

CHAPTER

4

**Implementing
the TMP**



Chapter 4.0 sets out the plan for how the recommendations of the TMP can be implemented in policies, programming and projects. Policies are the foundation of any long-lasting changes to the planning process. The momentum of this master plan needs to be continued through ongoing funding and prioritization of education, encouragement and evaluation of complete streets initiatives.

Chapter 4.0 is meant to provide staff, decision makers and stakeholders with a clear understanding of what needs to be done to implement the TMP and provides supportive tools to be able to do so on an annual basis.

Chapter 4.0 includes...

4.1

Municipal Policies

Provides a breakdown of complete street policies that can be adopted into municipal policies and guidelines to support achieving the complete streets vision in St. Catharines.

4.2

Timeline & Strategy

Provides a breakdown of recommendation phasing for complete streets and each of the modal considerations, including the tools intended to support the implementation of the TMP.

4.3

Next Steps & Costing

Provides an overview of the financial resources needed to implement the recommendations of the TMP as well as suggested next steps.

4.1.

Municipal

Policies

Policies guide and inform infrastructure investment as well as the planning and design of the built environment including transportation.

To facilitate a stronger complete streets foundation within the existing policy structure, there should be a standardized process of designing, constructing and maintaining the street network to ensure that it accommodates all modes of travel and all types of users. If effectively integrated, the process can help to channel decisions and public investment to make streets more equitable by balancing infrastructure for the needs of different modes of travel. Complete streets policies are found throughout this TMP.

To help shape the complete streets policies for the City of St. Catharines, research and resources from the Complete Streets for Canada and National Complete Streets Coalition (NCSC) were reviewed. Both organizations define ten common elements that should be addressed when developing complete streets policies to lay the foundation for successful outcomes. These ten elements are presented on the following page.

Embodies Community Vision



States St. Catharines' community vision and intent of how and why complete streets elements will be implemented.

Defines All Users & Modes



Gives equal consideration to different users regardless of age or ability, especially those who walk, cycle and ride transit.

Applies to New & Retrofit



Recognizes opportunities of application to new and retrofit transportation projects as well as existing maintenance operations.

Identifies Exceptions



Accounts for any appropriate exemptions due to legislative, topographical, technical, cost-benefit limitations or others.

Encourages Connectivity



Promotes continuous integration and connectivity throughout St. Catharines' street network and between modes.

Adaptable by Agencies



Conveys an approach that can be adoptable and understood by all City departments and / or agencies that may be involved in the process.

Utilizes Current Design Guides



Utilizes existing work in complete streets undertaken by the Region and other complete streets best practices.

Acknowledges Context



Recognizes that solutions will be context-sensitive to St. Catharines' different urban, suburban and rural environments.

Defines Performance Standards



Establishes qualitative or quantitative performance indicators in order to evaluate and monitor policy impacts over time.

Proposes Implementation Steps



Lists specific steps for an implementation strategy according to a set time scope.

The following section introduces model policies that when adopted in the appropriate planning documents, could help to create a municipal planning process where complete streets are fundamentally considered at the forefront of planning decisions. During the next Official Plan update, it is recommended that the following policies be considered, or that policies be added to the existing Official Plan through the amendment process. In addition, some of the proposed policies would be most appropriate for design guidelines, by-laws or site plan control. The policy categories are explained followed by a matrix of the model policies and how they should be adopted in the applicable planning policy, master plan or control tools.

Applicability of Complete Streets Policies

Understanding the applicability of this complete streets guidance is crucially important in implementation and internal municipal discussions. The City will look to “complete the street” in all its road works on City-owned transportation facilities and public right-of-way. The implementation and maintenance of Complete Streets should be achieved via both new road construction projects and repair, retrofit or rehabilitation projects.

Context Sensitivity and Exception Mechanism

Any complete streets project needs to reflect the existing transportation network, community values and land-use. While the City is committed to promoting a complete streets approach, it also acknowledges circumstances that may hinder its full applicability.

Integration and Connectivity of All Modes

A key element of complete streets planning is ensuring the multiple road network modes work conjunctly together. This consideration is already supported in the Official Plan and the shift towards sustainable and integrated mobility should be expanded through the policies for the TMP.

Streetscaping and Wayfinding

Improving the public space and cultural vitality of St. Catharines streets is already a recognized priority within the Official Plan. Streetscaping and wayfinding make the street more user friendly for multiple modes of travel. Metrolinx has developed a Regional Wayfinding Standard that discusses and encourages the coordination between local and regional municipalities.

