	• 1 informed • 1 provided feedback
Online Comment Form	Online	• 1 informed

The Township promoted the abovementioned engagement opportunities through use of the Township's website and social media accounts as well as through an ad in the local newspaper.

Communications Tool	Reach
Facebook	• One post (April 25) with a total of 2 engagements
Instagram	• One post (April 25) with a total of 6 engagements
Newspaper Ad	• One ad in the Woolwich Observer (May 4)

What We Heard

The following sections summarize "what we heard" from the various engagement activities during the third round of engagement.

Public Open House

- Participants expressed appreciation for how the ATMP considers the needs of different road users.
    - It was noted that some residents may prefer to walk on unpaved surfaces and that neighbourhood residents should be consulted on specific ATMP facilities for local streets before road construction work.
- Participants expressed appreciation for how the ATMP plans to phase implementation with planned road construction works to reduce costs.
- Participants emphasized that the design of active transportation facilities in Woolwich should not disrupt the travel and safety of horse-drawn buggies.
- Participants expressed support for implementing wider shoulders throughout the Township.
    - It was noted that on routes where motor vehicles, horse-drawn buggies, and cyclists all share the road, shoulders should have a three (3) metre width.

Phone Outreach with Mennonite Community

- It was noted that there is a desire for more sidewalks in Winterbourne.
    - Peel Street, Letson Drive, Scotch Line Road, and Lundy Road were identified as roads that community members use for travel by walking.
    - Community members have expressed that they would feel more comfortable walking on a sidewalk as a buffer to vehicular traffic.
- It was noted that the closure of the Peel Street Bridge has caused hardship because it is relied on to cross the Grand River and to access local farmers' markets.
    - Community members have expressed a desire for the bridge to accommodate low vehicular traffic, including horse and buggy.
- It was noted that implementing wider shoulders throughout the Township would allow horses and their riders to have greater distance from high-speed traffic and better enable buggies to 'ride in a team' (two horses side-by-side).
- It was noted that hard surface roads, if not maintained, can lead to severe injuries to horses due to large potholes.
- It was noted that guard rails on routes adjacent to steep ditches can improve the safety of all road users.

Next Steps

Results from the third round of engagement will inform refinements to the draft ATMP before it is presented to Council. The draft ATMP is planned to be presented to Council in June 2023.

Appendix A – Open House Materials

Board 1:

ACTIVE TRANSPORTATION MASTER PLAN

WOOLWICH TOWNSHIP

The Township of Woolwich is developing an Active Transportation Master Plan (ATMP) that will establish a vision for active transportation in Woolwich to the year 2051 that:

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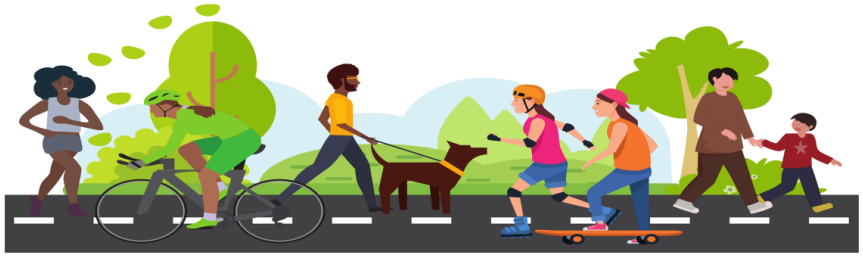

What is Active Transportation?

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What are the Benefits of Active Transportation?

Using AT has many benefits for your physical and mental health. It reduces traffic on our roads, reduces motor vehicle emissions and improves air quality. A safe and well-connected AT network provides access to those who do not drive.

ACTIVE TRANSPORTATION MASTER PLAN TIMELINE

- **Evaluating Issues and Opportunities** — *December 2022 - January 2023*
- **Developing the Active Transportation Network** — *February - April 2023*
- **Developing the Active Transportation Master Plan** — *May - June 2023*
- **Completing the Plan and Approval** — *June 2023*

Ontario

This project is funded in part by the Government of Ontario and the Government of Canada.

Canada

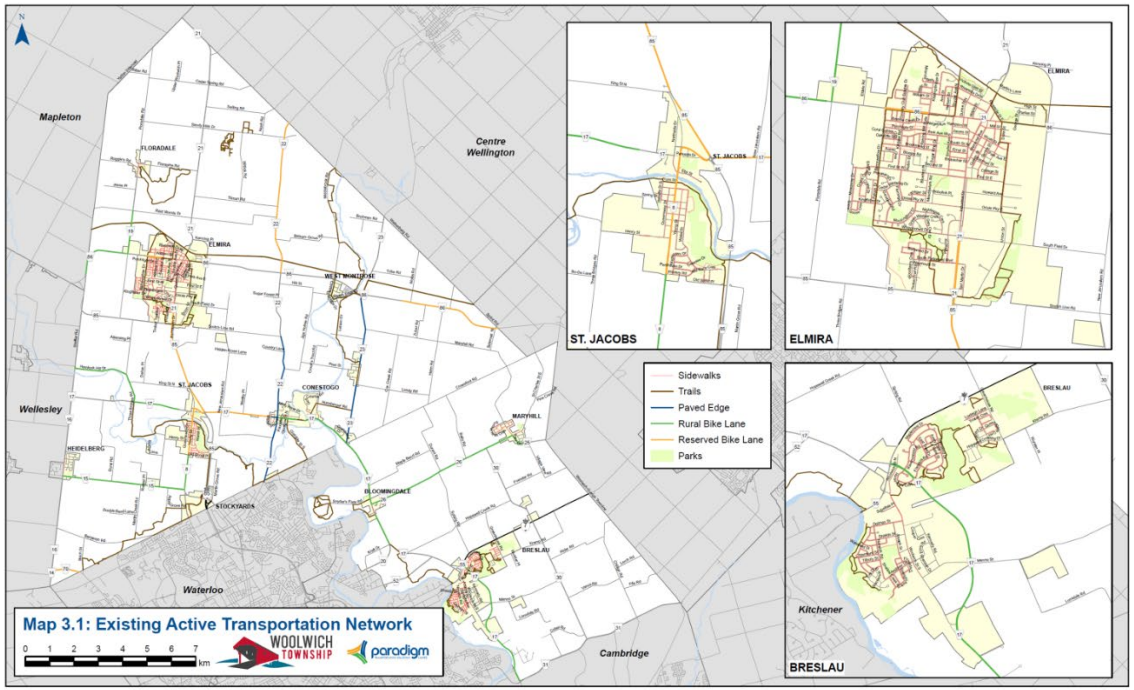
Board 2:

CURRENT STATE OF ACTIVE TRANSPORTATION

The Township of Woolwich active transportation network is currently made up of pedestrian sidewalks, off-road trails, paved shoulders and other informal connections.

There are opportunities and challenges associated with improved access and mobility for active transportation users including:

- Ensuring safety for vulnerable road users.
- Balancing demands of other modes of travel.
- Costs to implement active transportation infrastructure.



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Board 3:

WHAT WE HEARD

Engagement Activities To Date

Round 1 (Jan. 30 – Feb. 20, 2023)
- Public Survey
- Mapping Activity

Round 2 (Mar. 7 – Mar. 21, 2023)
- Staffed Community Pop-up Events
- Self-guided Community Pop-up Displays
- Online comment Form

Engagement Objectives

- Increase understanding and awareness of active transportation and its benefits.
- Identify the current and future issues, safety concerns, constraints and opportunities for active transportation.
- Capture a range of perspectives to inform the development of the ATMP and its implementation.




What We Heard – Key Themes

Over two-thirds (70%) responded that the Draft Active Transportation Network "got it right". Participants expressed that the proposed routes:
- Are located in the right places.
- Would contribute to residents feeling safer using AT to get around in Woolwich.
- Would make getting around more accessible in Woolwich, particularly for seniors and those using mobility aids.

Participants also expressed:
- A desire for additional AT linkages to popular destinations, and to Kitchener-Waterloo.
- A desire to avoid increasing traffic congestion.
- A desire to limit fiscal impact of investing in AT.

Ontario

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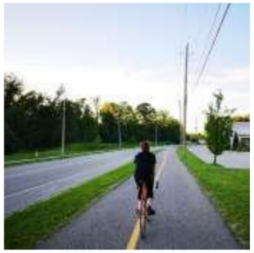
Board 4:

AT FACILITY TYPES

There are four main facility types include in the ATMP:



MULTI-USE PATH/TRAIL (MUP/MUT)

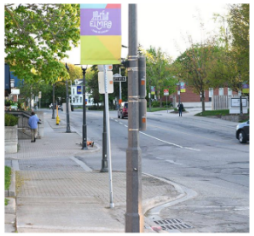
- Typically 3.0 m wide, asphalt and in boulevard/off-road.
- Bi-directional and allows for all AT modes, including pedestrians and cyclists.
- Typically found in urban areas and off-road spaces.
- Surface treatments include asphalt, gravel or stone dust.

SIGNED ROUTE

- No dedicated AT space.
- Signage and pavement markings direct AT users and alert motorists.
- Found on low volume and lower-order roads.

PAVED SHOULDER

- Typically 1.0 m - 3.0 m wide, asphalt and directly adjacent to road.
- Uni-directional and provides space for all AT users.
- A buffer can be provided through protective or guiding infrastructure or space.
- Typically found on higher-order rural roads.



SIDEWALK

- Typically 1.0 m – 2.4 m wide, but will be a minimum of 1.8 m wide moving forward.
- Concrete and in boulevard.
- Pedestrian use only.
- Bi-directional.
- Typically found in urban areas.
- Alternative forms of paved walkway connections exist.

Ontario

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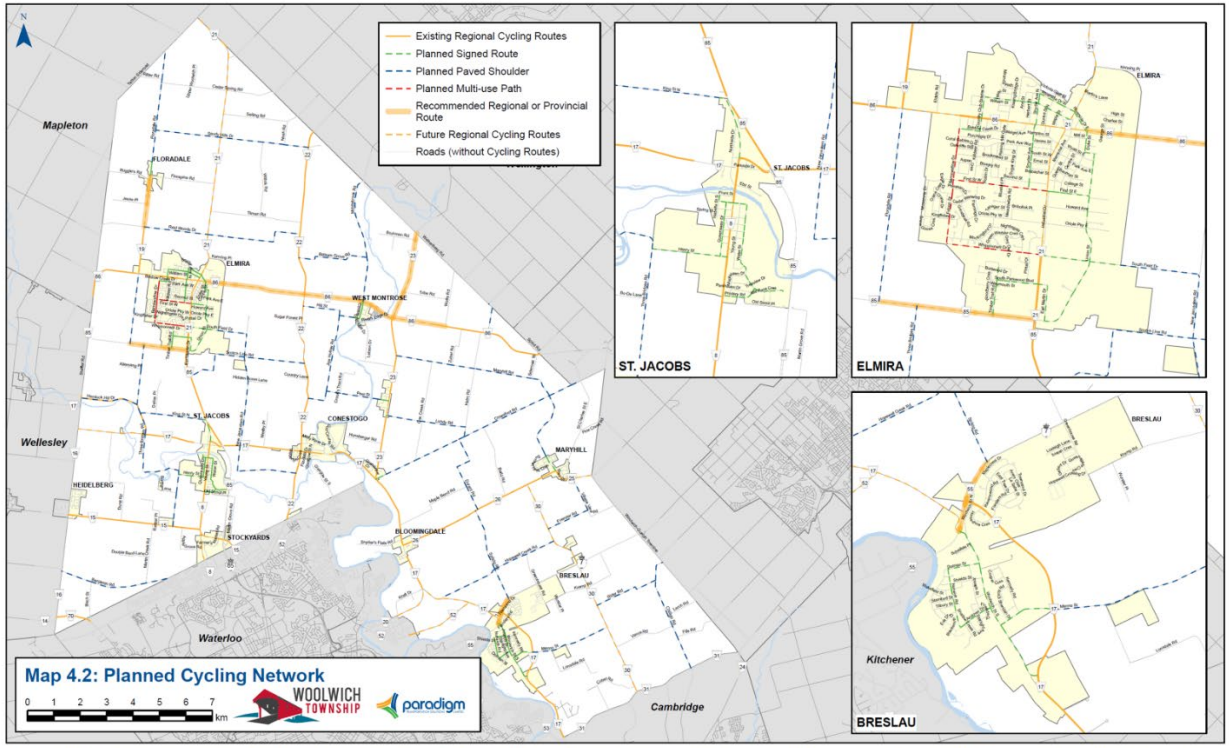
Canada

Board 5:

DRAFT CYCLING NETWORK

WOOLWICH TOWNSHIP



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Ontario

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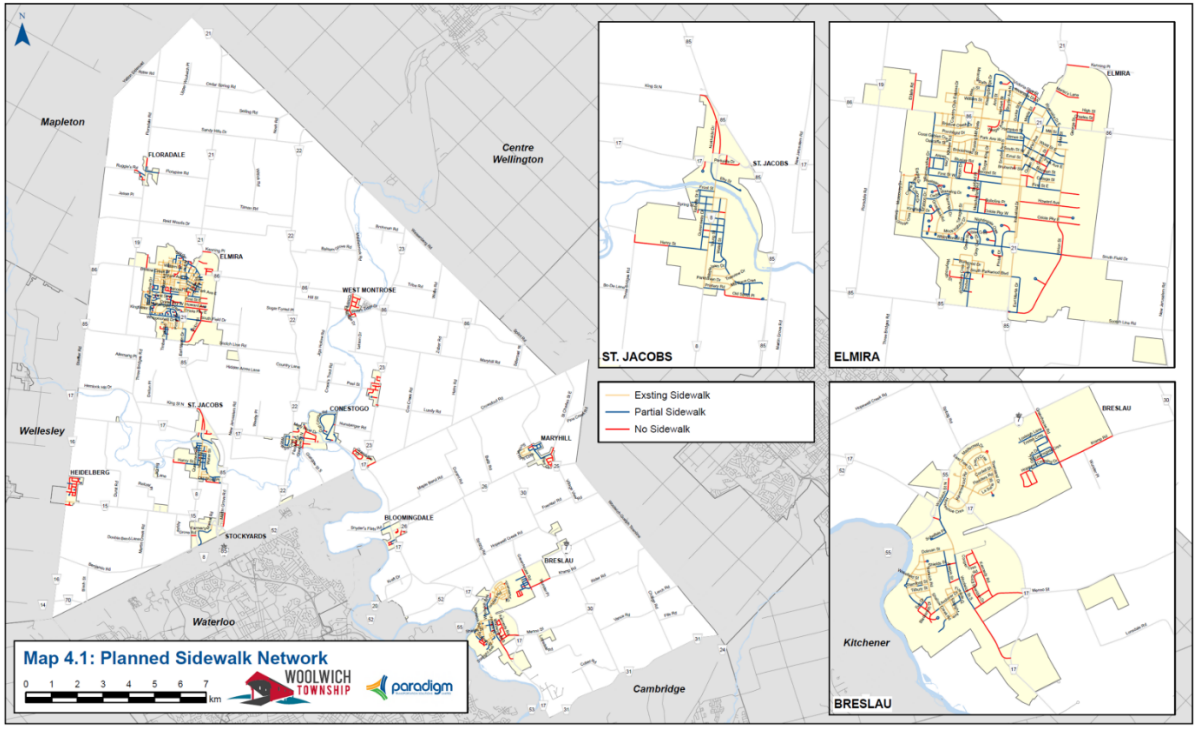
Canada

Board 6:

DRAFT SIDEWALK NETWORK

Sidewalks already exists throughout the Township, mainly in settlement areas. Woolwich policy is to provide sidewalks on both sides of every road within its settlement areas. This plan identifies gaps.

Woolwich will continue to upgrade its roads to include sidewalk on both sides of the road through scheduled capital works and other road improvement projects.



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Ontario

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Canada

Board 7:

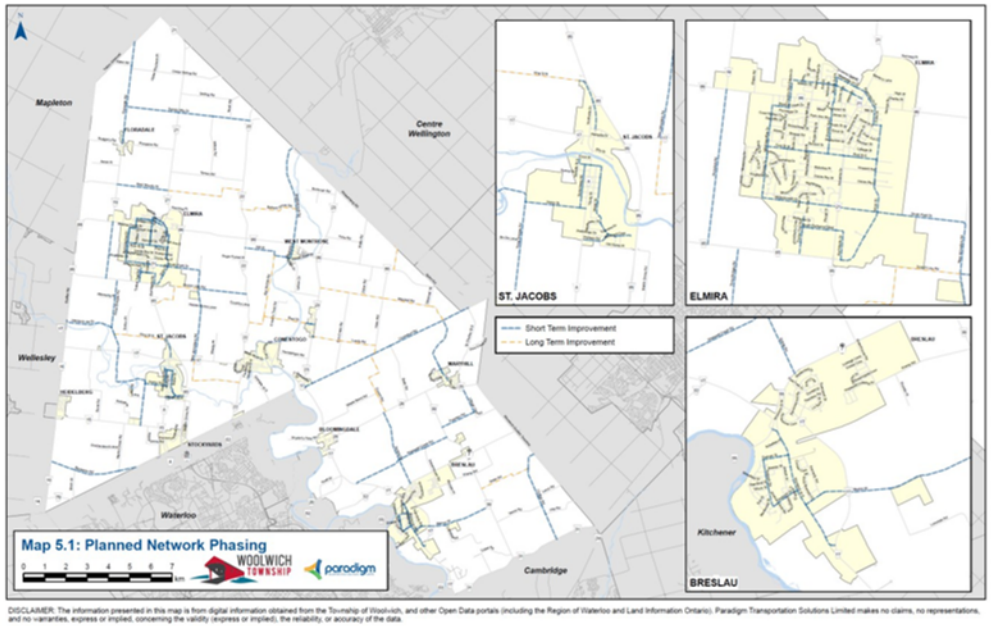
ATMP IMPLEMENTATION

Implementation is primarily based on providing access between Woolwich communities.

Once a community is accessible through a primary route, key considerations to determine additional routes include:

- Data and analysis results
- Ease of implementation
- Connections to key destinations

The timing of implementation will be organized into short and long -term timeframes. Short-term is within five years, while long -term is considered beyond five years. Long -term routes can be considered in longer -range plans. These routes can be incorporated in existing capital road works plans.



The needs of AT infrastructure are balanced against available resources and competing priorities.

This project is funded in part by the Government of Ontario and the Government of Canada.

