

# Active Transportation Plan

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Discussion Paper #5:  
Implementing the Active Transportation Network



City of Temiskaming Shores  
Draft November 2021







**Temiskaming Shores Active Transportation Plan**  
Prepared by:



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# 1 IMPLEMENTING THE NETWORK

The Active Transportation Plan is intended to serve as a flexible guideline for City Staff to create a culture of active and sustainable travel within Temiskaming Shores through the expansion of new routes, enhancement of existing routes and development other supportive infrastructure and programs. In order to achieve the vision of a safe and accessible network for people of all ages and abilities, financial investment and supportive resources will be needed to begin implementation in the short term.

The recommendations and information contained within this plan are intended to inform day-to-day decisions that not only propel the City forwards in the short-term, but also build momentum and encourage long-term efforts.

Implementation of the plan will require on-going collaboration between the City and its partners to ensure that the recommendations outlined within this document are publicly supported and realistic for Temiskaming Shores. Meaningful partnerships between different stakeholders and organizations will be required to achieve the desired outcomes. Collaborative efforts include the planning and implementing physical infrastructure, educating users on how to properly use the facilities, and promoting the City's existing assets to fully realize the economic potential of active transportation in Temiskaming Shores.

The following chapter provides the City with an achievable implementation strategy that will inform future decision making, policy and planning processes. Information is provided on a suggested phasing strategy, cost estimates, partnerships, funding options and additional considerations to help guide next steps.

## 2 PHASING

Developing an appropriate phasing strategy is a critical component of an active transportation master plan to make progress towards the City's overall vision. The Temiskaming Shores proposed phasing is categorized into two phases: 0 to 5 years and beyond 5 years. The proposed phasing for the City's active transportation network was prioritized based on several factors that reflect the current processes and plans, as well as input from the City Staff, technical and interested stakeholders and residents. Each of the routes and crossing enhancements in the active transportation network are identified under a phase based on the following considerations:

### Short Term: 0 to 5 years

- Low investment projects (most signed bike routes) to achieve quick wins.
- Coordination with projects identified in the City's current Capital Budget.
- Major routes that form the spine of the network.
- Crossing enhancements that require repainting.
- Future studies to assess the feasibility and design of active transportation routes.

### Long Term: 5+ Years

- Projects that will require major investment in rural areas.
- High profile routes and crossing enhancements that will require future studies to confirm feasibility / design.
- Corridors that have been recently reconstructed and not scheduled for upgrades in the short term.
- Sidewalk connections across the City.
- Projects that require additional discussions with the Ministry of Transportation before they can proceed.

The proposed phasing is illustrated in **Maps 1a, 1b and 1c** and also summarized below in **Table 1**.

**Table 1 - Phasing Overview for the Active Transportation Network**

Facility Type	Short Term 0 – 5 years	Long Term 5+ years	Total KM
Off-Road Multi-Use Trail	0.1	5.5	5.5
In-Boulevard Multi-Use Path	0.0	1.6	1.6
Buffered Bike Lane	3.3	0.4	3.7
Buffered Bike Lane or two-way on-road	1.4	0.0	1.4
Bike Lane	0.4	0.0	0.4
Buffered Paved Shoulders	3.9	2.7	6.6
Paved Shoulder	2.0	10.3	12.3
Sharrows Markings	1.1	0.0	1.1
Signed Route	3.1	4.8	8.0
Candidate Locations for Pilot Projects	0.2	0.0	0.2
Candidate Locations for Traffic Calming Measures	3.6	0.0	3.6
Pedestrian Bridge	0.0	0.1	0.1
Sidewalks	0.0	14.4	14.4
<b>Total</b>	<b>19.1</b>	<b>39.8</b>	<b>58.9</b>



# Map 1a.

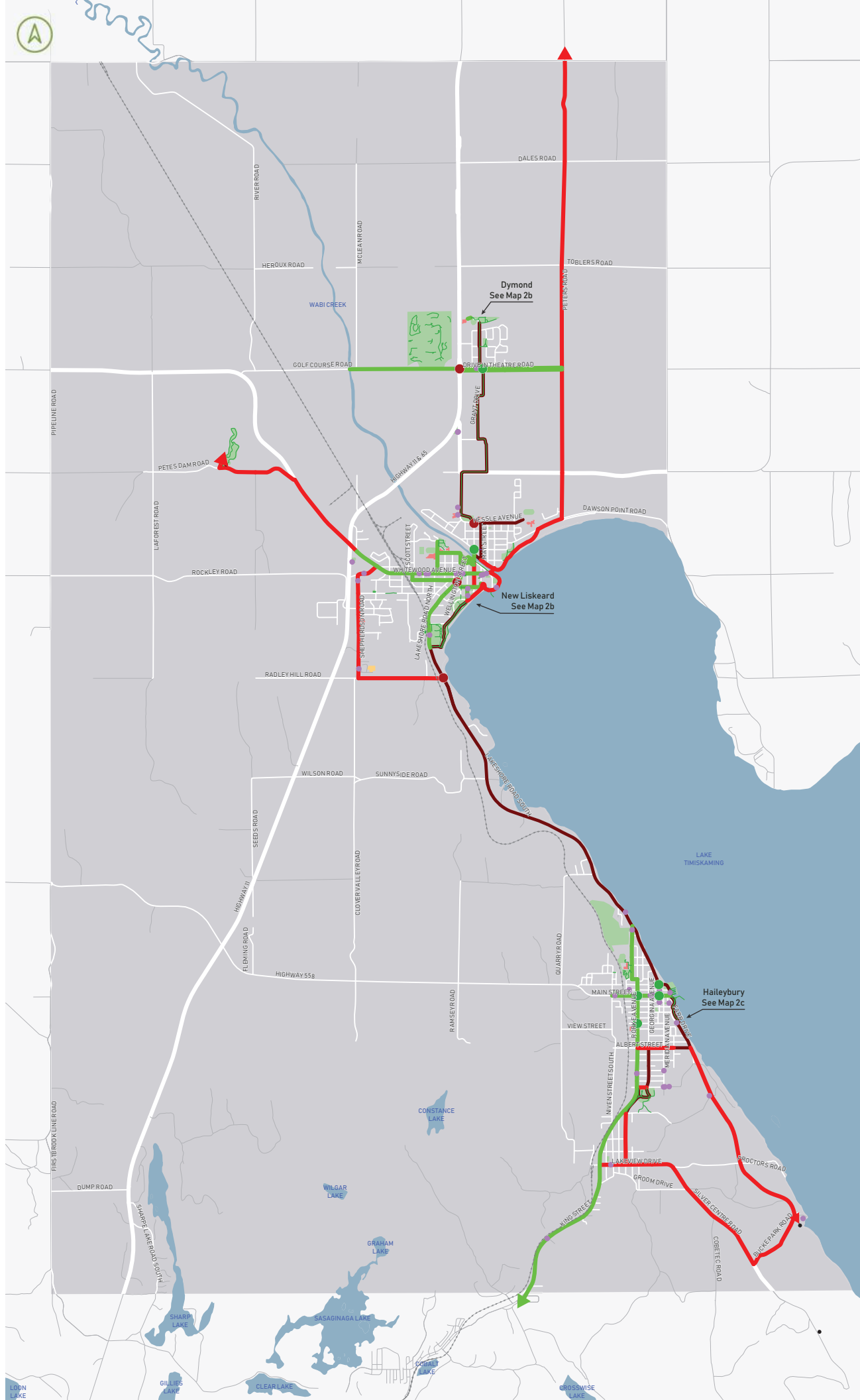
## Proposed Active Transportation Phasing

CITY OF TEMISKAMING SHORES  
ACTIVE TRANSPORTATION PLAN

### Legend

- Proposed Phasing**
- Short Term (0 to 5 years)
  - Long Term (5+ years)
- Crossing Enhancements**
- Short Term Crossing Enhancement (0 to 5 years)
  - Long Term Crossing Enhancement (5+ years)
- Community Destination**
- Community Destination
- Other Features**
- Trailhead
  - Existing trail
  - STATO Trail (existing)
  - Existing sharrow
  - MTO Highway
  - Local Road
  - MNRF Road
  - Railway
  - Hospital
  - School
  - Recreation Area / Park
  - Watercourse
  - City Boundary

**Note:**  
1. Route alignment for the proposed extension of the STATO Trail is based on information contained in the City's Recreation Master Plan (2020).



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# Map 1b.

## Proposed Active Transportation Phasing

CITY OF TEMISKAMING SHORES  
ACTIVE TRANSPORTATION PLAN

### Legend

- Proposed Phasing**
- Short Term (0 to 5 years)
  - Long Term (5+ years)
- Other Features**
- Short Term Crossing Enhancement (0 to 5 years)
  - Long Term Crossing Enhancement (5+ years)
  - Community Destination
  - Trailhead
  - Existing trail
  - STATO Trail (existing)
  - Existing sharrow
  - MTO Highway
  - Local Road
  - MNRF Road
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# Map 1c.

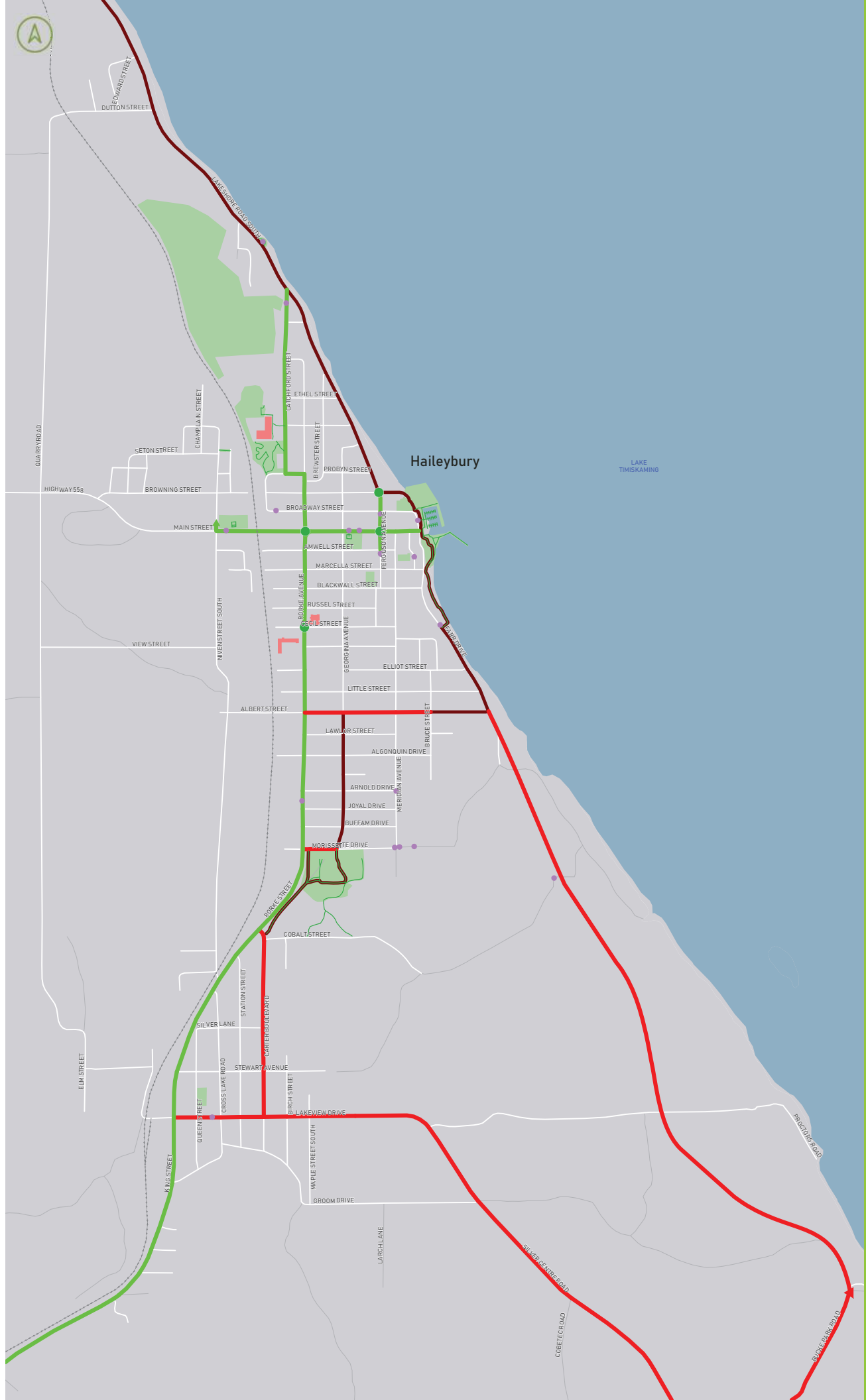
## Proposed Active Transportation Phasing

CITY OF TEMISKAMING SHORES  
ACTIVE TRANSPORTATION PLAN

### Legend

- Proposed Phasing
  - Short Term (0 to 5 years)
  - Long Term (5+ years)
- Crossing Enhancements
  - Short Term Crossing Enhancement (0 to 5 years)
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- Community Destination
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  - STATO Trail (existing)
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In addition to the proposed phasing of the linear active transportation routes, there are 10 proposed crossing enhancements. Where possible, the proposed implementation of these enhancements is intended to be consistent with planned projects identified in the Town's capital plan and the proposed phasing of the ATP routes to capture input received from Town staff, stakeholders and the public. **Table 2** provides an overview of the suggested implementation horizons for each location where a crossing enhancement is proposed.

**Table 2 - Summary of Proposed Crossing Enhancements**

Location		Proposed Enhancement	Proposed Phase
1		Ferguson Avenue / Main Street Add stop signs and pavement markings	Short
2		Rorke Avenue / Main Street Closing channelized intersection and normalizing it as a standard 4 legged stop controlled intersection	Short
3		Cecil Street / Rorke Avenue Move school crossing for École Saint Croix School to the Cecil Street / Rorke Avenue intersection to align with existing sidewalks on Cecil. Alternatively, enhance the crossing at View and Rorke to a Pedestrian Crossover	Short
4		Browning Street / Ferguson Avenue Add stop signs and pavement markings, install curb extensions / bump outs	Short

Location		Proposed Enhancement	Proposed Phase	
5		STATO Trail / Hesse Avenue	Monitor current configuration of the raised crosswalk at the school and recommend a future detail design study in this intersection to improve safety and reduce conflicts	Long
6		Armstrong Street / Elm Avenue	Add bollards to provide a designated space for cyclists approaching the intersection per the direction in the Wabi River Bridge Design Appendix.	Short
7		Lakeshore Road North / Farah Avenue	Monitor for future traffic control (consider relocating stop lights from Broadwood to Farah)	Long
8		Highway 11 / Drive In Theatre Road	Recommend for active transportation consideration in future reconstruction of the road for improved safety for all users – likely a signalized crossing in partnership with MTO.	Long
9		Drive In Theatre / Grant Drive	Add stop signs and pavement markings	Short

	Location	Proposed Enhancement	Proposed Phase
10		Radley Hill Road / STATO Trail  Signalized, potential to add cycling facility with improvements	Long

As the City moves forward with implementing the proposed active transportation network, it is recommended that staff review and confirm the proposed facility or enhancement at each location. The phasing plan should be updated annually to reflect available budgets, newly planned capital projects or changes in existing conditions, such as volume or pavement conditions.

## 2.1 KEY TAKEAWAYS FOR PHASING

### Short Term Projects (0-5 years)

- Approximately **32%** of the network is proposed in the short term. These investments represent some of the most significant connections to close gaps in the existing transportation network in Temiskaming Shores, and will provide a high quality network of active transportation facilities connecting most of the City's major destinations within its population centres.
- Short term projects account for **7%** of the total estimated cost for the proposed network. This is largely due to the phasing of most signed bike routes and sharrows within the first five years as they are considered low investment and quick wins. These investments help to establish network connectivity on streets with lower speeds and volumes. In addition, sidewalk improvements are not included in the Short-Term phasing horizon. Sidewalks represent the single largest source of investment for the City of Temiskaming Shores emerging from this plan, largely owing to a historical backlog of sidewalk construction within the City.
- Other short-term projects include candidate locations for pilot projects and traffic calming measures for locations that require additional monitoring or studies and have been noted by City Staff, key stakeholders and residents as challenging locations. The Wabi River crossing on Armstrong Street is a notable example where a proposed two-stage left turn box is recommended as a pilot project.
- **Appendix A** includes a detailed breakdown of all routes that form part of the active transportation network for Temiskaming Shores.
- Municipal planning documents are typically updated every five to ten years, consistent with the Municipal Planning Act. As such, the ATP focus for implementation are short term projects (within the first five years). Longer term projects should be reviewed in 2027 to determine their relevance and feasibility through an ATP update process.



