ACTIVE TRANSPORTATION
5 YEAR IMPLEMENTATION PLAN
2019-2023
# Table of Contents

1 Vision 5
2 Developing the Implementation Plan 6
   2.1 Developing the Implementation Plan 9
   2.2 Public Consultation and Engagement 9
3 Neighbourhood Level Infrastructure 10
4 City-wide Infrastructure 12
   4.1 Active Transportation Route Evaluation 13
5 Existing Gaps and Barriers 20
   5.1 Pedestrian Crossing and Intersection Improvements 20
   5.2 Addressing Sidewalk and Cycling Infrastructure Gaps 22
6 Programs, Policies, and Operations 26
   6.1 Promoting Active Routes to School 28
   6.2 Active Transportation Wayfinding 33
   6.3 Promotion and Education 35
   6.4 Policy & Bylaw Updates 36
   6.5 Online Connections 37
   6.6 Data-driven Decision-making, Monitoring, and Evaluations 38
   6.7 Bicycle Parking 40
   6.8 Bike Sharing 41
   6.9 Traffic Calming 41
   6.10 Operations and Maintenance 43
   6.11 Active and Sustainable Transportation Options for Workplaces 45
7 Capital and Operating Costs 46
   7.1 Infrastructure Capital Costs 46
   7.2 Operating Costs 48
8 Monitoring and Evaluation 49
   8.1 What is being done in Kingston? 49
   8.2 Performance Measures 49

# List of Figures

Figure 1 – City of Kingston Transportation Focus Areas 6
Figure 2 – Cycling Network Routes (Urban Area) 8
Figure 3 – Cycling Network Routes City Wide 8
Figure 4 – 2019-2023 Transportation Focus Areas 11
Figure 5 – Priority Cycling Routes 12
Figure 6 – Active Transportation Cycling Route 6 14
Figure 7 – Active Transportation Cycling Route 3 14
Figure 8 – Active Transportation Cycling Route 8 15
Figure 9 – Active Transportation Cycling Route 14 15
Figure 10 – Priority Intersection and Pedestrian Crossings 20
Figure 11 – 2019-2023 Pedestrian Network 23
Figure 12 – 2019-2023 Supporting Active Transportation Infrastructure 25
Figure 13 – School Travel Plan Process - Courtesy of Ontario Active School Travel 29
List of Tables

Table 1 – Priority Transportation Focus Areas 10
Table 2 – Segments within Active Transportation Routes 16
Table 3 – Intersection and Pedestrian Crossing Priorities 21
Table 4 – Sidewalk Project List 23
Table 5 – Additional Cycling Infrastructure 24
Table 6 – Sidewalk Designations 43
Table 7 – Snow Depth Procedures 44
Table 8 – Estimated Capital Costs (dollars) - Short Term Implementation 47
Table 9 – Public Works Active Transportation Budget Requirements 48

List of Technical Appendices

Technical Appendix 1 – Walk ‘n’ Roll - Priorities and Phasing Survey 51
Technical Appendix 2 – Figures: Large Format 59

Acknowledgements

We would like to thank members of the public, stakeholders and members of the Technical Advisory Group who gave their time and input in the development of the City of Kingston’s Active Transportation Master Plan (also known as Walk ‘n’ Roll Kingston). This short-term Active Transportation Implementation Plan provides the City and its partners with the tools and guidance necessary to improve conditions for active transportation and to continue the journey towards the City’s active transportation mode share target of 20 per cent by 2034.
Implementing Walk’n’Roll
Kingston
1 Vision

This five-year Implementation Plan identifies infrastructure, programming, and operational investments to foster a culture of active transportation in Kingston. The plan prioritizes improvements to create an integrated city-wide active transportation network, identifies opportunities to develop neighbourhood-level connections, and outlines plans for programming and policy initiatives.

This document transforms Walk ‘n’ Roll Kingston, Kingston’s Active Transportation Master Plan (ATMP), into action. The ATMP introduced the concept of city-wide and neighbourhood-level infrastructure, and recognized that these two components are equally important in achieving the City’s long-term goal of having at least 20 per cent of all trips within the City using active transportation. This Implementation Plan provides specific details outlining the infrastructure, neighbourhoods, programs and initiatives to be implemented over the next five years. These efforts will collectively move the City closer to its long-term modal vision and goals.

For decades, infrastructure in Kingston was constructed with motorists at the forefront of design decisions. It’s important to note that this cannot and will not be undone in the City’s first five-year Active Transportation Implementation Plan. The content in this document is intended to foster a realistic and flexible strategy that responds to on-going changes, available resources, funding and partnerships.

Over time, this plan will also serve to reduce greenhouse gas (GHG) emissions by limiting the need to rely on motor vehicles, and will facilitate physical and mental health, social cohesion, and safer roads for all.

The following sections provide an overview of the proposed phasing plan, how it was developed, and the costs associated with implementation. It also outlines the programs and initiatives that the City will develop to support active transportation.
2 Developing the Implementation Plan

The Implementation Plan for the ATMP has been developed through ongoing public engagement to prioritize components of Kingston’s active transportation network and action plan for implementation. Developing a five-year Implementation Plan will allow for alignment with the City’s capital infrastructure plans for major construction projects and provide a greater opportunity for proposed projects to be identified in the City’s future capital plans.