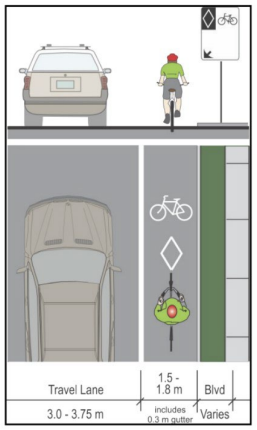
Board 8:

DESIGN CONSIDERATIONS

Design of AT infrastructure needs to consider safe operations. This is accomplished by ensuring that elements such as proper materials, dimensions, signs and pavement markings are used.

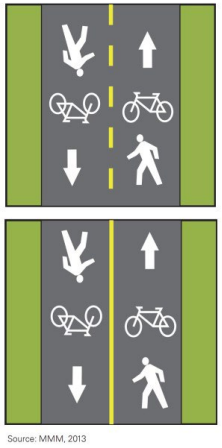
Design features to consider include:

- **Facility Width**
- **Buffer between vulnerable road users and live vehicle traffic**
- **Surface Material**
- **Signs and Pavement Markings**



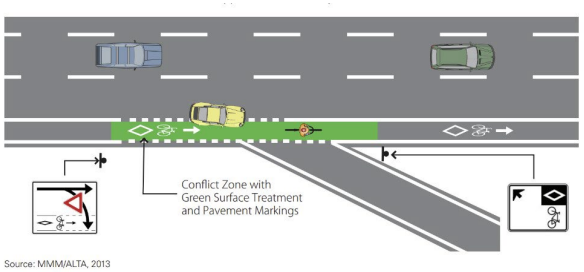
Source: MMM, 2013

Paved shoulder providing buffer between cyclists and vehicle traffic



Source: MMM, 2013

Typical Pavement Markings for Two-Way Shared Use Paths



Source: MMM/ALTA, 2013

Context specific surface material and signage

Markings may be modified to account for horse and buggy traffic

Ontario

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Board 9:

NEXT STEPS

Project Schedule

Round 3 of Engagement (May 9 – May 16, 2023)
- Public Open House
- Public Comment Form

Results from third round of engagement will inform development of the AT Master Plan before it is presented to Council (May – June 2023)

Plan completion and approval (June 2023)

Project Team Contact Information

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mgallina@lura.ca
289.768.5572

LEARN MORE AND STAY INVOLVED!
SCAN THE QR CODE
OR VISIT ENGAGEWR.CA/ACTIVE-TRANSPORTATION

Ontario
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Canada

Appendix B – Comment Form

Open House - Comment Form

Thank you for your interest in Woolwich Township's Active Transportation Master Plan (ATMP)!

Active transportation refers to any human-powered transportation, including walking, cycling, and rolling (using a wheelchair, skateboard, roller skates, etc.). Through the ATMP, the Township seeks to support active transportation as a safe, affordable, and convenient mode for different trip purposes and for users of all ages and abilities.

We invite you to complete the following comment form to share your thoughts on the draft ATMP, based on the materials presented at the public open house.

This comment form will be open from May 9 to 16, 2023.

Introduction
We invite you to complete the following comment form to share your thoughts on the draft Active Transportation Master Plan, based on the materials presented at the public open house.

1. Have you been engaged in the Active Transportation Master Plan development to date?
   - ☐ Yes
   - ☐ No
   - ☐ Unsure

2. Would you say you are an avid user of active transportation?
   - ☐ Definitely agree
   - ☐ Somewhat agree
   - ☐ Neither agree nor disagree
   - ☐ Somewhat disagree
   - ☐ Definitely disagree

3. What are your overall thoughts on the materials presented?

4. Is there anything else we should consider as we finalize the plan?

Tell us about yourself

If you feel comfortable, please tell us a little about yourself to help us understand how we can support active transportation as a safe, affordable, and convenient mode for users of various ages and abilities.

5. Which age group applies to you?
   - ☐ Younger than 18
   - ☐ 18 – 24
   - ☐ 25 – 34
   - ☐ 35 – 44
   - ☐ 45 – 54
   - ☐ 55 – 64
   - ☐ 65 – 74
   - ☐ 75 – 84
   - ☐ 85 – 94
   - ☐ Over 95
   - ☐ Prefer not to answer

6. Do you live in Woolwich? If so, which community do you live in?

7. Do you work in Woolwich? If so, which community do you work in?

8. Would you like to register for the project mailing list? If yes, please provide your email:

Appendix B

Policy Context

Contents

1 Introduction

The Woolwich Active Transportation Master Plan (ATMP) builds on the land use and transportation planning context defined by the Province of Ontario, Waterloo Region, and the Township of Woolwich. The following sections provide brief summaries of the most pertinent documents and their specific directives, regulations, and initiatives influencing the planning, design, construction, and operation of active transportation services in the Township.

2 Province of Ontario

2.1 Planning Act

The Planning Act establishes the rules for land use planning in Ontario and describes how land may be controlled. The Act was passed to:

- Promote sustainable economic development in a healthy natural environment within the provincial policy framework;
- Establish a land use planning system led by provincial policy; and
- Allow for the planning process to be fair by making it open, accessible, and efficient.

Of note, the Act requires municipalities to prepare and update Official Plans, specifies the parameters of these plans, and requires all public works to comply with Official Plan provisions.

2.2 Provincial Policy Statement

The Provincial Policy Statement (PPS), last updated in 2020, provides policy direction on matters of provincial interest related to land use planning and development, including transportation facilities. The Planning Act requires that all planning decisions “shall be consistent with” the PPS.

With respect to Public Spaces, Recreation, Parks, Trails and Open Spaces, (Policy 1.5) the PPS policies indicate municipalities should:

- Plan public streets, spaces and facilities to be safe, meet the needs of pedestrians, and facilitate active transportation and community connectivity; and
- Plan and provide for a full range and equitable distribution of publicly-accessible built and natural settings for recreation,

including facilities, parklands, public spaces, open space areas, and trails and linkages.

With respect to Infrastructure and Public Service Facilities (Policy 1.6), the PPS policies indicate municipalities should:

- Provide infrastructure and public service facilities in a coordinated, efficient and cost-effective manner, considering climate change impacts while accommodating projected growth;
- Coordinate and integrate with land use planning to ensure financial viability and ability to meet current and projected needs;
- Promote green infrastructure in complement with infrastructure;
- Consider optimization and adaptive re-use of current infrastructure and public service facilities before developing new;
- Strategically locate facilities to support effective and efficient delivery of emergency management systems, and to ensure the protection of public health and safety; and
- Co-locate public service facilities in community hubs to promote cost-effectiveness, facility service integration and access to transit and active transportation.

Furthermore, the PPS sets out specific Transportation Systems policies (Policy 1.6.7) that focus on the movement of people and goods through a safe, energy efficient, and multimodal transportation system, which includes transit and active transportation. This direction is further supported through policies aimed at developing compact, mixed land uses and transportation demand management initiatives that minimize the length and number of motor vehicle trips required.

Finally, with respect to Transportation and Infrastructure Corridors (Policy 1.6.8), the PPS directs municipalities to:

- Plan and protect corridors and rights-of-way for transportation, transit and infrastructure facilities to meet current and projected needs;
- Provide long-term protection for major goods movement facilities;
- Restrict development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified;

- Encourage preservation and reuse of abandoned corridors for purposes that maintain the corridor's integrity and continuous linear characteristics;
- Promote the co-location of linear infrastructure where appropriate; and
- Consider the environmental impacts when planning for corridors and rights-of-way for significant transportation infrastructure facilities.

Beyond transportation and infrastructure, the PPS provides important policy direction pertaining to:

- Efficient use and management of land;
- Provision of sufficient housing to meet changing needs, including affordable housing;
- Protection of the environment and resources including farmland, natural resources (for example, wetlands and woodlands) and water;
- Opportunities for economic development and job creation; and
- Protection of people, property, and community resources by directing development away from natural or human-made hazards, such as flood prone areas.

2.3 Accessibility for Ontarians with Disabilities Act, 2005

The Accessibility for Ontarians with Disabilities Act, 2005 (AODA) outlines mandatory requirements for the private, public, and non-profit sectors in Ontario to remove barriers and ensure equitable access for all individuals with disabilities by 2025. Ontario Regulation 191/11 under the AODA establishes accessibility standards to apply when planning, designing, and building transportation facilities. This guidance was considered in preparing the ATMP and forming its recommendations.

2.4 A Place to Grow

A Place to Grow (Growth Plan for the Greater Golden Horseshoe) (Office Consolidation, 2020) is "the Ontario government's initiative to plan for growth and development in a way that supports economic prosperity, protects the environment, and helps communities achieve a high quality of life."

Section 3.2 of the plan outlines specific policies for infrastructure to support growth. More specifically, Section 3.2.2 states "The transportation system in the GGH will be planned and managed to […] offer a balance of transportation choices that reduces reliance upon the automobile and promotes transit and active transportation, and […] offer multimodal access to jobs, housing, schools, cultural and recreational opportunities, and goods and services."

Section 3.2.3 states that "Municipalities will ensure that active transportation networks are comprehensive and integrated into transportation planning to provide safe, comfortable travel for pedestrians, bicyclists, and other users of active transportation and continuous linkages between strategic growth areas, adjacent neighbourhoods, major trip generators, and transit stations, including dedicated lane space for bicyclists on the major street network, or other safe and convenient alternatives."

2.5 Southwestern Ontario Transportation Plan (Draft)

The Southwestern Ontario Transportation Plan (Draft, 2020) is a long-term plan "to connect communities and give people in southwestern Ontario more options to get where they need to go, when they need to be there." The plan's vision is that "individuals, families, and businesses across southwestern Ontario have access to a safe and reliable transportation system that connects local communities, and contributes to the health, well-being, and economic prosperity of the entire region."

The Plan sets out the following goals to improve transportation in Southwestern Ontario:

- Getting people moving and connecting communities;
- Supporting a competitive open for business environment;
- Improving safety;
- Providing more choice and convenience; and
- Preparing for the future.

The five goals include more than 40 improvements for public transit, rail, highways and more across the region, including actions that will impact Woolwich and should be reflected in the ATMP.

At the time of writing, the Province was still finalizing the Plan.

2.6 #CycleON: Ontario's Cycling Strategy

Ontario's Cycling Strategy (#CycleON) is a 20-year plan to encourage the growth and improve the safety of cycling in the province. Initially released in 2013, the Strategy envisions cycling in Ontario as a recognized, respected, and valued core mode of transportation that provides individuals and communities with health, economic, environmental, social, and other benefits by 2033. But achieving this vision requires commitment from all partners for integrated action to:

- Design healthy, active and prosperous communities;
- Improve cycling infrastructure;
- Make highways and streets safer;
- Promote cycling awareness and behavioural shifts; and
- Increase cycling tourism in Ontario.

To date, the Province has implemented #CycleON through two multi-year action plans – Action Plan 1.0 released in 2014 and Action Plan 2.0 released in 2018. The Government's website does not identify any further implementation actions currently.

2.7 Ontario Trails Strategy

The Ontario Trails Strategy is a long-term plan that establishes strategic directions for planning, managing, promoting, and using trails in Ontario. Adopted in 2005, the Strategy recognizes trails as key economic and tourism assets for Ontario communities that bring important health benefits and contribute to a high quality of life. With a vision to develop a world-class system of diversified trails, planned and used in an environmentally responsible manner that enhances the health and prosperity of all Ontarians, the Strategy focuses on:

- Improving collaboration among stakeholders;
- Enhancing the sustainability of Ontario's trails;
- Enhancing the trail experience;
- Educating Ontarians about trails; and
- Fostering better health and a strong economy through trails.

3 Waterloo Region

3.1 Waterloo Region Official Plan

The Waterloo Region Official Plan is the guiding document for directing growth and development in Waterloo Region. Last consolidated in 2015, the Official Plan provides policies to ensure an improved quality of life and to secure the health, safety, convenience, and well-being of the present and future residents of the Region. It also establishes the future development pattern of the Region and articulates goals, policies, and implementation mechanisms to achieve this desired structure.

Sections 3 and 5 of the Regional Official Plan outline the following transportation-related goals:

- Increase transportation opportunities for pedestrians, cyclists, and transit users *(Objective 3.2)*;
- Manage traffic congestion and reduce reliance on gas-powered vehicles *(Objective 3.3)*; and
- Plan and manage integrated, accessible, and safe multi-modal transportation systems that provide transportation choice, and promote sustainability, a healthy population and the effective movement of goods *(Objective 5.1)*.

More specifically, Section 3.B of the Official Plan “recognizes that a substantial portion of the community does not, or will not, have access to private automobiles either by choice or due to financial, age, or physical limitations.”

Section 3.B (3.B.1 through 3.B.5) and Section 5.A (5.A.14 through 5.A.18) provide additional information related to specific policies related to active transportation in the Region and its Area Municipalities.

At the time of writing, the Region was updating its Official Plan.

3.2 Waterloo Region Strategic Plan

The 2019-2023 Waterloo Region Strategic Plan provides a road map to help achieve the Region’s vision of “an inclusive, thriving, and sustainable region of connected rural and urban communities with global reach, fostering opportunities for current and future generations.”

The Strategic Plan sets out five focus areas – thriving economy, sustainable transportation, environment and climate action, healthy, safe and inclusive communities, and responsive and engaging public service. Each focus area is supported by strategic objectives and actions, many of which pertain to active transportation. Specific strategic objectives include:

- Continuing to explore, plan, and implement new pedestrian and cycling facilities in coordination with local municipalities as per the Transportation Master Plan to provide good connectivity and close gaps in the current active transportation network;
- Incorporating more cycling and pedestrian amenities (e.g., streetscaping features, street furniture, bicycle repair stands, etc.) into roadway designs to increase the attractiveness of active modes of transportation;
- Increasing usage of cycling facilities by enhancing maintenance levels; and
- Developing planning policies that encourage more compact, walkable, transit oriented communities in both the built-up and greenfield areas of the Region.

3.3 Waterloo Region Transportation Master Plan

The 2018 Region of Waterloo Transportation Master Plan is the "strategic plan which identifies the policies that will meet the Region's long and short term transportation needs over the next 25 years."

Section 5 sets out five strategies "to serve as umbrella policies" for the transportation network throughout the Region. They include:

- Build a transportation network that supports all modes of travel;
- Promote a healthy community;
- Develop a frequent transit network;
- Enhance inter-regional connections; and
- Position the Region for new mobility.

Exhibit 5.6 illustrates the 2041 Waterloo Region Active Transportation Network, identifying existing and planned cycling infrastructure on the regional road network. Specific to the Township of Woolwich, these include cycling facilities along on the following routes:

- Regional Road 8
- Lobsinger Line (Regional Road 15)

- Regional Road 17
- Arthur Street (Regional Road 21)
- Northfield Drive (Regional Road 22)
- Katherine Street North (Regional Road 23)
- St Charles Street West (Regional Road 26)
- Shantz Station Road (Regional Road 30)

3.4 ClimateActionWR: Transform WR

Transform WR "is Waterloo Region's community-wide response the global climate crisis". Organized through ClimateActionWR, the initiative outlines the long term strategy to reduce greenhouse gas emissions in Waterloo Region. The strategy is founded on six transformative changes, the first of which speaks to transportation:

"By 2050, most trips [will be] taken using active transportation, with the support of a robust public transit system."

This change is to be supported by five strategies, two of which speak directly to active transportation:

- Redesign, rebuild, and maintain our transportation system to prioritize active transportation; and
- Support people to walk, cycle, or roll, and build a culture of active transportation and public transit ridership.

4 Township of Woolwich

4.1 Woolwich Official Plan

The Township of Woolwich Official Plan, which came into force in June 2022, is the guiding document for directing growth and development in the Township. Aligned with the Waterloo Region Official Plan, the municipal plan contains goals, objectives, and policies to manage and direct physical change in the township.

Chapter 15 of the Woolwich Official Plan outlines the following transportation policies and goals, generally echoing the guidance specified in the Waterloo Region Official Plan:

- The Township will provide connectivity among transportation modes for moving people and moving goods;

- The Township will offer a balance of transportation choices that reduces reliance upon the automobile and promotes transit and active transportation;
- The Township will offer multimodal access to jobs, housing, schools, cultural, and recreational opportunities, and goods and services; and
- The Township will accommodate horse drawn vehicles, agricultural vehicles and equipment, as appropriate.

Section 15.9 provides additional information related to the active transportation network in the township.

4.2 Woolwich Strategic Plan

The Township of Woolwich Strategic Plan, last revised in 2015, "guide[s] the decisions and actions of Council and the administration in a way that will shape the direction of [Woolwich] and be attuned to the needs of the Township's residents and businesses." The Plan builds on six focus areas – growth and economic development, infrastructure and transportation planning, communication and marketing of municipal services, healthy communities, fiscally responsible and sustainable community, and best managed and governed municipality – with several goals under each focus area. Each goal is supported by strategic directions.

Like the Regional Strategic Plan, many goals and their strategic directions pertain to active transportation, with specific initiatives including:

- Healthy Communities
  - Explore opportunities to promote the Township's extensive trails network, historic features, unique communities, and local arts and culture.
- Infrastructure and Transportation Planning:
  - Plan for alternative and active transportation systems and networks that allow and support multi-modal forms and connecting links between communities.

4.3 Woolwich Landscape and Design Guidelines

The Township of Woolwich Landscape and Design Guidelines are intended to "provide design principles and specific guidelines for both the public and private sector […] and they indicate the Township of

Woolwich's expectations with respect to the character, quality, and form of development."

Section 1.2 provides design guidelines for roads in the Township, specifically collector roads, local roads, lanes, and green streets. Section 1.3 provides design guidelines for the pedestrian and cycling trails network.

4.4 Woolwich Engineering Development and Infrastructure Manual

The Township of Woolwich Engineering Development and Infrastructure Manual is "a reference guide to assist with Capital and Development Infrastructure Projects, Municipal Consent, Municipal Drains, and Land Developments Applications." The document "outlines policies, procedures, and standards governing the engineering/infrastructure review, inspection, and Acceptance process."

Section 5 details the standards for roadway and sidewalk design in the Township.