### Long Term Projects (5+ years)

- The long-term projects for the ATP represent 93% of the estimated costs of the network and 68% of the total length of new facilities. Sidewalks account for a significant portion of this budget.
- Sidewalk improvements, additions and replacements should be captured in annual budgeting processes beginning as early as possible. Priority gaps in the sidewalk network should be closed each year.
- Routes identified in the long-term horizon should be reviewed when the plan is next updated, and at that time, staff should determine the appropriate phasing for routes based on available budgets, resources and opportunities.

## 2.2 PRIORITIES IN THE NETWORK

For the purposes of the Temiskaming Shores ATP, the Short-Term Active Transportation Network represents the key priorities for implementation. Developed to:

- Take advantage of planned capital works, such as the resurfacing of Rorke Ave / King Street in 2022
- Provide a complete and connected network of cycling facilities within the urban areas of Temiskaming Shores by the end of 2027 and;
- Connect the existing STATO Trail to key destinations like commercial areas, schools, transit services and employment areas;

The Short-Term Network prioritizes low-cost, high impact elements of the Active Transportation Network to help to build a stronger culture of active transportation within Temiskaming Shores. A summary of these priorities is included below in **Table 3**.

**Table 3 - Summary of Priority Projects**

Corridor	Proposed Facility Type and notes
<b>Golf Course Road / Drive in Theatre Road</b>	Traffic calming measures on Golf Course Road to reduce vehicle speeds, multipurpose paved shoulders of Drive In Theatre Road
<b>Connection to St. Michel School at north end of Laurette Drive</b>	Improved trail (asphalt, 3m wide)
<b>Armstrong Street Bridge (Sharpe to Elm)</b>	Bidirectional separated bike lanes on east side of the bridge
<b>Niven Street North</b>	Signed route
<b>Dymond Avenue</b>	Sharrows and traffic calming
<b>Church Street</b>	Sharrows and traffic calming

<b>Corridor</b>	<b>Proposed Facility Type and notes</b>
<b>Sharpe Street from Armstrong Street to Wellington Street N</b>	Sharrows and traffic calming
<b>Paget Street N from Dymond Avenue to Spruce Avenue</b>	Sharrows and traffic calming
<b>Spruce Avenue from Paget Street N to Wellington Street N</b>	Sharrows and traffic calming
<b>Whitewood Avenue from Bedard Drive to Riverside Drive</b>	Buffered / parking protected bike lanes
<b>Rokeby Street from Whitewood Avenue to Farah Avenue</b>	Signed route
<b>Farah Avenue from Rokeby Street to Paget Street S</b>	Signed Route
<b>Cedar Avenue from Paget Street S to May Street S</b>	Signed route
<b>Wellington Street S from Cedar Avenue to Waterfront Boardwalk Trail</b>	Signed route
<b>Lakeshore Road N from Beach Boulevard to Whitewood Avenue</b>	Buffered bike lanes or bidirectional separated facility on east side of the road
<b>King Street / Rorke Street / Rorke Avenue corridor from southern City limits to Probyn Street</b>	<p>Convert entire corridor to single lane conditions with turning lanes where necessary – reallocate additional space for paved shoulders.</p> <p>Buffered paved shoulders where width permits, paved shoulders where right of way is more constrained and buffered bike lanes from Morissette Drive to Main – signed route north of Main.</p>
<b>Probyn Street from Rorke Avenue to Latchford Street</b>	Signed Route
<b>Latchford Street from Probyn Street to Lakeshore Road</b>	Signed route

Corridor	Proposed Facility Type and notes
<b>Main Street from Niven Street South to the Waterfront</b>	Bike lanes from Niven to Rorke, Buffered / parking protected bike lanes from Main to Ferguson, traffic calming and signed route from Ferguson to waterfront
<b>Ferguson Avenue from Amwell Street to Browning Street</b>	Signed route with traffic calming measures



### 3 COSTING ESTIMATES

Implementing the proposed active transportation network will require funds and resources from the City and its partners. Annual funding for construction, maintenance, operation and programming should be identified in the annual budgeting process to strategically implement the active transportation network over time. The City should seek additional funding sources, such as from the Provincial or Federal government, to maximize budget efficiencies and coordination with other major projects.

High-level costing has been prepared for the proposed active transportation network. This costing is based on a set of unit prices (included as **Appendix A**) that are average rates that reflect best practices from comparable municipalities. It is recognized that the level of effort will vary on a project-by-project basis and that the price of materials will vary over time. Certain projects could require additional work and further studies as they are considered for implementation. As part of the ATP, a 15% contingency and 10% design and approvals cost have been assumed for budgeting purposes.

**Table 4** presents the estimated cost to implement the active transportation network, organized by facility type and by phase. For the focus of short-term priorities, the estimated cost to implement is approximately \$1.2 million over the next five years.

**Table 4 - Summary of Estimated Costs by Facility Type**

Facility Type	Short-Term		Long-Term		Total	
	Length (KM)	Estimated Cost	Length (KM)	Estimated Cost	Length (KM)	Estimated Cost
Off-Road Multi-Use Trail	0.1	\$23,595	5.5	\$2,505,503	5.6	\$2,529,098
In-Boulevard Multi-Use Path	0.0	\$ -	1.6	\$739,214	1.6	\$739,214
Buffered Bike Lane	3.3	\$149,292	0.4	\$32,794	3.7	\$182,086
Buffered Bike Lane or Two-Way On-Road	1.4	\$110,038	0.0	\$ -	1.4	\$110,038
Bike Lane	0.4	\$14,574	0.0	\$ -	0.4	\$14,574
Buffered Paved Shoulders	3.9	\$227,912	2.7	\$995,516	6.6	\$1,223,428
Paved Shoulder	2.0	\$416,305	10.3	\$2,764,183	12.3	\$3,180,488
Sharrows Markings	1.1	\$15,813	0.0	\$ -	1.1	\$15,813
Signed Route	3.1	\$4,711	4.8	\$7,222	7.9	\$11,933
Candidate Locations for Pilot Projects	0.2	\$45,016	0.0	\$ -	0.2	\$45,016
Candidate Locations for Traffic Calming Measures	3.6	\$51,796	0.0	\$ -	3.6	\$51,796
Pedestrian Bridge	0.0	\$ -	0.1	\$1,950,000	0.1	\$1,950,000
Sidewalks	0.0	\$ -	14.4	\$5,389,125	14.4	\$5,389,125
Crossing Enhancement	-	\$123,000	-	\$230,000	-	\$353,000
<b>Total</b>	<b>19.1</b>	<b>\$1,182,052</b>	<b>39.8</b>	<b>\$14,613,557</b>	<b>58.9</b>	<b>\$15,795,609</b>

Detailed costing information is contained in **Appendix A**. It is recommended that this appendix be used as a tool by City Staff to track the progress of implementation of the network and to inform future budgeting and decision making. The intent of these estimated costs are to guide decision making, such as capital planning. The phasing and costing are not intended to be prescriptive. As part of annual budgeting processes and to supplement active transportation infrastructure in Temiskaming Shores, it is recommended that the City also consider allocating funding to support the delivery of outreach initiatives proposed in the programming chapter of the ATP.

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### 3.1 SIDEWALK FUNDING

As identified above, the construction of new sidewalks to complete Temiskaming Shores' network of pedestrian facilities is the single largest expense identified within the ATP. The gaps in the City's sidewalk network reduce accessibility and constrain the mobility of some of the City's most vulnerable road users, including children, seniors and people with disabilities. It is imperative that the City take steps to provide a comprehensive network of well-maintained sidewalks throughout the community to make walking and wheeling easier, safer and more convenient. It is recommended that the City create an annual capital budget allocation to complete the sidewalk network over time. The City's sidewalk deficit is the result of many years of capital budget prioritization and is not likely to be solved in the short term. By allocating a consistent budget to sidewalk improvements each year, the City will incrementally improve its connectivity, slowly resulting in a network that connects all residents to their destinations.

## 4 PARTNERSHIPS

Implementation of the ATP will require various partnerships from several groups. Successful implementation will rely on City staff working with other levels of government and stakeholders to build, maintain and market active transportation assets to achieve the Plan's vision.

The City has a number of partners that it can rely on to support implementing the plan. With a strong active transportation community and many engaged stakeholders, the City is well positioned to use this plan to create new partnerships to build a stronger culture of active transportation. As the City's culture of active transportation grows, the City and its partners should focus efforts on marketing the City as an active transportation hub within Northern Ontario. The unique balance between access to natural landscapes and access to urban amenities is a significant competitive advantage for Temiskaming Shores, and highlighting the City's investments in active transportation can highlight its focus on providing a high quality of life to residents, and a great visitor experience to tourists. By leveraging these unique assets, the City is well positioned to be an active tourism leader in Ontario.

The City is also uniquely positioned in that Temiskaming Transit provides a well-utilized transportation service that can serve as the foundation for a more multi-modal future for the City. Temiskaming Transit has the opportunity to enhance the overall active transportation network by providing bicycle parking and benches at bus stop locations, serving the needs of pedestrians and cyclists and creating more multi-modal travel. By expanding access and enhancing comfort for users who walk or bike to connect to transit, the service also expands its own potential customer base, helping to shift the transportation paradigm within Temiskaming Shores. These partnerships would not only help to implement the ATP, but also support first-mile, last-mile travel.

A comprehensive table of proposed partners and their anticipated role is presented in **Table 5**. This list is not exhaustive and there could be new partnerships that present themselves in the future. The City should leverage any future opportunities for additional partners to support implementation of the ATP.



Table 5 - Proposed Partners and Roles

Potential Partners	Anticipated Roles							
	Planning	Design	Policies	Construction	Maintenance	Enforcement	Education	Promotion
City of Temiskaming Shores Staff (Recreation, Public Works, Transit, Planning)	●	●	●	●	●		●	●
Temiskaming Shores Active Transportation Advisory Committee	●	●			●		●	●
Temiskaming Shores Accessibility Advisory Committee	●	●			●		●	●
New Liskeard BIA and Local Businesses								●
Temiskaming Shores and Area Chamber of Commerce								●
Local organizations and advocacy groups							●	●
Ontario Provincial Police (OPP)						●	●	
Timiskaming Health Unit			●				●	●
Provincial Stakeholders	●	●	●				●	●

## 5 FUNDING OPTIONS

A review of internal and external funding options was conducted to identify different options available. The City is encouraged to monitor available funding opportunities within and external to the City, and to utilize the information contained within this plan to support funding applications. The following is a list of potential external funding sources that could be explored; however, they are subject to change and should be reviewed again prior to applications. It is important for the City to seek a diverse range of funding sources for the various initiatives and programs highlighted in this plan and external sources are an effective way to reduce the City's costs while being an opportunity to develop new partnerships.

**Table 6 - Potential Funding Opportunities**

<b>Funding opportunities</b>	<b>Additional details</b>
<b>Federal Active Transportation Fund</b>	For additional details regarding the Active Transportation Fund refer to: <a href="https://www.infrastructure.gc.ca/trans/active-actif-eng.html">https://www.infrastructure.gc.ca/trans/active-actif-eng.html</a>
<b>Canada Community-Building Fund / Provincial Gas Tax</b>	For the federal Canada Community-Building Fund program please refer to: <a href="https://www.infrastructure.gc.ca/plan/gtf-fte-eng.html">https://www.infrastructure.gc.ca/plan/gtf-fte-eng.html</a> For the provincial program refer to: <a href="http://www.mto.gov.on.ca/english/service-commitment/gas-tax-program.shtml">http://www.mto.gov.on.ca/english/service-commitment/gas-tax-program.shtml</a>
<b>Federation of Canadian Municipalities Green Municipal Fund</b>	For additional details regarding the Green Municipal Fund and potential funding alternatives refer to: <a href="https://fcm.ca/home/programs/green-municipal-fund.htm">https://fcm.ca/home/programs/green-municipal-fund.htm</a>
<b>Federal and Provincial Infrastructure / Stimulus Programs</b>	For Federal Government infrastructure stimulus fund details refer to: <a href="https://www.canada.ca/en/office-infrastructure.html">https://www.canada.ca/en/office-infrastructure.html</a> For Provincial Government infrastructure stimulus fund details refer to: <a href="https://www.ontario.ca/page/ministry-infrastructure">https://www.ontario.ca/page/ministry-infrastructure</a>
<b>Ontario Trillium Foundation</b>	For details regarding potential funding alternatives refer to: <a href="https://otf.ca/">https://otf.ca/</a>
<b>Ontario Rural Economic Development Program</b>	For details refer to: <a href="http://www.grants.gov.on.ca/GrantsPortal/en/OntarioGrants/GrantOpportunities/PRDR006918">http://www.grants.gov.on.ca/GrantsPortal/en/OntarioGrants/GrantOpportunities/PRDR006918</a>
<b>Ontario Sport and Recreation Communities Fund</b>	As part of the Ontario Sport and Recreation Communities Fund: <a href="https://www.ontario.ca/page/rural-economic-development-program">https://www.ontario.ca/page/rural-economic-development-program</a>
<b>Tourism Economic Development and Recovery Fund</b>	For additional details regarding the Tourism Development fund refer to: <a href="https://www.ontario.ca/page/available-funding-opportunities-ontario-government#section-26">https://www.ontario.ca/page/available-funding-opportunities-ontario-government#section-26</a>
<b>Service Club Support</b>	Lions, Rotary and Optimist clubs who often assist with highly visible projects at the community level.

Funding opportunities	Additional details
<b>Corporate Environmental Funds</b> (e.g. Shell, TD, MEC, etc.)	For example refer to: <a href="https://www.shell.ca/en_ca/sustainability/communities/funding-guidelines-process.html">https://www.shell.ca/en_ca/sustainability/communities/funding-guidelines-process.html</a> for Shell Canada's Social Investment Program or <a href="https://www.td.com/corporate-responsibility/fef-grant.jsp">https://www.td.com/corporate-responsibility/fef-grant.jsp</a> for TD's Friends of the Environment Foundation Grant
<b>Private Citizen Donation / Bequeaths</b>	Can also include tax receipts for donors where appropriate.



## 6 SUPPORTING IMPLEMENTATION

Beyond phasing and costing, there are several factors which can shape how active transportation gets rolled out from the planning stages through to implementation and operations.

### 6.1 POLICY CONSIDERATIONS

Policies are the framework to create top-down change in a municipality. The following are a set of policy considerations which can help facilitate change towards supportive active transportation planning and design in Temiskaming Shores.

#### 6.1.1 PAVED SHOULDERS ON RURAL ROADS

The preferred active transportation network includes proposed signed routes on rural roads where there is existing demand for cycling, but the current road conditions (gravel surface) cannot accommodate the implementation of paved shoulders. Peters Road is the primary location where this situation occurs. Due to the current conditions, the road needs to be resurfaced to asphalt before it can be marked as a signed route. As a result, the phase for this route is long term. In other locations, most notably Radley Hill Road and Stephenson Road, paved shoulders are recommended for implementation with capital construction.

Application of signed bike routes on these routes is considered appropriate based on the current traffic volumes and speed thresholds outlined in the updated OTM Book 18. To improve safety for all road users and accommodate for additional traffic volumes in the future, however, it is recommended that when these roads are next scheduled in the City's Capital Budget for reconstruction / rehabilitation, the roadway platform should be widened, allowing the implementation of paved shoulders on both sides of the road (with a desired width of 1.5 metres) to support and provide a designated cycling facility. This would provide greater comfort and encourage more active transportation usage in rural areas. Paved shoulders can also benefit pedestrians in rural areas – as per the Highway Traffic Act, people are permitted to walk in a roadway shoulder facing the direction of oncoming traffic. The installation of paved shoulders has benefits to safety for all users, while also reducing maintenance costs and improving the lifespan of the roadways. In many cases, the long-term costs associated with implementing paved shoulders are offset by these asset management savings, making paved shoulders an investment that improves safety, demonstrates a commitment to active transportation and saves the community money in the long run.