Economic Development

Implementing complete streets will drive broader economic outputs, including increased employment, higher property values and attraction of new businesses. This will go alongside the City’s Economic Development Strategy to find new and innovative technological opportunities for St. Catharines to emerge in the mobility sector.

Art and Culture

Beyond just streetscaping, the relationship between street-life and art should be fostered to better support community activity. The Niagara Region Complete Streets Model Policy Handbook states that public art is a reflection of the history and true culture of an area and that integrating public art in developments, streetscaping or parks has the ability to stimulate the interest of locals and tourists alike.

Utility Infrastructure

The utility infrastructure that is built on the street has an equal impact to the overall experience of the place. Niagara Region’s Model Urban Design Guidelines provide guidance on how utilities can be managed to better align to the complete streets framework.

On-Street Parking

Complete streets require balance. Niagara Region identified a concern for on-street parking provisions detracting from other streetscaping and complete streets interventions. At the same time, on-street parking can act as a natural traffic calming method and support the complete streets policy.

Land-Uses

The relationship between the street and land-use is interdependent; the changes to the land-use will affect the street and vice-versa. Policy recommendations can be adopted into planning documents and design guidelines to ensure that complete streets interventions are cognizant of the surrounding land-use.

Accessibility

Complete streets are designed for all road users, including those with physical disadvantages or those who are otherwise less-able.

Complete Street Policy Considerations...

	Official Plan	Functional Master Plan	Downtown Urban Design Guidelines	Future St. Catharines Design Guidelines	Municipal By-law	Site Plan Control
Applicability						
Any complete street implementation will be subject to internal and cross-departmental collaboration, including: Public Works, Planning and Economic Development and Recreation.	✓					Supported within the TMP Implementation Strategy
Any complete streets work will be considered with Regional Complete Streets implementation.	✓					Supported within the TMP Implementation Strategy
Context Sensitivity						
Complete Street Initiatives						
Will accommodate safe and attractive pedestrian and cyclist travel in a “context sensitive” manner taking into account the capacity and speed of the road (sidewalks and bike facilities on higher speed and volume arterials should be buffered from motorists).	✓					Supported within the TMP,
Reflect the context and character of the surrounding built and natural environments, and enhance the appearance and operations of the built environment and street without significant impact to surrounding Natural Heritage Features.	✓					Confirmation of appropriateness for Complete Streets Process
Be developed in context to not only the existing transportation conditions, but also the future transportation trends as to be prepared for potential shifts in transportation modes and preferences.	✓					
Consider the land-use context (rural, suburban or urban).	✓					
Exception Mechanisms						
The project demonstrates that benefits or expected use shows considerable discrepancies with the cost of construction; or the project exhibits topographical limitations where it is not technically feasible or where supporting more than one mode of transport is not warranted given the potential hazard to users.	✓					Supported within the TMP,
The nature of the road class legally prohibits the placement of infrastructure for non-motorized users.	✓					Confirmation of appropriateness for Complete Streets Process
A reasonable and / or equivalent transportation alternative in the corridor or neighbourhood already exists or is programmed as part of a separate project.	✓					
The project’s proposed geometry or facility affects any routine maintenance operations such as for mowing, sweeping, spot repair or surface treatments; and / or accessibility of emergency or service vehicles.	✓					
Integration & Connectivity of All Modes						
Complete Streets should support the connectivity and integration of modes throughout the City’s local road network. Whenever possible, connectivity and integrations should be facilitated.	✓					Supported within the TMP