Appendix C

Costing of Active Transportation Facilities

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
Greenwood Rd	Woolwich	Local Street	St Charles St W	Saranac Ave	Short-Term	58.37	Bloomingdale	$ 438,000.00	$ 25,600.00
Greenwood Rd	Woolwich	Local Street	Seaton Cres	CULDESAC	Short-Term	155.87	Bloomingdale	$ 438,000.00	$ 68,300.00
Greenwood Rd	Woolwich	Local Street	Saranac Ave	Seaton Cres	Short-Term	83.55	Bloomingdale	$ 438,000.00	$ 36,600.00
Greenwood Rd	Woolwich	Local Street	Seaton Cres	Seaton Cres	Short-Term	77.50	Bloomingdale	$ 438,000.00	$ 33,900.00
James Wilson St	Woolwich	Local Street	McAllister Dr	River St	Short-Term	92.88	Bloomingdale	$ 438,000.00	$ 40,700.00
McAllister Dr	Woolwich	Local Street	Sawmill Rd	James Wilson St	Long-Term	177.58	Bloomingdale	$ 438,000.00	$ 42,800.00
McAllister Dr	Woolwich	Local Street	McAllister Lane	River St	Short-Term	92.89	Bloomingdale	$ 438,000.00	$ 40,700.00
McAllister Dr	Woolwich	Local Street	James Wilson St	McAllister Lane	Short-Term	89.79	Bloomingdale	$ 438,000.00	$ 39,300.00
River St	Woolwich	Local Street	Sawmill Rd	James Wilson St	Long-Term	180.02	Bloomingdale	$ 438,000.00	$ 39,400.00
River St	Woolwich	Local Street	James Wilson St	McAllister Dr	Short-Term	94.22	Bloomingdale	$ 438,000.00	$ 41,300.00
River St	Woolwich	Local Street	McAllister Dr	DEAD END	Short-Term	31.76	Bloomingdale	$ 438,000.00	$ 13,900.00
Salisbury Cres	Woolwich	Local Street	St Charles St W	CULDESAC	Short-Term	85.40	Bloomingdale	$ 438,000.00	$ 37,400.00
Salisbury Cres	Woolwich	Local Street	St Charles St W	St Charles St W	Short-Term	237.04	Bloomingdale	$ 438,000.00	$ 103,800.00
Saranac Ave	Woolwich	Local Street	CULDESAC	Greenwood Rd	Short-Term	65.23	Bloomingdale	$ 438,000.00	$ 28,600.00
Saranac Ave	Woolwich	Local Street	Greenwood Rd	Greenwood Rd	Short-Term	77.25	Bloomingdale	$ 438,000.00	$ 33,800.00
Seaton Cres	Woolwich	Local Street	Greenwood Rd	CULDESAC	Short-Term	20.61	Bloomingdale	$ 438,000.00	$ 9,000.00
Seaton Cres	Woolwich	Local Street	Greenwood Rd	Greenwood Rd	Short-Term	237.92	Bloomingdale	$ 438,000.00	$ 104,200.00
Snyder's Flats Rd	Woolwich	Local Street	Sawmill Rd	Snyder's Flat Rd	Long-Term	411.02	Bloomingdale	$ 438,000.00	$ 162,000.00
Amberlea Crt	Woolwich	Local Street	Townsend Dr	Townsend Dr	Short-Term	80.17	Breslau	$ 438,000.00	$ 35,100.00
Andover Dr	Woolwich	Local Street	Dolman St	Ottawa St	Short-Term	63.15	Breslau	$ 438,000.00	$ 27,700.00
Andover Dr	Woolwich	Local Street	Dolman St	Ottawa St	Short-Term	60.78	Breslau	$ 438,000.00	$ 26,600.00
Andover Dr	Woolwich	Local Street	Norwich Rd	Dolman St	Short-Term	80.34	Breslau	$ 438,000.00	$ 35,200.00
Andover Dr	Woolwich	Local Street	Trowbridge St	Norwich Rd	Long-Term	68.64	Breslau	$ 438,000.00	$ 6,000.00
Bay Cedar Lane	Woolwich	Local Street	Lasby Lane & Queensgate Cres	Gellert Dr	Short-Term	112.57	Breslau	$ 438,000.00	$ 49,300.00
Belmeade Crt	Woolwich	Local Street	Townsend Dr	Townsend Dr	Long-Term	74.18	Breslau	$ 438,000.00	$ 16,200.00
Belmeade Crt	Woolwich	Local Street	Townsend Dr	CULDESAC	Short-Term	42.99	Breslau	$ 438,000.00	$ 18,800.00
Berlin St	Woolwich	Local Street	Woolwich St S	Joseph St	Short-Term	146.74	Breslau	$ 438,000.00	$ 64,300.00
Blacksmith Dr	Woolwich	Local Street	Eva Dr	Dolman St	Short-Term	132.08	Breslau	$ 438,000.00	$ 57,900.00
Cooper Cres	Woolwich	Local Street	Kennedy Rd	Kennedy Rd	Short-Term	372.19	Breslau	$ 438,000.00	$ 163,000.00
Dolman St	Woolwich	Local Street	Tilbury St	Andover Dr	Short-Term	116.35	Breslau	$ 438,000.00	$ 51,000.00
Dolman St	Woolwich	Local Street	Tilbury St	Andover Dr	Short-Term	74.99	Breslau	$ 438,000.00	$ 32,800.00
Dolman St	Woolwich	Local Street	Curtis St	Stamford St	Long-Term	182.09	Breslau	$ 438,000.00	$ 8,000.00
Dolman St	Woolwich	Local Street	Tilbury St	Eva Dr	Long-Term	230.97	Breslau	$ 438,000.00	$ 10,100.00
Dovercourt Rd	Woolwich	Local Street	Sheridan Dr	Kennedy Rd	Short-Term	198.60	Breslau	$ 438,000.00	$ 87,000.00
Elroy Rd	Woolwich	Local Street	Sheridan Dr	Kennedy Rd	Short-Term	329.39	Breslau	$ 438,000.00	$ 144,300.00
Elroy Rd	Woolwich	Local Street	Woolwich St S & Andover Dr	Sheridan Dr	Short-Term	119.17	Breslau	$ 438,000.00	$ 52,200.00
Eva Dr	Woolwich	Local Street	Dolman St	Andover Dr & Santo Crt	Short-Term	281.49	Breslau	$ 438,000.00	$ 123,300.00
Eva Dr	Woolwich	Local Street	Norwich Rd	Blacksmith Dr	Long-Term	125.52	Breslau	$ 438,000.00	$ 11,000.00
Eva Dr	Woolwich	Local Street	Blacksmith Dr	Dolman St	Long-Term	79.28	Breslau	$ 438,000.00	$ 17,400.00
Fireside Dr	Woolwich	Local Street	Andover Dr	Starlight Ave	Long-Term	223.86	Breslau	$ 438,000.00	$ 19,600.00
Gellert Dr	Woolwich	Local Street	Bay Cedar Lane	Hopewell Crossing Dr	Long-Term	82.71	Breslau	$ 438,000.00	$ 29,000.00
Gellert Dr	Woolwich	Local Street	Lasby Lane & Queensgate Cres	Bay Cedar Lane	Long-Term	188.81	Breslau	$ 438,000.00	$ 62,000.00
Greenhouse Rd	Woolwich	Local Street	Kramp Rd	Victoria St N	Short-Term	293.30	Breslau	$ 438,000.00	$ 128,500.00
Greenhouse Rd	Woolwich	Local Street	DEAD END	Kramp Rd	Short-Term	81.68	Breslau	$ 438,000.00	$ 35,800.00
Greenhouse Rd	Woolwich	Local Street	Kramp Rd	Victoria St N	Short-Term	496.33	Breslau	$ 438,000.00	$ 217,400.00
Heron Point Lane	Woolwich	Local Street	Ironhorse Dr	Wenger Rd	Short-Term	82.18	Breslau	$ 438,000.00	$ 36,000.00
Heron Point Lane	Woolwich	Local Street	Wenger Rd	Tunker St	Short-Term	119.55	Breslau	$ 438,000.00	$ 52,400.00
Hopewell Crossing Dr	Woolwich	Local Street	Gellert Dr	Ironhorse Dr	Long-Term	78.83	Breslau	$ 438,000.00	$ 25,900.00
Hopewell Crossing Dr	Woolwich	Local Street	Wenger Rd	Tunker St	Short-Term	83.10	Breslau	$ 438,000.00	$ 36,400.00
Hopewell Crossing Dr	Woolwich	Local Street	Lasby Lane	Gellert Dr	Long-Term	106.32	Breslau	$ 438,000.00	$ 41,900.00
Hopewell Crossing Dr	Woolwich	Local Street	Greenhouse Rd & Kramp Rd	Lasby Lane	Long-Term	223.34	Breslau	$ 438,000.00	$ 73,400.00
Hopewell Crossing Dr	Woolwich	Local Street	Ironhorse Dr	Wenger Rd	Short-Term	63.20	Breslau	$ 438,000.00	$ 27,700.00
Ironhorse Dr	Woolwich	Local Street	Hopewell Crossing Dr	Lochlin Trail	Long-Term	33.24	Breslau	$ 438,000.00	$ 7,300.00
Ironhorse Dr	Woolwich	Local Street	Hopewell Crossing Dr	Lochlin Trail	Long-Term	32.27	Breslau	$ 438,000.00	$ 7,100.00
Ironhorse Dr	Woolwich	Local Street	Hopewell Crossing Dr	Heron Point Lane	Short-Term	174.69	Breslau	$ 438,000.00	$ 76,500.00
Ironhorse Dr	Woolwich	Local Street	Lochlin Trail	Hopewell Crossing Dr	Long-Term	33.27	Breslau	$ 438,000.00	$ 7,300.00
Joseph St	Woolwich	Local Street	Berlin St	Shields St	Long-Term	260.36	Breslau	$ 438,000.00	$ 57,000.00
Joseph St	Woolwich	Local Street	Shields St	Dolman St	Long-Term	205.74	Breslau	$ 438,000.00	$ 45,100.00
Kennedy Rd	Woolwich	Local Street	Elroy Rd	Cooper Cres	Short-Term	147.97	Breslau	$ 438,000.00	$ 64,800.00
Kennedy Rd	Woolwich	Local Street	Cooper Cres	DEAD END	Short-Term	38.68	Breslau	$ 438,000.00	$ 16,900.00
Kennedy Rd	Woolwich	Local Street	Dovercourt Rd	Elroy Rd	Short-Term	278.16	Breslau	$ 438,000.00	$ 121,800.00
Kennedy Rd	Woolwich	Local Street	Cooper Cres	Cooper Cres	Short-Term	148.31	Breslau	$ 438,000.00	$ 65,000.00
Kennedy Rd	Woolwich	Local Street	Menno St	Dovercourt Rd	Short-Term	109.17	Breslau	$ 438,000.00	$ 47,800.00
Kramp Rd	Woolwich	Local Street	Shantz Station Rd	Wurster Pl	Short-Term	463.50	Breslau	$ 438,000.00	$ 203,000.00
Kramp Rd	Woolwich	Local Street	Wurster Pl	Greenhouse Rd	Short-Term	372.78	Breslau	$ 438,000.00	$ 163,300.00

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
Lasby Lane	Woolwich	Local Street	Queensgate Cres & Bay Cedar Lane	Hopewell Crossing Dr	Short-Term	87.14	Breslau	$ 438,000.00	$ 38,200.00
Lasby Lane	Woolwich	Local Street	Queensgate Cres & Gellert Dr	Queensgate Cres & Bay Cedar Lane	Long-Term	81.48	Breslau	$ 438,000.00	$ 8,900.00
Lasby Lane	Woolwich	Local Street	Queensgate Cres & Gellert Dr	Tristan Cres	Long-Term	82.79	Breslau	$ 438,000.00	$ 9,100.00
Loxleigh Lane	Woolwich	Local Street	Greenhouse Rd	Lasby Lane & Galahad St	Long-Term	196.34	Breslau	$ 438,000.00	$ 17,200.00
Loxleigh Lane	Woolwich	Local Street	Lasby Lane & Galahad St	Ironhorse Dr	Long-Term	203.48	Breslau	$ 438,000.00	$ 17,800.00
Menno St	Woolwich	Collector	Kennedy Rd	Fountain St N	Short-Term	410.30	Breslau	$ 438,000.00	$ 179,700.00
Menno St	Woolwich	Collector	Woolwich St S	Sheridan Dr	Short-Term	116.69	Breslau	$ 438,000.00	$ 51,100.00
Menno St	Woolwich	Collector	Sheridan Dr	Kennedy Rd	Short-Term	192.85	Breslau	$ 438,000.00	$ 84,500.00
Menno St	Woolwich	Collector	Kennedy Rd	Fountain St N	Short-Term	76.08	Breslau	$ 438,000.00	$ 33,300.00
Queensgate Cres	Woolwich	Local Street	Lasby Lane & Gellert Dr	Lasby Lane & Bay Cedar Lane	Long-Term	421.68	Breslau	$ 438,000.00	$ 73,900.00
Santo Crt	Woolwich	Local Street	Andover Dr & Eva Dr	CULDESAC	Short-Term	101.36	Breslau	$ 438,000.00	$ 44,400.00
Santo Crt	Woolwich	Local Street	Andover Dr	Andover Dr	Long-Term	101.85	Breslau	$ 438,000.00	$ 22,300.00
Scheifele Pl	Woolwich	Local Street	Woolwich St S	CULDESAC	Long-Term	209.67	Breslau	$ 438,000.00	$ 45,900.00
Scheifele Pl	Woolwich	Local Street	Woolwich St S	Woolwich St S	Long-Term	86.23	Breslau	$ 438,000.00	$ 18,900.00
Sheridan Dr	Woolwich	Local Street	Menno St	Dovercourt Rd	Short-Term	113.42	Breslau	$ 438,000.00	$ 49,700.00
Sheridan Dr	Woolwich	Local Street	Dovercourt Rd	Elroy Rd	Short-Term	151.59	Breslau	$ 438,000.00	$ 66,400.00
Shields St	Woolwich	Local Street	Joseph St	Wakefield St	Long-Term	150.94	Breslau	$ 438,000.00	$ 19,800.00
Shields St	Woolwich	Local Street	Woolwich St S	Joseph St	Short-Term	138.40	Breslau	$ 438,000.00	$ 60,600.00
Stamford St	Woolwich	Local Street	Staines St	Curtis St	Long-Term	79.56	Breslau	$ 438,000.00	$ 7,000.00
Starlight Ave	Woolwich	Local Street	Trowbridge St	Andover Dr	Long-Term	226.85	Breslau	$ 438,000.00	$ 19,900.00
Tristan Cres	Woolwich	Local Street	Lasby Lane	Lasby Lane	Long-Term	424.19	Breslau	$ 438,000.00	$ 18,600.00
Truro Crt	Woolwich	Local Street	Norwich Rd & Reading St	CULDESAC	Short-Term	34.67	Breslau	$ 438,000.00	$ 15,200.00
Truro Crt	Woolwich	Local Street	Norwich Rd & Reading St	Norwich Rd & Reading St	Long-Term	77.36	Breslau	$ 438,000.00	$ 16,900.00
Tunker St	Woolwich	Local Street	Hopewell Crossing Dr	Heron Point Lane	Short-Term	177.83	Breslau	$ 438,000.00	$ 77,900.00
Wenger Rd	Woolwich	Local Street	Hopewell Crossing Dr	Heron Point Lane	Short-Term	196.38	Breslau	$ 438,000.00	$ 86,000.00
Woolwich St N	Woolwich	Local Street	Fountain St N	DEAD END	Short-Term	172.18	Breslau	$ 438,000.00	$ 75,400.00
Woolwich St N	Woolwich	Local Street	Woolwich St S	Fountain St N	Long-Term	451.33	Breslau	$ 438,000.00	$ 98,800.00
Woolwich St S	Woolwich	Collector	Mader's Lane	Shields St	Long-Term	125.08	Breslau	$ 438,000.00	$ 27,400.00
Woolwich St S	Woolwich	Collector	Woolwich St N	Scheifele Pl	Long-Term	200.71	Breslau	$ 438,000.00	$ 8,800.00
Woolwich St S	Woolwich	Collector	Menno St	Fountain St N	Short-Term	60.69	Breslau	$ 438,000.00	$ 26,600.00
Woolwich St S	Woolwich	Collector	Menno St	Fountain St N	Short-Term	83.67	Breslau	$ 438,000.00	$ 36,600.00
Woolwich St S	Woolwich	Collector	Victoria St N & Ebycrest Rd	Woolwich St N	Short-Term	12.89	Breslau	$ 438,000.00	$ 5,600.00
Woolwich St S	Woolwich	Collector	Menno St	Fountain St N	Short-Term	160.68	Breslau	$ 438,000.00	$ 70,400.00
Woolwich St S	Woolwich	Collector	Menno St	Fountain St N	Short-Term	597.06	Breslau	$ 438,000.00	$ 261,500.00
Woolwich St S	Woolwich	Collector	Victoria St N & Ebycrest Rd	Woolwich St N	Short-Term	81.20	Breslau	$ 438,000.00	$ 35,600.00
Woolwich St S	Woolwich	Collector	Shields St	Berlin St	Long-Term	224.57	Breslau	$ 438,000.00	$ 59,000.00
Woolwich St S	Woolwich	Collector	Berlin St	Elroy Rd & Andover Dr	Long-Term	203.64	Breslau	$ 438,000.00	$ 44,600.00
Woolwich St S	Woolwich	Collector	Elroy Rd & Andover Dr	Menno St	Long-Term	279.32	Breslau	$ 438,000.00	$ 73,400.00
Country Spring Walk	Woolwich	Local Street	Northfield Dr E	CULDESAC	Short-Term	337.96	Conestogo	$ 438,000.00	$ 148,000.00
Country Spring Walk	Woolwich	Local Street	Northfield Dr E	Northfield Dr E	Long-Term	118.46	Conestogo	$ 438,000.00	$ 25,900.00
Elgin St E	Woolwich	Local Street	Glasgow St S	DEAD END	Short-Term	277.01	Conestogo	$ 438,000.00	$ 121,300.00
Elgin St W	Woolwich	Local Street	Evening Star Lane	Northfield Dr E	Short-Term	157.39	Conestogo	$ 438,000.00	$ 68,900.00
Evening Star Lane	Woolwich	Local Street	Sawmill Rd	Elgin St W	Short-Term	96.79	Conestogo	$ 438,000.00	$ 42,400.00
Evening Star Lane	Woolwich	Local Street	Elgin St W	Feodore St	Short-Term	92.16	Conestogo	$ 438,000.00	$ 40,400.00
Evening Star Lane	Woolwich	Local Street	Feodore St	DEAD END	Short-Term	47.14	Conestogo	$ 438,000.00	$ 20,600.00
Feodore St	Woolwich	Local Street	Evening Star Lane	DEAD END	Short-Term	107.51	Conestogo	$ 438,000.00	$ 47,100.00
Ferland Ave	Woolwich	Local Street	Northfield Dr E	CULDESAC	Short-Term	67.98	Conestogo	$ 438,000.00	$ 29,800.00
Ferland Ave	Woolwich	Local Street	Northfield Dr E	Northfield Dr E	Long-Term	81.70	Conestogo	$ 438,000.00	$ 17,900.00
Flax Mill Dr	Woolwich	Local Street	Glasgow St N	Sawmill Rd	Long-Term	248.47	Conestogo	$ 438,000.00	$ 81,600.00
Flax Mill Dr	Woolwich	Local Street	Misty River Dr	Glasgow St N	Short-Term	462.96	Conestogo	$ 438,000.00	$ 202,800.00
Glasgow St N	Woolwich	Local Street	Glasgow St S & Sawmill Rd	Flax Mill Dr	Long-Term	108.37	Conestogo	$ 438,000.00	$ 23,700.00
Glasgow St N	Woolwich	Local Street	Misty River Dr	CULDESAC	Short-Term	278.84	Conestogo	$ 438,000.00	$ 122,100.00
Glasgow St N	Woolwich	Local Street	Misty River Dr	Misty River Dr	Long-Term	76.82	Conestogo	$ 438,000.00	$ 16,800.00
Glasgow St N	Woolwich	Local Street	Flax Mill Dr	Misty River Dr	Short-Term	264.73	Conestogo	$ 438,000.00	$ 116,000.00
Glasgow St S	Woolwich	Collector	Elgin St E	Millennium Blvd & Country Squire Rd	Short-Term	98.76	Conestogo	$ 438,000.00	$ 43,300.00
Glasgow St S	Woolwich	Collector	Elgin St E	Millennium Blvd & Country Squire Rd	Short-Term	81.25	Conestogo	$ 438,000.00	$ 35,600.00
Glasgow St S	Woolwich	Collector	Sawmill Rd & Glasgow St N	Elgin St E	Short-Term	110.62	Conestogo	$ 438,000.00	$ 48,500.00
Golf Course Rd	Woolwich	Local Street	Hunsberger Rd	Zaduk Crt	Long-Term	1126.81	Conestogo	$ 438,000.00	$ 468,900.00
Golf Course Rd	Woolwich	Local Street	Sawmill Rd	Zaduk Crt	Long-Term	341.75	Conestogo	$ 438,000.00	$ 74,800.00
Golf Course Rd	Woolwich	Local Street	Hunsberger Rd	CULDESAC	Short-Term	40.77	Conestogo	$ 438,000.00	$ 17,900.00
Golf Course Rd	Woolwich	Local Street	Sawmill Rd	Zaduk Crt	Long-Term	27.90	Conestogo	$ 438,000.00	$ 6,100.00
Golf Course Rd	Woolwich	Local Street	Sawmill Rd	Hunsberger Rd	Long-Term	462.87	Conestogo	$ 438,000.00	$ 101,400.00
Golf Course Rd	Woolwich	Local Street	Hunsberger Rd	Hunsberger Rd	Long-Term	67.91	Conestogo	$ 438,000.00	$ 14,900.00
Golf Course Rd	Woolwich	Local Street	Hunsberger Rd	Zaduk Crt	Long-Term	381.85	Conestogo	$ 438,000.00	$ 150,500.00
Golf Course Rd	Woolwich	Local Street	Zaduk Crt	Sawmill Rd	Long-Term	299.32	Conestogo	$ 438,000.00	$ 65,600.00