From a municipal risk management perspective, implementing the green Bicycle Route Marker sign (on roads considered appropriate for such application) or the yellow Share the Road warning sign on roads where paved shoulders have not yet been implemented can also demonstrate the City's awareness that people are already biking on the road.

#### 6.1.2 SPEED LIMIT EVALUATION AND REDUCTIONS

Speed differentials between people driving and people using active transportation are a key factor in determining how comfortable an active transportation facility is perceived by users to be. On corridors where active transportation facilities are being proposed, the City should consider speed limit reductions (and reductions in the design speed of those corridors) to improve safety for all users along those routes.

While Lakeshore Road is the highest profile corridor that should be considered for a reduction in speed limit (recommended for 50-60km/h to prioritize active transportation and encourage people driving to use

Highway 11), other corridors where shared facilities are being recommended such as Niven Street, Dymond Avenue, Farah Avenue, Cedar Avenue and Latchford Street could also be considered for speed limit reductions to improve conditions for active transportation.

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### 6.1.3 NEW DEVELOPMENT AREAS

New development areas should be reviewed to identify opportunities to connect the future community to the active transportation network, particularly off-road trails within the City. This will require identifying conceptual trail linkages to the development community and ensuring their implementation at the time of development.

It is imperative that the City work with the development community to ensure that active transportation facilities and amenities are incorporated in new developments proactively and that the communities are designed in a manner that encourages safe and accessible active travel. The City should consider requiring sidewalks on one side of all new residential streets and should require sidewalks on both sides of new and reconstructed collector and arterial roads to improve the pedestrian environment within the City.

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### 6.1.4 ZONING BY-LAW

The City is recommended to strengthen language supporting active transportation in the current zoning by-law. This can be done when a new zoning by-law is developed, or as part of a municipally initiated zoning by-law amendment(s). An amendment should focus on enhancing active transportation amenities in private developments, such as increasing the number of bicycle parking spaces as part of residential, commercial, and institutional developments, as well as building forms that accommodate the awnings and other covered-walkway structures that protect pedestrians from the elements. Modifications to the zoning by-law, like the two examples noted above, have the ability to incorporate design elements into new developments over time and create a public realm that encourages and supports active travel.

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### 6.1.5 NEW MOBILITY IMPLICATIONS

The City's existing by-laws can be enhanced to clarify cycling operations and specifically define and provide direction on the use of electric bikes, electric scooters and power assisted bicycles. In 2020, MTO launched a five-year e-scooter pilot program allowing municipalities to pass by-laws to determine where e-scooters can operate. As part of this initiative, MTO has addressed legal definitions and operational concerns that should be reviewed prior to establishing or amending a by-law. The City could review existing by-laws and amend where appropriate to provide more clear provisions regarding permitted and prohibited uses for electric bikes, electric scooters and power assisted bicycles. Consideration could also be given to installing publicly accessible charging outlets for the charging of e-bikes and e-scooters within the City.

## 7 OPERATIONS AND MAINTENANCE

A key consideration when implementing the ATP is the operations and maintenance of active transportation routes and the asset management of infrastructure. Regular and appropriate maintenance of active transportation facilities can help protect the City's capital investments by maintaining the lifespan of infrastructure.

As the active transportation network expands and best practices emerge, consideration should be given to adapting maintenance practices and the level of service to address new facilities and standards such as the Province's Minimum Maintenance Standards (MMS) for Municipal Highways (O.Reg. 239/02). The MMS outlines various elements of road maintenance and operations including the frequency of road inspections, weather monitoring, ice formation on roadways, snow accumulation and sidewalk trip ledges. The MMS are non-mandatory guidelines but should be applied unless a municipality has established their own Council-approved level of service maintenance standards. If a municipality develops their own standards, it is still recommended to align with the current MMS.

Maintenance practices for active transportation facilities can include:

- Sweeping;
- Surface repairs;
- Pavement markings and signage;
- Vegetation management;
- Snow clearance / ice control; and
- Drainage improvements and drainage grates.

Clear guidance on asset management is provided in the City's Assessment Management Plan. The plan outlines level of services standards, asset management strategies and actions for trails, sidewalks and roads. It is recommended that as the City builds out their active transportation network, that the strategies outlined in the Asset Management Plan and related studies such as the Roads Condition Study and Sidewalk Condition Study, be applied.

Table 7 outlines asset management assumptions and typical service life for various elements of an active transportation network. This information is based on best practices outlined in OTM Book 18; however, it is recommended that City review this information and consider the various strategies to manage their active transportation network.

**Table 7 - Asset Management Strategies**  
**Source - OTM Book 18 Update**

Type	Useful Life	Asset Management Strategies
<b>Asphalt bikeway</b>	25 years	<ul style="list-style-type: none"> <li>– Minor repairs</li> <li>– Resurfacing</li> <li>– Rehabilitation</li> <li>– Full-depth replacement</li> </ul>
<b>Concrete bikeway</b>	50 years	<ul style="list-style-type: none"> <li>– Minor repairs</li> <li>– Replace deteriorating segments</li> <li>– Full replacement</li> </ul>
<b>Bridge (active transportation or motor vehicle)</b>	25–75 years	<ul style="list-style-type: none"> <li>– Bridge repairs</li> <li>– Minor rehabilitation</li> <li>– Full replacement</li> </ul>
<b>Culvert</b>	25–50 years	<ul style="list-style-type: none"> <li>– Culvert repair</li> <li>– Minor rehabilitation</li> <li>– Full replacement</li> </ul>
<b>Painted Line Markings and Symbols</b>	1–2 years	<ul style="list-style-type: none"> <li>– Refresh annually or depending on wear</li> </ul>
<b>Durable Line Markings, Symbols and Green Surface Treatments</b>	3–7 years	<ul style="list-style-type: none"> <li>– Depends on type, weather conditions, amount of wear, preparation of surface during application</li> </ul>
<b>Signage</b>	20 years	<ul style="list-style-type: none"> <li>– Replace damaged or faded signs</li> </ul>
<b>Physical separation (bollards, curbs, planters, etc.)</b>	Until damaged	<ul style="list-style-type: none"> <li>– Repair or replace damaged or missing bollards and other separators</li> </ul>

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## 7.1 WINTER MAINTENANCE

Currently, the City of Temiskaming Shores provides snow clearing on its sidewalks but does not provide any maintenance on its cycling facilities. Segments of the STATO Trail, particularly those along Lakeshore Road, are removed during the winter to provide for easier winter maintenance of the adjacent roadway surface.

As the City moves forward with additional investments in active transportation, it is recommended that winter maintenance policies be adopted to ensure that priority cycling facilities remain open and accessible all year round. A growing number of communities in Ontario have identified **priority winter cycling networks** which receive enhanced snow clearing to ensure that those routes are clear and passable, mostly aiming to achieve a comparable level of service to that which is provided on arterial roadways for automobiles. A Priority Winter Cycling Network provides a more predictable, safer route for people on bikes, providing them with the sense of confidence that their route will be clear and passable. By clearly identifying the priority routes – which should be comprised of a connected grid of high-comfort facilities that connect to the City's key destinations – The City helps to set clear expectations among people on bikes. The Priority Winter Cycling Network should start off small, potentially as a 2-year pilot project, to see what types of additional staffing resources and additional snow clearing equipment may be required. The pilot will also give the community the opportunity to experience winter maintained cycling routes and, when coupled with some of the programming recommendations contained in Chapter 4, may help to grow the City's winter cycling culture. As the pilot continues, the City can evaluate ridership and monitor the growth of winter cycling, helping to determine whether the Priority Winter Cycling Network should be expanded, maintained or discontinued in the future.



## 8 MONITORING AND REPORTING

A monitoring plan is an important component post-implementation to evaluate the success of a route, and to inform smarter investments through data-driven measures. Research indicates that meaningful performance measures can help to prioritize future projects and appropriately allocate resources. The following approaches are recommended to be explored by City Staff in further detail, for inclusion into the on-going workplans of monitoring for maintenance and operations staff.

### 8.1 MONITORING OF ACTIVE TRANSPORTATION ASSETS

As part of the successful implementation of this plan, it is recommended that supplementary monitoring efforts be undertaken by City staff to gain a better understanding of the active transportation network and how it's being used. Similar to how City staff monitor the road network for deficiencies such as potholes and broken streetlights in need of repair, bike lanes and trails also require monitoring to ensure issues are promptly addressed. Doing so ensures that active transportation facilities remain in a state of good repair and can continue to accommodate the needs of people using it.

Beyond the scope of this ATP, but raised by multiple stakeholders and members of the public during consultation, is the need for the City to develop a comprehensive inventory of the City's existing sidewalks. The poor condition of the City's sidewalks were identified as one of the key deficiencies in the City's existing efforts to promote and support active transportation, and should be remedied as new infrastructure investments are contemplated. Consider developing a sidewalk assessment to identify priority areas for improvement. An example sidewalk assessment from a comparable municipality to Temiskaming Shores can be found here: [Microsoft Word - SCA Report - Innisfail.docx \(civicweb.net\)](#)

### 8.2 UNDERTAKE SURVEY OF RESIDENTS

Another approach to monitoring the overall active transportation network is to conduct a survey of Temiskaming Shores residents on a regular basis. Such surveys could be carried out on an annual or bi-annual basis and ask residents about what they like and dislike about the network. The results can then be used to inform short-term actionable items that respond to the immediate needs and requests of residents, contingent on the scale and scope of the project. Surveying of residents ensures regular dialogue between City Staff and the users of the network themselves.

### 8.3 PROVISION OF PERMANENT DATA COLLECTION TOOL

Permanent automated data collection tools can allow City Staff to effectively monitor the active transportation network in real time and collect a significant amount of data with which to inform decision making. For the purpose of this plan, the two forms of permanent data collection include automated trail counters and intersection cameras that monitor the movement of all modes of transportation.

Automated trail counters are pieces of monitoring infrastructure that count the number of pedestrians and cyclists on an off-road trail. City staff would be able to retrieve data from the automatic trail counter to review pedestrian and cyclist data over the long-term and assess a facility's use. Alternatively, LTE and Wi-Fi enabled traffic cameras at select intersections within the City can monitor the number of pedestrians and cyclists using on-road infrastructure in real time. Both pieces of monitoring equipment will allow for better informed decision making through real-time data.

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## 8.4 REPORT ON IMPLEMENTATION AND PROGRESS

Given the short timelines for implementation of a significant portion of the City's ATP, it is recommended that Temiskaming Shores issue annual reports detailing their progress towards achieving the goals and objectives of this Plan for the first five years of its implementation. These annual reports can highlight the new infrastructure investments that have been brought online, the ways that new programs and partnerships are reaching more residents in the community and the overall trends in transportation behaviour as the City's network of active transportation infrastructure becomes more robust. These reports would also be a good place to highlight the results of pilot projects such as the winter maintenance pilot and the pilot project protected bike lanes across the Wabi River Bridge, as well as highlighting any improvements that the City is making to its network of sidewalks.

This report can provide a powerful accountability tool for the City – it helps to build trust and awareness about how the ATP is being implemented, and what the results of the associated investments are. The report will provide an annual snapshot of the state of active transportation in Temiskaming Shores, helping to create community excitement as the culture of active transportation grows, and serving as a marketing tool to highlight how the City is playing a leadership role in becoming an active transportation leader in Northern Ontario.

## 9 NEXT STEPS AND RECOMMENDATIONS

The Active Transportation Plan provides the City of Temiskaming Shores with a roadmap to become one of Ontario's leading municipalities with regards to active transportation. It provides the City with a short-term, achievable path towards a complete network of walking and cycling facilities in its urban areas, all while building upon the strong partnerships that already exist to support the culture of active transportation in the City. This plan builds upon the existing momentum within the City – the investments in the STATO trail, the partnerships that deliver new programs every year and the community members who are increasingly taking to walking, cycling, and wheeling around their City. It charts a path for the City to reimagine its relationship with its public spaces, turning streets into places where increased levels of active transportation contribute to the City's vibrancy and vitality as it emerges from the COVID-19 pandemic. To help move this plan from a vision to reality, a series of recommendations have been developed to guide City leadership in moving forward with implementing this plan, in partnership with internal and external stakeholders. These recommendations include implementing the various policies, programs, and procedures that support both the implementation of physical infrastructure and the development of social infrastructure to support active transportation in Temiskaming Shores.

At its core, this Plan is a guide for the City to realize many of its broader policy goals through increased support for active transportation. Whether being done in support of economic development, quality of life, attracting tourism dollars, building a more equitable community, or ensuring that the City is a leader in environmental stewardship, investments in active transportation pay off along multiple axes that are priorities for the City's future. The fact that this Plan has been developed to align with those goals and has been guided by strong partnerships with the City's existing stakeholders helps to ensure that this Plan will be one where collaborative support will move it from vision to reality in the near future.

Moving forward, the City is encouraged to work in close partnership with key stakeholders to both implement new programs, policies, and infrastructure, as well as to promote all that Temiskaming Shores has to offer, well beyond its borders. The following table provides a summary of 21 core recommendations that City staff are encouraged to pursue as part of the broader implementation of this plan.

Recommendations
1. Incorporate the proposed active transportation network illustrated in Maps 3a, 3b, 3c, 4a and 4b as a Schedule in the City's Official Plan when next updated.
2. Reference should be made to OTM Book 18: Cycling Facilities (2021) to inform and guide the design and implementation of cycling and in-boulevard facilities.
3. Reference should be made to OTM Book 15: Pedestrian Crossings to inform and guide the design and implementation of pedestrian crossing treatments.
4. The City should continue to identify opportunities to implement active transportation routes / facilities in conjunction with capital infrastructure projects to achieve economies of scale and cost savings.

## Recommendations

5. As part of the annual capital budget review process, City staff should use the ATP to inform prioritization and implementation of active transportation infrastructure.
6. As part of scheduled roadway projects and Capital budget forecasting, the City should allocate funding to construct the Short-Term Active Transportation Network (See Maps 5b and 5c) by the end of the 2027 construction season.
7. When capital reconstruction projects are scheduled for the downtown areas of Haileybury and New Liskeard, priority should be given to expanding spaces for walking, cycling and amenities by narrowing vehicle lanes and parking facilities.
8. The City should implement a 2-way protected cycle track over the Wabi River Bridge as a pilot project to close a key gap in the existing STATO Trail
9. The City should continue to explore external funding sources and partnerships to help fund implementation of the ATP.
10. The City should adopt the Trails design and amenities standards presented in this plan to improve access to the trails at Devil's Rock and Pete's Dam Parks
11. Speed limit reductions and traffic calming design measures should be implemented on roads proposed for signed bike route in the urban / built-up areas of Temiskaming Shores as well as some of the roads adjacent to the STATO Trail, especially Lakeshore Road.
12. The City should expand the mandate of the existing BFC Committee to serve as an Active Transportation Advisory Committee, considering elements of the pedestrian experience as well as the cycling experience in Temiskaming Shores
13. The City should undertake a sidewalk conditions analysis and should establish a consistent annual capital budget for the replacement and repair of existing sidewalks as well as the installation of new sidewalks in priority locations (see maps 4a and 4b)
14. The City should establish an Active Transportation Coordinator to deliver and champion the recommended outreach initiatives identified in Chapter 4.
15. The City should allocate the necessary funding to deliver the programs listed in Chapter 4 on an ongoing basis to help build a stronger culture of active transportation in Temiskaming Shores.
16. As part of scheduled roadway projects in the City's Capital Budget, consideration should be given to widening the roadway platform (where possible / feasible) and implementing paved shoulders on both sides of the road to support and provide a designated cycling facility.
17. The City should review and revise its policy regime to require sidewalks and cycling facilities in all new residential developments and to require bike parking and other end of trip facilities within the City's Zoning bylaw.
18. The City should undertake a Winter Maintenance Pilot Project to evaluate the costs and efficacy of providing winter maintenance to select cycling routes, particularly those that connect to popular destinations within the community.
19. As part of the annual review process, ensure an adequate operational / maintenance budget is provided to account for new active transportation facilities, including their maintenance and lifecycle replacement costs. The City should also review and update maintenance and

## Recommendations

operations practices / level of service standards to consider the expansion of the active transportation network.