	Official Plan	Functional Master Plan	Downtown Urban Design Guidelines	Future St. Catharines Design Guidelines	Municipal By-law	Site Plan Control
Infrastructure at end-of-trip facilities or locations where multiple travel modes converge should be implemented. These include park/kiss-and-ride facilities at major travel nodes, secure bicycle parking at key travel nodes or public amenities (libraries, community centres, sports complexes) and bicycle facilities such as bike racks/parking for customers, or showers for employees who commute in that mode.	✓	Promoting complete streets behaviour change				
A continuous sidewalk network.	✓	Road classification				
A continuous on and off-road bicycle or multi-use trail network to support utility or recreational trips. The networks should connect natural areas and popular destination points such as schools, shopping centres, sports complexes, offices, and other amenities. Given the St. Catharines' context, which often has narrow or varying rights-of-way, shared facilities, such as sharrows, are encouraged whenever dedicated facilities are infeasible.	✓	Road Classification, AT improvements and Active Transportation Plan (ATP)				
Infrastructure and programming supporting the mobility and accessibility needs of all users (especially for pedestrians and people with disabilities), particularly at public transit facilities (bus stops, shelters, stations) and their respective crossings. This includes, where applicable, slip resistant flooring, tactile paving, curb and boarding ramps, or other elements that address this purpose.	✓		✓	✓		
Implement street furniture (waste receptacles, benches, street lamps, shelters, plants, trees, or other relevant elements) in a way that it does not interrupt or block pedestrian/cycling pathways.	✓		✓	✓		
Multiuse public parking with the flexibility to support bicycles, motorbikes, electric -charging docking stations, accessible spaces and carpooling/taxi stands.	✓	Future Ready considerations				
Streetscaping & Wayfinding						
Street furniture shall be placed and oriented in a way which does not deter regular maintenance, waste collection, snow removal or accessibility.			✓	✓		
Clear and legible street signage shall be provided across St. Catharines to provide information on the location of transit service, parking lots, local attractions, community services, linkages to trails and pathways, cultural or historical sites and / or public amenities.			✓	✓		
Wayfinding and signage should be provided in alternate formats to accommodate citizens with visual, audible or physical disabilities.		Concurrent with Regional Initiatives and ATP	✓	✓		

	Official Plan	Functional Master Plan	Downtown Urban Design Guidelines	Future St. Catharines Design Guidelines	Municipal By-law	Site Plan Control
Arts & Culture						
Placemaking is the concept of creating a sense of place on streets that encourages comfortable mobility for all road users. There are many opportunities for placemaking on the street. In St. Catharines, programming such as “Open Streets St. Catharines” should be encouraged to help foster sense-of-place and community vibrancy throughout the City’s Streets.	✓				✓	
The inclusion of public art within the public-right-of-way is encouraged as a way to establish the identity of a community or neighbourhood.	✓					
Local artists, craftsmen and schools may be encouraged to submit public art and street furniture to local streetscaping initiatives.	✓	Public Art Master Plan				
Utility Corridors						
Wherever possible, above-ground utilities should be located away from intersections, day-lighting triangles and visual axes such as the end of T-intersections or other view corridors.			✓	✓		
Where possible, street grade public utilities such as transformer pads, telephone switching stations and junction boxes should be screened through treatment similar to the landscape theme and treatment of the surrounding neighbourhood.			✓	✓		
Where appropriate, the City, in consultation with the appropriate utility authority, shall support the installation of visually appealing utility and telecommunications infrastructure.			✓	✓		
On-Street Parking						
Through City by-laws, on-street parking spaces may be repurposed for local businesses, bicycle parking or landscaping.	✓				✓	
Land-Uses						
Encourage high quality redevelopment of properties along mixed-use streets. Buildings should be oriented to front, face and feature the road. Large parking areas should be located behind or at the side of buildings and, where visible from the road, must include substantial landscape treatment.	✓	Road classifications supported within the TMP				
Pedestrian paths will be provided as part of new developments in order to link centres of activity such as parks, shopping areas and schools, as well as the public sidewalk network	✓	TDM supported within the TMP				✓
In key community areas such as schools, healthcare facilities and commercial centres, accessible walking, cycling and transit facilities should be provided.	✓					✓
Streets in proximity to public service facilities and schools shall be a priority for complete streets enhancements.	✓					

	Official Plan	Functional Master Plan	Downtown Urban Design Guidelines	Future St. Catharines Design Guidelines	Municipal By-law	Site Plan Control
Accessibility						
Sidewalks are required on both sides of all streets where feasible, in order to promote walkable neighbourhoods and have regard for the Accessibility for Ontarians with Disabilities Act.	✓					
The City shall strive to improve the mobility of all persons by making conditions safe for walking, persons using mobility devices, including wheelchairs and scooters, and people utilizing conventional transit, specialized transit and accessible taxis.	✓					
When renovating or repairing a street in areas containing social services and medical facilities, additional accessibility and mobility enhancements shall be considered to support the movement of persons with disabilities, wheelchairs, scooters and walkers.	✓					

4.2.

Implementation Timeline

The TMP is founded on the development and adoption of a new road classification system that is intended to support the reconstruction of existing roadways and the construction of new roadways. This component of the plan is considered an immediate priority to be reviewed, adapted (as necessary) and adopted by City staff within a year or two of the TMP adoption and continued until the next time the TMP is updated.