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
Golf Course Rd	Woolwich	Local Street	DEAD END	Sawmill Rd	Short-Term	86.04	Conestogo	$ 438,000.00	$ 37,700.00
Harriet St	Woolwich	Local Street	Sawmill Rd	DEAD END	Short-Term	56.56	Conestogo	$ 438,000.00	$ 24,800.00
Hunsberger Rd	Woolwich	Local Street	Katherine St S	Golf Course Rd	Short-Term	70.06	Conestogo	$ 438,000.00	$ 30,700.00
Misty River Dr	Woolwich	Local Street	Glasgow St N	Flax Mill Dr	Short-Term	140.66	Conestogo	$ 438,000.00	$ 61,600.00
Misty River Dr	Woolwich	Local Street	Glasgow St N	Flax Mill Dr	Short-Term	422.63	Conestogo	$ 438,000.00	$ 185,100.00
Misty River Dr	Woolwich	Local Street	Flax Mill Dr	Sawmill Rd	Short-Term	102.99	Conestogo	$ 438,000.00	$ 45,100.00
Musselman Cres	Woolwich	Local Street	Weberlyn Cres & Sawmill Rd	Weberlyn Cres & Sawmill Rd	Long-Term	400.35	Conestogo	$ 438,000.00	$ 87,700.00
River Run Pl	Woolwich	Local Street	Sawmill Rd	Sawmill Rd	Long-Term	87.60	Conestogo	$ 438,000.00	$ 19,200.00
River Run Pl	Woolwich	Local Street	Sawmill Rd	CULDESAC	Long-Term	296.85	Conestogo	$ 438,000.00	$ 65,000.00
Weberlyn Cres	Woolwich	Local Street	Sawmill Rd & Musselman Cres	Sawmill Rd & Musselman Cres	Long-Term	631.78	Conestogo	$ 438,000.00	$ 138,400.00
Zaduk Crt	Woolwich	Local Street	Golf Course Rd	Golf Course Rd	Long-Term	82.66	Conestogo	$ 438,000.00	$ 18,100.00
Zaduk Crt	Woolwich	Local Street	Golf Course Rd	CULDESAC	Short-Term	112.03	Conestogo	$ 438,000.00	$ 49,100.00
Crowsfoot Rd	Woolwich	Local Street	Sawmill Rd & Katherine St S	Cox Creek Rd	Short-Term	104.49	Crowsfoot Corner	$ 438,000.00	$ 45,800.00
Crowsfoot Rd	Woolwich	Local Street	Sawmill Rd & Katherine St S	Cox Creek Rd	Short-Term	329.17	Crowsfoot Corner	$ 438,000.00	$ 144,200.00
Grandview Dr	Woolwich	Local Street	Sawmill Rd	Sawmill Rd	Short-Term	292.72	Crowsfoot Corner	$ 438,000.00	$ 128,200.00
Grandview Dr	Woolwich	Local Street	DEAD END	Sawmill Rd	Short-Term	63.34	Crowsfoot Corner	$ 438,000.00	$ 27,700.00
Grandview Dr	Woolwich	Local Street	Sawmill Rd	Sawmill Rd	Short-Term	17.98	Crowsfoot Corner	$ 438,000.00	$ 7,900.00
Grandview Dr	Woolwich	Local Street	Sawmill Rd	Sawmill Rd	Short-Term	26.01	Crowsfoot Corner	$ 438,000.00	$ 11,400.00
Grandview Dr	Woolwich	Local Street	Sawmill Rd	Sawmill Rd	Short-Term	155.70	Crowsfoot Corner	$ 438,000.00	$ 68,200.00
Grandview Dr	Woolwich	Local Street	Sawmill Rd	Sawmill Rd	Short-Term	596.06	Crowsfoot Corner	$ 438,000.00	$ 261,100.00
Meadow Heights Dr	Woolwich	Local Street	Katherine St S	CULDESAC	Short-Term	128.54	Crowsfoot Corner	$ 438,000.00	$ 56,300.00
Meadow Heights Dr	Woolwich	Local Street	Katherine St S	Katherine St S	Short-Term	88.54	Crowsfoot Corner	$ 438,000.00	$ 38,800.00
Aspen Cres	Woolwich	Local Street	Oak Dr	Oak Dr	Long-Term	443.63	Elmira	$ 438,000.00	$ 97,200.00
Aspen Cres	Woolwich	Local Street	Barnswallow Dr	Oak Dr	Long-Term	56.35	Elmira	$ 438,000.00	$ 12,300.00
Aspen Cres	Woolwich	Local Street	Oak Dr	Barnswallow Dr	Long-Term	57.26	Elmira	$ 438,000.00	$ 12,500.00
Barnswallow Dr	Woolwich	Arterial	Aspen Cres	First St W	Long-Term	99.75	Elmira	$ 438,000.00	$ 21,800.00
Bauman St	Woolwich	Local Street	Duke St	DEAD END	Long-Term	168.91	Elmira	$ 438,000.00	$ 37,000.00
Bauman St	Woolwich	Local Street	Queen St	Centre St	Long-Term	94.87	Elmira	$ 438,000.00	$ 20,800.00
Bauman St	Woolwich	Local Street	Centre St	Duke St	Long-Term	95.69	Elmira	$ 438,000.00	$ 21,000.00
Bauman St	Woolwich	Local Street	Memorial Ave	Queen St	Long-Term	96.70	Elmira	$ 438,000.00	$ 21,200.00
Blue Heron Crt	Woolwich	Local Street	Green Warbler Cres	Green Warbler Cres	Long-Term	87.32	Elmira	$ 438,000.00	$ 19,100.00
Blue Heron Crt	Woolwich	Local Street	Green Warbler Cres	CULDESAC	Short-Term	99.73	Elmira	$ 438,000.00	$ 43,700.00
Bluebird Pl	Woolwich	Local Street	Second St	Second St	Long-Term	73.76	Elmira	$ 438,000.00	$ 16,200.00
Bluebird Pl	Woolwich	Local Street	Second St	CULDESAC	Short-Term	121.33	Elmira	$ 438,000.00	$ 53,100.00
Bluebird Pl	Woolwich	Local Street	First St W	Second St	Short-Term	98.88	Elmira	$ 438,000.00	$ 43,300.00
Bluejay Rd	Woolwich	Local Street	Robin Dr	Killdeer Rd	Long-Term	107.62	Elmira	$ 438,000.00	$ 23,600.00
Bluejay Rd	Woolwich	Local Street	Second St	Robin Dr	Long-Term	106.95	Elmira	$ 438,000.00	$ 23,400.00
Bluejay Rd	Woolwich	Local Street	Second St	Second St	Short-Term	99.43	Elmira	$ 438,000.00	$ 43,500.00
Bluejay Rd	Woolwich	Local Street	Second St	Second St	Short-Term	126.25	Elmira	$ 438,000.00	$ 55,300.00
Bobolink Pl	Woolwich	Local Street	Goldfinch St & Hummingbird Pl	Goldfinch St & Hummingbird Pl	Long-Term	63.95	Elmira	$ 438,000.00	$ 14,000.00
Bobolink Pl	Woolwich	Local Street	Goldfinch St & Hummingbird Pl	CULDESAC	Short-Term	275.80	Elmira	$ 438,000.00	$ 120,800.00
Bonnie Cres	Woolwich	Local Street	Union St	CULDESAC	Short-Term	196.71	Elmira	$ 438,000.00	$ 86,200.00
Bonnie Cres	Woolwich	Local Street	Union St	Union St	Long-Term	83.72	Elmira	$ 438,000.00	$ 18,300.00
Brown Thrasher Crt	Woolwich	Local Street	Nightingale Cres	Nightingale Cres	Long-Term	88.07	Elmira	$ 438,000.00	$ 19,300.00
Brown Thrasher Crt	Woolwich	Local Street	Nightingale Cres	CULDESAC	Short-Term	96.42	Elmira	$ 438,000.00	$ 42,200.00
Bunting Pl	Woolwich	Local Street	Mockingbird Dr	Mockingbird Dr	Long-Term	62.16	Elmira	$ 438,000.00	$ 13,600.00
Bunting Pl	Woolwich	Local Street	Mockingbird Dr	CULDESAC	Short-Term	62.41	Elmira	$ 438,000.00	$ 27,300.00
Burlwood Dr	Woolwich	Local Street	DEAD END	South Parkwood Blvd	Short-Term	48.35	Elmira	$ 438,000.00	$ 21,200.00
Canary Crt	Woolwich	Local Street	Pheasant Dr	CULDESAC	Short-Term	69.50	Elmira	$ 438,000.00	$ 30,400.00
Canary Crt	Woolwich	Local Street	Pheasant Dr	Pheasant Dr	Long-Term	86.26	Elmira	$ 438,000.00	$ 18,900.00
Cardinal St	Woolwich	Local Street	Meadowlark Rd	Meadowlark Rd	Long-Term	82.70	Elmira	$ 438,000.00	$ 18,100.00
Cardinal St	Woolwich	Local Street	Meadowlark Rd	CULDESAC	Short-Term	144.11	Elmira	$ 438,000.00	$ 63,100.00
Cedar Waxwing Dr	Woolwich	Local Street	Flamingo Dr	Pheasant Dr	Long-Term	141.73	Elmira	$ 438,000.00	$ 31,000.00
Cedar Waxwing Dr	Woolwich	Local Street	Grosbeak Rd	Barnswallow Dr	Long-Term	140.80	Elmira	$ 438,000.00	$ 30,800.00
Cedar Waxwing Dr	Woolwich	Local Street	Pheasant Dr	Grosbeak Rd	Long-Term	79.71	Elmira	$ 438,000.00	$ 17,500.00
Centre St	Woolwich	Local Street	Wyatt St E	Park Ave E	Short-Term	115.67	Elmira	$ 438,000.00	$ 50,700.00
Charles St	Woolwich	Local Street	George St	Spruce Lane & High St	Short-Term	225.08	Elmira	$ 438,000.00	$ 98,600.00
Chickadee Crt	Woolwich	Local Street	Pheasant Dr	CULDESAC	Short-Term	94.47	Elmira	$ 438,000.00	$ 41,400.00
Chickadee Crt	Woolwich	Local Street	Pheasant Dr	Pheasant Dr	Long-Term	88.35	Elmira	$ 438,000.00	$ 19,300.00
Crane Dr	Woolwich	Local Street	Kingfisher Dr	Crane Cres	Long-Term	88.87	Elmira	$ 438,000.00	$ 19,500.00
Crane Dr	Woolwich	Local Street	Crane Cres	Crane Cres	Long-Term	231.59	Elmira	$ 438,000.00	$ 50,700.00
Crane Dr	Woolwich	Local Street	Crane Cres	Peregrine Cres	Long-Term	48.09	Elmira	$ 438,000.00	$ 10,500.00
Cross St	Woolwich	Local Street	Church St E	Riverside Dr E	Long-Term	142.08	Elmira	$ 438,000.00	$ 31,100.00
Donway Crt	Woolwich	Local Street	Union St	Union St	Long-Term	103.71	Elmira	$ 438,000.00	$ 22,700.00
Donway Crt	Woolwich	Local Street	Union St	CULDESAC	Short-Term	139.94	Elmira	$ 438,000.00	$ 61,300.00