20. Acquire automated counting technology to provide City staff with real time data along active transportation corridors on pedestrian and cyclists volumes.

21. Collect data and report regularly on the implementation of the ATP, changes in transportation habits and other impacts on the community of these new investments.

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# Active Transportation Plan

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## Appendix A: Detailed Costing Breakdown



City of Temiskaming Shores  
Draft November 2021



**Table 1 - Active Transportation Unit Costs**

This table provides an overview of the estimated unit costs for active transportation and cycling facilities, structures and crossings and other elements of an active transportation / cycling network. All unit prices exclude tax, contingency, design and approvals costs.

ITEM	DESCRIPTION	UNIT	UNIT PRICE RANGE	PRICE USED	COMMENTS/ASSUMPTIONS
<b>1.0 GENERAL ACTIVE TRANSPORTATION FACILITIES</b>					
<b>Shared Lanes / Paved Shoulders</b>					
1.1	Signed Bike Route in Urban or Rural Area	linear KM	\$1,000 to \$1,200	\$1,200	Price for both sides of the road, assumes one sign a minimum of every 500 metres in the direction of travel. Price assumes that signs will be mounted on an existing post. Price includes: - \$300 per sign x 4 signs (2 signs on each side of the road)
1.3	Signed Bike Route with Sharrow Lane Markings <i>Intended to supplement a signed bike route in specific locations. Not intended to be a stand-alone facility type.</i>	linear KM	\$11,600	\$11,600	Price for both sides of the road, includes route signs every 500 metres and sharrow stencils every 75 metres as per OTM Book 18 guidelines. Price includes: - \$300 per sign x 4 signs (2 signs on each side of the road) - \$400 per stencil marking x 26 (13 stencils on each side of the road)
1.4	Signed Route with Edgeline	linear KM	\$12,200	\$12,200	Price for both sides of the road, includes signs and painted edgeline (100mm solid white line). Price includes: - \$300 per sign x 4 signs (2 signs on each side of the road) - \$5.5 per metre for painted solid white line
1.5	Signed Bike Route with Paved Shoulder in conjunction with existing road reconstruction / resurfacing	linear KM	\$115,000 to \$215,000	\$215,000	1.5 metre paved shoulder on both sides of the road. Assumes cycling project pays for additional granular base, asphalt and painted line. Price may vary from \$115,000 to \$215,000 depending on work needed to improve platform. Price includes: - \$300 per sign x 4 signs (2 signs on each side of the road) - \$5.5 per metre for painted solid white line (both sides of the road)
1.6	Signed Bike Route with Buffered Paved Shoulder in conjunction with existing road reconstruction / resurfacing project	linear KM	\$275,000 to \$340,000	\$300,000	1.5 metre paved shoulder + 0.5-1.0 metre paved buffer on both sides of the road. Assumes cycling project pays for additional granular base, asphalt, painted edge lines and signs (buffer zone framed by white edgelines). Price may vary from \$275,000 to \$340,000. Price includes: - \$300 per sign x 4 signs (2 signs on each side of the road) - \$5.5 per metre for painted solid white line (both sides of the road)
1.7	Addition of Rumble Strip to Existing Buffered Paved Shoulder (rural)	linear KM	\$12,000		Price for both sides. Buffer \$6 / m.
1.8	Granular Shoulder Sealing	linear KM	\$18,000		Both sides spray emulsion applied to harden the granular shoulder. This will reduce gravel on the paved portion of the shoulder and significantly reduce shoulder maintenance. Use \$9 / m.
1.9	Upgrade Granular Surface Back Road to Chip Seal Surface	linear KM	\$56,000		Price includes pulverizing existing surface with double treatment (\$6 / m <sup>2</sup> ) or tar and chip (\$2 / m <sup>2</sup> ) at 7m wide.
<b>Conventional and Separated Bike Lanes</b>					
1.10	Conventional 1.5m-1.8m Bicycle Lanes by Adding Bike Lane Markings and Signs	linear KM	\$29,000	\$29,000	Price for both sides of the road, includes signs, stencils and edge line. The price assumes: - \$11,000 for painted lane line (\$5.5 per metre multiply 2 for both sides of the road) - \$10,400 for painted bike symbols (assumes \$250 per symbol, 13 symbols per linear km multiply by 2 for both side of the road) - \$2,500 for bike lane signs (assumes \$350 per sign and tab, 5 signs per linear km - spaced every 200 metres - multiply by 2 for both sides of the road) - \$3,900 for 'No Parking' signs (assumes \$150 per sign, 13 signs per linear km multiply by 2). Signs to be mounted on existing and new posts. Price depends on number of stencils and signs used.

ITEM	DESCRIPTION	UNIT	UNIT PRICE RANGE	PRICE USED	COMMENTS/ASSUMPTIONS
<b>Conventional and Separated Bike Lanes - CONT'D</b>					
1.11	Conventional 1.5m-1.8m Bicycle Lanes through Lane Conversion from 4 lanes to 3 lanes	linear KM	\$53,000		Price for both sides. Includes grinding of existing pavement, markings, signs, painted markings. Assumes road is not be surfacing. The price assumes: - \$11,000 for painted lane line (\$5.5 per metre multiply 2 for both sides of the road) - \$10,400 for painted bike symbols (assumes \$400 per symbol, 13 symbols per linear km multiply by 2 for both side of the road) - \$2,500 for bike lane signs (assumes \$350 per sign and tab, 5 signs per linear km - spaced every 200 metres - multiply by 2 for both sides of the road) - \$3,900 for 'No Parking' signs (assumes \$150 per sign, 13 signs per linear km multiply by 2). Signs to be mounted on existing and new posts. Price depends on number of stencils and signs used. - \$6 to \$8 per linear metre for lane line removal (soda blasting). Price varies on markings to be removed on a multi-lane roadway. Remove soda-blasting cost component if the road is being resurfaced. The cost for resurfacing to be part of resurfacing project. Price for 1.5m bike lanes on both sides of the roadway (1.5m x 2 sides = 3.0m). The price assumes: - \$14,000 for catch basins and leads (\$350 per lead x 40 catch basins per linear km) - \$360,000 for asphalt and sub-base (\$55/m <sup>2</sup> = 120 x 1.5m BL x 1000 x 2) - \$16,000 for signs, stencils and edge line
1.12	Conventional 1.5m-1.8m Bicycle Lanes in Conjunction with a New Road, or Road Reconstruction / Widening Project	linear KM	\$390,000		The roadway project funds all other improvements.
1.13	Conventional 1.5m-1.8m Bicycle Lanes that require a road widening /reconstruction	linear KM	\$700,000		Price for both sides of the road, includes the cost for excavation, adjust catch basins, lead extensions, new curbs/driveway ramps, asphalt and sub-base, painted markings and signs. All costs associated with widening or reconstructing the road for the purposes of adding bike facilities is born by the bike project i.e. no economies of scale of adding a bike facility in conjunction with a planned
1.14	Buffered Bicycle Lane with Hatched Pavement Markings - No Road Construction / Widening or Road Diet required	linear KM	\$49,000		Price for 1.5m bike lanes with 1m hatched buffer. The price assumes: - \$30,000 for painted lines (\$6 x 5000 metres of line paint) - \$1,000 for hatching paint (1000 metres) - \$10,400 for painted bike symbols (assumes \$400 per symbol, 13 symbols per linear km multiply by 2 for both side of the road) - \$2,500 for bike lane signs (assumes \$350 per sign and tab, 5 signs per linear km - spaced every 200 metres - multiply by 2 for both sides of the road) - \$3,900 for 'No Parking' signs (assumes \$150 per sign, 13 signs per linear km multiply by 2). Signs to be mounted on existing and new posts. Price depends on number of stencils and signs used
1.15	Buffered Bicycle Lane with Hatched Pavement Markings - No Road Construction / Widening or Road Diet required  Includes pre-cast curbs and flexible bollards in the buffer	linear km	\$165,000		Price for 1.5m bike lanes with 1m hatched buffer (includes pre-cast curbs and flexible bollards in the buffer). The price assumes: - \$30,000 for painted lines (\$6 x 5000 metres of line paint) - \$1,000 for hatching paint (1000 metres) - \$10,400 for painted bike symbols (assumes \$400 per symbol, 13 symbols per linear km multiply by 2 for both side of the road) - \$2,500 for bike lane signs (assumes \$350 per sign and tab, 5 signs per linear km - spaced every 200 metres - multiply by 2 for both sides of the road) - \$3,900 for 'No Parking' signs (assumes \$150 per sign, 13 signs per linear km multiply by 2). Signs to be mounted on existing and new posts. Price depends on number of stencils and signs used - \$95,000 for pre-cast concrete curbs on both sides - Assume 70% of roadway to include physical delineation (700 metres per 1 linear km): 700 metres / 1.83m curb length = 382.5 pre-cast concrete curbs - 382.5 x \$250 = \$95,000 - Assume \$125 each 1.83m long curb x 2 = \$250 per linear metre of roadway (both sides) - \$21,000 for flexible bollards - Assume 700m spacing as per pre-cast curb placement above x 2 (both sides of the road). - 700m x 2 (both sides of the road) = \$1,400 - \$1,400 x \$150 (price per bollard) = \$21,000



ITEM	DESCRIPTION	UNIT	UNIT PRICE RANGE	PRICE USED	COMMENTS/ASSUMPTIONS
<b>Conventional and Separated Bike Lanes - CONT'D</b>					
1.16	Buffered Bicycle Lane with Hatched Pavement Markings with Road Diet	linear KM	\$65,000	\$65,000	Price for 1.5m bike lanes with 1m hatched buffer. The price assumes: - \$30,000 for painted lines (\$6 x 5000 metres of line paint) - \$1,000 for hatching paint (\$1000 metres) - \$10,400 for painted bike symbols (assumes \$400 per symbol, 13 symbols per linear km multiply by 2 for both side of the road) - \$2,500 for bike lane signs (assumes \$350 per sign and tab, 5 signs per linear km - spaced every 200 metres - multiply by 2 for both sides of the road) - \$3,900 for 'No Parking' signs (assumes \$150 per sign, 13 signs per linear km multiply by 2). Signs to be mounted on existing and new posts. Price depends on number of stencils and signs used. - \$6 to \$8 per linear metre for lane line removal (soda blasting). Price varies on markings to be removed on a multi-lane roadway.
1.17	Buffered Bicycle Lane with Hatched Pavement Markings - Assumes a Road Diet from a 4 Lane Cross-Section to a 2 Lane Cross-section with a two-way centre turn lane.  Includes pre-cast curbs and flexible bollards in the buffer	linear km	\$194,620	\$194,620	Price for 1.5m bike lanes with 1m hatched buffer (includes pre-cast curbs and flexible bollards in the buffer). The price assumes: - \$48,000 for painted lines (\$6 x 8000 metres of line paint) - \$1,000 for hatching paint (1000 metres) - \$10,400 for painted bike symbols (assumes \$400 per symbol, 13 symbols per linear km multiply by 2 for both side of the road) - \$2,500 for bike lane signs (assumes \$350 per sign and tab, 5 signs per linear km - spaced every 200 metres - multiply by 2 for both sides of the road) - \$3,900 for 'No Parking' signs (assumes \$150 per sign, 13 signs per linear km multiply by 2). Signs to be mounted on existing and new posts. Price depends on number of stencils and signs used - \$95,000 for pre-cast concrete curbs on both sides - Assume 70% of roadway to include physical delineation (700 metres per 1 linear km): 700 metres / 1.83m curb length = 382.5 pre-cast concrete curbs - 382.5 x \$250 = \$95,000 - Assume \$125 each 1.83m long curb x 2 = \$250 per linear metre of roadway (both sides) - \$21,000 for flexible bollards - Assume 700m spacing as per pre-cast curb placement above x 2 (both sides of the road). - 700m x 2 (both sides of the road) = \$1,400 - \$1,400 x \$150 (price per bollard) = \$21,000 - \$6 to \$8 per linear metre for lane line removal (soda blasting). Price varies on markings to be removed on a multi-lane roadway. Assume 1,660 metres of lane line removal for a 4 lane road: - 1000m of yellow line (centre line) per km (assume continuous line, no break at intersections) - 1 continuous dashed white line that separates 2 vehicles lanes (x2 for both sides of the road) - dashed white line: 3-3 skip pavement marking (3m long with 3m spacing) = 330m length x 2 for both sides of road = 660m
1.18	Buffered Bicycle Lane with Hatched Pavement Markings - Assumes New Road or Road Reconstruction/Widening already Planned	linear KM	\$393,000		Price for 1.5m bike lanes + 0.5m hatched buffers on both sides of the roadway (1.5m x 2 sides = 3.0m). The price assumes: - \$14,000 for catch basins and leads (\$350 per lead x 40 catch basins per linear km) - \$360,000 for asphalt and sub-base (\$55/m <sup>2</sup> = 120 x 1.5m BL x 1000 x 2) - \$19,000 for signs, stencils and edge line  The roadway project funds all other improvements.
1.19	Buffered Bicycle Lane with Hatched Pavement Markings - Retrofit / No new road reconstruction or widening is planned	linear KM	\$533,000		Price for 1.5m bike lanes + 0.5m hatched buffers on both sides of the roadway (1.5m x 2 sides = 3.0m). The price assumes: - \$14,000 for catch basins and leads (\$350 per lead x 40 catch basins per linear km) - \$360,000 for asphalt and sub-base (\$55/m <sup>2</sup> = 120 x 1.5m BL x 1000 x 2) - \$19,000 for signs, stencils and edge line - \$140,000 for removal and replacement of curb (140 / linear metre)  The roadway project funds all other improvements.
1.20	Buffered Bicycle Lane with Flex Bollards - Assumes Road Reconstruction/Widening Already Planned	linear KM	\$423,000		Price for 1.5m bike lanes + 0.5m hatched buffers + flexible bollards on both sides of the roadway (1.5m x 2 sides = 3.0m). The price assumes: - \$14,000 for catch basins and leads (\$350 per lead x 40 catch basins per linear km) - \$360,000 for asphalt and sub-base (\$55/m <sup>2</sup> = 120 x 1.5m BL x 1000 x 2) - \$19,000 for signs, stencils and edge line - \$30,000 for flexible bollards (\$150 per bollard, spaced every 10m)  The roadway project funds all other improvements.