The objectives of this Implementation Plan are to:

• Undertake neighbourhood-level transportation planning for specific focus areas that build on city-wide active transportation and transit plans, and to;
• Construct meaningful segments of the city-wide network by connecting gaps between existing facilities;
• Develop programs to foster and support the development of an active transportation culture in the City.

Neighbourhood-Level Networks:

Neighbourhood-level components will include networks of routes and facilities within local areas that connect to city-wide transportation and transit networks. Trips along these routes typically take place on local roads and along trails and pathways. Neighbourhood routes will be designed with local points of interest in mind, such as a school, library, corner store, or community centre.

Figure 1 illustrates the City’s transportation focus areas recommended to be studied further at a neighbourhood level. These focus areas are intended to help City staff identify short and long-term transportation priorities and guide future decision-making and planning for active transportation at a neighbourhood level.

![Figure 1 – City of Kingston Transportation Focus Areas](image-url)
City-wide Network:

Building on the neighbourhood-level approach, this Implementation Plan also outlines the city-wide AT network to be prioritized in the short term. This network refers to a system of routes and facilities that provide key north-south and east-west connections throughout the City of Kingston.

City-wide trips are typically for commuting or for long distance/touring purposes, and includes trips to and from work, major commercial centres, transportation hubs and other major destinations. These trips typically occur on arterial and collector roads that have moderate-to-high operating speeds and motor vehicle traffic. Major off-road trails, such as the K&P Trail will also form part of this network.

The city-wide active transportation network is intended to address large-scale mobility concerns and issues that impact the City as a whole rather than specific challenges at a local level. The infrastructure requirements for a city-wide transportation system are typically larger in scale and scope, and are typically planned in conjunction with other major projects. Examples of infrastructure improvements at a city-wide network level include enhanced crossings for pedestrians and cyclists, roadway widenings or extensions with cycling facilities that are separated from motor vehicle lanes, and major off-road trail linkages.

The AT routes illustrated in Figure 2 and Figure 3 were developed to arrange the city-wide network into continuous routes that outline key north-south and east-west connections in the city. Assembling components of the cycling network into defined routes improves overall network connectivity by strategically focusing development on select routes during the initial implementation phases of the network. This approach ensures that the interim stages of the network will be impactful by prioritizing gaps between cycling facilities.

While active transportation routes and neighbourhood transportation focus areas have been prioritized throughout this report, the Implementation Plan is not prescriptive. It is meant to inform day-to-day decision-making undertaken by City staff and Council. The Implementation Plan will adapt to complementary studies such as secondary plans, changes in development or transportation patterns, and available resources.

Policies, Programs, and Operations:

The integrated approach of this five-year plan takes into consideration programming, polices, and operations that promote and govern the use of each infrastructure investment. These components are an equally important ingredient to fostering a modal shift. Each initiative further builds the case for active travel, laying the foundation for consistent uptake and adoption by residents of Kingston.
Figure 2 – Cycling Network Routes (Urban Area)

Figure 3 – Cycling Network Routes City Wide
2.1 Developing the Implementation Plan

The Implementation Plan considered a variety of factors to establish an approach that is achievable and can be integrated into existing City projects, processes and resources. The Implementation Plan for the ATMP considers the following factors:

- **City of Kingston’s Strategic Plan**
  Proposed active transportation routes and facilities will be coordinated with other large-scale capital projects identified in the City’s Strategic Plan to maximize efficiencies.

- **Consultation and Engagement**
  Input on priorities and phasing received from members of the public, stakeholders, committee members and City staff through consultation and engagement activities.

- **Existing Council-approved plans**
  Proposed phasing and priorities identified in existing Council-approved plans such as the Official Plan, Kingston Transportation Master Plan and Waterfront Master Plan, have been incorporated into the ATMP.

- **ATMP Objectives**
  The selection of phasing for routes and facilities is meant to support and help achieve the objectives identified in Section 1.4.3 of the ATMP report.

With these factors considered, the Implementation Plan is framed around four themes:

1. Neighbourhood-Level Infrastructure
2. City-wide Infrastructure
3. Existing Gaps and Barriers
4. Programs, Policies and Operations

Each of these themes will be discussed in more detail in the sections that follow.

2.2 Public Consultation and Engagement

Extensive public consultation was completed for the development of the ATMP which informed the city-wide cycle network, the transportation focus areas and the recommended programs and policies. After the ATMP was adopted, additional consultation was completed to inform the recommended phasing and priorities of the city-wide infrastructure and routes, transportation focus area priorities, and supporting programs and initiatives.