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
Duke St	Woolwich	Collector	College St	First St E	Long-Term	103.03	Elmira	$ 438,000.00	$ 22,600.00
Duke St	Woolwich	Collector	South St E	Bauman St	Short-Term	112.17	Elmira	$ 438,000.00	$ 49,100.00
Duke St	Woolwich	Collector	Bauman St	College St	Long-Term	114.06	Elmira	$ 438,000.00	$ 25,000.00
Duke St	Woolwich	Collector	Park Ave E	South St E	Long-Term	113.71	Elmira	$ 438,000.00	$ 34,900.00
Duke St	Woolwich	Collector	Church St E	Mill St	Long-Term	112.45	Elmira	$ 438,000.00	$ 24,600.00
Dunke St N	Woolwich	Local Street	Church St W & Dunke St S	William St	Long-Term	239.42	Elmira	$ 438,000.00	$ 52,400.00
Dunke St N	Woolwich	Local Street	Riverside Dr W	Victoria Glen St	Long-Term	89.62	Elmira	$ 438,000.00	$ 19,600.00
Dunke St N	Woolwich	Local Street	Reger's Laneway	Riverside Dr W	Long-Term	63.23	Elmira	$ 438,000.00	$ 13,800.00
Dunke St N	Woolwich	Local Street	William St	Reger's Laneway	Long-Term	66.53	Elmira	$ 438,000.00	$ 14,600.00
Eagle Dr	Woolwich	Local Street	Falcon Dr	Peregrine Cres	Long-Term	158.65	Elmira	$ 438,000.00	$ 34,700.00
Eagle Dr	Woolwich	Local Street	First St W	DEAD END	Short-Term	12.87	Elmira	$ 438,000.00	$ 5,600.00
Eagle Dr	Woolwich	Local Street	Barnswallow Dr	Falcon Dr	Long-Term	65.71	Elmira	$ 438,000.00	$ 14,400.00
Earl Martin Dr	Woolwich	Local Street	Union St	Arthur St S & South Parkwood Blvd	Long-Term	616.91	Elmira	$ 438,000.00	$ 135,100.00
Eldale Rd	Woolwich	Local Street	Church St W	DEAD END	Short-Term	417.74	Elmira	$ 438,000.00	$ 183,000.00
Eldale Rd	Woolwich	Local Street	Church St W	DEAD END	Short-Term	97.73	Elmira	$ 438,000.00	$ 42,800.00
Falcon Dr	Woolwich	Local Street	Kingfisher Dr	Eagle Dr	Long-Term	349.50	Elmira	$ 438,000.00	$ 76,500.00
Finch Pl	Woolwich	Local Street	Mockingbird Dr	Mockingbird Dr	Long-Term	81.40	Elmira	$ 438,000.00	$ 17,800.00
Finch Pl	Woolwich	Local Street	Mockingbird Dr	CULDESAC	Short-Term	40.82	Elmira	$ 438,000.00	$ 17,900.00
First St E	Woolwich	Collector	Queen St	Centre St	Long-Term	90.49	Elmira	$ 438,000.00	$ 19,800.00
First St E	Woolwich	Local Street	Union St	DEAD END	Short-Term	258.44	Elmira	$ 438,000.00	$ 113,200.00
First St E	Woolwich	Collector	Centre St	Duke St	Long-Term	87.59	Elmira	$ 438,000.00	$ 19,200.00
First St E	Woolwich	Local Street	Duke St	Union St	Long-Term	312.70	Elmira	$ 438,000.00	$ 68,500.00
George St	Woolwich	Local Street	Charles St	High St	Short-Term	100.58	Elmira	$ 438,000.00	$ 44,100.00
George St	Woolwich	Local Street	Church St E	Charles St	Short-Term	140.51	Elmira	$ 438,000.00	$ 61,500.00
Goldfinch St	Woolwich	Local Street	Oriole Pky W	Hummingbird Pl & Bobolink Pl	Short-Term	149.98	Elmira	$ 438,000.00	$ 65,700.00
Green Warbler Cres	Woolwich	Local Street	Grey Owl Dr	Blue Heron Crt	Long-Term	161.77	Elmira	$ 438,000.00	$ 35,400.00
Green Warbler Cres	Woolwich	Local Street	Blue Heron Crt	Whippoorwill Dr	Long-Term	170.28	Elmira	$ 438,000.00	$ 37,300.00
Grey Owl Dr	Woolwich	Local Street	Green Warbler Cres	Whippoorwill Dr	Long-Term	215.31	Elmira	$ 438,000.00	$ 47,200.00
Grey Owl Dr	Woolwich	Local Street	Nightingale Cres	Green Warbler Cres	Long-Term	96.67	Elmira	$ 438,000.00	$ 21,200.00
Hampton St	Woolwich	Local Street	Dunke St S	Snyder Ave S	Long-Term	152.40	Elmira	$ 438,000.00	$ 33,400.00
Hampton St	Woolwich	Local Street	Walker St	Dunke St S	Long-Term	61.61	Elmira	$ 438,000.00	$ 13,500.00
Hampton St	Woolwich	Local Street	Wyatt St W	Walker St	Long-Term	63.88	Elmira	$ 438,000.00	$ 14,000.00
Hampton St	Woolwich	Local Street	James St	Wyatt St W	Long-Term	62.27	Elmira	$ 438,000.00	$ 13,600.00
Hampton St	Woolwich	Local Street	Park Ave W	James St	Long-Term	61.03	Elmira	$ 438,000.00	$ 13,400.00
Hampton St	Woolwich	Local Street	Arthur St S	Park Ave W	Long-Term	107.66	Elmira	$ 438,000.00	$ 23,600.00
Harness Lane	Woolwich	Local Street	Church St W	Bristow Creek Dr	Long-Term	152.33	Elmira	$ 438,000.00	$ 33,400.00
Herbert St	Woolwich	Local Street	Samuel St	William St	Short-Term	150.25	Elmira	$ 438,000.00	$ 65,800.00
Herbert St	Woolwich	Local Street	Church St W	Samuel St	Long-Term	143.88	Elmira	$ 438,000.00	$ 31,500.00
Herbert St	Woolwich	Local Street	William St	Riverside Dr W	Long-Term	135.62	Elmira	$ 438,000.00	$ 29,700.00
High St	Woolwich	Local Street	George St	Charles St & Spruce Lane	Short-Term	343.66	Elmira	$ 438,000.00	$ 150,500.00
High St	Woolwich	Local Street	DEAD END	George St	Short-Term	75.70	Elmira	$ 438,000.00	$ 33,200.00
Howard Ave	Woolwich	Local Street	DEAD END	Union St	Short-Term	288.26	Elmira	$ 438,000.00	$ 126,300.00
Howard Ave	Woolwich	Local Street	Industrial Dr	Union St	Short-Term	557.58	Elmira	$ 438,000.00	$ 244,200.00
Hummingbird Pl	Woolwich	Local Street	Meadowlark Rd	Bobolink Pl & Goldfinch St	Short-Term	138.10	Elmira	$ 438,000.00	$ 60,500.00
Isaac St	Woolwich	Local Street	William St	Finoro Cres	Long-Term	84.62	Elmira	$ 438,000.00	$ 9,300.00
Isaac St	Woolwich	Local Street	Finoro Cres	Finoro Cres	Long-Term	81.25	Elmira	$ 438,000.00	$ 17,800.00
James St	Woolwich	Local Street	Hampton St	Snyder Ave S	Long-Term	256.36	Elmira	$ 438,000.00	$ 78,600.00
Kenning Pl	Woolwich	Local Street	Arthur St N	DEAD END	Short-Term	313.54	Elmira	$ 438,000.00	$ 137,300.00
Kingfisher Dr	Woolwich	Local Street	Phoebe Cres	Barnswallow Dr	Long-Term	102.38	Elmira	$ 438,000.00	$ 22,400.00
Kingfisher Dr	Woolwich	Local Street	Grosbeak Rd	Thrush Crt	Long-Term	93.52	Elmira	$ 438,000.00	$ 20,500.00
Kingfisher Dr	Woolwich	Local Street	Thrush Crt	Phoebe Cres	Long-Term	54.16	Elmira	$ 438,000.00	$ 11,900.00
Kissing Bridge Dr	Woolwich	Local Street	William St	Isaac St	Long-Term	71.14	Elmira	$ 438,000.00	$ 12,500.00
Kissing Bridge Dr	Woolwich	Local Street	Isaac St	Miranda Path	Long-Term	80.73	Elmira	$ 438,000.00	$ 17,700.00
Klinck St	Woolwich	Local Street	DEAD END	Brubacher St	Short-Term	52.77	Elmira	$ 438,000.00	$ 23,100.00
Maple St	Woolwich	Local Street	Church St W	William St	Long-Term	181.89	Elmira	$ 438,000.00	$ 39,800.00
Maple St	Woolwich	Local Street	DEAD END	Riverside Dr W	Long-Term	23.73	Elmira	$ 438,000.00	$ 6,200.00
Maple St	Woolwich	Local Street	William St	DEAD END	Short-Term	73.60	Elmira	$ 438,000.00	$ 32,200.00
Martin's Lane	Woolwich	Local Street	Arthur St N	DEAD END	Short-Term	338.18	Elmira	$ 438,000.00	$ 148,100.00
Meadowlark Rd	Woolwich	Local Street	Oriole Pky W	Tanager St	Long-Term	110.65	Elmira	$ 438,000.00	$ 24,200.00
Meadowlark Rd	Woolwich	Local Street	Hummingbird Pl	Mourningdove Cres	Long-Term	33.11	Elmira	$ 438,000.00	$ 7,300.00
Meadowlark Rd	Woolwich	Local Street	Mourningdove Cres	Cardinal St	Long-Term	110.78	Elmira	$ 438,000.00	$ 24,300.00
Meadowlark Rd	Woolwich	Local Street	Cardinal St	First St W	Long-Term	111.90	Elmira	$ 438,000.00	$ 24,500.00
Meadowlark Rd	Woolwich	Local Street	Tanager St	Hummingbird Pl	Long-Term	77.52	Elmira	$ 438,000.00	$ 17,000.00
Memorial Ave	Woolwich	Local Street	Church St E	Mill St	Long-Term	115.35	Elmira	$ 438,000.00	$ 25,300.00
Memorial Ave	Woolwich	Local Street	Bauman St	Arthur St S	Long-Term	104.46	Elmira	$ 438,000.00	$ 22,900.00

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
Mill St	Woolwich	Local Street	Centre St	Duke St	Long-Term	91.15	Elmira	$ 438,000.00	$ 20,000.00
Mill St	Woolwich	Local Street	Duke St	DEAD END	Long-Term	114.35	Elmira	$ 438,000.00	$ 40,100.00
Miranda Path	Woolwich	Local Street	Snyder Ave N	Kissing Bridge Dr	Long-Term	107.00	Elmira	$ 438,000.00	$ 9,400.00
Mockingbird Dr	Woolwich	Local Street	Oriole Pky W	Oriole Pky W	Long-Term	89.69	Elmira	$ 438,000.00	$ 19,600.00
Mockingbird Dr	Woolwich	Local Street	Bunting Pl	Bunting Pl	Long-Term	92.89	Elmira	$ 438,000.00	$ 20,300.00
Mourningdove Cres	Woolwich	Local Street	Meadowlark Rd	Meadowlark Rd	Long-Term	82.90	Elmira	$ 438,000.00	$ 18,200.00
Mourningdove Cres	Woolwich	Local Street	Meadowlark Rd	CULDESAC	Short-Term	143.15	Elmira	$ 438,000.00	$ 62,700.00
Muscovey Dr	Woolwich	Local Street	First St W	DEAD END	Short-Term	13.67	Elmira	$ 438,000.00	$ 6,000.00
Nightingale Cres	Woolwich	Local Street	Grey Owl Dr	Purple Martin Crt	Long-Term	258.97	Elmira	$ 438,000.00	$ 56,700.00
Nightingale Cres	Woolwich	Local Street	Purple Martin Crt	Brown Thrasher Crt	Long-Term	151.79	Elmira	$ 438,000.00	$ 33,200.00
Nightingale Cres	Woolwich	Local Street	Mockingbird Dr	Grey Owl Dr	Long-Term	169.94	Elmira	$ 438,000.00	$ 37,200.00
Nightingale Cres	Woolwich	Local Street	Brown Thrasher Crt	Whippoorwill Dr	Long-Term	66.69	Elmira	$ 438,000.00	$ 14,600.00
Norman Ave	Woolwich	Local Street	Weigel Ave	DEAD END	Short-Term	101.52	Elmira	$ 438,000.00	$ 44,500.00
Nuthatch Pl	Woolwich	Local Street	Pintail Dr	Pintail Dr	Long-Term	118.93	Elmira	$ 438,000.00	$ 26,000.00
Nuthatch Pl	Woolwich	Local Street	Pintail Dr	CULDESAC	Short-Term	139.31	Elmira	$ 438,000.00	$ 61,000.00
Oak Dr	Woolwich	Local Street	Aspen Cres	Aspen Cres	Long-Term	149.72	Elmira	$ 438,000.00	$ 32,800.00
Oriole Pky E	Woolwich	Local Street	Union St	DEAD END	Short-Term	312.68	Elmira	$ 438,000.00	$ 137,000.00
Oriole Pky E	Woolwich	Local Street	Industrial Dr	Union St	Short-Term	555.31	Elmira	$ 438,000.00	$ 243,200.00
Oriole Pky W	Woolwich	Local Street	Tanager St	Flamingo Dr	Long-Term	139.68	Elmira	$ 438,000.00	$ 30,600.00
Oriole Pky W	Woolwich	Local Street	Mockingbird Dr	Tanager St	Long-Term	71.57	Elmira	$ 438,000.00	$ 15,700.00
Oriole Pky W	Woolwich	Local Street	Goldfinch St	Meadowlark Rd	Long-Term	101.83	Elmira	$ 438,000.00	$ 22,300.00
Oriole Pky W	Woolwich	Local Street	Flamingo Dr	Grosbeak Rd	Long-Term	144.32	Elmira	$ 438,000.00	$ 31,600.00
Oriole Pky W	Woolwich	Local Street	Oriole Pky E & Arthur St S	Goldfinch St	Long-Term	457.15	Elmira	$ 438,000.00	$ 100,100.00
Oriole Pky W	Woolwich	Local Street	Meadowlark Rd	Mockingbird Dr	Long-Term	136.82	Elmira	$ 438,000.00	$ 18,000.00
Park Ave E	Woolwich	Local Street	Memorial Ave	Queen St	Long-Term	97.78	Elmira	$ 438,000.00	$ 21,400.00
Park Ave E	Woolwich	Local Street	Queen St	Centre St	Long-Term	93.47	Elmira	$ 438,000.00	$ 20,500.00
Park Ave E	Woolwich	Local Street	Duke St	Union St	Long-Term	200.07	Elmira	$ 438,000.00	$ 70,100.00
Park Ave E	Woolwich	Local Street	Arthur St S & Park Ave W	Memorial Ave	Long-Term	98.56	Elmira	$ 438,000.00	$ 13,000.00
Park Ave E	Woolwich	Local Street	Centre St	Duke St	Long-Term	96.88	Elmira	$ 438,000.00	$ 21,200.00
Park Ave W	Woolwich	Local Street	Park Ave E & Arthur St S	Hampton St	Long-Term	51.84	Elmira	$ 438,000.00	$ 11,400.00
Peregrine Cres	Woolwich	Local Street	Crane Dr	Eagle Dr	Long-Term	191.67	Elmira	$ 438,000.00	$ 42,000.00
Pheasant Dr	Woolwich	Local Street	Cedar Waxwing Dr	Canary Crt	Long-Term	85.22	Elmira	$ 438,000.00	$ 18,700.00
Pheasant Dr	Woolwich	Local Street	Canary Crt	Chickadee Crt	Long-Term	46.85	Elmira	$ 438,000.00	$ 10,300.00
Pheasant Dr	Woolwich	Local Street	Chickadee Crt	Barnswallow Dr	Long-Term	143.92	Elmira	$ 438,000.00	$ 31,500.00
Phoebe Cres	Woolwich	Local Street	Kingfisher Dr	Kingfisher Dr	Long-Term	85.62	Elmira	$ 438,000.00	$ 18,800.00
Phoebe Cres	Woolwich	Local Street	Kingfisher Dr	CULDESAC	Short-Term	123.18	Elmira	$ 438,000.00	$ 54,000.00
Pintail Dr	Woolwich	Local Street	Sandpiper Crt	Whippoorwill Dr	Long-Term	277.47	Elmira	$ 438,000.00	$ 60,800.00
Pintail Dr	Woolwich	Local Street	Arthur St S	Sandpiper Crt	Long-Term	83.19	Elmira	$ 438,000.00	$ 18,200.00
Pintail Dr	Woolwich	Local Street	Whippoorwill Dr	Nuthatch Pl	Long-Term	135.25	Elmira	$ 438,000.00	$ 29,600.00
Purple Martin Crt	Woolwich	Local Street	Nightingale Cres	Nightingale Cres	Long-Term	100.33	Elmira	$ 438,000.00	$ 22,000.00
Purple Martin Crt	Woolwich	Local Street	Nightingale Cres	CULDESAC	Short-Term	106.85	Elmira	$ 438,000.00	$ 46,800.00
Queen St	Woolwich	Local Street	University Ave E	First St E	Short-Term	154.62	Elmira	$ 438,000.00	$ 67,700.00
Ratz St	Woolwich	Local Street	Duke St	DEAD END	Long-Term	142.93	Elmira	$ 438,000.00	$ 43,800.00
Riverside Dr E	Woolwich	Local Street	Cross St	Church St E	Long-Term	165.60	Elmira	$ 438,000.00	$ 36,300.00
Riverside Dr E	Woolwich	Local Street	Arthur St N	Cross St	Long-Term	124.27	Elmira	$ 438,000.00	$ 27,200.00
Riverside Dr W	Woolwich	Local Street	Arthur St N	Victoria Glen St	Long-Term	163.04	Elmira	$ 438,000.00	$ 35,700.00
Riverside Dr W	Woolwich	Local Street	Victoria Glen St	Dunke St N	Long-Term	124.16	Elmira	$ 438,000.00	$ 10,900.00
Riverside Dr W	Woolwich	Local Street	Maple St	Victoria Glen St	Long-Term	49.74	Elmira	$ 438,000.00	$ 10,900.00
Robin Dr	Woolwich	Local Street	First St W	Bluejay Rd	Long-Term	231.95	Elmira	$ 438,000.00	$ 50,800.00
Samuel St	Woolwich	Local Street	Snyder Ave N	Herbert St	Long-Term	93.88	Elmira	$ 438,000.00	$ 20,600.00
Sandpiper Crt	Woolwich	Local Street	Pintail Dr	Pintail Dr	Long-Term	91.55	Elmira	$ 438,000.00	$ 20,000.00
Sandpiper Crt	Woolwich	Local Street	Pintail Dr	CULDESAC	Short-Term	146.66	Elmira	$ 438,000.00	$ 64,200.00
Second St	Woolwich	Local Street	Bluebird Pl	Bluejay Rd	Short-Term	101.75	Elmira	$ 438,000.00	$ 44,600.00
Second St	Woolwich	Local Street	Snyder Ave S	Sugar King Dr	Long-Term	226.32	Elmira	$ 438,000.00	$ 49,600.00
Second St	Woolwich	Local Street	Bluejay Rd	Bluejay Rd	Short-Term	106.74	Elmira	$ 438,000.00	$ 46,800.00
Second St	Woolwich	Local Street	Bluejay Rd	Bluejay Rd	Short-Term	120.06	Elmira	$ 438,000.00	$ 52,600.00
Second St	Woolwich	Local Street	Sugar King Dr	Bluebird Pl	Long-Term	109.03	Elmira	$ 438,000.00	$ 35,800.00
Snyder Ave N	Woolwich	Local Street	Sunset Pl	Miranda Path	Long-Term	418.73	Elmira	$ 438,000.00	$ 73,400.00
Snyder Ave N	Woolwich	Local Street	Miranda Path	William St	Long-Term	165.82	Elmira	$ 438,000.00	$ 7,300.00
Snyder Ave N	Woolwich	Local Street	Riverside Dr W	Sunset Pl	Long-Term	149.84	Elmira	$ 438,000.00	$ 13,100.00
South Field Dr	Woolwich	Collector	Union St	New Jerusalem Rd	Short-Term	430.56	Elmira	$ 438,000.00	$ 188,600.00
South Field Dr	Woolwich	Collector	Arthur St S & Whippoorwill Dr	Union St	Long-Term	674.60	Elmira	$ 438,000.00	$ 236,400.00
South Parkwood Blvd	Woolwich	Local Street	Woodberry Cres	DEAD END	Short-Term	19.19	Elmira	$ 438,000.00	$ 8,400.00
South Parkwood Blvd	Woolwich	Local Street	Timber Trail Rd	Woodberry Cres	Long-Term	83.72	Elmira	$ 438,000.00	$ 9,200.00
South St E	Woolwich	Local Street	Queen St	Centre St	Short-Term	93.06	Elmira	$ 438,000.00	$ 40,800.00