ITEM	DESCRIPTION	UNIT	UNIT PRICE RANGE	PRICE USED	COMMENTS/ASSUMPTIONS
<b>Conventional and Separated Bike Lanes - CONT'D</b>					
1.21	Buffered Bicycle Lane with Pre-Cast Barrier - Assumes New road or Road Reconstruction/Widening Already Planned	linear KM	\$483,000		Price for 1.5m bike lanes + 0.5m hatched buffers + flexible bollards+ pre-cast and anchored curb delineators. The price assumes: - \$14,000 for catch basins and leads (\$350 per lead x 40 catch basins per linear km) - \$360,000 for asphalt and sub-base (\$55/m <sup>2</sup> = 120 x 1.5m BL x 1000 x 2) - \$19,000 for signs, stencils and edge line - \$30,000 for flexible bollards (\$150 per bollard, spaced every 10m) - \$50,000 - \$60,000 pre-cast curb delineators (\$250 / pre-case unit 2m length + \$7.5 / pins and anchoring. Assumes 2m long x 2 = 200-250 per km depending on intersections and driveways)  The roadway project funds all other improvements.
1.22	Supply and install surface mounted flexible post delineators	each	\$100 to \$150		Price depends on product, volume and supplier.
1.23	Standard precast concrete curb 178 mm high, 216 mm wide and 1.83 metre long	each	\$250		Approximately \$95,000 - \$100,000 per 1 linear kilometre. Assumes 70% of roadway to include physical delineation (700 metres per 1 linear kilometre): - 700 metres / 1.83 metres = 382.5 pre-cast concrete curbs - 382.5 x \$250 = \$95,000  Assume \$125 each 1.83m long curb x 2 = \$250 per linear metre of roadway (both sides).
1.24	Standard precast concrete curb 457 mm high, 457 mm wide and 3.05 metre long	each	\$1,380		Approximately \$315,000 - \$320,000 per 1 linear kilometre. Assumes 70% of roadway to include physical delineation (700 metres per 1 linear kilometre): - 700 metres / 3.05 metres = 229.5 pre-cast concrete curbs - 229.5 x \$1,380 = \$317,000
1.25	Standard precast concrete bullnose 457 mm high, 457 mm wide and 1.22 metre long	each	\$970		Approximately \$550,000 - \$560,000 per 1 linear kilometre. Assumes 70% of roadway to include physical delineation (700 metres per 1 linear kilometre): - 700 metres / 1.22 metres = 573.8 pre-cast concrete curbs - 573.8 x \$970 = \$556,557
<b>Cycle Tracks</b>					
1.26	Uni-directional Cycle Tracks: Raised and Curb Separated - In conjunction with existing road reconstruction / resurfacing project	linear KM	\$250,000 - \$500,000		Both sides. Assumes cycle track will be implemented as part of road construction. Could include minor utility / lighting pole relocations. Other components such as bike signals, bike boxes etc. are project specific and will impact unit price.
1.27	Uni-directional Cycle Tracks: Raised and Curb Separated - Retrofit Existing Roadway	linear KM	\$500,000 - \$1,200,000		Both sides. Includes construction but excludes design and signal modifications. Form of cycle track and materials as well as related components such as bike signals, upgrade/modification of signal controllers, utility/lighting pole relocations, bike boxes etc. are project specific and will impact unit price
1.28	Two Way Cycle Track - Retrofit Existing Roadway	linear KM	\$500,000 - \$800,000		One side. Includes construction but excludes design and signal modifications. Form of cycle track and materials as well as related components such as bike signals, upgrade/modification of signal controllers, utility/lighting pole relocations, bike boxes etc. are project specific and will impact unit price



ITEM	DESCRIPTION	UNIT	UNIT PRICE RANGE	PRICE USED	COMMENTS/ASSUMPTIONS
<b>Active Transportation Paths and Multi-Use Trails</b>					
1.29	Two Way Active Transportation Multi-use path within road right-of-way	linear KM	\$275,000 - \$375,000	\$375,000	3.0m wide hard surface pathway (asphalt) within road right of way (no utility relocations). Price depends of scale / complexity of project and if existing sidewalk is being removed (i.e. crushing of existing sidewalk and compacting for trail base).
1.30	Concrete Splash Strip placed within road right-of-way between Active Transportation Multi-Use Path and Roadway	m²	\$150		Colour Stamped Concrete
1.31	Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (New)	linear KM	\$300,000 - \$400,000	\$375,000	3.0m wide hard surface pathway (asphalt) within park setting (normal conditions) 90mm asphalt depth. Price depends of scale / complexity of project.
1.32	Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in Urban Setting (Upgrade existing granular surface)	linear KM	\$150,000 - \$225,000		Includes some new base work (25% approx.), half of the material excavated is removed from site. Price depends of scale / complexity of project.
1.33	Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in Urban Setting	linear KM	\$150,000 - \$165,000		3.0m wide, compacted stone dust surface normal site conditions. Price depends of scale / complexity of project.
1.34	Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in Rural Setting	linear KM	\$200,000		3.0m wide, compacted stone dust surface in complex site conditions (includes cost of clearing and grubbing). Price depends of scale / complexity of project.
1.35	Upgrade existing granular surface trail to meet 3.0m wide compacted granular trail standard	linear KM	\$75,000 - \$125,000		Includes some new base work (25% approx.) and an average of 20 regulatory signs per kilometre. Price depends of scale and existing trail conditions e.g. width, slope, location of trail, etc.
1.36	Off-Road Multi-Use Trail Outside of Road Right-of-Way on Abandoned Rail Bed	linear KM	\$80,000 - \$125,000		3.0m wide, compacted stone dust surface, includes signage along trail and gates at road crossings. Assumes ballast is still in place. Price depends of scale / complexity of project.
1.37	Granular Surfaced Multi-use Trail in a Woodland Setting	linear KM	\$175,000		2.4m wide, compacted stone dust surface. Price depends of scale / complexity of project.
1.38	Major rough grading (for multi-use pathway)	m²	\$8.00		Varies depending on a number of factors including site access, disposal location etc.
<b>2.0 PEDESTRIAN FACILITIES</b>					
2.1	Sidewalk	linear KM	\$300,000	\$300,000	Price for 1.5m concrete sidewalk. Include site prep., select utility relocation, minor drainage modifications / traffic control.
<b>3.0 STRUCTURES AND CROSSINGS</b>					
3.1	Pedestrian Bridge	each	\$1,140,000 - \$1,560,000	\$1,560,000	Cost for two prefabricated pedestrian bridge structures excluding cost for studies, design and construction administration. This will require the construction of a pier within the river channel.  A 'pony truss' or 'H-section' bridge style can span up to 55m and are the most economical design choice. For larger spans, a full 'box truss' is required and can span up to 80m.
3.2	Pedestrian Boardwalk (Light-Duty)	linear m	\$1500 - \$2500		Structure on footings, 3.0m wide with railings. Price depends of scale / complexity of project.
3.3	Open weathering steel truss pedestrian / cyclist bridge	linear m	\$10,000		Price for 4.0m width bridge includes abutments
3.4	Feature Trail Bridge crossing over a valley land / highway	each	\$2,500,000 - \$4,500,000		Depends on location, length and complexity of crossing as well as architectural detail.
3.5	Weather stairs with hand railing and gutter to run rainwater	each	\$6,500		1.8m wide, galvanized steel (assumes 8ft between each landing).
3.6	Pathway Crossing of Private Entrance	each	\$1500 - \$2000		Adjustment of existing curb cuts to accommodate 3.0m multi-use pathway
3.7	Median Refuge	each	\$20,000		Average price for basic refuge with curbs, no pedestrian signals
3.8	Mid-block Crossing	each	\$150,000 - \$180,000		Average price for new mid-block crossing
3.9	Stop signs and pavement markings for crossing	each		\$6,000	Average price for stop sign and durable pavement markings per intersection
3.10	Normalize Intersection	each		\$75,000	Close existing intersection to normalize as a standard 4 legged stop controlled intersection
3.11	Move Existing School Crossing	each		\$25,000	Average price for removing existing school crossing and repainting in a new location
3.12	Future Study for Local Intersection	each		\$15,000	Average price for a design study for local intersections
3.13	Future Study for Provincial Intersection	each		\$35,000	Average price for a design study for Provincial intersections (involving one or more Provincial roads)
3.14	Addition of Bollards to Enhance Crossing	each		\$5,000	Average price for the addition of bollards per intersection or crossing
3.15	Intersection Signalization	each		\$180,000	Full signalization of intersection with potential to add cycling facility and improvements
3.16	Intersection Pedestrian / Bike Signal	each	\$80,000		Average price for intersection pedestrian signal. Assumes partial rebuild of intersection for bike signals i.e. rearrangement of ducts and poles.
3.17	At grade railway crossing	each	\$120,000		Flashing lights, motion sensing switch (C.N. estimate)
3.18	At grade railway crossing with gate	each	\$300,000		Flashing lights, motion sensing switch and automatic gate (C.N. estimate)
3.19	Below grade railway crossing	each	\$500,000 - \$750,000		3.0m wide, unlit culvert style approx. 10 m long for single elevated railway track
3.20	Multi use subway under 4 lane road	each	\$1,000,000 - \$1,200,000		Guideline price only for basic 3.3 m wide, lit.
3.21	Retaining Wall	m²	\$1,200		Face metre squared

ITEM	DESCRIPTION	UNIT	UNIT PRICE RANGE	PRICE USED	COMMENTS/ASSUMPTIONS
<b>4.0 BARRIERS AND ACCESS CONTROL FOR MULTI-USE TRAILS OUTSIDE OF THE ROAD RIGHT-OF-WAY</b>					
4.1	Lockable gate (2 per road crossing)	each	\$4,000		Heavy duty gates (e.g. equestrian supported step over gate). Price for one side of road - 2 required per road crossing. Typically only required in rural settings or city boundary areas
4.2	Metal offset gates	each	\$2,000		"P"-style park gate
4.3	Removable Bollard	each	\$500 - \$750		Basic style (e.g. 75mm diameter galvanized), with footing. Increase budget for decorative style bollards
4.4	Berming/boulders at road crossing	each	\$1,200		Price for one side of road (2 required per road crossing)
4.5	Granular parking lot at staging area (15 car capacity-gravel)	each	\$45,000		Basic granular surfaced parking area (i.e. 300mm granular B sub-base with 150mm granular A surface), with precast bumper curbs. Includes minor landscaping and site furnishings, such as garbage receptacles and bike racks.
4.6	Paige wire fencing	linear M	\$60		1.5m height with peeled wood posts
4.7	Chain link fencing	linear M	\$90 - \$110		Galvanized, 1.5m height
<b>5.0 SIGNAGE</b>					
5.1	Regulatory and caution Signage (off-road pathway) on new metal post	each	\$150 - \$250		300mm x 300mm metal signboard c/w metal "u" channel post
5.2	Signboards for interpretive sign	each	\$2,400		Does not include graphic design. Based on a 600mm x 900mm typical size and embedded polymer material, up to 40% less for aluminum or aluminum composite panel
5.3	Staging area kiosk	each	\$2,000 - \$10,000		Wide range provided. Price depends on design and materials selected. Does not include design and supply of signboards
5.4	Signboards for staging area kiosk sign	each	\$1,500 - \$2,000		Typical production cost, does not include graphic design (based on a 900mm x 1500mm typical size and embedded polymer material). Up to 40% less for aluminum or aluminum composite panel
5.5	Pathway directional sign	each	\$350 - \$500		Bollard / post (100mm x100mm marker), with graphics on all 4 sides
5.6	Pathway marker sign	each	\$250		Bollard / post (100mm x100mm marker), graphics on one side only
5.7	Pathway marker sign	linear KM	\$1,000		Price for both sides of the path, assumes one sign on average, per direction of travel every 0.5 km
5.8	Bike sign	each	\$200		Price for one side of road.
<b>6.0 BICYCLE PARKING INFRASTRUCTURE</b>					
6.1	Bicycle rack (Post and Ring style)	each	\$150 - \$250		Holds 2 bicycles , price varies depending on manufacturer (includes installation).
6.2	Bicycle rack (U style)	each	\$600		Holds 2 bicycles , price varies depending on manufacturer (includes installation).
6.3	Bicycle rack	each	\$1,800		Holds 6 bicycles, price varies depending on manufacturer (includes installation).
6.4	Bicycle Locker	each	\$3,000		Price varies depending on style and size. Does not include concrete mounting pad.
6.5	Bike Loop	each	\$2,500		Price for installation including labour and equipment. Price also includes materials e.g. two channel detector for traffic cabinet, bike loop (wire and sealant), cable to traffic cabinet, handhole and conduit.
6.6	Bicycle Corral (one parking space with bollards)	each	\$1,500 - \$2,900		Price may vary from \$1,500 (galvanized finish with the mad shield corrosion warranty) to \$2,900 (stainless finish with the mad shield corrosion warranty) for one parking space.
<b>7.0 LIGHTING AND UTILITIES</b>					
7.1	Pathway Lighting	per 25 m	\$5,000		Includes cabling, connection to power supply, transformers and fixtures.
7.2	Relocation of Light / Support Pole	each	\$4,000		Adjustment of pole offset (distance between pole and roadway).
7.3	Relocation of Signal Pole / Utility Box	each	\$8,000		Adjustment of pole offset (distance between pole and roadway).
<b>8.0 PAVEMENT MARKINGS</b>					
8.1	Sharrow Symbol	each	\$400		Price for durable paint. Sharrow symbol with green pavement marking
8.2	Bike Symbol	each	\$400		Price depends on volume
8.2	Line Painting	linear M	\$6		Price for durable paint.
8.2	Removal of Line Painting	linear M	\$3		N/A
<b>9.0 OTHER</b>					
9.1	Bike Box	each	\$1,500		Price may vary depending on road cross-section (e.g. two lane roadway, four lane roadway, etc.). Price includes installing a bike box on the approach of an intersection using a bike stencil and durable e.g. green surface treatment (\$250 / each). Price also include estimate to move stop-bar back to provide space for bike box.
9.2	Clearing and Grubbing	m²	\$15		
9.3	Bench	each	\$1,000 - \$2,000		Price varies depending on style and size. Does not include footing/concrete mounting pad
9.4	Safety Railings / Rubrail	linear M	\$300		1.4m height basic post and rail style
9.5	Small diameter culvert	each (6 m)	\$1,200		Price range applies to 400mm to 600mm diameter PVC or CSP culverts for drainage below trail
9.6	Flexible Bollards	each	\$110		Should be placed at 10m intervals where required. Cost depends on product type used.

- Notes:**
1. Unit Prices are for functional design purposes only, include installation but exclude contingency, design and approvals costs (unless noted) and reflect 2021 dollars, based on projects in southern Ontario.
  2. Estimates do not include the cost of property acquisitions, signal modifications, utility relocations, major roadside drainage works or costs associated with site-specific projects such as bridges, railway crossings, retaining walls, and stairways, unless otherwise noted.
  3. Assumes typical environmental conditions and topography.
  4. Applicable taxes and permit fees are additional.

**Table 2 - Proposed Crossing Enhancements**

This table provides an overview of the estimated costs and phasing for the proposed crossing enhancements.

ID	Existing Crossing	Proposed Enhancement	Intersection	PHASE	Total Cost
C0	4 legged, stop controlled on North, East and South approach.	Add stop signs and pavement markings	Ferguson Avenue/Main Street	Short	\$ 6,000
C1	4 legged, stop controlled on North, West and South approach. Channelized right turn on the South School crossing	Closing channelized intersection and normalizing it as a standard 4 legged stop controlled intersection	Rorke Avenue/Main Street	Short	\$ 75,000
C2	4 legged, stop controlled on East and West School crossing just north of the intersection	Move school crossing for Ecole Saint Croix School to Rorke/Cecil	Cecil St/Rorke Avenue	Short	\$ 25,000
C3	4 legged, stop controlled on East and West Steep coming down on Browning	Add stop signs and pavement markings	Browning Street/Ferguson Avenue	Short	\$ 6,000
C4	3 legged, stop controlled on Hessle No pedestrian facility to cross coming off of the STATO Trail	Monitor current configuration of the raised crosswalk at the school  Recommend for future detail design study in this intersection to improve safety and reduce conflicts	STATO Trail/Hessle Avenue	Long	\$ 15,000
C5	4 legged, signalized intersection Angle and configuration difficult for cyclists to cross	Add bollards	Armstrong Street/Elm Avenue	Short	\$ 5,000
C6	3 legged, stop controlled on Farah	Monitor for future traffic control	Lakeshore Road North/Farah Avenue	Long	-
C7	4 legged, stop controlled on East and West, channelized right turns	Recommend for active transportation consideration in future reconstruction of the road for improved safety for all users	Highway 11/Drive In Theatre Road	Long	\$ 35,000
C8	3 legged, stop controlled on Grant No pedestrian facilities	Add stop signs and pavement markings	Drive In Theatre/Grant Drive	Short	\$ 6,000
C9	3 legged, stop controlled on Radley Hill Road Steep hill coming off of Radley Hill	Signalized, potential to add cycling facility with improvements	Radley Hill Road/STATO Trail	Long	\$ 180,000

Table 3 - Proposed Active Transportation Routes

This table provides a breakdown of the proposed routes, including length, phase and costing.