In addition to the adoption and immediate implementation of the new road classification typologies, Chapter 3.0 also identifies some mode specific improvements which have been identified to support and achieve mode specific objectives and priorities for staff, decision makers and the community. A recommended timeline for implementation has been identified for each of these projects based on a three-phase approach – short, medium and long-term.

For the purposes of capital budgeting, the City is to assume that the short term generally is defined as the next five years, with the medium term through the year 2031 and the long term seen as the year 2032 and beyond. The following is a summary of the recommendations identified within each of these phases.

4.2.1. Short Term Recommendations



**0-5
years**

Complete Streets

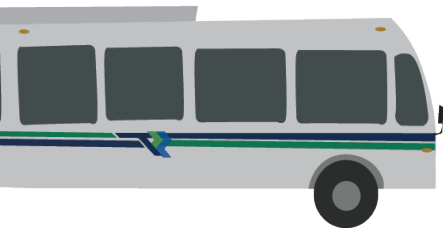
- Implement Complete Street Design Guidelines
- Update Official Plan to reflect changes to road classifications
- Chestnut Street Extension Class Environmental Assessment Study
- Chestnut Street Extension
- On-going Complete Streets road construction and rehabilitation projects
- On-going pilots of Community-based Traffic Demand Management (TDM)
- On-going Official Plan updates
- Fairview Mall area active transportation connection

Active Transportation



- Prepare and adopt an active transportation specific master plan
- Update promotional mapping to reflect most up-to-date route information
- Allocate annual budget to implement select missing AT links
- Continue to monitor the Region's wayfinding and signage program
- Refine, adopt trail standards and update infrastructure where needed
- Pursue discussions with the community about the design of a minimum grid pilot system to the north and south of downtown
- Work with the health unit to identify opportunities for community education around safe active transportation use
- Work with the health unit and school transportation services to identify pilot active and safe routes to school programs

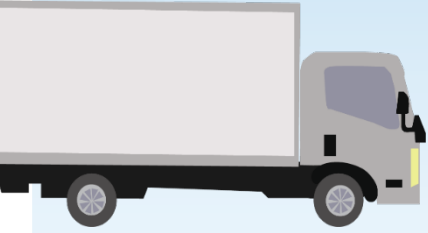
Transit



- Route 337/437 Crosstown extension
- Route 314/414 Scott Downtown connection
- Frequency improvements during the p.m. peak hour (2 to 6 p.m.) on weekdays for certain routes
- Introduce GO-VIA Station shuttle
- Transit hub evaluation
- Electric hybrid bus feasibility

Goods Movement

- Implement a comprehensive Goods Movement Strategy
- Update Official Plan to introduce freight-supportive land-uses



4.2.2. Medium Term Recommendations



6-10
years

Complete Streets

- On-going Complete Streets road construction and rehabilitation projects
- On-going pilots of Community-based TDM
- On-going Official Plan updates
- Transportation Master Plan review

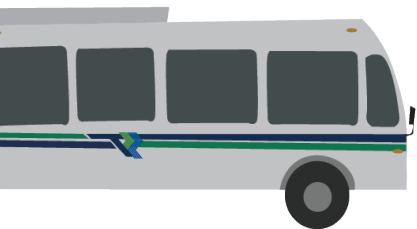
Active Transportation



- Continue to prioritize the implementation of the parkway / pathway trail system for continuous loop of off-road facilities
- Prepare and implement a coordinated municipal and regional AT-specific wayfinding and signage program
- Explore external partnerships to prioritize the implementation of a bike share system
- Implement both minimum grid systems as permanent projects within the core of the City
- Expand upon the separated cycling network (minimum grid) to implement permanent solutions within the downtown core
- Pursue additional crossings of major barriers for active transportation users
- Continue to work with partners to identify opportunities for community based social marketing initiatives focusing on a shift towards sustainable modes of transportation

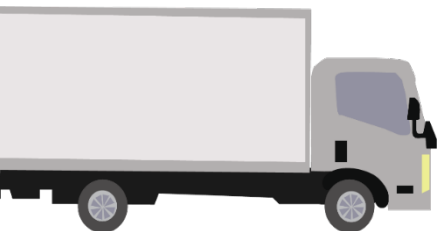
Transit

- Service hours extension for specific routes

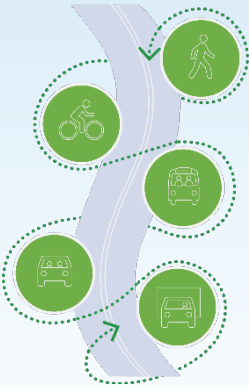


Goods Movement

- Research emerging goods movement sectors



4.2.3. Long Term Recommendations



11+
years

Complete Streets

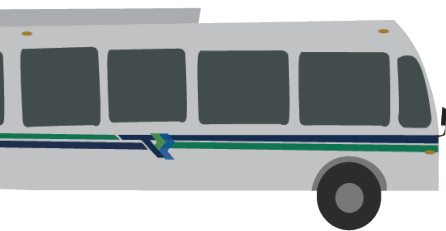
- On-going Complete Streets road construction and rehabilitation projects
- On-going pilots of Community-based TDM
- On-going Official Plan updates
- Transportation Master Plan Update