Public engagement consisted of an online survey and several pop-up events across the city to hear from a broad range of residents and stakeholders. The pop-up events included information on cycling routes, transportation focus areas, and programs and initiatives. The events were strategically selected at different times and geographical locations across the city and included the following:

- Cataraqui Centre Transit Transfer Point
- Woodbine Park
- Princess Street Promenade
- Party in the Park at Grenadier Park
- Doug Fluhrer Park
- Teddy Bear Picnic at Lake Ontario Park
- Kingston Multi Cultural Arts Festival, Confederation Park
- Movies in the Square

The online survey gave the participants an opportunity to select and prioritize cycle routes. It also provided an opportunity for feedback on specific features that would enhance or encourage residents to ride, walk or roll more often. It also allowed participants to prioritize the transportation focus areas and the supportive programs and initiatives. This feedback informed the technical analysis to determine projects and programs that are shown in this plan. A summary of the survey can be found in Appendix 1.
Developing a neighbourhood level transportation study for each focus area is a new process that was identified in the ATMP. It is expected that these studies will require significant consultation and engagement with a variety of stakeholders and neighbourhood groups.

Recognizing that this process will need to be developed and evolve over the five-year implementation period, this plan recommends starting with three focus areas.

These initial transportation focus areas were chosen based on opportunities to:
- Align with short-term phasing of the city-wide cycling and pedestrian network;
- Ensure connections and links were made to the transit backbone to supplement the lack of existing connections to the city-wide network;
- Reflect stakeholder input received during the development of the ATMP.

Based on these factors three recommended focus areas, shown in Table 1, were identified and confirmed through public engagement.

**Areas I and C** were identified based on the opportunities to connect with planned east-west city-wide cycling routes 6 and 3, proximity to express transit, and existing gaps in active transportation infrastructure. These areas also present a good opportunity to address active routes to schools to address existing issues related to traffic, parking, and infrastructure.

**Area G** aligns with a transportation study currently underway in the North King’s Town secondary planning exercise that will identify the neighbourhood transportation needs and approaches to shift neighbourhood-level trips out of vehicles.

Within these areas, the City will initially focus on piloting an active route to school program, outlined in Section 6, through the identification of preferred or desired neighbourhood routes to schools, infrastructure upgrades along these routes on sidewalks, pathways, and roadways, and the identification of barriers for pedestrians and cyclists that exist at intersections and crossings.

### Table 1 – Priority Transportation Focus Areas

<table>
<thead>
<tr>
<th>Area Description</th>
<th>Area Photo</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area I</strong> - This area is bordered by Bath Rd. to the north, Little Cataraqui Creek to the east, Lake Ontario to the south and Collins Bay to the west.</td>
<td>![Area I Photo]</td>
</tr>
<tr>
<td><strong>Area C</strong> - This area is bordered by Princess St. to the north, Gardiners Rd. to the east, and Bath Rd. to the south. The western border aligns with the City’s urban growth boundary and the Collins Creek wetland area.</td>
<td>![Area C Photo]</td>
</tr>
<tr>
<td><strong>Area G</strong> - This area is bordered by John Counter Blvd. / CN rail line to the north, the Cataraqui River to the east, Queen St. to the south, and Division St. to the west. This border matches the boundary of the North King’s Town secondary planning area.</td>
<td>![Area G Photo]</td>
</tr>
</tbody>
</table>
Beyond these initial areas, the City will also be taking a broader approach to active transportation through school travel planning programming, infrastructure upgrades at existing school crossings, traffic calming, and bicycle parking improvements.

Feedback on the remaining transportation focus areas can be found in the survey summary report in Appendix 1 and it is expected that additional engagement will be completed prior to moving forward with any of the remaining transportation areas.

For complete descriptions of each focus area please refer to technical Appendix C in the ATMP.
To identify components of the city-wide network for short-term implementation, a priority matrix was developed to assess the active transportation routes relative to one another based on 18 criteria. Using this matrix, a score was applied to each active transportation route depending on how it performed against each of the criterion. Each project was weighted out of 100 based on its total score. Broadly the criteria are organized into six topic groups:

- City-wide benefit (25 per cent) identifies the relative abilities of active transportation routes to generate city-wide benefits based on the proximity to residential areas, proximity to work areas, potential to attract visitors, and use for recreational physical activity.
- Connectivity (25 per cent) evaluates the capacity of an AT route to improve network connectivity based on the potential to connect to existing components of the cycling network, to provide connections to future active transportation routes, to improve accessibility for everyone in an area, to connect with the express transit system, and to target improvements along known cycling routes.
- Community preference (20 per cent) gives priority to projects that ranked highest in the Priorities and Phasing Survey, as well as those best aligned with the themes heard during consultation for ATMP: improving east-west connections and complete gaps in the network.
- Financial (10 per cent) assesses routes based on the relative cost of completion and whether additional funding opportunities are available to finance the project.
- Implementation constraints (10 per cent) assesses the degree that right-of-way limitations, permits, and land ownership may limit the implementation of a continuous facility type, favouring those routes with minimal constraints.
- Integration with other planned road improvements (10 per cent) gives priority to projects with the potential to be incorporated into and enhance planned road improvements in the immediate, short, and long term.
4.1 Active Transportation Route Evaluation

Using the matrix, a score was applied to each active transportation route depending on how it performed against each of the criterion. Each project was weighted out of 100 based on its total score.

Through this analysis, four active transportation routes were identified for implementation in the short-term, see Figure 5.