ID	Street	From	To	Facility	Phase	Length KM	Unit Cost	Segment Cost	Design Cost (10%)	Contingency Cost (15%)	Total Cost
1212	MAIN STREET	Rorke Avenue	Niven Street South	BL	Short	0.40	\$ 29,000	\$ 11,659	\$ 1,166	\$ 1,749	\$ 14,574
12	RORKE AVENUE	Joyal Drive	Arnold Drive	BUFF BL	Short	0.08					
15	MAIN STREET	Ferguson Avenue	Georgina Avenue	BUFF BL	Short	0.17	\$ 65,000	\$ 10,986	\$ 1,099	\$ 1,648	\$ 13,732
16	WHITEWOOD AVENUE	Golding Street	Grills Street	BUFF BL	Short	0.04	\$ 65,000	\$ 2,861	\$ 286	\$ 429	\$ 3,576
56	RIVERSIDE DRIVE	May Street	Sharpe Street	BUFF BL	Short	0.04	\$ 65,000	\$ 2,860	\$ 286	\$ 429	\$ 3,575
59	RORKE AVENUE	Algonquin Drive	Lawlor Street	BUFF BL	Short	0.09					
93	RORKE AVENUE	Arnold Drive	Algonquin Drive	BUFF BL	Short	0.16					
94	RORKE AVENUE	Albert Street	Little Street	BUFF BL	Short	0.09					
101	RORKE AVENUE	Blackwall Street	Marcella Street	BUFF BL	Short	0.09					
108	RORKE AVENUE	Russel Street	Blackwall Street	BUFF BL	Short	0.09					
143	RORKE AVENUE	Morrisette Drive	Buffam Drive	BUFF BL	Short	0.10					
179	RORKE AVENUE	Lawlor Street	Albert Street	BUFF BL	Short	0.10					
216	ARMSTRONG STREET	Whitewood Avenue	Church Street	BUFF BL	Long	0.14	\$ 65,000	\$ 8,973	\$ 897	\$ 1,346	\$ 11,216
322	RORKE AVENUE	View Street	Cecil Street	BUFF BL	Short	0.09					
348	RORKE AVENUE	Buffam Drive	Joyal Drive	BUFF BL	Short	0.08					
386	WHITEWOOD AVENUE	Paget Street	Mary Street	BUFF BL	Short	0.11	\$ 65,000	\$ 6,826	\$ 683	\$ 1,024	\$ 8,533
389	WHITEWOOD AVENUE	Nivean Street North	Maple Street North	BUFF BL	Short	0.05	\$ 65,000	\$ 2,925	\$ 293	\$ 439	\$ 3,657
441	RORKE AVENUE	Main Street	Rorke Avenue	BUFF BL	Short	0.03					
462	WHITEWOOD AVENUE	John Street	Niven Street North	BUFF BL	Short	0.12	\$ 65,000	\$ 7,671	\$ 767	\$ 1,151	\$ 9,589
602	WHITEWOOD AVENUE	Edith Street	Scott Street	BUFF BL	Short	0.14	\$ 65,000	\$ 9,101	\$ 910	\$ 1,365	\$ 11,376
607	RORKE AVENUE	Amwell Street	Main Street	BUFF BL	Short	0.06					
677	RORKE AVENUE	Little Street	Elliot Street	BUFF BL	Short	0.10					
681	MAIN STREET	Georgina Avenue	Rorke Avenue	BUFF BL	Short	0.15	\$ 65,000	\$ 9,492	\$ 949	\$ 1,424	\$ 11,865
743	ARMSTRONG STREET SOUTH	Whitewood Avenue	Cedar Street	BUFF BL	Long	0.21	\$ 65,000	\$ 13,685	\$ 1,368	\$ 2,053	\$ 17,106
745	WHITEWOOD AVENUE	Wellington Street	Paget Street	BUFF BL	Short	0.11	\$ 65,000	\$ 7,086	\$ 709	\$ 1,063	\$ 8,857
752	RORKE AVENUE	Amwell Street	Marcella Street	BUFF BL	Short	0.09					
753	ARMSTRONG STREET	Sharpe Street	Church Street	BUFF BL	Long	0.06	\$ 65,000	\$ 3,578	\$ 358	\$ 537	\$ 4,472
782	WHITEWOOD AVENUE	Mary Street	Mary Street	BUFF BL	Short	0.02	\$ 65,000	\$ 1,235	\$ 124	\$ 185	\$ 1,544
795	RORKE AVENUE	Elliot Street	View Street	BUFF BL	Short	0.10					
849	WHITEWOOD AVENUE	Armstrong Street	Wellington Street	BUFF BL	Short	0.11	\$ 65,000	\$ 6,826	\$ 683	\$ 1,024	\$ 8,532
862	WHITEWOOD AVENUE	Regina Street	Glen Road	BUFF BL	Short	0.05	\$ 65,000	\$ 3,202	\$ 320	\$ 480	\$ 4,002
893	WHITEWOOD AVENUE	Mary Street	John Street	BUFF BL	Short	0.12	\$ 65,000	\$ 7,800	\$ 780	\$ 1,170	\$ 9,750
925	WHITEWOOD AVENUE	Scott Street	Rockeby Street	BUFF BL	Short	0.03	\$ 65,000	\$ 1,885	\$ 189	\$ 283	\$ 2,357
936	WHITEWOOD AVENUE	Grill Street	Regina Street	BUFF BL	Short	0.15	\$ 65,000	\$ 9,555	\$ 956	\$ 1,433	\$ 11,944
971	WHITEWOOD AVENUE	Maple Street North	Edith Street	BUFF BL	Short	0.18	\$ 65,000	\$ 11,505	\$ 1,151	\$ 1,726	\$ 14,382
978	WHITEWOOD AVENUE	May Street	Armstrong Street South	BUFF BL	Short	0.11	\$ 65,000	\$ 7,151	\$ 715	\$ 1,073	\$ 8,939
985	WHITEWOOD AVENUE	Jaffray Street	Golding Street	BUFF BL	Short	0.10	\$ 65,000	\$ 6,500	\$ 650	\$ 975	\$ 8,125
989	RORKE AVENUE	Cecil Street	Russel Street	BUFF BL	Short	0.09					
1013	WHITEWOOD AVENUE	Rockeby Street	Jaffray Street	BUFF BL	Short	0.06	\$ 65,000	\$ 3,966	\$ 397	\$ 595	\$ 4,957
241	LAKESHORE ROAD NORTH	Beach Boulevard	Melville Street	BUFF BL OR 2WAY 1SIDE	Short	0.38	\$ 65,000	\$ 24,389	\$ 2,439	\$ 3,658	\$ 30,486
469	LAKESHORE ROAD NORTH	Cedar Avenue	Wedgewood Avenue	BUFF BL OR 2WAY 1SIDE	Short	0.17	\$ 65,000	\$ 11,191	\$ 1,119	\$ 1,679	\$ 13,989
479	LAKESHORE ROAD NORTH	Melville Street	Montgomery Avenue	BUFF BL OR 2WAY 1SIDE	Short	0.15	\$ 65,000	\$ 9,527	\$ 953	\$ 1,429	\$ 11,909
807	PAGET STREET	Whitewood Avenue	Farah Avenue	BUFF BL OR 2WAY 1SIDE	Short	0.15	\$ 65,000	\$ 10,034	\$ 1,003	\$ 1,505	\$ 12,543
1292	LAKESHORE ROAD NORTH	Bay Street	Montgomery Avenue	BUFF BL OR 2WAY 1SIDE	Short	0.19	\$ 65,000	\$ 12,309	\$ 1,231	\$ 1,846	\$ 15,386
1293	LAKESHORE ROAD NORTH	Wedgewood Avenue	Broadwood Avenue	BUFF BL OR 2WAY 1SIDE	Short	0.17	\$ 65,000	\$ 10,853	\$ 1,085	\$ 1,628	\$ 13,566
1304	LAKESHORE ROAD NORTH	Market Street	Bay Street	BUFF BL OR 2WAY 1SIDE	Short	0.15	\$ 65,000	\$ 9,728	\$ 973	\$ 1,459	\$ 12,160
24	HIGHWAY 65	Bedard Drive	Bedard Drive	BUFF PS	Short	0.04	\$ 300,000	\$ 13,151	\$ 1,315	\$ 1,973	\$ 16,439
104	KING STREET	Cross Lake Road	Niven Street South	Buff PS	Short	0.06					
340	HIGHWAY 65	Bedard Drive	Highway 65	BUFF PS	Long	1.45	\$ 300,000	\$ 434,318	\$ 43,432	\$ 65,148	\$ 542,898
424	WHITEWOOD AVENUE	Glen Road	High Street	BUFF PS	Short	0.18	\$ 300,000	\$ 52,723	\$ 5,272	\$ 7,908	\$ 65,903
532	KING STREET	4th Street	South of 4th Street	Buff PS	Short	0.03					
554	KING STREET	South of 4th Street	North of Louise Street	Buff PS	Short	0.63					
569	KING STREET	North of Louise Street	Louise Street	Buff PS	Short	0.82					
707	KING STREET	Crosslake Road	Steward Avenue	Buff PS	Short	0.41					
749	KING STREET	Station Street	Niven Street South	Buff PS	Short	0.13					
762	KING STREET	4th Street	3rd Street	Buff PS	Short	0.14					
804	KING STREET	2nd Street	3rd Street	Buff PS	Short	0.12					
814	KING STREET	Groom Drive	Lakeview Drive	Buff PS	Short	0.30					
819	WHITEWOOD AVENUE	High Street	Bedard Drive	BUFF PS	Short	0.39	\$ 300,000	\$ 116,456	\$ 11,646	\$ 17,468	\$ 145,570
848	PETES DAM ROAD	Highway 65	West of Highway 65	BUFF PS	Long	0.69	\$ 300,000	\$ 206,896	\$ 20,690	\$ 31,034	\$ 258,620
970	KING STREET	2nd Street	1st Street	Buff PS	Short	0.11					
974	KING STREET	1st Street	Groom Drive	Buff PS	Short	0.21					

ID	Street	From	To	Facility	Phase	Length KM	Unit Cost	Segment Cost	Design Cost (10%)	Contingency Cost (15%)	Total Cost
991	KING STREET	Lakeview Drive	Stewart Avenue	Buff PS	Short	0.21					
1008	KING STREET	Carter Boulevard	Station Street	Buff PS	Short	0.16					
1347	PETES DAM ROAD	West of Highway 65	Petes Dam Trail	BUFF PS	Long	0.52	\$ 300,000	\$ 155,199	\$ 15,520	\$ 23,280	\$ 193,998
14	MORISSETTE DRIVE	Georgina Avenue	Rorke Street	MUP	Long	0.15	\$ 375,000	\$ 57,256	\$ 5,726	\$ 8,588	\$ 71,570
405	ALBERT STREET	Georgina Avenue	Rorke Avenue	MUP	Long	0.17	\$ 375,000	\$ 64,886	\$ 6,489	\$ 9,733	\$ 81,107
597	CARTER BOULEVARD	Cobalt Street	King Street	MUP	Long	0.06	\$ 375,000	\$ 22,137	\$ 2,214	\$ 3,320	\$ 27,671
731	ALBERT STREET	Meridian Avenue	Georgina Avenue	MUP	Long	0.24	\$ 375,000	\$ 89,270	\$ 8,927	\$ 13,390	\$ 111,587
851	CARTER BOULEVARD	Lakeview Drive	Stewart Avenue	MUP	Long	0.21	\$ 375,000	\$ 77,639	\$ 7,764	\$ 11,646	\$ 97,049
904	CARTER BOULEVARD	Stewart Avenue	Silver Lane	MUP	Long	0.20	\$ 375,000	\$ 73,536	\$ 7,354	\$ 11,030	\$ 91,920
1011	CARTER BOULEVARD	Silver Lake	Cobalt Street	MUP	Long	0.39	\$ 375,000	\$ 147,380	\$ 14,738	\$ 22,107	\$ 184,224
1034	ALBERT STREET	Bruce Street	Meridian Avenue	MUP	Long	0.16	\$ 375,000	\$ 59,269	\$ 5,927	\$ 8,890	\$ 74,086
1348	Dymond Recreation Park Trail	School	Dymond Recreation Park	OFF RD MUT	Short	0.05	\$ 375,000	\$ 18,876	\$ 1,888	\$ 2,831	\$ 23,595
964	ARMSTRONG STREET	Wellington Street	Beavis Terrace	PILOT PROJECT	Short	0.19	\$ 194,620	\$ 36,012	\$ 3,601	\$ 5,402	\$ 45,016
1430	Proposed Pedestrian Bridge	STATO Trail	Murray Street	Proposed Pedestrian Bridge	Long	0.09	\$ 1,560,000	\$ 1,560,000	\$ 156,000	\$ 234,000	\$ 1,950,000
47	LAKEVIEW DRIVE	Crosslake Road	Queen Street	PS	Long	0.11	\$ 215,000	\$ 23,869	\$ 2,387	\$ 3,580	\$ 29,836
48	SHEPHERDSON ROAD	Helmer Pedersen Drive	Bolger Avenue	PS	Long	0.09	\$ 215,000	\$ 20,215	\$ 2,021	\$ 3,032	\$ 25,268
157	LAKEVIEW DRIVE	Birch Street	Carter Boulevard	PS	Long	0.11	\$ 215,000	\$ 22,584	\$ 2,258	\$ 3,388	\$ 28,230
203	LAKEVIEW DRIVE	Carter Boulevard	Station Street	PS	Long	0.11	\$ 215,000	\$ 22,794	\$ 2,279	\$ 3,419	\$ 28,492
221	SHEPHERDSON ROAD	South of Barr Avenue	Barr Avenue	PS	Long	0.29	\$ 215,000	\$ 62,554	\$ 6,255	\$ 9,383	\$ 78,193
232	LAKEVIEW DRIVE	East of Maple Street South	Maple Street South	PS	Long	0.21	\$ 215,000	\$ 44,661	\$ 4,466	\$ 6,699	\$ 55,826
238	PETERS ROAD	Highway 65	Drive In Theatre Road	PS	Long	1.65	\$ 215,000	\$ 354,595	\$ 35,459	\$ 53,189	\$ 443,243
278	RORKE STREET	South of Morissette Drive	Morissette Drive	PS	Short	0.22					
285	PETERS ROAD	Dawson Point Road	Red Fox Avenue	PS	Long	0.11	\$ 215,000	\$ 23,188	\$ 2,319	\$ 3,478	\$ 28,985
319	HIGH STREET	Whitewood Avenue	Douglas Street	PS	Long	0.34	\$ 215,000	\$ 73,685	\$ 7,368	\$ 11,053	\$ 92,106
354	SILVER CENTRE ROAD	Bucke Parkroad	Cobetec Road	PS	Long	0.98	\$ 215,000	\$ 211,086	\$ 21,109	\$ 31,663	\$ 263,857
378	RADLEY HILL ROAD	Lakeshore Road North	Roseneath Avenue	PS	Long	0.26	\$ 215,000	\$ 55,862	\$ 5,586	\$ 8,379	\$ 69,828
385	SHEPHERDSON ROAD	North of Radley Hill Road	North of Radley Hill Road	PS	Long	0.19	\$ 215,000	\$ 41,036	\$ 4,104	\$ 6,155	\$ 51,295
501	SHEPHERDSON ROAD	Barr Avenue	Helmer Pedersen Drive	PS	Long	0.29	\$ 215,000	\$ 61,760	\$ 6,176	\$ 9,264	\$ 77,200
503	SHEPHERDSON ROAD	Broadwood Avenue	Bolger Avenue	PS	Long	0.24	\$ 215,000	\$ 51,615	\$ 5,161	\$ 7,742	\$ 64,519
504	PETERS ROAD	Highway 65	Red Fox Avenue	PS	Long	0.61	\$ 215,000	\$ 130,785	\$ 13,078	\$ 19,618	\$ 163,481
549	SILVER CENTRE ROAD	South of Groom Drive	Groom Drive	PS	Long	0.61	\$ 215,000	\$ 131,185	\$ 13,118	\$ 19,678	\$ 163,981
555	SHEPHERDSON ROAD	North of Radley Hill Road	Radley Hill Road	PS	Long	0.10	\$ 215,000	\$ 20,531	\$ 2,053	\$ 3,080	\$ 25,664
558	LAKEVIEW DRIVE	Proctors Road	East of Maple Street South	PS	Long	0.35	\$ 215,000	\$ 74,675	\$ 7,467	\$ 11,201	\$ 93,344
568	SHEPHERDSON ROAD	Barr Avenue	North of Radley Hill Road	PS	Long	0.13	\$ 215,000	\$ 28,535	\$ 2,853	\$ 4,280	\$ 35,669
574	SHEPHERDSON ROAD	Broadwood Avenue	Douglas Street	PS	Long	0.28	\$ 215,000	\$ 61,000	\$ 6,100	\$ 9,150	\$ 76,249
589	SILVER CENTRE ROAD	Groom Drive	Proctors Road	PS	Long	0.40	\$ 215,000	\$ 86,109	\$ 8,611	\$ 12,916	\$ 107,636
739	LAKEVIEW DRIVE	Maple Street South	Birch Street	PS	Long	0.10	\$ 215,000	\$ 21,725	\$ 2,172	\$ 3,259	\$ 27,156
766	RADLEY HILL ROAD	West of Roseneath Avenue	Shepherdson Road	PS	Long	1.04	\$ 215,000	\$ 223,060	\$ 22,306	\$ 33,459	\$ 278,825
767	LAKEVIEW DRIVE	Lakeview Drive	King Street	PS	Long	0.10	\$ 215,000	\$ 21,934	\$ 2,193	\$ 3,290	\$ 27,418
794	BUCKE PARK ROAD	STATO Trail	Silver Centre Road	PS	Long	1.06	\$ 215,000	\$ 227,274	\$ 22,727	\$ 34,091	\$ 284,092
799	LAKEVIEW DRIVE	Station Street	Crosslake Road	PS	Long	0.09	\$ 215,000	\$ 18,932	\$ 1,893	\$ 2,840	\$ 23,665
846	RORKE STREET	North of Carter Boulevard	Carter Boulevard	PS	Short	0.20					
897	DAWSON POINT ROAD	Peters Road	STATO Trail	PS	Long	0.41	\$ 215,000	\$ 88,004	\$ 8,800	\$ 13,201	\$ 110,006
946	RADLEY HILL ROAD	West of Roseneath Avenue	Roseneath Avenue	PS	Long	0.04	\$ 215,000	\$ 8,095	\$ 809	\$ 1,214	\$ 10,119
1429	Drive In Theatre Road	Peters Road	St Joseph's Court	PS	Short	0.89	\$ 215,000	\$ 192,260	\$ 19,226	\$ 28,839	\$ 240,325
1432	Drive In Theatre Road	St Joseph's Court	Highway 11	PS	Short	0.65	\$ 215,000	\$ 140,784	\$ 14,078	\$ 21,118	\$ 175,980
277	DYMOND AVENUE	Dymond Avenue	Mary Street	SH	Short	0.16	\$ 11,600	\$ 1,812	\$ 181	\$ 272	\$ 2,264
724	CHURCH STREET	Wellington Street	Paget Street	SH	Short	0.14	\$ 11,600	\$ 1,568	\$ 157	\$ 235	\$ 1,961
830	PAGET STREET	Spruce Street	Church Street	SH	Short	0.12	\$ 11,600	\$ 1,380	\$ 138	\$ 207	\$ 1,726
865	WELLINGTON STREET	Armstrong Street	Church Street	SH	Short	0.17	\$ 11,600	\$ 1,995	\$ 199	\$ 299	\$ 2,494
881	CHURCH STREET	Armstrong Street	Wellington Street	SH	Short	0.13	\$ 11,600	\$ 1,451	\$ 145	\$ 218	\$ 1,814
920	SPRUCE STREET	Wellington Street	Paget Street	SH	Short	0.11	\$ 11,600	\$ 1,253	\$ 125	\$ 188	\$ 1,566
949	WELLINGTON STREET	Church Street	Spruce Street	SH	Short	0.04	\$ 11,600	\$ 452	\$ 45	\$ 68	\$ 566
952	DYMOND AVENUE	Mary Street	John Street	SH	Short	0.12	\$ 11,600	\$ 1,381	\$ 138	\$ 207	\$ 1,726
1017	DYMOND AVENUE	John Street	Niven Street North	SH	Short	0.12	\$ 11,600	\$ 1,357	\$ 136	\$ 204	\$ 1,697
1352	Farr Drive	Main Street	Farr Drive	Sidewalk	Long	0.07	\$ 300,000	\$ 19,985	\$ 1,998	\$ 2,998	\$ 24,981
1353	Meridian Avenue	Main Street	South of Amwell Street	Sidewalk	Long	0.10	\$ 300,000	\$ 28,681	\$ 2,868	\$ 4,302	\$ 35,852
1354	Ferguson Avenue	South of Amwell Street	Marcella Street	Sidewalk	Long	0.06	\$ 300,000	\$ 16,830	\$ 1,683	\$ 2,525	\$ 21,038
1355	Browning Street	Lakeshore Road South	West of Lakeshore Road South	Sidewalk	Long	0.02	\$ 300,000	\$ 6,809	\$ 681	\$ 1,021	\$ 8,512
1356	Browning Street	Ferguson Avenue	Georgina Avenue	Sidewalk	Long	0.15	\$ 300,000	\$ 45,762	\$ 4,576	\$ 6,864	\$ 57,203
1357	Broadway Street	Broadway Street	Browning Street	Sidewalk	Long	0.13	\$ 300,000	\$ 38,726	\$ 3,873	\$ 5,809	\$ 48,408
1358	Probyn Street	Latchford Street	Browning Street	Sidewalk	Long	0.15	\$ 300,000	\$ 45,663	\$ 4,566	\$ 6,849	\$ 57,079
1359	Amwell Street	Ferguson Avenue	Georgina Avenue	Sidewalk	Long	0.16	\$ 300,000	\$ 47,530	\$ 4,753	\$ 7,129	\$ 59,412
1360	Marcella Street	Georgina Avenue	Rorke Avenue	Sidewalk	Long	0.15	\$ 300,000	\$ 44,664	\$ 4,466	\$ 6,700	\$ 55,830
1361	Rorke Avenue	South of Main Street	Amwell Street	Sidewalk	Long	0.04	\$ 300,000	\$ 12,455	\$ 1,245	\$ 1,868	\$ 15,569
1362	Rorke Avenue	Marcella Street	Blackwall Street	Sidewalk	Long	0.08	\$ 300,000	\$ 23,003	\$ 2,300	\$ 3,450	\$ 28,754
1363	Sutherland Way	Russel Street	Blackwall Street	Sidewalk	Long	0.07	\$ 300,000	\$ 21,872	\$ 2,187	\$ 3,281	\$ 27,340