Active Transportation



- Continue to prioritize the implementation of missing trails including the design of accessible trail connections linking major communities to the downtown core
- Identify opportunities for enhance design and implementation of amenities including bicycle parking within major community areas as well as trailheads
- Work with surrounding municipalities to establish a continuous and connected system of AT facilities in the bordering areas

Transit



- Explore operational improvements (queue jump lanes, signal improvements)
- Long-Term Operations and Maintenance Facility Needs Assessment
- Long-Term Frequency Adjustments

4.3.

Next Steps & Costing Infrastructure

Beyond the process of implementing the phased projects / initiatives, there are three other critical components which typically make up a master plan implementation strategy. They include:

- Roles & Responsibilities – the identification and clarification around who will be responsible for specific elements of the master plan’s implementation and the potential impact on day-to-day activities;
- Costing & Funding – the anticipated cost that will need to be assumed for the implementation of specific transportation projects as well as opportunities for both internal and external funding of those projects; and
- Monitoring & Maintenance – the indicators and approaches that could be used to assess the success of the TMP’s implementation as well as maintenance considerations as new infrastructure is implemented.

In the following sections these three components will be discussed in more detail with some supportive recommendations for consideration by the City of St. Catharines.

4.3.1. Roles & Responsibilities

The implementation of the TMP will require the efforts of numerous staff members, decision makers and community members. . This section describes the roles and responsibilities.

Council

City Council approves budget for projects related to the TMP and will play a role during the implementation of the recommendations through consultation and project development.

- Approve projects and budgets

Staff

City staff will be the primary implementation body. Depending on the implementation measure, multiple different staff departments will take lead and be engaged throughout the implementation process. Key departments include:

- Engineering, Facilities and Environmental Services
- Planning and Building Services
- Economic Development and Tourism Services
- Parks, Recreation, and Culture Services
- Municipal Works

The primary roles of City staff will include:

- Identifying opportunities for Complete Streets works within their departmental responsibilities
- Prioritizing Complete Streets works based on phasing and funding availability
- Organizing appropriate involvement from the Region or technical agencies
- Directly relaying information regarding implementation and on-going projects to the Complete Streets Committee

Technical Agencies

Technical agencies will advise City staff on specific projects and ensure standards and/or requirements are met. A list of potential technical agencies is included below:

- Ministry of Transportation
- School Boards
- Niagara Peninsula Conservation Authority
- Niagara Escarpment Commission
- St. Catharines Transit Commission
- Niagara Region Transit

Depending on the location and nature of the project, the types of technical agencies, and their involvement will differ.

- Advise on implementation projects to ensure they meet the required standards or requirements of the technical agency
- Remain engaged in the monitoring and evaluation process of the TMP

Region

The Region's primary role will be to coordinate municipal multi-modal projects with Regional efforts. When a St. Catharines transportation project intersects with a Regional corridor, the Region should be engaged to ensure that complete streets initiatives are aligned. The main Regional departments that will be engaged include:

- Niagara Region Planning and Development
- Niagara Region Public Works
- Niagara Region Public Health
- Niagara Region Police Services

Stakeholders

Stakeholders should be engaged throughout the process to advise upon specific regional and local concerns that could be impacted by the implementation of this TMP. Like the other implementation roles identified in this section, stakeholders will vary depending on the project context. Some stakeholders could include:

- Regional stakeholders such as Trans Canada Trail Association and Share the Road Cycling Coalition
- Can-BIKE program
- Ontario Parks
- Local Advocacy Groups/ Organizations

4.3.2. Costing

Efficient prioritization and allocation of financial resources are required to implement the recommendations of this TMP successfully. The following high level costs have been estimated for the active transportation, transit and road capital projects. As a living document, these costs will need to be reviewed and updated as the projects approach implementation. As the timeline progresses, additional studies, detailed designs and technical assessments are required to identify the unique requirements of each project.