- **Route 8** – Rideau Trail, Queen Mary Rd., Brock St. and Johnson St.
- **Route 6** – Bayridge Dr, Henderson Blvd, Days Rd., Front Rd. and Union St.
- **Route 3** – Taylor Kidd Blvd, John Counter Blvd., Gore Rd.
- **Route 14** – Leroy Grant Dr. and the Leroy Grant off-road Trail.

These four routes provide critical east-west connections and scored high in providing city-wide benefit, linkages to the transit network, and community preference. More specifically:

- Active transportation Routes 6 and 8 consistently ranked at the top of each topic group, with Route 8 having strong attributes for providing city-wide benefits and Route 6 offering the greatest improvements to connectivity. These routes also provided strong connections to the existing express transit system.
- Active transportation Route 3 showed potential for future connectivity, with scores comparable to routes 6 and 8 despite existing infrastructure gaps along the routes for cyclists. Routes 3 and 6 also scored highly in providing east-west connections and completing gaps in the network in addition to providing strong connections to express transit system.
- Active transportation Route 14 was selected due to its strong potential to provide City-wide benefits and improvements to accessibility, despite being a relatively short segment of the network. This route also aligns with other large projects being completed near this route that would benefit from this connection. These projects include a new buffered bike lane along John Counter Boulevard and Champlain Park upgrades that will also include pathway connections to a new high school.

While the majority of facilities along Routes 3, 6 and 8 are slated to be completed in this five-year plan, some remaining pieces will require further consultation, design and construction work outside of this five-year period. This Implementation Plan identifies segments within the selected routes that can be implemented in the short-term that seek to maximize the connectivity and leverage other planned and ongoing infrastructure projects. These segments within each cycling route are shown on Figure 6, Figure 7, Figure 8, and Figure 9.

More detailed information about each of the proposed segment facility types, proposed timing and rationale are provided in Table 2.
Figure 6 – Active Transportation Cycling Route 6

Route 6
- Existing Bike Lane
- Proposed Buffered Bike Lane
- Proposed Bike Lane
- Proposed Buffered Paved Shoulder
- Proposed In Boulevard Trail
- Proposed Signed Route With Sharrows

Figure 7 – Active Transportation Cycling Route 3

Route 3
- Proposed Buffered Bike Lane
- Proposed In Boulevard Trail
- Proposed Paved Shoulder
Figure 8 – Active Transportation Cycling Route 8

Figure 9 – Active Transportation Cycling Route 14
<table>
<thead>
<tr>
<th>Route/Segment</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Route 6</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 6A - In-boulevard trail along Bayridge Dr. from Creekford Rd. to Hudson Dr. | Future | • Provides link for west-end neighbourhoods to key east-west cycling routes  
• Improves safety for cyclists along known route |
| 6B - Bike lane Bayridge Dr., Woodbine Rd. to Cataraqui Woods Dr. | 2020-2023 | • Completes gap in existing network  
• Potential to link with transit priority work along existing express corridor and upgrade facility to in-boulevard trail in future  
• Improves safety for cyclists along known route  
• Connects west-end neighbourhoods to new east-west facility on King St. West and Front Rd. |
| 6C - Bike lanes on Bayridge Dr. from Hudson Dr. to Taylor Kidd Blvd. | 2020-2021 | • Completes gap in existing network  
• Improves safety for cyclists along known route  
• Connects west-end neighbourhoods to new east-west facility on King St. West and Front Rd.  
• Potential to link with transit priority work along existing express corridor and upgrade facility to in-boulevard trail in future  
• Low implementation cost |
| 6D - Buffered bike lane on Bayridge Dr. from Hudson Dr. to Acadia Dr. | 2020-2022 | • Improves safety of existing facility  
• Connects west-end neighbourhoods to new east-west facility on King St. West and Front Rd. |
| 6E - Buffered bike lane on Bayridge Dr. from Front Rd. to Acadia Dr. | Future | • Enhances safety of existing facility  
• Route is along the Great Lakes Waterfront trail  
• Connects west-end neighbourhoods to key east-west facility on Front Rd. and King St. West |
| 6F - In-boulevard trail along Henderson Blvd. from Bayridge Dr. to Days Rd. | 2020-2021 | • Creates desired east-west connection  
• Connects existing facilities on Bayridge Dr. and Days Rd.  
• Provides additional level of separation for pedestrians and cyclists  
• Improves access to Great Lakes Waterfront trail |
<table>
<thead>
<tr>
<th>Route/Segment</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| **6G** - Buffered bike lane on Days Rd. between Front Rd. and Bath Rd. | Future | • Connects key east-west cycling facilities on Henderson Blvd. and Front Rd.  
• Enhances safety for cyclists along known route  
• Multiuse pathway could be considered at this location to connect with proposed facilities on Henderson Blvd. and Days Rd. |
| **6H** - Buffered bike lane on Front Rd. from Days Rd. to Bayridge Dr. | Future | • Enhances safety of existing facility  
• Route is along Great Lakes Waterfront trail  
• Provides connection for west-end neighbourhoods to in-boulevard trail on Front Rd. and King St. West |
| **6I** - In-boulevard trail along Front Rd. and King St. West from Days Rd. to Portsmouth Ave. | 2020-2023 | • Creates desired east-west connection  
• Provides additional level of separation for cyclist and pedestrians  
• Enhances safety for cyclists along known route  
• Project aligns with planned Utilities Kingston project |
| **6J** - Signed route with sharrows on Union St. from Church St. to West Campus Lane | 2020 | • Completes connection on a known route  
• Enhances awareness and safety for cyclists |
| **6K** - Bike lane on Union St. from Barrie St. to Alfred St. | 2021-2022 | • Completes gap in existing network  
• Improves safety for cyclists along known route  
• High-density active transportation area |