ID	Street	From	To	Facility	Phase	Length KM	Unit Cost	Segment Cost	Design Cost (10%)	Contingency Cost (15%)	Total Cost
1364	Russel Street	Georgina Avenue	Rorke Avenue	Sidewalk	Long	0.15	\$ 300,000	\$ 46,454	\$ 4,645	\$ 6,968	\$ 58,068
1365	Cecil Street	Rorke Avenue	Georgina Avenue	Sidewalk	Long	0.16	\$ 300,000	\$ 46,589	\$ 4,659	\$ 6,988	\$ 58,237
1366	Rorke Avenue	Blackwall Street	Russel Street	Sidewalk	Long	0.09	\$ 300,000	\$ 28,331	\$ 2,833	\$ 4,250	\$ 35,414
1367	Sutherland Way	Cecil Street	Russel Street	Sidewalk	Long	0.07	\$ 300,000	\$ 22,434	\$ 2,243	\$ 3,365	\$ 28,043
1368	Blackwall Street	Meridian Avenue	Sutherland Way	Sidewalk	Long	0.07	\$ 300,000	\$ 21,431	\$ 2,143	\$ 3,215	\$ 26,789
1369	Marcella Street	Ferguson Avenue	Meridian Avenue	Sidewalk	Long	0.05	\$ 300,000	\$ 15,206	\$ 1,521	\$ 2,281	\$ 19,008
1370	Ferguson Avenue	Marcella Street	Blackwall Street	Sidewalk	Long	0.08	\$ 300,000	\$ 22,865	\$ 2,287	\$ 3,430	\$ 28,582
1371	Farr Drive	Farr Drive	Marcella Street	Sidewalk	Long	0.30	\$ 300,000	\$ 88,932	\$ 8,893	\$ 13,340	\$ 111,165
1372	Farr Drive	Farr Drive	Marcella Street	Sidewalk	Long	0.29	\$ 300,000	\$ 86,690	\$ 8,669	\$ 13,004	\$ 108,363
1373	Marcella Street	Farr Drive	Meridian Avenue	Sidewalk	Long	0.11	\$ 300,000	\$ 33,678	\$ 3,368	\$ 5,052	\$ 42,098
1374	Blackwall Street	Farr Drive	Meridian Avenue	Sidewalk	Long	0.11	\$ 300,000	\$ 31,736	\$ 3,174	\$ 4,760	\$ 39,669
1375	Blackwall Street	Farr Drive	Meridian Avenue	Sidewalk	Long	0.10	\$ 300,000	\$ 31,401	\$ 3,140	\$ 4,710	\$ 39,252
1376	Leslie Mcfarlane Way	Marcella Street	Main Street	Sidewalk	Long	0.17	\$ 300,000	\$ 50,314	\$ 5,031	\$ 7,547	\$ 62,892
1377	Little Street	Georgina Avenue	Rorke Avenue	Sidewalk	Long	0.14	\$ 300,000	\$ 41,190	\$ 4,119	\$ 6,179	\$ 51,488
1378	Rorke Avenue	Little Street	View Street	Sidewalk	Long	0.20	\$ 300,000	\$ 60,217	\$ 6,022	\$ 9,032	\$ 75,271
1379	Rorke Avenue	South of Little Street	North of Albert Street	Sidewalk	Long	0.05	\$ 300,000	\$ 14,175	\$ 1,418	\$ 2,126	\$ 17,719
1380	Albert Street	Bruce Street	Rorke Avenue	Sidewalk	Long	0.56	\$ 300,000	\$ 168,143	\$ 16,814	\$ 25,221	\$ 210,178
1381	Little Street	West of Meridian Avenue	Georgina Avenue	Sidewalk	Long	0.16	\$ 300,000	\$ 48,137	\$ 4,814	\$ 7,220	\$ 60,171
1382	Meridian Avenue	Cecil Street	Elliot Street	Sidewalk	Long	0.18	\$ 300,000	\$ 54,590	\$ 5,459	\$ 8,189	\$ 68,238
1383	Meridian Avenue	Albert Street	Elliot Street	Sidewalk	Long	0.17	\$ 300,000	\$ 51,907	\$ 5,191	\$ 7,786	\$ 64,883
1384	Meridian Avenue	Little Street	Albert Street	Sidewalk	Long	0.08	\$ 300,000	\$ 22,889	\$ 2,289	\$ 3,433	\$ 28,611
1385	Georgina Avenue	Little Street	Morisette Drive	Sidewalk	Long	0.71	\$ 300,000	\$ 213,809	\$ 21,381	\$ 32,071	\$ 267,261
1386	Cecil Street	Meridian Avenue	Georgina Avenue	Sidewalk	Long	0.22	\$ 300,000	\$ 65,965	\$ 6,596	\$ 9,895	\$ 82,456
1387	Lakeshore Road South	North of Browning Street	Browning Street	Sidewalk	Long	0.04	\$ 300,000	\$ 11,957	\$ 1,196	\$ 1,794	\$ 14,947
1388	Georgina Avenue	West of Lakeshore Road South	West of Lakeshore Road South	Sidewalk	Long	0.03	\$ 300,000	\$ 8,107	\$ 811	\$ 1,216	\$ 10,133
1389	Georgina Avenue	Lakeshore Road South	West of Lakeshore Road South	Sidewalk	Long	0.07	\$ 300,000	\$ 22,055	\$ 2,206	\$ 3,308	\$ 27,569
1390	Florence Street	Lathford Street	Rorke Avenue	Sidewalk	Long	0.08	\$ 300,000	\$ 22,627	\$ 2,263	\$ 3,394	\$ 28,284
1391	Foster Street	East of Lathford Street	Lathford Street	Sidewalk	Long	0.08	\$ 300,000	\$ 22,502	\$ 2,250	\$ 3,375	\$ 28,128
1392	Lakeshore Road South	North of Brewster Street	Brewster Street	Sidewalk	Long	0.02	\$ 300,000	\$ 7,321	\$ 732	\$ 1,098	\$ 9,151
1393	Rorke Avenue	Probyn Street	Florence Street	Sidewalk	Long	0.20	\$ 300,000	\$ 61,332	\$ 6,133	\$ 9,200	\$ 76,665
1394	Lathford Street	South of Lakeshore Road South	Lakeshore Road South	Sidewalk	Long	0.10	\$ 300,000	\$ 29,929	\$ 2,993	\$ 4,489	\$ 37,411
1395	Lakeshore Road North	Beach Boulevard	South of Market Street	Sidewalk	Long	0.81	\$ 300,000	\$ 242,953	\$ 24,295	\$ 36,443	\$ 303,692
1396	Market Street	East of Lakeshore Road North	Lakeshore Road North	Sidewalk	Long	0.04	\$ 300,000	\$ 10,720	\$ 1,072	\$ 1,608	\$ 13,400
1397	Whitewood Avenue	Farah Avenue	Rockeby Street	Sidewalk	Long	0.09	\$ 300,000	\$ 27,312	\$ 2,731	\$ 4,097	\$ 34,140
1398	Maple Street North	Farah Avenue	McCamus Avenue	Sidewalk	Long	0.09	\$ 300,000	\$ 28,318	\$ 2,832	\$ 4,248	\$ 35,398
1399	John Street	Whitewood Avenue	Farah Avenue	Sidewalk	Long	0.09	\$ 300,000	\$ 28,491	\$ 2,849	\$ 4,274	\$ 35,614
1400	Maple Street North	Whitewood Avenue	Farah Avenue	Sidewalk	Long	0.11	\$ 300,000	\$ 34,249	\$ 3,425	\$ 5,137	\$ 42,811
1401	Rockeby Street	West of Edith Street	Farah Avenue	Sidewalk	Long	0.14	\$ 300,000	\$ 41,750	\$ 4,175	\$ 6,262	\$ 52,187
1402	Rockeby Street	West of Edith Street	Jaffray Street	Sidewalk	Long	0.26	\$ 300,000	\$ 77,458	\$ 7,746	\$ 11,619	\$ 96,822
1403	Edith Street	Farah Avenue	McCamus Avenue	Sidewalk	Long	0.10	\$ 300,000	\$ 29,806	\$ 2,981	\$ 4,471	\$ 37,257
1404	Edith Street	Broadwood Avenue	McCamus Avenue	Sidewalk	Long	0.11	\$ 300,000	\$ 33,593	\$ 3,359	\$ 5,039	\$ 41,991
1405	Broadwood Avenue	Lakeshore Road North	Davidson Street	Sidewalk	Long	0.21	\$ 300,000	\$ 63,713	\$ 6,371	\$ 9,557	\$ 79,642
1406	Maple Street North	South of McCamus Avenue	North of Broadwood Avenue	Sidewalk	Long	0.05	\$ 300,000	\$ 13,518	\$ 1,352	\$ 2,028	\$ 16,898
1407	McCamus Avenue	Dymond Crescent	East of Maple Street North	Sidewalk	Long	0.08	\$ 300,000	\$ 22,566	\$ 2,257	\$ 3,385	\$ 28,208
1408	Dymond Crescent	South of McCamus Avenue	Farah Avenue	Sidewalk	Long	0.23	\$ 300,000	\$ 69,150	\$ 6,915	\$ 10,372	\$ 86,437
1409	Market Street	Cedar Avenue	Wedgewood Avenue	Sidewalk	Long	0.15	\$ 300,000	\$ 46,395	\$ 4,640	\$ 6,959	\$ 57,994
1410	Cedar Avenue	West of Wellington Street	East of Paget Street	Sidewalk	Long	0.08	\$ 300,000	\$ 23,263	\$ 2,326	\$ 3,489	\$ 29,079
1411	Cedar Avenue	Armstrong Street South	Wellington Street	Sidewalk	Long	0.09	\$ 300,000	\$ 27,269	\$ 2,727	\$ 4,090	\$ 34,087
1412	Wellington Street	STATO Trail	Cedar Avenue	Sidewalk	Long	0.19	\$ 300,000	\$ 55,643	\$ 5,564	\$ 8,346	\$ 69,554
1413	Whitewood Avenue	Golding Street	Glen Road	Sidewalk	Long	0.27	\$ 300,000	\$ 79,633	\$ 7,963	\$ 11,945	\$ 99,541
1414	Mary Street	Whitewood Avenue	Farah Avenue	Sidewalk	Long	0.09	\$ 300,000	\$ 26,988	\$ 2,699	\$ 4,048	\$ 33,735
1415	Riverside Drive	East of Sharpe Street	West of Sharpe Street	Sidewalk	Long	0.08	\$ 300,000	\$ 24,029	\$ 2,403	\$ 3,604	\$ 30,037
1416	Oak Avenue	Oak Ave Park	Katherine Street	Sidewalk	Long	0.13	\$ 300,000	\$ 39,515	\$ 3,951	\$ 5,927	\$ 49,393
1417	Elm Avenue	West of Katherine Street	Katherine Street	Sidewalk	Long	0.05	\$ 300,000	\$ 15,876	\$ 1,588	\$ 2,381	\$ 19,845
1418	Elm Avenue	East of May Street	May Street	Sidewalk	Long	0.06	\$ 300,000	\$ 16,619	\$ 1,662	\$ 2,493	\$ 20,774
1419	May Street	Elm Avenue	Murray Street	Sidewalk	Long	0.13	\$ 300,000	\$ 40,397	\$ 4,040	\$ 6,060	\$ 50,496
1420	Algonquin Drive	Bruce Street	Rorke Avenue	Sidewalk	Long	0.55	\$ 300,000	\$ 165,728	\$ 16,573	\$ 24,859	\$ 207,159
1421	Bruce Street	Albert Street	End of Bruce Street	Sidewalk	Long	0.30	\$ 300,000	\$ 90,538	\$ 9,054	\$ 13,581	\$ 113,172
1422	Rebecca Street	Elm Avenue	Hessle Avenue	Sidewalk	Long	0.41	\$ 300,000	\$ 123,593	\$ 12,359	\$ 18,539	\$ 154,491
1423	Scott Street	Birch Drive	Whitewood Avenue	Sidewalk	Long	0.49	\$ 300,000	\$ 146,845	\$ 14,684	\$ 22,027	\$ 183,556
1424	Birch Drive	Niven Street North	Scott Street	Sidewalk	Long	0.39	\$ 300,000	\$ 117,833	\$ 11,783	\$ 17,675	\$ 147,291
1425	Brewster Street	Ethel Street	Lakeshore Road South	Sidewalk	Long	0.10	\$ 300,000	\$ 29,668	\$ 2,967	\$ 4,450	\$ 37,085
1426	Brewster Street	Probyn Street	Rorke Avenue	Sidewalk	Long	0.11	\$ 300,000	\$ 32,277	\$ 3,228	\$ 4,842	\$ 40,346
1427	Florence Street	Brewster Street	Rorke Avenue	Sidewalk	Long	0.08	\$ 300,000	\$ 22,582	\$ 2,258	\$ 3,387	\$ 28,228
1428	Crystal Crescent	Drive In Theatre Road	Raymond Street	Sidewalk	Long	0.88	\$ 300,000	\$ 264,693	\$ 26,469	\$ 39,704	\$ 330,867
1431	Raymond Street	Crystal Crescent	Drive In Theatre Road	Sidewalk	Long	0.57	\$ 300,000	\$ 171,794	\$ 17,179	\$ 25,769	\$ 214,742
1433	Crystal Crescent	Drive In Theatre Road	Raymond Street	Sidewalk	Long	0.18	\$ 300,000	\$ 53,114	\$ 5,311	\$ 7,967	\$ 66,393