Active Transportation Costing

The estimated cost to implement the AT network is intended to guide the future decision making for budgets. These unit prices reflect 2019 dollars and are based on best practices and recent projects of similar scope in Ontario. However, each project and the level of effort or additional work required will vary based on the context. The unit costs do not include any cost of property acquisitions, signal modifications, utility relocations or any site-specific project costs, including extreme environmental or topography conditions.

A summary of the estimated capital costs are included in **Table 9** and categorized by type of facility.

Table 9. Active transportation costing summary

Facility	Length (km)	Unit Cost (\$)	Subtotal Cost (\$)	Design (15%)	Contingency (10%)	Estimated Total (\$)
Signed Route	26	\$1,200	\$31,200	\$4,680	\$3,120	\$39,000
Paved Shoulder	11	\$150,000	\$1,650,000	\$247,500	\$165,000	\$2,062,500
Bike Lane	41	\$53,000	\$2,173,000	\$325,950	\$217,300	\$2,716,250
Buffered Bike Lane	7	\$65,000	\$455,000	\$68,250	\$45,500	\$568,750
In-Boulevard Multi-Use Trail	3	\$325,000	\$975,000	\$146,250	\$97,500	\$1,218,750
Off-Road Trail	46	\$200,000	\$9,200,000	\$1,380,000	\$920,000	\$11,500,000
Total	134	-	\$14,484,200	\$2,172,630	\$1,448,420	\$18,105,250

Annual operating costs for AT facilities, including the maintenance and operation of these infrastructures are based on the ranges in **Table 10** and assumptions in **Table 11**.

Table 10. Estimated AT network maintenance costs

Facility Type	Per kilometre cost (per year)
Signed Route	\$260 - \$260
Paved Shoulder	\$6,260 - \$7,660
Bike Lane	\$6,650 - \$8,050
Buffered Bike Lane	\$8,050 - \$9,650
In-Boulevard Multi-Use Trail	\$4,235 - \$4,860
Off-Road Trail	\$1,060

Table 11. Cost assumptions for additional maintenance

Item	Assumptions
Painted Line Markings	Unit price is for a single 100 mm wide painted line marking, therefore assume \$5 / m for both sides of the road. Maintenance cost assumes that painted line markings are fully replaced / renewed on an annual basis.
Cold Plastic Line Markings	Unit price is for a single 100 mm wide cold plastic line marking, therefore \$10 / m for both sides of the road. Maintenance cost assumes that plastic line markings are replaced every 5 years (or 20% annually). See calculations below: » \$5 / m x 20% = \$1 / m
Painted Stencils	Assumes stencils are placed every 75m as per OTM Book 18, therefore 26 stencils / kilometre on both sides of the road (13 signs on each side of the road). Maintenance cost assumes 30% of painted stencils will need to be replaced / renewed on an annual basis. This equates to \$400 per year. See calculations below: » \$50 x 26 = \$1,300 » \$1,300 x 30% = \$400
Cold Plastic Stencils	Assumes stencils are placed every 75m as per OTM Book 18. 26 signs in 1 kilometre on both sides of the road (13 signs on each side of the road). Maintenance cost assumes 30% of painted stencils will need to be placed / renewed on an annual basis. This equates to \$2,200 per year. See calculations below: » \$275 x 26 = \$7,150 » \$7,150 x 30% = \$2,200
Route Signs	Assumes 26 signs per kilometre (13 on both sides of the road / route). Maintenance cost assumes 5% of all signs will need to be replaced annually. This equates to \$260 annually. See calculations below: » \$200 x 26 = \$5,200 » \$5,200 x 5% = \$260
Sweeping Costs	Assumes sweeping frequency of 6-10 times a year (uni-directional, one side of the road)

An annual provision to allow for the future rehabilitation and replacement of the new infrastructure should also be implemented to ensure that the facility is up to standards. The aggregate operating impact of such facilities is considered in planning exercises such as the Fiscal Impact Study.

Transit Costing

The proposed transit service recommendations include extended service hours and frequency improvements. Both the capital and operating budget for transit services would be impacted throughout each time period. The “Operations and Maintenance Facility Needs Assessment” recommendation requires an architectural review in the future, depending on the additional maintenance and storage room required as the fleet expands. Transit costs are summarized in **Table 12**.