**Route 3**

<table>
<thead>
<tr>
<th>Route/Segment</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| **3A** - Paved shoulder on Taylor Kidd Blvd. from Collins Bay Rd. to Coronation Blvd. | Future | • Improves safety for cyclists on high-volume, high-speed road  
• Provides cycling facility at gateway to city  
• Provides link to key east-west and north-south cycling facilities |
| **3B** - Buffered bike lane on Taylor Kidd Blvd. from Bayridge Dr. to Collins Bay Rd. | Future | • Provides connection between two north-south facilities on Collins Bay Rd. and Bayridge Dr.  
• Improves safety for cyclists  
• Key east-west connection to gateway into Kingston |
<table>
<thead>
<tr>
<th>Route/Segment</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| **3C** - Buffered bike lane on Taylor Kidd Blvd. from Bayridge Dr. to Princess St. | 2019-2023 | • Creates desired east-west connection  
• Sections of Taylor Kidd Blvd. can be accommodated with minor changes to right-of-way  
• Eliminates gaps in existing network  
• Aligns with planned projects |
| **3D** - Buffered bike lane on John Counter Blvd. from Princess St. to Sir John A. Macdonald Blvd. | 2020-2021 | • Improves access to Via Rail station  
• Creates desired east-west connection  
• Aligns with planned projects |
| **3E** - Buffered bike lane on John Counter Blvd. from Sir John A. Macdonald Blvd. to Division St. | 2019 | • Low implementation costs  
• Enhances safety of existing facility |
| **3F** - Buffered bike lanes on John Counter Blvd. from Division St. to Montreal St. | 2021-2022 | • Enhances safety of existing facility  
• Improves a key east-west route, connecting Kingston East to central Kingston  
• Currently part of K&P trail |
| **3G** - In-boulevard trail along John Counter Blvd./Gore Rd. from Elliott Ave. to Hwy 15 | 2020-2022 | • Provides secondary connection for east-end residents to downtown via Montreal St and K&P trail  
• Aligns with planned Third Crossing project |

**Route 8**

<table>
<thead>
<tr>
<th>Route 8</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| **8A** - In-boulevard trail on Portsmouth Ave. from Portsmouth Ave. to John Counter Blvd. | 2019-2021 | • Provides connection to existing off-road trail and existing bike lanes on Portsmouth Ave. and John Counter Blvd.  
• Enhances safety for cyclists  
• Aligns with planned projects |
| **8B** - Hard surface off-road trail, Rideau Trail between Parkway and Queen Mary Rd. | 2020 | • Provides connection to existing off-road trail and Johnson and Brock streets  
• Aligns with planned projects |
<table>
<thead>
<tr>
<th>Route/Segment</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| **8C** - Buffered bike lane on Palace Rd. from Johnson St. to Brock St. | Future | • Enhances safety for cyclists transitioning between Brock St. and Johnson St.  
• Provides connection to key east-west route to the downtown |
| **8D** - Buffered bike lane on Johnson St. and Brock St. from Palace Rd. to Division St. | 2019-2020 | • Enhances existing buffered bike lanes by providing additional level of separation with flex bollards  
• Improves key east-west connection to the downtown  
• Low cost to implement |

**Route 14**

<table>
<thead>
<tr>
<th>Route 14</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| **14A** - In-boulevard trail on Leroy Grant from Elliott Ave. to John Counter Blvd. | 2019-2020 | • Creates connection to existing public school and future secondary school  
• Aligns with planned parks projects  
• Connects neighbourhood to existing separated facility on John Counter Blvd. |
| **14B** - Hard surface off-road trail between Third Ave. and Elliott Ave. | 2019-2020 | • Creates connection to existing public school and future secondary school  
• Aligns with planned parks projects  
• Connects neighbourhood to existing facility on John Counter Blvd. |
In addition to building city-wide AT routes, a key part of the Implementation Plan is centred around supporting infrastructure, including the construction of new intersections, existing intersection improvements, and upgrades to pedestrian crossings. As well, the ATMP identified a number of existing gaps within the active transportation network that need to be addressed in the short-term to increase connectivity and strengthen existing active transportation infrastructure.

5.1 Pedestrian Crossing and Intersection Improvements

Pedestrian crossings and pedestrian/cyclist movements at intersections were identified in the ATMP as a high priority. These facilities often present as barriers to choosing active modes of transportation. To address these barriers, this plan has developed a list of intersections and pedestrian crossings that will be constructed as part of this five-year plan, as well as a list of candidate locations that will be committed to a review and potential construction should funding and resources be made available through external funding opportunities such as the Investing in Canada Infrastructure Program (ICIP). The identified intersections and pedestrian crossings can be found in Figure 10 and Table 3. It should be noted that the map ID number in Table 3 does not reflect the priority level of these intersections and pedestrian crossings.