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
South St E	Woolwich	Local Street	South St W & Arthur St S	Memorial Ave	Long-Term	98.69	Elmira	$ 438,000.00	$ 21,600.00
South St E	Woolwich	Local Street	Centre St	Duke St	Short-Term	96.79	Elmira	$ 438,000.00	$ 42,400.00
South St E	Woolwich	Local Street	Memorial Ave	Queen St	Long-Term	97.72	Elmira	$ 438,000.00	$ 21,400.00
South St W	Woolwich	Local Street	Snyder Ave S	DEAD END	Long-Term	105.72	Elmira	$ 438,000.00	$ 32,400.00
Sunset Pl	Woolwich	Local Street	Snyder Ave N	Snyder Ave N	Long-Term	83.02	Elmira	$ 438,000.00	$ 18,200.00
Sunset Pl	Woolwich	Local Street	Snyder Ave N	CULDESAC	Short-Term	146.44	Elmira	$ 438,000.00	$ 64,100.00
Thrush Crt	Woolwich	Local Street	Kingfisher Dr	Kingfisher Dr	Long-Term	87.61	Elmira	$ 438,000.00	$ 19,200.00
Thrush Crt	Woolwich	Local Street	Kingfisher Dr	CULDESAC	Short-Term	85.07	Elmira	$ 438,000.00	$ 37,300.00
Timber Trail Rd	Woolwich	Local Street	Weymouth St	Woodberry Cres	Long-Term	179.02	Elmira	$ 438,000.00	$ 54,900.00
Timber Trail Rd	Woolwich	Local Street	Woodberry Cres	Listowel Rd	Long-Term	214.21	Elmira	$ 438,000.00	$ 84,400.00
Timber Trail Rd	Woolwich	Local Street	South Parkwood Blvd	Weymouth St	Long-Term	87.13	Elmira	$ 438,000.00	$ 11,400.00
Union St	Woolwich	Local Street	Oriole Pky E	South Field Dr	Short-Term	473.02	Elmira	$ 438,000.00	$ 207,200.00
Union St	Woolwich	Arterial	Earl Martin Dr	Listowel Rd & Arthur St S	Long-Term	32.27	Elmira	$ 438,000.00	$ 7,100.00
Union St	Woolwich	Local Street	Donway Crt	Earl Martin Dr	Short-Term	625.53	Elmira	$ 438,000.00	$ 274,000.00
Union St	Woolwich	Arterial	Listowel Rd & Arthur St S	Earl Martin Dr	Short-Term	31.28	Elmira	$ 438,000.00	$ 13,700.00
Union St	Woolwich	Arterial	Earl Martin Dr	Listowel Rd & Arthur St S	Long-Term	95.24	Elmira	$ 438,000.00	$ 20,900.00
Union St	Woolwich	Local Street	South Field Dr	Donway Crt	Short-Term	482.92	Elmira	$ 438,000.00	$ 211,500.00
University Ave E	Woolwich	Local Street	Queen St	Centre St	Short-Term	95.31	Elmira	$ 438,000.00	$ 41,700.00
University Ave E	Woolwich	Local Street	Arthur St S & University Ave W	Queen St	Short-Term	93.42	Elmira	$ 438,000.00	$ 40,900.00
Victoria Glen St	Woolwich	Local Street	Riverside Dr W	Dunke St N	Short-Term	210.87	Elmira	$ 438,000.00	$ 92,400.00
Victoria Glen St	Woolwich	Local Street	Dunke St N	DEAD END	Short-Term	32.96	Elmira	$ 438,000.00	$ 14,400.00
Walker St	Woolwich	Local Street	Church St W	Hampton St	Long-Term	151.47	Elmira	$ 438,000.00	$ 33,200.00
Weigel Ave	Woolwich	Local Street	Norman Ave	DEAD END	Short-Term	54.10	Elmira	$ 438,000.00	$ 23,700.00
Weigel Ave	Woolwich	Local Street	Church St W	Norman Ave	Short-Term	175.26	Elmira	$ 438,000.00	$ 76,800.00
Weymouth St	Woolwich	Local Street	DEAD END	Timber Trail Rd	Short-Term	44.74	Elmira	$ 438,000.00	$ 19,600.00
Weymouth St	Woolwich	Local Street	Woodberry Cres	South Parkwood Blvd	Short-Term	41.77	Elmira	$ 438,000.00	$ 18,300.00
Weymouth St	Woolwich	Local Street	Woodberry Cres	South Parkwood Blvd	Short-Term	243.08	Elmira	$ 438,000.00	$ 106,500.00
Weymouth St	Woolwich	Local Street	Timber Trail Rd	Woodberry Cres	Long-Term	82.24	Elmira	$ 438,000.00	$ 27,000.00
Woodberry Cres	Woolwich	Local Street	Weymouth St	Timber Trail Rd	Long-Term	255.62	Elmira	$ 438,000.00	$ 78,400.00
Woodberry Cres	Woolwich	Local Street	Richard Rank Rd	Timber Trail Rd	Long-Term	85.00	Elmira	$ 438,000.00	$ 9,300.00
Woodberry Cres	Woolwich	Local Street	Timber Trail Rd	DEAD END	Short-Term	46.28	Elmira	$ 438,000.00	$ 20,300.00
Woodberry Cres	Woolwich	Local Street	South Parkwood Blvd	Weymouth St	Long-Term	82.91	Elmira	$ 438,000.00	$ 29,100.00
Wren Crt	Woolwich	Local Street	Mockingbird Dr	Mockingbird Dr	Long-Term	77.92	Elmira	$ 438,000.00	$ 17,100.00
Wren Crt	Woolwich	Local Street	Mockingbird Dr	CULDESAC	Short-Term	17.09	Elmira	$ 438,000.00	$ 7,500.00
Wyatt St E	Woolwich	Local Street	Duke St	Union St	Long-Term	159.85	Elmira	$ 438,000.00	$ 7,000.00
Wyatt St W	Woolwich	Local Street	Arthur St S & Wyatt St E	Hampton St	Long-Term	95.42	Elmira	$ 438,000.00	$ 8,400.00
Eldon Pl	Woolwich	Local Street	Floradale Rd	DEAD END	Short-Term	188.77	Floradale	$ 438,000.00	$ 82,700.00
Floradale Rd	Woolwich	Local Street	Florapine Rd	Sandy Hills Dr	Long-Term	184.12	Floradale	$ 438,000.00	$ 40,300.00
Floradale Rd	Woolwich	Local Street	Florapine Rd	Sandy Hills Dr	Short-Term	118.32	Floradale	$ 438,000.00	$ 51,800.00
Floradale Rd	Woolwich	Local Street	Florapine Rd	Sandy Hills Dr	Short-Term	213.96	Floradale	$ 438,000.00	$ 93,700.00
Florapine Rd	Woolwich	Local Street	Floradale Rd	Arthur St N	Short-Term	11.04	Floradale	$ 438,000.00	$ 4,800.00
Florapine Rd	Woolwich	Local Street	Floradale Rd	Arthur St N	Long-Term	493.12	Floradale	$ 438,000.00	$ 129,600.00
Ruggle's Rd	Woolwich	Local Street	Westview Crt	Fourth Line	Long-Term	87.38	Floradale	$ 438,000.00	$ 23,000.00
Ruggle's Rd	Woolwich	Local Street	Westview Crt	Fourth Line	Short-Term	163.67	Floradale	$ 438,000.00	$ 71,700.00
Ruggle's Rd	Woolwich	Local Street	Floradale Rd	Westview Crt	Long-Term	221.00	Floradale	$ 438,000.00	$ 58,100.00
Westview Crt	Woolwich	Local Street	Ruggle's Rd	Ruggle's Rd	Long-Term	101.34	Floradale	$ 438,000.00	$ 22,200.00
Westview Crt	Woolwich	Local Street	Ruggle's Rd	CULDESAC	Short-Term	159.10	Floradale	$ 438,000.00	$ 69,700.00
Alpen Grove	Woolwich	Local Street	Dresden Dr	CULDESAC	Short-Term	130.75	Heidelberg	$ 438,000.00	$ 57,300.00
Alpen Grove	Woolwich	Local Street	Dresden Dr	Dresden Dr	Long-Term	83.64	Heidelberg	$ 438,000.00	$ 18,300.00
Alpen Grove	Woolwich	Local Street	Rhine Meadow Rd & Rhine Meadow Crt	Dresden Dr	Short-Term	94.70	Heidelberg	$ 438,000.00	$ 41,500.00
Alten Way	Woolwich	Local Street	Kressler Rd	Vienna Cres & Rhine Meadow Rd	Long-Term	79.31	Heidelberg	$ 438,000.00	$ 17,400.00
Alten Way	Woolwich	Local Street	Danube Dr	Dresden Dr	Short-Term	175.68	Heidelberg	$ 438,000.00	$ 76,900.00
Alten Way	Woolwich	Local Street	Vienna Cres & Rhine Meadow Rd	Danube Dr	Long-Term	98.99	Heidelberg	$ 438,000.00	$ 21,700.00
Apollo Dr	Woolwich	Local Street	Venus Cres	Bavarian Dr & Venus Cres	Short-Term	114.84	Heidelberg	$ 438,000.00	$ 50,300.00
Apollo Dr	Woolwich	Local Street	Trillium Crt	Danube Dr	Short-Term	40.25	Heidelberg	$ 438,000.00	$ 17,600.00
Apollo Dr	Woolwich	Local Street	Danube Dr	Venus Cres	Short-Term	62.48	Heidelberg	$ 438,000.00	$ 27,400.00
Apollo Dr	Woolwich	Local Street	Kressler Rd	Trillium Crt	Short-Term	136.49	Heidelberg	$ 438,000.00	$ 59,800.00
Bavarian Dr	Woolwich	Local Street	Bavarian Pl	Dresden Dr	Short-Term	101.27	Heidelberg	$ 438,000.00	$ 44,400.00
Bavarian Dr	Woolwich	Local Street	Dresden Dr	Danube Dr	Short-Term	154.96	Heidelberg	$ 438,000.00	$ 67,900.00
Bavarian Dr	Woolwich	Local Street	Venus Cres & Apollo Dr	Bavarian Pl	Short-Term	111.57	Heidelberg	$ 438,000.00	$ 48,900.00
Bavarian Pl	Woolwich	Local Street	Bavarian Dr	CULDESAC	Short-Term	47.81	Heidelberg	$ 438,000.00	$ 20,900.00
Bavarian Pl	Woolwich	Local Street	Bavarian Dr	Bavarian Dr	Long-Term	86.45	Heidelberg	$ 438,000.00	$ 18,900.00
Chancellor Dr	Woolwich	Local Street	Dresden Dr	Rhine Meadow Rd	Short-Term	319.94	Heidelberg	$ 438,000.00	$ 140,100.00
Danube Dr	Woolwich	Local Street	Vienna Cres	Bavarian Dr	Short-Term	93.70	Heidelberg	$ 438,000.00	$ 41,000.00
Danube Dr	Woolwich	Local Street	Bavarian Dr	Alten Way	Short-Term	112.68	Heidelberg	$ 438,000.00	$ 49,400.00

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
Danube Dr	Woolwich	Local Street	Apollo Dr	Vienna Cres	Short-Term	126.38	Heidelberg	$ 438,000.00	$ 55,400.00
Dresden Dr	Woolwich	Local Street	Alten Way	Chancellor Dr	Short-Term	90.67	Heidelberg	$ 438,000.00	$ 39,700.00
Dresden Dr	Woolwich	Local Street	Chancellor Dr	Alpen Grove	Short-Term	80.72	Heidelberg	$ 438,000.00	$ 35,400.00
Dresden Dr	Woolwich	Local Street	Bavarian Dr	Alten Way	Short-Term	133.22	Heidelberg	$ 438,000.00	$ 58,300.00
Mary St	Woolwich	Local Street	Lobsinger Line	Rocky Lane	Short-Term	123.71	Heidelberg	$ 438,000.00	$ 54,200.00
Rhine Meadow Crt	Woolwich	Local Street	Alpen Grove & Rhine Meadow Rd	CULDESAC	Short-Term	42.90	Heidelberg	$ 438,000.00	$ 18,800.00
Rhine Meadow Crt	Woolwich	Local Street	Alpen Grove & Rhine Meadow Rd	Alpen Grove & Rhine Meadow Rd	Long-Term	90.85	Heidelberg	$ 438,000.00	$ 19,900.00
Rhine Meadow Rd	Woolwich	Local Street	Alten Way & Vienna Cres	Chancellor Dr	Short-Term	330.08	Heidelberg	$ 438,000.00	$ 144,600.00
Rhine Meadow Rd	Woolwich	Local Street	Chancellor Dr	Rhine Meadow Crt & Alpen Grove	Short-Term	225.08	Heidelberg	$ 438,000.00	$ 98,600.00
Rocky Lane	Woolwich	Local Street	Kressler Rd	Mary St	Short-Term	164.60	Heidelberg	$ 438,000.00	$ 72,100.00
Rocky Lane	Woolwich	Local Street	Mary St	DEAD END	Short-Term	64.55	Heidelberg	$ 438,000.00	$ 28,300.00
Trillium Crt	Woolwich	Local Street	Apollo Dr	CULDESAC	Short-Term	82.27	Heidelberg	$ 438,000.00	$ 36,000.00
Trillium Crt	Woolwich	Local Street	Apollo Dr	Apollo Dr	Long-Term	110.39	Heidelberg	$ 438,000.00	$ 24,200.00
Venus Cres	Woolwich	Local Street	Apollo Dr	Apollo Dr & Bavarian Dr	Short-Term	364.59	Heidelberg	$ 438,000.00	$ 159,700.00
Vienna Cres	Woolwich	Local Street	Danube Dr	Rhine Meadow Rd & Alten Way	Short-Term	327.12	Heidelberg	$ 438,000.00	$ 143,300.00
Halter Ave	Woolwich	Local Street	Notre Dame Ave	Isley Dr	Short-Term	177.67	Maryhill	$ 438,000.00	$ 77,800.00
Homestead Dr	Woolwich	Local Street	Maryhill Rd	Zingervilla Pl & Sunset Hills Cr	Long-Term	184.32	Maryhill	$ 438,000.00	$ 40,400.00
Isley Dr	Woolwich	Local Street	Notre Dame Ave	Halter Ave	Short-Term	399.14	Maryhill	$ 438,000.00	$ 174,800.00
Isley Dr	Woolwich	Local Street	Halter Ave	Notre Dame Ave	Short-Term	174.29	Maryhill	$ 438,000.00	$ 76,300.00
Maryhill Rd	Woolwich	Local Street	Zingervilla Pl & St Boniface Dr	Crowsfoot Rd	Short-Term	67.53	Maryhill	$ 438,000.00	$ 29,600.00
Maryhill Rd	Woolwich	Local Street	Homestead Dr	St Boniface Dr & Zingervilla Pl	Short-Term	121.92	Maryhill	$ 438,000.00	$ 53,400.00
Maryhill Rd	Woolwich	Local Street	St Charles St W & St Charles St E	Homestead Dr	Long-Term	474.85	Maryhill	$ 438,000.00	$ 20,800.00
Matthias Cres	Woolwich	Local Street	St Boniface Dr	Matthias Pl	Long-Term	294.71	Maryhill	$ 438,000.00	$ 64,500.00
Matthias Cres	Woolwich	Local Street	Matthias Pl	St Boniface Dr	Long-Term	135.23	Maryhill	$ 438,000.00	$ 29,600.00
Matthias Pl	Woolwich	Local Street	Matthias Cres	CULDESAC	Long-Term	79.30	Maryhill	$ 438,000.00	$ 17,400.00
Matthias Pl	Woolwich	Local Street	Matthias Cres	Matthias Cres	Long-Term	92.44	Maryhill	$ 438,000.00	$ 20,200.00
Notre Dame Ave	Woolwich	Local Street	Halter Ave	Isley Dr	Short-Term	120.40	Maryhill	$ 438,000.00	$ 52,700.00
Notre Dame Ave	Woolwich	Local Street	St Charles St E	Isley Dr	Short-Term	171.43	Maryhill	$ 438,000.00	$ 75,100.00
Notre Dame Ave	Woolwich	Local Street	Isley Dr	Halter Ave	Short-Term	168.68	Maryhill	$ 438,000.00	$ 73,900.00
Notre Dame Ave	Woolwich	Local Street	Isley Dr	Maryhill Rd	Short-Term	75.97	Maryhill	$ 438,000.00	$ 33,300.00
St Boniface Dr	Woolwich	Local Street	Maryhill Rd & Zingervilla Pl	Matthias Cres	Long-Term	160.11	Maryhill	$ 438,000.00	$ 35,100.00
St Boniface Dr	Woolwich	Local Street	Matthias Cres	Matthias Cres	Long-Term	139.67	Maryhill	$ 438,000.00	$ 30,600.00
St Boniface Dr	Woolwich	Local Street	Matthias Cres	CULDESAC	Long-Term	74.43	Maryhill	$ 438,000.00	$ 16,300.00
St Charles St E	Woolwich	Local Street	Maryhill Rd & St Charles St W	Notre Dame Ave	Long-Term	413.73	Maryhill	$ 438,000.00	$ 90,600.00
St Charles St E	Woolwich	Local Street	Notre Dame Ave	Pine Creek Rd	Short-Term	170.54	Maryhill	$ 438,000.00	$ 74,700.00
St Charles St E	Woolwich	Local Street	Notre Dame Ave	Pine Creek Rd	Short-Term	103.46	Maryhill	$ 438,000.00	$ 45,300.00
Zingervilla Pl	Woolwich	Local Street	Sunset Hills Cr	Homestead Dr	Long-Term	120.57	Maryhill	$ 438,000.00	$ 26,400.00
Zingervilla Pl	Woolwich	Local Street	Maryhill Rd & St Boniface Dr	Sunset Hills Cr	Short-Term	183.33	Maryhill	$ 438,000.00	$ 80,300.00
Abners Lane	Woolwich	Local Street	King St N	Young St	Long-Term	97.14	St. Jacobs	$ 438,000.00	$ 21,300.00
Abners Lane	Woolwich	Local Street	Young St	Water St	Long-Term	95.56	St. Jacobs	$ 438,000.00	$ 20,900.00
Adam St	Woolwich	Local Street	Queensway Dr	King St N	Long-Term	97.10	St. Jacobs	$ 438,000.00	$ 21,300.00
Albert St W	Woolwich	Local Street	King St N & Albert St E	Queensway Dr	Long-Term	97.52	St. Jacobs	$ 438,000.00	$ 21,400.00
Albert St W	Woolwich	Local Street	Queensway Dr	Isabella St S	Long-Term	101.51	St. Jacobs	$ 438,000.00	$ 22,200.00
Cedar St E	Woolwich	Local Street	Cedar St W & King St N	Young St	Long-Term	96.81	St. Jacobs	$ 438,000.00	$ 21,200.00
Cedar St E	Woolwich	Local Street	Young St	Water St	Short-Term	92.97	St. Jacobs	$ 438,000.00	$ 40,700.00
Cedar St W	Woolwich	Local Street	Queensway Dr	Isabella St S	Long-Term	101.05	St. Jacobs	$ 438,000.00	$ 22,100.00
Cedar St W	Woolwich	Local Street	King St N & Cedar St E	Queensway Dr	Long-Term	98.55	St. Jacobs	$ 438,000.00	$ 21,600.00
Chris Crt	Woolwich	Local Street	Hawkesville Rd	Hawkesville Rd	Long-Term	88.67	St. Jacobs	$ 438,000.00	$ 19,400.00
Chris Crt	Woolwich	Local Street	Hawkesville Rd	CULDESAC	Short-Term	123.62	St. Jacobs	$ 438,000.00	$ 54,100.00
Conlon Dr	Woolwich	Local Street	Kendall Lane	Mill Race Cres	Long-Term	79.53	St. Jacobs	$ 438,000.00	$ 17,400.00
Conlon Dr	Woolwich	Local Street	Mill Race Cres	Kendall Lane	Long-Term	77.12	St. Jacobs	$ 438,000.00	$ 16,900.00
Eby St	Woolwich	Local Street	King St N & Northside Dr	CULDESAC	Long-Term	357.92	St. Jacobs	$ 438,000.00	$ 78,400.00
Eby St	Woolwich	Local Street	King St N & Northside Dr	King St N & Northside Dr	Long-Term	70.90	St. Jacobs	$ 438,000.00	$ 15,500.00
Front St	Woolwich	Local Street	King St N	Isabella St S	Long-Term	198.74	St. Jacobs	$ 438,000.00	$ 43,500.00
Front St	Woolwich	Local Street	Isabella St S	DEAD END	Long-Term	35.12	St. Jacobs	$ 438,000.00	$ 7,700.00
Hachborn St E	Woolwich	Local Street	Young St	Water St	Long-Term	93.22	St. Jacobs	$ 438,000.00	$ 20,400.00
Hachborn St E	Woolwich	Local Street	King St N & Hachborn St W	Young St	Long-Term	97.24	St. Jacobs	$ 438,000.00	$ 21,300.00
Henry St	Woolwich	Collector	Queensway Dr	Three Bridges Rd	Long-Term	457.73	St. Jacobs	$ 438,000.00	$ 120,300.00
Henry St	Woolwich	Collector	King St N	Queensway Dr	Long-Term	98.85	St. Jacobs	$ 438,000.00	$ 21,600.00
Henry St	Woolwich	Collector	Queensway Dr	Three Bridges Rd	Short-Term	484.51	St. Jacobs	$ 438,000.00	$ 212,200.00
High Crest Lane E	Woolwich	Local Street	Young St	Water St	Long-Term	96.77	St. Jacobs	$ 438,000.00	$ 21,200.00
High Crest Lane E	Woolwich	Local Street	High Crest Lane W & King St N	Young St	Long-Term	96.18	St. Jacobs	$ 438,000.00	$ 21,100.00
High Crest Lane W	Woolwich	Local Street	King St N & High Crest Lane E	Queensway Dr	Short-Term	97.60	St. Jacobs	$ 438,000.00	$ 42,700.00
Isabella St S	Woolwich	Local Street	Albert St W	Spring St	Long-Term	103.61	St. Jacobs	$ 438,000.00	$ 22,700.00
Isabella St S	Woolwich	Local Street	Cedar St W	DEAD END	Short-Term	45.50	St. Jacobs	$ 438,000.00	$ 19,900.00