ID	Street	From	To	Facility	Phase	Length KM	Unit Cost	Segment Cost	Design Cost (10%)	Contingency Cost (15%)	Total Cost
1434	Georgina Avenue	South of Amwell Street	Marcella Street	Sidewalk	Long	0.05	\$ 300,000	\$ 14,717	\$ 1,472	\$ 2,208	\$ 18,396
1435	Marcella Street	Ferguson Avenue	Meridian Avenue	Sidewalk	Long	0.05	\$ 300,000	\$ 15,940	\$ 1,594	\$ 2,391	\$ 19,925
1436	Blackwall Street	Meridian Avenue	Ferguson Avenue	Sidewalk	Long	0.05	\$ 300,000	\$ 15,835	\$ 1,583	\$ 2,375	\$ 19,793
1437	Probyn Street	Rorke Avenue	Latchford Street	Sidewalk	Long	0.07	\$ 300,000	\$ 22,012	\$ 2,201	\$ 3,302	\$ 27,515
1438	Elm Avenue	West of May Street	May Street	Sidewalk	Long	0.05	\$ 300,000	\$ 14,134	\$ 1,413	\$ 2,120	\$ 17,668
1439	Cedar Avenue	Lakeshore Road North	Market Street	Sidewalk	Long	0.08	\$ 300,000	\$ 25,334	\$ 2,533	\$ 3,800	\$ 31,667
1440	Wedgewood Avenue	Market Street	Lakeshore Road North	Sidewalk	Long	0.09	\$ 300,000	\$ 27,088	\$ 2,709	\$ 4,063	\$ 33,860
1441	Farah Avenue	Lakeshore Road North	Dymond Crescent	Sidewalk	Long	0.11	\$ 300,000	\$ 33,461	\$ 3,346	\$ 5,019	\$ 41,826
38	LATCHFORD STREET	Foster Street	Temiskaming Street	SR	Short	0.17	\$ 1,200	\$ 200	\$ 20	\$ 30	\$ 251
63	CEDAR AVENUE	Paget Street	Paget Street	SR	Short	0.03	\$ 1,200	\$ 30	\$ 3	\$ 5	\$ 38
69	PROBYN STREET	Rorke Avenue	Latchford Street	SR	Short	0.09	\$ 1,200	\$ 103	\$ 10	\$ 15	\$ 128
190	CEDAR AVENUE	Paget Street	Lakeshore Road North	SR	Short	0.07	\$ 1,200	\$ 86	\$ 9	\$ 13	\$ 107
202	FARAH AVENUE	Paget Street	Mary Street	SR	Short	0.06	\$ 1,200	\$ 77	\$ 8	\$ 12	\$ 96
240	NIVEN STREET NORTH	Dymond Avenue	Birch Drive	SR	Short	0.18	\$ 1,200	\$ 212	\$ 21	\$ 32	\$ 266
351	LATCHFORD STREET	Lakeshore Road South	Temiskaming Street	SR	Short	0.15	\$ 1,200	\$ 178	\$ 18	\$ 27	\$ 222
371	PETERS ROAD	Toblers Road	Dive In Theatre Road	SR	Long	1.61	\$ 1,200	\$ 1,930	\$ 193	\$ 289	\$ 2,412
399	ROCKEY STREET	Farah Avenue	Whitewood Avenue	SR	Short	0.10	\$ 1,200	\$ 125	\$ 12	\$ 19	\$ 156
421	LATCHFORD STREET	Probyn Street	Florence Street	SR	Short	0.22	\$ 1,200	\$ 263	\$ 26	\$ 39	\$ 329
449	PETERS ROAD	Toblers Road	Dales Road	SR	Long	1.63	\$ 1,200	\$ 1,951	\$ 195	\$ 293	\$ 2,439
512	LATCHFORD STREET	Florence Street	Ethels Street	SR	Short	0.12	\$ 1,200	\$ 149	\$ 15	\$ 22	\$ 186
522	PETERS ROAD	Dales Road	Uno Park Road	SR	Long	1.58	\$ 1,200	\$ 1,897	\$ 190	\$ 284	\$ 2,371
651	RORKE AVENUE	Browning Street	Brewster Street	SR	Short	0.05	\$ 1,200	\$ 65	\$ 6	\$ 10	\$ 81
697	FARAH AVENUE	Maple Street North	Edith Street	SR	Short	0.18	\$ 1,200	\$ 212	\$ 21	\$ 32	\$ 266
711	NIVEN STREET NORTH	Dymond Avenue	Spruce Street	SR	Short	0.16	\$ 1,200	\$ 188	\$ 19	\$ 28	\$ 236
720	FARAH AVENUE	Edith Street	Rockeby Street	SR	Short	0.17	\$ 1,200	\$ 204	\$ 20	\$ 31	\$ 255
728	FARAH AVENUE	John Street	Maple Street North	SR	Short	0.16	\$ 1,200	\$ 192	\$ 19	\$ 29	\$ 240
808	RORKE AVENUE	Main Street	Broadway Street	SR	Short	0.09	\$ 1,200	\$ 109	\$ 11	\$ 16	\$ 137
836	CEDAR AVENUE	Armstrong Street South	Wellington Street	SR	Short	0.11	\$ 1,200	\$ 131	\$ 13	\$ 20	\$ 163
876	CEDAR AVENUE	Wellington Street	Paget Street	SR	Short	0.10	\$ 1,200	\$ 119	\$ 12	\$ 18	\$ 149
886	LATCHFORD STREET	Ethel Street	Foster Street	SR	Short	0.18	\$ 1,200	\$ 210	\$ 21	\$ 32	\$ 263
892	RORKE AVENUE	Browning Street	Broadway Street	SR	Short	0.08	\$ 1,200	\$ 98	\$ 10	\$ 15	\$ 123
901	RORKE AVENUE	Brewster Street	Probyn Street	SR	Short	0.03	\$ 1,200	\$ 38	\$ 4	\$ 6	\$ 48
972	NIVEN STREET NORTH	Whitewood Avenue	Spruce Street	SR	Short	0.17	\$ 1,200	\$ 199	\$ 20	\$ 30	\$ 249
1004	FARAH AVENUE	Mary Street	Dymond Crescent	SR	Short	0.06	\$ 1,200	\$ 77	\$ 8	\$ 12	\$ 96
1009	FARAH AVENUE	Dymond Crescent	John Street	SR	Short	0.08	\$ 1,200	\$ 92	\$ 9	\$ 14	\$ 116
1046	CEDAR AVENUE	Riverside Drive	Armstrong Street South	SR	Short	0.16	\$ 1,200	\$ 187	\$ 19	\$ 28	\$ 234
1349	WELLINGTON STREET	Wellington Street	Cedar Avenue	SR	Short	0.19	\$ 1,200	\$ 223	\$ 22	\$ 33	\$ 278
864	MURRAY STREET	Rebecca Street	May Street	STATO	Long	0.14	\$ 194,620	\$ 26,975	\$ 2,697	\$ 4,046	\$ 33,718
1350	MURRAY STREET	Katherine Street	Rebecca Street	STATO	Long	0.11	\$ 194,620	\$ 21,498	\$ 2,150	\$ 3,225	\$ 26,872
S0	STATO Trail	Albert Street	Bucke Park Road	STATO	Long	3.22	\$ 375,000	\$ 1,208,421	\$ 120,842	\$ 181,263	\$ 1,510,527
S3	STATO Trail	South of Cedar Avenue	South of Wellington Street	STATO	Long	0.30	\$ 375,000	\$ 112,136	\$ 11,214	\$ 16,820	\$ 140,170
S4	STATO Trail	South of Cedar Avenue	Riverside Place Park	STATO	Long	0.69	\$ 375,000	\$ 259,602	\$ 25,960	\$ 38,940	\$ 324,502
S5	STATO Trail	New Liskeard Spur Line	New Liskeard Spur Line	STATO	Long	0.01	\$ 375,000	\$ 4,221	\$ 422	\$ 633	\$ 5,276
S6	STATO Trail	Katherine Street	Dawson Point Road	STATO	Long	0.99	\$ 375,000	\$ 371,550	\$ 37,155	\$ 55,733	\$ 464,438
159	MAIN STREET	Meridian Avenue	Ferguson Avenue	Traffic calming	Short	0.07	\$ 11,600	\$ 812	\$ 81	\$ 122	\$ 1,015
196	DRIVE IN THEATRE ROAD	Crystal Crescent	Grant Drive	Traffic calming	Short	0.20	\$ 11,600	\$ 2,263	\$ 226	\$ 339	\$ 2,829
280	DRIVE IN THEATRE ROAD	St Josephs Court	Crystal Crescent	Traffic calming	Short	0.15	\$ 11,600	\$ 1,766	\$ 177	\$ 265	\$ 2,208
502	GOLF COURSE ROAD	Highway 11	Mclean Road	Traffic calming	Short	1.54	\$ 11,600	\$ 17,914	\$ 1,791	\$ 2,687	\$ 22,392
685	MAIN STREET	Leslie McFarlane Way	Meridian Avenue	Traffic calming	Short	0.06	\$ 11,600	\$ 740	\$ 74	\$ 111	\$ 925
695	FERGUSON AVENUE	Main Street	Amwell Street	Traffic calming	Short	0.08	\$ 11,600	\$ 975	\$ 98	\$ 146	\$ 1,219
700	DRIVE IN THEATRE ROAD	Laurette Street	Raymond Street	Traffic calming	Short	0.11	\$ 11,600	\$ 1,265	\$ 126	\$ 190	\$ 1,581
717	MAIN STREET	Farr Drive	Leslie McFarlane Way	Traffic calming	Short	0.04	\$ 11,600	\$ 504	\$ 50	\$ 76	\$ 630
792	FERGUSON AVENUE	Farr Drive	Browning Street	Traffic calming	Short	0.09	\$ 11,600	\$ 997	\$ 100	\$ 150	\$ 1,247
860	FERGUSON AVENUE	Main Street	Farr Drive	Traffic calming	Short	0.09	\$ 11,600	\$ 1,056	\$ 106	\$ 158	\$ 1,320
966	DRIVE IN THEATRE ROAD	Raymond Street	Highway 11	Traffic calming	Short	0.13	\$ 11,600	\$ 1,544	\$ 154	\$ 232	\$ 1,930
995	DRIVE IN THEATRE ROAD	Peters Road	St Josephs Court	Traffic calming	Short	0.90	\$ 11,600	\$ 10,395	\$ 1,040	\$ 1,559	\$ 12,994
1346	GOLF COURSE ROAD	Mclean Road	Wabi Creek	Traffic calming	Short	0.10	\$ 11,600	\$ 1,207	\$ 121	\$ 181	\$ 1,509

**Table 4 - Summary of Proposed AT Network**

This table provides a summary of the proposed active transportation and crossing enhancements as part of the Temiskaming Shores network.

Facility Type	Short-Term		Long-Term		Total	
	Length (KM)	Estimated Cost	Length (KM)	Estimated Cost	Length (KM)	Estimated Cost
Off-Road Multi-Use Trail	0.1	\$23,595	5.5	\$2,505,503	5.6	\$2,529,098
In-Boulevard Multi-Use Path	0	0	1.6	\$739,214	1.6	\$739,214
Buffered Bike Lane	3.3	\$149,292	0.4	\$32,794	3.7	\$182,086
Buffered Bike Lane or Two-Way On-Road	1.4	\$110,038	0	0	1.4	\$110,038
Bike Lane	0.4	\$14,574	0	0	0.4	\$14,574
Buffered Paved Shoulders	3.9	\$227,912	2.7	\$995,516	6.6	\$1,223,428
Paved Shoulder	2	\$416,305	10.3	\$2,764,183	12.3	\$3,180,488
Sharrows Markings	1.1	\$15,813	0	0	1.1	\$15,813
Signed Route	3.1	\$4,711	4.8	\$7,222	7.9	\$11,933
Candidate Locations for Pilot Projects	0.2	\$45,016	0	0	0.2	\$45,016
Candidate Locations for Traffic Calming Measures	3.6	\$51,796	0	0	3.6	\$51,796
Pedestrian Bridge	0	0	0.1	\$1,950,000	0.1	\$1,950,000
Sidewalks	0	0	14.4	\$5,389,125	14.4	\$5,389,125
Crossing Enhancement	-	\$123,000	-	\$230,000	-	\$353,000
<b>Total</b>	<b>19.1</b>	<b>\$1,182,052</b>	<b>39.8</b>	<b>\$14,613,557</b>	<b>58.9</b>	<b>\$1,432,814</b>