“Committed Intersections” were identified based on their presence within projects that are already underway. In most cases, “Candidate Intersections” were selected based on their presence along the four previously identified AT corridors, where it is expected that additional improvements will be required to facilitate the movement of pedestrian and cyclists. This work could range from signage and signal upgrades to full reconstruction. “Committed Pedestrian Crossings” are projects that were identified

![Figure 10 – Priority Intersection and Pedestrian Crossings](image)
as part of the 2019 budget to improve locations with higher volumes of pedestrians along transit routes and active routes to school. Many of the “Candidate Pedestrian Crossings” are located at existing school crossings throughout the City. The City has committed to evaluating all existing school crossings within the City and constructing four new pedestrian crossings as part of the five-year Implementation Plan.

Table 3 – Intersection and Pedestrian Crossing Priorities

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Location</th>
<th>Candidate/Committed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>King St. at Clarence St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>2</td>
<td>Princess St. at Bayridge Dr.</td>
<td>Candidate</td>
</tr>
<tr>
<td>3</td>
<td>Ontario St. at Brock St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>4</td>
<td>Days Rd. at Front St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>5</td>
<td>Bayridge Dr. at Taylor Kidd Blvd.</td>
<td>Candidate</td>
</tr>
<tr>
<td>6</td>
<td>Bath Rd. at Sir John A Macdonald Blvd.</td>
<td>Candidate</td>
</tr>
<tr>
<td>7</td>
<td>Bath Rd. at Portsmouth Ave.</td>
<td>Candidate</td>
</tr>
<tr>
<td>8</td>
<td>Bayridge Dr. at Cedarwood Dr.</td>
<td>Candidate</td>
</tr>
<tr>
<td>9</td>
<td>Days Rd. at Henderson Blvd.</td>
<td>Candidate</td>
</tr>
<tr>
<td>10</td>
<td>Montreal St. at Ordinance St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>11</td>
<td>Taylor Kidd Blvd. at Gardiners Rd.</td>
<td>Candidate</td>
</tr>
<tr>
<td>12</td>
<td>Stephen St. at Patrick St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>13</td>
<td>Bayridge Dr. at Lincoln St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>14</td>
<td>Bayridge Dr. at Coverdale St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>15</td>
<td>Union St. at Sir John A Macdonald Blvd.</td>
<td>Candidate</td>
</tr>
<tr>
<td>16</td>
<td>King St. at Sir John A Macdonald Blvd.</td>
<td>Candidate</td>
</tr>
<tr>
<td>17</td>
<td>Taylor Kidd Blvd. at Old Colony Rd.</td>
<td>Candidate</td>
</tr>
<tr>
<td>18</td>
<td>Taylor Kidd Blvd. at Progress Ave.</td>
<td>Candidate</td>
</tr>
<tr>
<td>19</td>
<td>Taylor Kidd Blvd. at Milford Ave.</td>
<td>Candidate</td>
</tr>
<tr>
<td>20</td>
<td>John Counter Blvd. at Division St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>21</td>
<td>Highway 2 at Fort Henry Dr.</td>
<td>Candidate</td>
</tr>
<tr>
<td>22</td>
<td>Queen St. at Ontario St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>23</td>
<td>John Counter Blvd. at Montreal St.</td>
<td>Committed</td>
</tr>
<tr>
<td>24</td>
<td>King St. at Union St.</td>
<td>Committed</td>
</tr>
<tr>
<td>25</td>
<td>King St. at Portsmouth Ave.</td>
<td>Committed</td>
</tr>
<tr>
<td>26</td>
<td>King St. at Country Club Dr.</td>
<td>Committed</td>
</tr>
<tr>
<td>27</td>
<td>King St. at Trailhead Place</td>
<td>Committed</td>
</tr>
<tr>
<td>28</td>
<td>John Counter Blvd. at Leroy Grant Dr.</td>
<td>Committed</td>
</tr>
<tr>
<td>29</td>
<td>Highway 15 at Gore Rd.</td>
<td>Committed</td>
</tr>
<tr>
<td>49</td>
<td>Portsmouth Ave. at John Counter Blvd.</td>
<td>Committed</td>
</tr>
<tr>
<td>50</td>
<td>John Counter Blvd. at Old Mill Rd.</td>
<td>Committed</td>
</tr>
</tbody>
</table>
### Pedestrian Crossings