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
Isabella St S	Woolwich	Local Street	Front St	Albert St W	Long-Term	83.90	St. Jacobs	$ 438,000.00	$ 18,400.00
King St N	Woolwich	Collector	Sawmill Rd	Northside Dr	Short-Term	464.31	St. Jacobs	$ 438,000.00	$ 203,400.00
King St N	Woolwich	Collector	Northside Dr	Delion Pl	Short-Term	465.93	St. Jacobs	$ 438,000.00	$ 204,100.00
Mill Race Cres	Woolwich	Local Street	Water St	Conlon Dr	Long-Term	86.47	St. Jacobs	$ 438,000.00	$ 30,300.00
Mill Race Cres	Woolwich	Local Street	Conlon Dr	Water St	Long-Term	81.15	St. Jacobs	$ 438,000.00	$ 7,100.00
Mill Race Cres	Woolwich	Local Street	Conlon Dr	Kendall Lane	Long-Term	188.44	St. Jacobs	$ 438,000.00	$ 33,000.00
Northside Dr	Woolwich	Local Street	King St N & Eby St	Hawkesville Rd & Darryl Sittler Crt	Long-Term	269.37	St. Jacobs	$ 438,000.00	$ 59,000.00
Northside Dr	Woolwich	Local Street	Sawmill Rd	King St N	Short-Term	457.24	St. Jacobs	$ 438,000.00	$ 200,300.00
Old Scout Pl	Woolwich	Local Street	Water St	Printery Rd	Short-Term	327.21	St. Jacobs	$ 438,000.00	$ 143,300.00
Old Scout Pl	Woolwich	Local Street	Water St	Water St	Long-Term	98.06	St. Jacobs	$ 438,000.00	$ 21,500.00
Old Scout Pl	Woolwich	Local Street	CULDESAC	Water St	Short-Term	260.19	St. Jacobs	$ 438,000.00	$ 114,000.00
Parkside Dr	Woolwich	Local Street	Sawmill Rd	Sawmill Rd	Short-Term	124.51	St. Jacobs	$ 438,000.00	$ 54,500.00
Parkside Dr	Woolwich	Local Street	DEAD END	Sawmill Rd	Short-Term	77.10	St. Jacobs	$ 438,000.00	$ 33,800.00
Parkside Dr	Woolwich	Local Street	Sawmill Rd	Sawmill Rd	Short-Term	200.12	St. Jacobs	$ 438,000.00	$ 87,700.00
Princess St E	Woolwich	Local Street	Princess St W & King St N	Young St	Long-Term	97.66	St. Jacobs	$ 438,000.00	$ 21,400.00
Princess St E	Woolwich	Local Street	Young St	Water St	Long-Term	92.87	St. Jacobs	$ 438,000.00	$ 20,300.00
Princess St W	Woolwich	Local Street	King St N & Princess St E	Queensway Dr	Long-Term	96.56	St. Jacobs	$ 438,000.00	$ 21,100.00
Printery Rd	Woolwich	Local Street	Old Scout Pl	Maplelawn Dr	Long-Term	106.55	St. Jacobs	$ 438,000.00	$ 23,300.00
Printery Rd	Woolwich	Local Street	Maplelawn Dr	King St N	Long-Term	99.26	St. Jacobs	$ 438,000.00	$ 21,700.00
Printery Rd	Woolwich	Local Street	Old Scout Pl	Maplelawn Dr	Long-Term	98.79	St. Jacobs	$ 438,000.00	$ 21,600.00
Queensway Dr	Woolwich	Local Street	High Crest Lane W	Adam St	Long-Term	90.85	St. Jacobs	$ 438,000.00	$ 19,900.00
Queensway Dr	Woolwich	Local Street	Princess St W	High Crest Lane W	Long-Term	92.50	St. Jacobs	$ 438,000.00	$ 20,300.00
Queensway Dr	Woolwich	Local Street	Spring St	Cedar St W	Long-Term	92.14	St. Jacobs	$ 438,000.00	$ 20,200.00
Queensway Dr	Woolwich	Local Street	Adam St	Henry St	Long-Term	182.97	St. Jacobs	$ 438,000.00	$ 40,100.00
Queensway Dr	Woolwich	Local Street	Hachborn St W	Princess St W	Long-Term	92.30	St. Jacobs	$ 438,000.00	$ 20,200.00
Queensway Dr	Woolwich	Local Street	Albert St W	Spring St	Long-Term	100.85	St. Jacobs	$ 438,000.00	$ 22,100.00
Queensway Dr	Woolwich	Local Street	Cedar St W	Hachborn St W	Long-Term	95.46	St. Jacobs	$ 438,000.00	$ 20,900.00
Spring St	Woolwich	Local Street	Isabella St S	DEAD END	Long-Term	105.70	St. Jacobs	$ 438,000.00	$ 27,800.00
Spring St	Woolwich	Local Street	Queensway Dr	Isabella St S	Long-Term	100.91	St. Jacobs	$ 438,000.00	$ 22,100.00
Spring St	Woolwich	Local Street	King St N	Queensway Dr	Long-Term	98.08	St. Jacobs	$ 438,000.00	$ 12,900.00
Three Bridges Rd	Woolwich	Collector	Henry St	Hawkesville Rd	Short-Term	106.90	St. Jacobs	$ 438,000.00	$ 46,800.00
Water St	Woolwich	Local Street	High Crest Lane E	Abners Lane	Long-Term	158.82	St. Jacobs	$ 438,000.00	$ 34,800.00
Water St	Woolwich	Local Street	Mill Race Cres	Mill Race Cres	Long-Term	135.06	St. Jacobs	$ 438,000.00	$ 17,700.00
Water St	Woolwich	Local Street	Printery Rd	Mill Race Cres	Long-Term	139.76	St. Jacobs	$ 438,000.00	$ 12,200.00
Water St	Woolwich	Local Street	Princess St E	High Crest Lane E	Long-Term	94.44	St. Jacobs	$ 438,000.00	$ 20,700.00
Water St	Woolwich	Local Street	Hachborn St E	Princess St E	Long-Term	92.44	St. Jacobs	$ 438,000.00	$ 12,100.00
Water St	Woolwich	Local Street	Maplelawn Dr	Treeview Dr	Long-Term	104.53	St. Jacobs	$ 438,000.00	$ 22,900.00
Water St	Woolwich	Local Street	Abners Lane	Young St	Long-Term	232.18	St. Jacobs	$ 438,000.00	$ 50,800.00
Water St	Woolwich	Local Street	Young St	Maplelawn Dr	Long-Term	139.81	St. Jacobs	$ 438,000.00	$ 30,600.00
Young St	Woolwich	Local Street	High Crest Lane E	Abners Lane	Long-Term	159.27	St. Jacobs	$ 438,000.00	$ 34,900.00
Young St	Woolwich	Local Street	Princess St E	High Crest Lane E	Long-Term	95.50	St. Jacobs	$ 438,000.00	$ 20,900.00
Young St	Woolwich	Local Street	Abners Lane	Water St	Long-Term	427.65	St. Jacobs	$ 438,000.00	$ 93,700.00
Young St	Woolwich	Local Street	Albert St E	Cedar St E	Long-Term	195.63	St. Jacobs	$ 438,000.00	$ 42,800.00
Young St	Woolwich	Local Street	Hachborn St E	Princess St E	Long-Term	93.28	St. Jacobs	$ 438,000.00	$ 20,400.00
Apple Grove Rd	Woolwich	Local Street	Weber St N	Lobsinger Line	Short-Term	192.60	Stockyards	$ 438,000.00	$ 84,400.00
Benjamin Rd	Woolwich	Local Street	Farmer's Market Rd	Weber St N	Long-Term	633.12	Stockyards	$ 438,000.00	$ 55,500.00
Farmer's Market Rd	Woolwich	Local Street	Benjamin Rd	King St N	Long-Term	538.79	Stockyards	$ 438,000.00	$ 82,600.00
Martin Grove Rd	Woolwich	Local Street	Wesley Cres	CULDESAC	Short-Term	28.43	Stockyards	$ 438,000.00	$ 12,500.00
Martin Grove Rd	Woolwich	Local Street	Jessie Lee Lane	Colussi Lane	Short-Term	63.10	Stockyards	$ 438,000.00	$ 27,600.00
Martin Grove Rd	Woolwich	Local Street	Susan St	Wesley Cres	Short-Term	397.40	Stockyards	$ 438,000.00	$ 174,100.00
Martin Grove Rd	Woolwich	Local Street	Colussi Lane	Susan St	Short-Term	39.96	Stockyards	$ 438,000.00	$ 17,500.00
Covered Bridge Dr	Woolwich	Local Street	Haley Crt	Line 86 & Middlebrook Rd	Short-Term	119.64	West Montrose	$ 438,000.00	$ 52,400.00
Covered Bridge Dr	Woolwich	Local Street	Hill St	Tallwood Dr	Short-Term	205.58	West Montrose	$ 438,000.00	$ 90,000.00
Covered Bridge Dr	Woolwich	Local Street	Stonefield Dr	Haley Crt	Short-Term	170.22	West Montrose	$ 438,000.00	$ 74,600.00
Covered Bridge Dr	Woolwich	Local Street	Rivers Edge Dr	Hill St	Short-Term	194.70	West Montrose	$ 438,000.00	$ 85,300.00
Covered Bridge Dr	Woolwich	Local Street	Tallwood Dr	Stonefield Dr	Short-Term	167.75	West Montrose	$ 438,000.00	$ 73,500.00
Granbridge Dr	Woolwich	Local Street	Tallwood Dr	Stonefield Dr	Short-Term	166.96	West Montrose	$ 438,000.00	$ 73,100.00
Granbridge Dr	Woolwich	Local Street	Stonefield Dr	Haley Crt	Short-Term	166.34	West Montrose	$ 438,000.00	$ 72,900.00
Haley Crt	Woolwich	Local Street	Covered Bridge Dr	Granbridge Dr	Short-Term	217.02	West Montrose	$ 438,000.00	$ 95,100.00
Haley Crt	Woolwich	Local Street	Granbridge Dr	Granbridge Dr	Short-Term	84.89	West Montrose	$ 438,000.00	$ 37,200.00
Haley Crt	Woolwich	Local Street	Granbridge Dr	CULDESAC	Short-Term	60.74	West Montrose	$ 438,000.00	$ 26,600.00
Hill St	Woolwich	Local Street	Covered Bridge Dr	Jigs Hollow Rd	Short-Term	119.72	West Montrose	$ 438,000.00	$ 52,400.00
Hill St	Woolwich	Local Street	Covered Bridge Dr	Jigs Hollow Rd	Short-Term	73.11	West Montrose	$ 438,000.00	$ 32,000.00
Letson Dr	Woolwich	Local Street	Buggy Lane	Rivers Edge Dr	Short-Term	114.24	West Montrose	$ 438,000.00	$ 50,000.00
Rivers Edge Dr	Woolwich	Local Street	Letson Dr	Covered Bridge Dr	Short-Term	116.99	West Montrose	$ 438,000.00	$ 51,200.00

Street	Jurisdiction	Class	From	To	Timing	Length (m)	Settlement	Unit Costs	Cost
Rivers Edge Dr	Woolwich	Local Street	Covered Bridge Dr	DEAD END	Short-Term	133.40	West Montrose	$ 438,000.00	$ 58,400.00
Stonefield Dr	Woolwich	Local Street	Covered Bridge Dr	Granbridge Dr	Short-Term	186.26	West Montrose	$ 438,000.00	$ 81,600.00
Tallwood Dr	Woolwich	Local Street	Granbridge Dr	CULDESAC	Short-Term	117.14	West Montrose	$ 438,000.00	$ 51,300.00
Tallwood Dr	Woolwich	Local Street	Granbridge Dr	Granbridge Dr	Short-Term	83.67	West Montrose	$ 438,000.00	$ 36,600.00
Tallwood Dr	Woolwich	Local Street	Covered Bridge Dr	Granbridge Dr	Short-Term	165.55	West Montrose	$ 438,000.00	$ 72,500.00
Allan St	Woolwich	Local Street	Katherine St N	Geddes St	Short-Term	120.53	Winterbourne	$ 438,000.00	$ 52,800.00
Allan St	Woolwich	Local Street	DEAD END	Katherine St N	Short-Term	61.50	Winterbourne	$ 438,000.00	$ 26,900.00
Allan St	Woolwich	Local Street	Geddes St	DEAD END	Short-Term	123.17	Winterbourne	$ 438,000.00	$ 54,000.00
Chalmers St	Woolwich	Local Street	Short St	Holmwood St	Short-Term	131.81	Winterbourne	$ 438,000.00	$ 57,700.00
Geddes St	Woolwich	Local Street	Peel St	Allan St	Short-Term	149.51	Winterbourne	$ 438,000.00	$ 65,500.00
Holmwood St	Woolwich	Local Street	Katherine St N	Chalmers St	Short-Term	120.62	Winterbourne	$ 438,000.00	$ 52,800.00
Holmwood St	Woolwich	Local Street	Chalmers St	DEAD END	Short-Term	8.94	Winterbourne	$ 438,000.00	$ 3,900.00
Lundy Rd	Woolwich	Local Street	Cox Creek Rd	Katherine St S	Short-Term	56.72	Winterbourne	$ 438,000.00	$ 24,800.00
Lundy Rd	Woolwich	Local Street	Cox Creek Rd	Katherine St S	Short-Term	36.82	Winterbourne	$ 438,000.00	$ 16,100.00
Meadowbrook Pl	Woolwich	Local Street	Katherine St S	Katherine St S	Long-Term	112.97	Winterbourne	$ 438,000.00	$ 24,700.00
Meadowbrook Pl	Woolwich	Local Street	Katherine St S	CULDESAC	Short-Term	193.26	Winterbourne	$ 438,000.00	$ 84,600.00
Mill Run Lane	Woolwich	Local Street	Katherine St N	Katherine St N	Short-Term	195.85	Winterbourne	$ 438,000.00	$ 85,800.00
Mill Run Lane	Woolwich	Local Street	Katherine St N	Katherine St N	Short-Term	114.49	Winterbourne	$ 438,000.00	$ 50,100.00
Peel St	Woolwich	Local Street	Katherine St S & Katherine St N	Geddes St	Short-Term	122.17	Winterbourne	$ 438,000.00	$ 53,500.00
Peel St	Woolwich	Local Street	Sunset Dr	Crook's Tract Rd	Short-Term	104.09	Winterbourne	$ 438,000.00	$ 45,600.00
Peel St	Woolwich	Local Street	Geddes St	Sunset Dr	Short-Term	67.66	Winterbourne	$ 438,000.00	$ 29,600.00
Peel St	Woolwich	Local Street	Sunset Dr	Crook's Tract Rd	Short-Term	123.02	Winterbourne	$ 438,000.00	$ 53,900.00
Short St	Woolwich	Local Street	Katherine St N	Chalmers St	Short-Term	112.80	Winterbourne	$ 438,000.00	$ 49,400.00
Sunset Dr	Woolwich	Local Street	Peel St	Peel St	Long-Term	64.68	Winterbourne	$ 438,000.00	$ 14,200.00
Sunset Dr	Woolwich	Local Street	Peel St	CULDESAC	Short-Term	327.09	Winterbourne	$ 438,000.00	$ 143,300.00