Table 12. Transit costing summary

	Recommendation	Estimated Total (\$)
Short	Route 337/437 Crosstown Improvements	Capital: \$2,600,000 Annual Operating: \$900,000
	Route 314/414 Scott Improvements	
	Increased P.M. service frequency	
	GO-VIA Shuttle	
Medium	Service Hour Adjustments	Annual Operating: \$950,000
Long	Service Frequency Adjustments	Capital: \$21,450,000 Annual Operating: \$1,900,000
	Operations and Maintenance Facility Needs Assessment	-
Total	-	Capital: \$24,050,000 Annual Operating: \$3,750,000

Roads Costing

The road network recommendations from the TMP led by the City of St. Catharines are the Fairview Mall and Chestnut Street connections. These costs are summarized in **Table 13**.

Table 13. Road costing summary

	Segment Road	Length (km)	Cost per km (\$)	Subtotal Cost (\$) ¹	Design (15%)	Contingency (20%)	Estimated Total (\$)
Short	Chestnut Street Extension from Mountain Street to Hasting Street	0.19	\$2,600,000	\$494,000	\$74,100	\$98,800	\$666,900
Total		0.19	\$2,600,000	\$494,000	\$74,100	\$98,800	\$666,900

¹Note: The Ontario Ministry of Transportation Parametric Estimating Guide, 2016 provides costing guidance based on lowest bid prices for tendered construction projects from 2010 to 2016. For widening, the cost estimates include grading, drainage, paving, granular material, markings, landscaping, traffic control and roadside safety improvements. They do not include electrical and structural works, and traffic detection equipment. For new construction/extending roads, the estimates include grading, drainage, granular base, paving, traffic control, illumination, noise barriers (if applicable), traffic control and realignment of intersecting roads. They do not include structural work or property acquisition. In some cases, too few data points were available in the estimating guide to provide a reliable average. Professional judgment and previous bid experience were used to provide an estimated cost per centre line kilometre in these cases.

4.3.3. Funding

The recommendations included within the TMP require ongoing City investment to achieve the vision of an age friendly, enhanced multi-modal future in St. Catharines. These investments should be prioritized alongside other requirements of the transportation program such as asset renewal and rehabilitation, the assumption of local roadways through subdivision agreements, as well as other corporate program areas. For additional funding opportunities beyond the annual capital budget process, the City should closely monitor opportunities at the federal, provincial, and regional levels for any new or incremental funding sources to support future projects.

Active Transportation Funding

Additional investments will be needed on an annual basis to implement active transportation infrastructure. The following describes the different funding sources to explore to proceed with the implementation of the AT network.

Federal, provincial and regional governments

Some current funding opportunities made available at the provincial and federal levels include:

- Federal gas tax fund;
- NBCF – provincial-territorial infrastructure component;
- Provincial gas tax fund; and
- Corporate environmental funds.

Furthermore, Niagara Region can be a funding partner in projects on Regional roads or that would benefit Regional facilities.

Development

The installation of certain AT infrastructure can be undertaken and funded by the development community, and the City would assume responsibility for the ongoing maintenance and future replacements of these developer-constructed facilities after inspection. In addition, cash-in-lieu when collected as a part of the development application process (where parkland dedication does not occur) and when not required for other park investment can also create opportunities for future projects such as trail development.

City

The City could identify active transportation improvements as a part of the overall cost of the capital projects that are identified on an annual basis that typically address transportation or other servicing improvements required such as road rehabilitations, and sidewalk replacement programs. By doing so, the City can potentially benefit from an increase in the project delivery efficiencies and overall cost savings.

Ultimately, whether delivered as a part of an existing project, or as a standalone AT initiative, the prevalent source of funding currently for these AT projects would be the City's property tax base.

Transit Funding

To expand and improve St. Catharines' current transit system to generate higher transit use and meet future transit demand, the City should be prepared to explore beyond the existing funding sources. Potential sources of additional capital and operating funding for new transit services include:

Federal, provincial and regional governments

As transit demand grows and becomes a more significant policy issue in Canada, an increasing number of federal, provincial (including Metrolinx), and Niagara Region funding sources may become available or expand under existing or future grant programs. The City should monitor for opportunities of recurring or one-time grants for transit services (such as the Public Transit Infrastructure Fund program) and continue to advocate at all levels of government for additional funding for services and facilities tied to GO rail and GO bus services. Currently, eligible municipal transit programs are supported by the Province of Ontario through the provincial gas tax program on a combination of population and transit ridership base. Should

St. Catharines' transit system continue to grow, an increase in funding could materialize to help support new services.

Development Charges

Similar to the construction of roadways, the City can expect the development charges to support the initial capital costs associated with the expansion of the transit system.