<table>
<thead>
<tr>
<th></th>
<th>Location</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Bath Rd. midblock east of Portsmouth Ave.</td>
<td>Candidate</td>
</tr>
<tr>
<td>31</td>
<td>Concession St. at Kingscourt Ave.</td>
<td>Candidate</td>
</tr>
<tr>
<td>32</td>
<td>Barrie St. at Clergy St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>33</td>
<td>Bayridge Dr. south of Taylor Kidd Blvd.</td>
<td>Candidate</td>
</tr>
<tr>
<td>34</td>
<td>Elliott Ave. at Lyons St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>35</td>
<td>Henderson Blvd. just east of Ashley Cres.</td>
<td>Candidate</td>
</tr>
<tr>
<td>36</td>
<td>Hudson Dr. in front of Bayridge Public School</td>
<td>Candidate</td>
</tr>
<tr>
<td>37</td>
<td>Johnson St. between Mowat Ave. and Yonge St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>38</td>
<td>Montreal St. at MacCauley St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>39</td>
<td>Norman Rogers Dr. in front of Centennial Public School</td>
<td>Candidate</td>
</tr>
<tr>
<td>40</td>
<td>Weller Ave. at Wiley St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>41</td>
<td>Queen Mary Rd. at Robert Wallace Dr.</td>
<td>Candidate</td>
</tr>
<tr>
<td>42</td>
<td>Union St. at MacDonnell St.</td>
<td>Candidate</td>
</tr>
<tr>
<td>43</td>
<td>Welborne Ave. just south of Everitt Ave.</td>
<td>Candidate</td>
</tr>
<tr>
<td>44</td>
<td>Taylor Kidd Blvd. at Pembridge Cres.</td>
<td>Candidate</td>
</tr>
<tr>
<td>45</td>
<td>Front Rd. at Lakeview Ave.</td>
<td>Committed</td>
</tr>
<tr>
<td>46</td>
<td>Ontario St. at Lower Union St.</td>
<td>Committed</td>
</tr>
<tr>
<td>47</td>
<td>Sir John A Macdonald Blvd. at Norman Rogers Dr.</td>
<td>Committed</td>
</tr>
<tr>
<td>48</td>
<td>Johnson St. at Macdonnell St.</td>
<td>Committed</td>
</tr>
</tbody>
</table>

#### 5.2 Addressing Sidewalk and Cycling Infrastructure Gaps

As part of the development of the ATMP, the City evaluated the existing sidewalk and cycling network and identified major gaps and barriers. This plan focuses on eliminating existing sidewalk gaps within the network and providing new linkages to areas that are heavily used or have high percentages of road users such as children, elderly and those with accessibility concerns. The specific sidewalk projects that are slated for construction can be found in **Figure 11**, with more detailed information on each project included in **Table 4**. It should be noted that the identified sidewalk projects are still subject to detailed design, which may identify unforeseen circumstances such as higher costs, property issues, and regulatory approvals that may result in the projects not being completed within the identified timeframe. As such, projects may be altered should priorities shift.

An analysis of the existing cycling network was completed to identify infrastructure gaps and facilities that are deficient. These smaller active transportation projects do not fall within the priority City-wide routes or neighbourhood areas that have been identified. The individual projects are planned to take advantage of other planned City infrastructure projects, or due to their low complexity and cost of implementation. These additional cycling infrastructure components can be seen on **Figure 12** and specific details can be found in **Table 5**.

A major active transportation barrier identified in the ATMP was the existing pedestrian crossing of the CN Rail line at John Counter Boulevard east of Division Street. Due to the
complexity of the project, issues pertaining to land ownership, and the expected cost of the project, further study is required. As such, funding has been included as part of this Implementation Plan to conduct an Environmental Assessment, which will identify the most appropriate solution. Work on the EA will begin in 2020 and the implementation and construction of the solution will be considered in future plans.

Table 4 – Sidewalk Project List

<table>
<thead>
<tr>
<th>Sidewalk Location</th>
<th>Implementation Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birchwood Dr. from Cataraqui Woods Dr. to Peachwood St.</td>
<td>2019</td>
</tr>
<tr>
<td>Bath Rd. from Coverdale Dr. to 290 East of Coverdale Dr.</td>
<td>2019</td>
</tr>
<tr>
<td>Taylor Kidd Blvd. from Waterloo Dr. to Princess St.</td>
<td>2019</td>
</tr>
<tr>
<td>Gardiners Rd. from Norris Ct. to Cataraqui Woods Dr.</td>
<td>2020</td>
</tr>
<tr>
<td>McMahon Ave. from Jane Ave. to Avenue Rd.</td>
<td>2020</td>
</tr>
<tr>
<td>Collins Bay Rd. from Edwin St. to Aylmer St.</td>
<td>2020</td>
</tr>
<tr>
<td>Gardiners Rd. from 220 South of Fortune Cres. to 120 South of Fortune Cres.</td>
<td>2020</td>
</tr>
<tr>
<td>Cataraqui Woods Dr. from Gardiners Rd. to Clyde Ct.</td>
<td>2021</td>
</tr>
<tr>
<td>Collins Bay Rd. from Woodbine Rd. to Princess St.</td>
<td>2021</td>
</tr>
<tr>
<td>Wise St. from Megan St. to Woodbine Rd.</td>
<td>2021</td>
</tr>
</tbody>
</table>
Table 5 – Additional Cycling Infrastructure