Street	From	To	Length (m)	Recommended Facility	Implementation	Code	Unit Cost	Cost
Albert St E	King St N & Albert St W	Young St	98.36	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Albert St E	Young St	Water St	93.21	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Albert St W	King St N & Albert St E	Queensway Dr	97.52	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Albert St W	Queensway Dr	Isabella St S	101.51	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Andover Dr	Fireside Dr	Starlight Ave	147.38	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Andover Dr	Starlight Ave	Shallow Creek Rd	105.13	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Andover Dr	Shallow Creek Rd	Trowbridge St	79.14	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Andover Dr	Woolwich St S & Elroy Rd	Fireside Dr	92.91	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Andover Dr	Trowbridge St	Norwich Rd	68.64	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Balsam Grove Rd	Middlebrook Rd	Northfield Dr E	2757.75	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 501,900
Barnswallow Dr	Oakcliffe St	Brookmead St	82.27	Multi-use Path	Short Term	MUP	$ 395,000	$ 32,500
Barnswallow Dr	Pheasant Dr	Eagle Dr	70.92	Multi-use Path	Short Term	MUP	$ 395,000	$ 28,000
Barnswallow Dr	Bristow Creek Dr	Porchlight Dr	107.02	Multi-use Path	Short Term	MUP	$ 395,000	$ 42,300
Barnswallow Dr	Aspen Cres	Aspen Cres	149.94	Multi-use Path	Short Term	MUP	$ 395,000	$ 59,200
Barnswallow Dr	Coral Gables Cres	Oakcliffe St	80.35	Multi-use Path	Short Term	MUP	$ 395,000	$ 31,700
Barnswallow Dr	Brookmead St	Aspen Cres	107.83	Multi-use Path	Short Term	MUP	$ 395,000	$ 42,600
Barnswallow Dr	Cedar Waxwing Dr	Kingfisher Dr	209.37	Multi-use Path	Short Term	MUP	$ 395,000	$ 82,700
Barnswallow Dr	Porchlight Dr	Coral Gables Cres	82.73	Multi-use Path	Short Term	MUP	$ 395,000	$ 32,700
Barnswallow Dr	Mockingbird Dr	Whippoorwill Dr	88.78	Multi-use Path	Short Term	MUP	$ 395,000	$ 35,100
Barnswallow Dr	Eagle Dr	Cedar Waxwing Dr	140.22	Multi-use Path	Short Term	MUP	$ 395,000	$ 55,400
Barnswallow Dr	Aspen Cres	First St W	99.75	Multi-use Path	Short Term	MUP	$ 395,000	$ 39,400
Barnswallow Dr	First St W	Pheasant Dr	123.90	Multi-use Path	Short Term	MUP	$ 395,000	$ 48,900
Barnswallow Dr	Kingfisher Dr	Mockingbird Dr	249.66	Multi-use Path	Short Term	MUP	$ 395,000	$ 98,600
Benjamin Rd	Bisch St	Kressler Rd	1199.61	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 218,300
Benjamin Rd	Westmount Rd N	Martin Creek Rd	812.62	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 147,900
Benjamin Rd	Martin Creek Rd	Bisch St	2117.16	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 385,300
Bristow Creek Dr	Robb Rd	Barnswallow Dr	106.56	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Bristow Creek Dr	Poffenroth Path	Robb Rd	73.20	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Bristow Creek Dr	Killdeer Rd	Poffenroth Path	107.98	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Chilligo Rd	Rider Rd	Woolwich-Guelph Townline	828.41	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 150,800
Country Club Estates Dr	Killdeer Rd & Church St W	McGuire Lane	166.93	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Country Club Estates Dr	McGuire Lane	William St	111.95	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Covered Bridge Dr	Haley Crt	Line 86 & Middlebrook Rd	119.64	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Covered Bridge Dr	Hill St	Tallwood Dr	205.58	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
Covered Bridge Dr	Stonefield Dr	Haley Crt	170.22	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Covered Bridge Dr	Tallwood Dr	Stonefield Dr	167.75	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Crowsfoot Rd	Halm Rd	Beitz Rd	815.38	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 148,400
Crowsfoot Rd	Sawmill Rd & Katherine St S	Cox Creek Rd	104.49	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Crowsfoot Rd	Beitz Rd	Maryhill Rd	2760.45	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 502,400
Crowsfoot Rd	Maryhill Rd	Schaefer Rd & St Charles St E	380.97	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 69,300
Crowsfoot Rd	Maryhill Rd	Schaefer Rd & St Charles St E	927.91	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 168,900
Crowsfoot Rd	Sawmill Rd & Katherine St S	Cox Creek Rd	329.17	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,300
Crowsfoot Rd	Durant Rd	Halm Rd	221.02	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 40,200
Crowsfoot Rd	Sawmill Rd & Katherine St S	Cox Creek Rd	1226.80	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 223,300
Crowsfoot Rd	Cox Creek Rd	Durant Rd	1838.99	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 334,700
Dolman St	Joseph St	Norwich Rd	299.39	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,200
Dolman St	Woolwich St S	Joseph St	140.26	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Duke St	Mill St	Ratz St	89.75	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Duke St	Church St E	Mill St	112.45	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Duke St	Ratz St	Erb St	99.19	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Durant Rd	St Charles St W	Maple Bend Rd	960.37	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 174,800
Durant Rd	Maple Bend Rd	Crowsfoot Rd	2265.72	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 412,400
Earl Martin Dr	Union St	Arthur St S & South Parkwood Blvd	616.91	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 2,500
Erb St	Duke St	Union St	134.04	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
First St E	Industrial Dr	Queen St	69.72	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
First St E	Queen St	Centre St	90.49	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
First St E	Arthur St S & First St W	Industrial Dr	25.30	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 100

Street	From	To	Length (m)	Recommended Facility	Implementation	Code	Unit Cost	Cost
First St E	Centre St	Duke St	87.59	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
First St E	Duke St	Union St	312.70	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,300
First St W	Flamingo Dr	Killdeer Rd	52.82	Multi-use Path	Short Term	MUP	$ 395,000	$ 20,900
First St W	Bluebird Pl	Robin Dr	308.80	Multi-use Path	Short Term	MUP	$ 395,000	$ 122,000
First St W	Arthur St S & First St E	Snyder Ave S	258.45	Multi-use Path	Short Term	MUP	$ 395,000	$ 102,100
First St W	Killdeer Rd	Barnswallow Dr	289.04	Multi-use Path	Short Term	MUP	$ 395,000	$ 114,200
First St W	Snyder Ave S	Meadowlark Rd	290.65	Multi-use Path	Short Term	MUP	$ 395,000	$ 114,800
First St W	Robin Dr	Flamingo Dr	54.40	Multi-use Path	Short Term	MUP	$ 395,000	$ 21,500
First St W	Meadowlark Rd	Bluebird Pl	47.40	Multi-use Path	Short Term	MUP	$ 395,000	$ 18,700
Floradale Rd	Listowel Rd	Line 86 & Church St W	2669.61	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 485,900
Floradale Rd	Cedar Spring Rd	Ritter Rd	135.59	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 24,700
Floradale Rd	Ritter Rd	Yatton Sideroad	1128.90	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 205,500
Floradale Rd	Florapine Rd	Sandy Hills Dr	184.12	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Floradale Rd	Florapine Rd	Sandy Hills Dr	1232.41	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 224,300
Floradale Rd	Florapine Rd	Sandy Hills Dr	118.32	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Floradale Rd	Florapine Rd	Sandy Hills Dr	213.96	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 900
Floradale Rd	Sandy Hills Dr	Cedar Spring Rd	1804.95	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 328,500
Foerster Rd	Village View Rd	Shantz Station Rd	1661.16	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 302,300
Halm Rd	Crowsfoot Rd	Lundy Rd	369.64	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 67,300
Henry St	Queensway Dr	Three Bridges Rd	457.73	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,800
Henry St	King St N	Queensway Dr	98.85	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Henry St	Queensway Dr	Three Bridges Rd	484.51	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,900
Hill St	Covered Bridge Dr	Jigs Hollow Rd	119.72	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Hill St	Jigs Hollow Rd	Northfield Dr E	1576.05	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 286,800
Hill St	Covered Bridge Dr	Jigs Hollow Rd	73.11	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Hill St	Covered Bridge Dr	Jigs Hollow Rd	572.47	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 104,200
Isabella St S	Front St	Albert St W	83.90	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Jigs Hollow Rd	Northfield Dr E	Peel St	987.52	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 179,700
Jigs Hollow Rd	Peel St	Hill St	2906.64	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 529,000
Killdeer Rd	Bristow Creek Dr	Church St W	183.23	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Lundy Rd	Cox Creek Rd	Katherine St S	56.72	Signed Route	Long Term	SIGNEDU	$ 4,000	$ 200
Lundy Rd	Cox Creek Rd	Katherine St S	36.82	Signed Route	Long Term	SIGNEDU	$ 4,000	$ 100
Lundy Rd	Cox Creek Rd	Katherine St S	1277.40	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 232,500
Lundy Rd	Halm Rd	Cox Creek Rd	1661.84	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 302,500
Maryhill Rd	Zingervilla Pl & St Boniface Dr	Crowsfoot Rd	2463.71	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 448,400
Maryhill Rd	Zingervilla Pl & St Boniface Dr	Crowsfoot Rd	67.53	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Maryhill Rd	Homestead Dr	St Boniface Dr & Zingervilla Pl	121.92	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Maryhill Rd	St Charles St W & St Charles St E	Homestead Dr	474.85	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,900
Maryhill Rd	Zingervilla Pl & St Boniface Dr	Crowsfoot Rd	167.41	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 30,500
Menno St	Kennedy Rd	Fountain St N	410.30	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,600
Menno St	Woolwich St S	Sheridan Dr	116.69	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Menno St	Sheridan Dr	Kennedy Rd	192.85	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
Menno St	Fountain St N	Lonsdale Rd	712.55	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 129,700
Menno St	Lonsdale Rd	Shantz Station Rd	2298.88	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 418,400
Menno St	Kennedy Rd	Fountain St N	76.08	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Middlebrook Rd	Balsam Grove Rd	Middlebrook Pl	3094.62	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 563,200
Middlebrook Rd	Line 86 & Covered Bridge Dr	Balsam Grove Rd	1692.61	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 308,100
Mill Race Cres	Water St	Conlon Dr	86.47	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Mill Race Cres	Conlon Dr	Kendall Lane	188.44	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
New Jerusalem Rd	Scotch Line Rd	South Field Dr	878.60	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 159,900
New Jerusalem Rd	Hidden Acres Lane	Scotch Line Rd	921.68	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 167,700
New Jerusalem Rd	Sawmill Rd	Hidden Acres Lane	2455.10	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 446,800
Norwich Rd	Dolman St	Reading St & Truro Crt	100.55	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Norwich Rd	Reading St & Truro Crt	Shields St	100.60	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Norwich Rd	Wakefield St	Stamford St	141.93	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Norwich Rd	Stamford St	Tilbury St	89.45	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Norwich Rd	Tilbury St	Andover Dr	311.68	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,200

Street	From	To	Length (m)	Recommended Facility	Implementation	Code	Unit Cost	Cost
Norwich Rd	Shields St	Wakefield St	78.70	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Peel St	Crook's Tract Rd	Jigs Hollow Rd	528.53	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 96,200
Peel St	Katherine St S & Katherine St N	Geddes St	122.17	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Peel St	Sunset Dr	Crook's Tract Rd	104.09	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 18,900
Peel St	Geddes St	Sunset Dr	67.66	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Peel St	Sunset Dr	Crook's Tract Rd	123.02	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Peel St	Sunset Dr	Crook's Tract Rd	1448.66	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 263,700
Printery Rd	Water St	Parkhaven Dr	82.24	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Printery Rd	Old Scout Pl	Maplelawn Dr	106.55	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Printery Rd	Parkhaven Dr	Old Scout Pl	112.11	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Printery Rd	Maplelawn Dr	King St N	99.26	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Printery Rd	Old Scout Pl	Maplelawn Dr	98.79	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Queensway Dr	High Crest Lane W	Adam St	90.85	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Queensway Dr	Princess St W	High Crest Lane W	92.50	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Queensway Dr	Spring St	Cedar St W	92.14	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Queensway Dr	Adam St	Henry St	182.97	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Queensway Dr	Hachborn St W	Princess St W	92.30	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Queensway Dr	Albert St W	Spring St	100.85	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Queensway Dr	Cedar St W	Hachborn St W	95.46	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Reid Woods Dr	Arthur St N	Northfield Dr E	3829.58	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 697,000
Reid Woods Dr	Floradale Rd	Arthur St N	2426.06	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 441,500
Rider Rd	Chilligo Rd	Shantz Station Rd	2486.67	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 452,600
Riverside Dr E	Cross St	Church St E	165.60	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Riverside Dr E	Arthur St N	Cross St	124.27	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Riverside Dr W	Arthur St N	Victoria Glen St	163.04	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Riverside Dr W	Victoria Glen St	Dunke St N	124.16	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Riverside Dr W	Dunke St N	Snyder Ave N	208.41	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
Riverside Dr W	Maple St	Victoria Glen St	49.74	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 200
Scotch Line Rd	Northfield Dr E	New Jerusalem Rd	2291.58	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 417,100
Scotch Line Rd	New Jerusalem Rd	Arthur St S	2655.26	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 483,300
Snyder Ave N	Church St W & Snyder Ave S	Samuel St	145.40	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Snyder Ave N	William St	Reger's Laneway	67.80	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Snyder Ave N	Reger's Laneway	Riverside Dr W	67.81	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Snyder Ave N	Samuel St	William St	148.19	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Snyder Ave S	Snyder Ave N & Church St W	Hampton St	154.93	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Snyder Ave S	Second St	First St W	93.57	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Snyder Ave S	South St W	Ernst St	104.08	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Snyder Ave S	Hampton St	James St	100.29	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Snyder Ave S	Ernst St	Brubacher St	78.08	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Snyder Ave S	Brubacher St	Second St	188.34	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
Snyder Ave S	James St	Park Ave W	59.40	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 200
Snyder Ave S	Park Ave W	South St W	113.10	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
South Field Dr	Union St	New Jerusalem Rd	430.56	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,700
South Field Dr	Arthur St S & Whippoorwill Dr	Union St	674.60	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 2,700
South Field Dr	Union St	New Jerusalem Rd	1081.66	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 196,900
South Parkwood Blvd	Burlwood Dr	Bitternut Pl	86.41	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
South Parkwood Blvd	Bitternut Pl	Timber Trail Rd	85.07	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
South Parkwood Blvd	Pintail Dr	Burlwood Dr	241.89	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,000
South Parkwood Blvd	Arthur St S & Earl Martin Dr	Pintail Dr	158.81	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Spitzig Rd	Victoria St N	Hopewell Creek Rd	1236.48	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 225,000
Spitzig Rd	Hopewell Creek Rd	St Charles St W	2349.91	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 427,700
Three Bridges Rd	Lobsinger Line	Bo-De Lane	297.42	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 54,100
Three Bridges Rd	Henry St	Hawkesville Rd	2847.56	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 518,300
Three Bridges Rd	Lobsinger Line	Bo-De Lane	993.13	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 180,700
Three Bridges Rd	Allemang Pl	Listowel Rd	900.62	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 163,900
Three Bridges Rd	Hemlock Hill Dr	Allemang Pl	1366.42	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 248,700
Three Bridges Rd	Henry St	Hawkesville Rd	106.90	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 19,500

Street	From	To	Length (m)	Recommended Facility	Implementation	Code	Unit Cost	Cost
Three Bridges Rd	Bo-De Lane	Henry St	689.89	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 125,600
Timber Trail Rd	Burlwood Dr	South Parkwood Blvd	176.40	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Timber Trail Rd	Weymouth St	Woodberry Cres	179.02	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Timber Trail Rd	Woodberry Cres	Listowel Rd	214.21	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 900
Timber Trail Rd	South Parkwood Blvd	Weymouth St	87.13	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Union St	Wyatt St E	Park Ave E	113.16	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Union St	Bonnie Cres	Oriole Pky E	85.85	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Union St	Oriole Pky E	South Field Dr	473.02	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,900
Union St	Erb St	Wyatt St E	95.69	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Union St	Donway Crt	Earl Martin Dr	625.53	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 2,500
Union St	First St E	Howard Ave	189.28	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
Union St	Howard Ave	Bonnie Cres	148.10	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Union St	Park Ave E	First St E	378.46	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,500
Union St	South Field Dr	Donway Crt	482.92	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,900
Union St	First St E	First St E	23.60	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 100
Village View Rd	Foerster Rd	Maryhill Rd	1333.81	Paved Shoulder	Short Term	PAVEDSHLD	$ 182,000	$ 242,800
Water St	Treeview Dr	Printery Rd	116.72	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Water St	High Crest Lane E	Abners Lane	158.82	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Water St	Printery Rd	Mill Race Cres	139.76	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Water St	Albert St E	Cedar St E	186.62	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Water St	Princess St E	High Crest Lane E	94.44	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Water St	Hachborn St E	Princess St E	92.44	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Water St	Maplelawn Dr	Treeview Dr	104.53	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Water St	Abners Lane	Young St	232.18	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 900
Water St	Young St	Maplelawn Dr	139.81	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Water St	Cedar St E	Hachborn St E	92.77	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
Weisenberg Rd	Line 86	Sideroad 12	1186.93	Paved Shoulder	Long Term	PAVEDSHLD	$ 182,000	$ 216,000
Whippoorwill Dr	South Field Dr & Arthur St S	Pintail Dr	174.15	Multi-use Path	Short Term	MUP	$ 395,000	$ 68,800
Whippoorwill Dr	Nighthawk Lane	Barnswallow Dr	290.34	Multi-use Path	Short Term	MUP	$ 395,000	$ 114,700
Whippoorwill Dr	Nightingale Cres	Grey Owl Dr	213.55	Multi-use Path	Short Term	MUP	$ 395,000	$ 84,400
Whippoorwill Dr	Green Warbler Cres	Nighthawk Lane	298.95	Multi-use Path	Short Term	MUP	$ 395,000	$ 118,100
Whippoorwill Dr	Grey Owl Dr	Green Warbler Cres	233.45	Multi-use Path	Short Term	MUP	$ 395,000	$ 92,200
Whippoorwill Dr	Pintail Dr	Nightingale Cres	97.56	Multi-use Path	Short Term	MUP	$ 395,000	$ 38,500
William St	Snyder Ave N	Kissing Bridge Dr	94.75	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
William St	Dunke St N	Snyder Ave N	160.96	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
William St	Ann St	Snyder Ave N	86.74	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
William St	Arthur St N	Maple St	161.22	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
William St	Herbert St	Ann St	92.73	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
William St	Snyder Ave N	Herbert St	93.59	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 400
William St	Kissing Bridge Dr	Isaac St	147.25	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
William St	Isaac St	Country Club Estates Dr	196.58	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
William St	Maple St	Dunke St N	173.97	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 700
Woolwich St S	Mader's Lane	Shields St	125.08	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 500
Woolwich St S	Woolwich St N	Scheifele Pl	200.71	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
Woolwich St S	Menno St	Fountain St N	60.69	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 200
Woolwich St S	Menno St	Fountain St N	83.67	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Woolwich St S	Menno St	Fountain St N	160.68	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 600
Woolwich St S	Menno St	Fountain St N	597.06	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 2,400
Woolwich St S	Victoria St N & Ebycrest Rd	Woolwich St N	81.20	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Woolwich St S	Dolman St	Mader's Lane	78.55	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 300
Woolwich St S	Shields St	Berlin St	224.57	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 900
Woolwich St S	Berlin St	Elroy Rd & Andover Dr	203.64	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 800
Woolwich St S	Scheifele Pl	Dolman St	253.90	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,000
Woolwich St S	Elroy Rd & Andover Dr	Menno St	279.32	Signed Route	Short Term	SIGNEDU	$ 4,000	$ 1,100