Roads Funding

Federal, Provincial and Regional Governments

As part of the New Building Canada Plan, the New Building Canada Fund (NBCF) was established in 2014 to fund projects from 2014 to 2024. In the NBCF, there is \$2.7 billion designated for Ontario projects and an estimated \$8.12 billion under the Federal Gas Tax Fund. Federal gas tax funding often is already allocated to transportation projects through the annual budget process. TMP recommendations will have to be prioritized and balanced against the existing needs identified for the gas tax funding.

With respect to any application-based funding awarded through the NBCF or alternate programs, the City will have to continue to identify opportunities to submit projects as program intakes become available. The City can also consider applying for Infrastructure Ontario's loan program for long-term financing of infrastructure renewal projects. The loan program applies to any capital investments including roads, bridges, and other projects that enhance mobility for all transportation users, and is advertised by Infrastructure Ontario as benefitting from:

- Affordable rates;
- Access to capital market financing without any fees or commissions;
- Longer loan terms designed to match the life of the asset;
- No need to refinance over the life of the loan; and
- Online application with access to dedicated and experienced staff.
- Furthermore, the City can also continue to look for opportunities to partner with Niagara Region for new sources of funding and new ways of delivering services to help achieve cost savings and improve project efficiencies.

Development Charges

The City should use development charges to the fullest extent under provincial legislation to recover any eligible capital cost expenditures necessary to service new developments in St. Catharines. If a new subdivision were to be developed, the initial construction costs of local roads are also undertaken and funded by the development community prior to the City assuming responsibility for the ongoing maintenance and future replacements of these local infrastructure.

City

The primary cost of on-going provision of roadways within St. Catharines, after application of funding from the sources above, is anticipated to be the property tax revenues collected by the City.

4.3.4. Monitoring

It is important that City staff monitor the impact of public policy and recommendations discussed in the TMP. These recommendations should be measured through an integrated monitoring strategy. St. Catharines will want to evaluate the progress of policy applications translated into the outcomes that are align with the Complete Streets process. Monitoring this growth will guide decision making and policy application and resource distribution through benchmarks, needs and results. Additionally, the monitoring process will allow the City the opportunity to focus the TMP based on future events or outcomes. The monitoring process will ensure that the TMP will consistently deliver guidance on a more multi-modal and complete streets community.

Data collection framework

A data collection framework was developed to inform the potential monitoring process for city staff. Developing a list of indicators, as shown in **Table 14**, is foundational for implementing a monitoring strategy. These indicators measure the various aspects of multi-modal performance, user population, facilities and safety.

The progress can be monitored by developing a benchmark built on historic and existing data and maintaining stewardship over the data over time, either through a municipal database or online dashboard. Providing this information publicly may empower the public to be more aware of the positive impacts of complete streets and multi-modal travel, which may lead to further contributions to their development.

Table 14. Data collection framework

	Mode	Indicator	Unit	Data Source	Frequency
1	Active Transportation	Total kilometres of on-road and off-road cycling facilities	Km	City of St. Catharines Niagara Region	Every 2 years
2	Active Transportation	Total kilometres of new sidewalks	Km	City of St. Catharines Niagara Region	Every 2 years
3	Active Transportation	Number of collisions or accidents to pedestrians or cyclists	Unit Frequency	Niagara Regional Police OPP	Every year
4	Active Transportation/ Transit	Number of existing and new bicycle end-trip facilities (bike parking, bike share, bus units with bike racks)	Unit Frequency	City of St. Catharines	Every year
5	Transit	Number of kilometres of existing and new transit routes (Transit coverage)	Km	St. Catharines Transit Commission	Every 2 years

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	Mode	Indicator	Unit	Data Source	Frequency
6	Transit	Ridership	Ridership	St. Catharines Transit Commission GO Transit	Every year
7	Transit	Effective kilometres travelled by transit units	Km	St. Catharines Transit Commission GO Transit	Every year
8	Transit	PKI – Passenger-fares per effective kilometre index	Index (Pax/km)	St. Catharines Transit Commission GO Transit	Every year
9	Car	Private vehicle ownership per 1000 inhabitants	Index (registered vehicles / 1000 people)	MTO/Census Canada (population)	Every 5 years
10	Car	Number of collisions or accidents (motorists)	Unit Frequency	Niagara Regional Police OPP	Every year
11	Car	Total lane kilometres of new, repaved or newly-treated roads	Lane km	City of St. Catharines Niagara Region	Every 3 years
12	All modes	Number of daily trips	Trips	Transportation for Tomorrow Survey (TTS)	Every 5 years