<table>
<thead>
<tr>
<th>Project</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| Bike lane Collins Bay Rd. from Bath Rd. to Princess St. | 2021 | • Low cost to implement change as much of the infrastructure already exists  
• Provides north-south connection for west-end neighbourhoods to the waterfront trail |
| Bike lane Montreal St. from Orndance St. to Rideau St. | 2019 | • Low cost to implement  
• Parking restriction already in place  
• Aligns with plans in draft of North King’s Town Secondary Plan |
| Off-road trail along former Napier St. from Mack St. to Brock St. | 2019-2020 | • Being completed as part of parks construction  
• Improves safety for cyclists using the park and those looking to connect to the Brock Street bike lanes |
| Bike lane Division St. from Johnson St. to Princess St. | 2020 | • Low cost to implement  
• Aligns with planned projects  
• Connects key east-west facility with downtown core |
| Bike lane Division St. from Princess St. to Stephan St. | 2022 | • Bike lanes to be added where right-of-way exists  
• Low implementation cost  
• Improves connectivity on known cycling route |
| Bike lanes on University Ave. from Princess St. to Brock St. | 2020 | • Low cost to implement  
• Completes connection from Princess St. to Queen’s University  
• Improves safety on known cycling route |
| Bike lanes on University Ave. from Union St. to Earl St. | 2020 | • Low cost to implement  
• Completes connection from Princess St. to Queen’s University  
• Improves safety on known cycling route |
<table>
<thead>
<tr>
<th>Project</th>
<th>Implementation Year(s)</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike lanes on King St. West from Morton Way to Beverley St.</td>
<td>2022</td>
<td>• Improves connectivity to Breakwater Park (a key destination)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Improves safety along known cycling route</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Aligns with other City projects</td>
</tr>
<tr>
<td>Off-road trail through Beattie Park</td>
<td>2020-2021</td>
<td>• Provides improved connections through off-road facility to park and future in-boulevard trail</td>
</tr>
<tr>
<td>Off-road trail through Elder Park</td>
<td>2022-2023</td>
<td>• Known route for pedestrians and cyclists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Improves safety for users</td>
</tr>
<tr>
<td>Off-road trail through Lasalle Park</td>
<td>2022-2023</td>
<td>• Creates new pathway connection through neighbourhood to facility on Days Rd.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Previously identified in Recreation and Leisure plans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Aligns with planned projects</td>
</tr>
<tr>
<td>Off-road trail connecting K&amp;P trail to Third Crossing</td>
<td>2021-2022</td>
<td>• Improves safety for cyclists and pedestrians by providing off-road access from John Counter to downtown.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Links existing K&amp;P trail with future in-boulevard trail on Third Crossing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Aligns with planned projects</td>
</tr>
</tbody>
</table>

Figure 12—2019-2023 Supporting Active Transportation Infrastructure
A vision of all ages and abilities walking and cycling around Kingston cannot be achieved through infrastructure changes alone. Behaviour change is complex; emotions, attitudes, cultural practices, social influence, and all come into play in the decision of which mode of travel to use.

This Implementation Plan focuses on the introduction of programming centred on safer routes to school, establishing an Active Transportation Wayfinding strategy, developing and delivering innovative educational content, and filling gaps within the City’s bicycle parking supply.

It identifies a number of policy-related initiatives to be undertaken, including consideration of the City’s Vision Zero Road Safety Strategy and relevant countermeasures, a review and update of City Policies & By-laws to align with the goals of the ATMP, an update of the Household Travel Survey and City’s Transportation Model, and implementation of traffic calming measures as part of an integrated transportation approach. And finally, it establishes operational commitments to ensure a user-friendly experience for residents along existing and new AT facilities.

Vision Zero Road Safety Plan

Vision Zero is an approach to road safety that has been adopted in various forms around the world. The concept is defined by the principle that no loss of life or injury on our roads is acceptable. The basis of Vision Zero is two-fold: to prevent collisions from occurring in the first place, and to design the road network in a way that minimizes the consequences when collisions do occur.

The Vision Zero Road Safety Plan identified several countermeasures, which, when implemented, collectively reduce the incidence or severity of motor vehicle collisions. These initiatives provide a framework to coordinate available resources and plan, prioritize, and implement road safety projects.

The countermeasures identified below focus on cycling, pedestrians, and intersections, and build upon several existing road safety practices. They also form the basis of many of the programs, policies, and operational initiatives outlined in this document. Going forward, these initiatives will be incorporated within the multi-year work plans of the Transportation and Public Works Group.

Implement Cycling Road Safety Countermeasures (2020 – 2023)

Cyclist collisions include collisions between a cyclist and a motor vehicle. As with pedestrian collisions, cyclist collisions almost always lead to serious injury.

The following countermeasures to reduce collisions involving a cyclist will be considered as part of the multi-year work plans of the Transportation and Public Works Group:

<table>
<thead>
<tr>
<th>Countermeasure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Bike Lane Line Painting Program</td>
<td>Existing</td>
</tr>
<tr>
<td>Bike Lane Plowing and Sanding</td>
<td>Existing</td>
</tr>
<tr>
<td>Change existing lanes for cars to cycling lanes (road diet)</td>
<td>Expanded</td>
</tr>
<tr>
<td>Cycling Network Improvements</td>
<td>Expanded</td>
</tr>
<tr>
<td>Bike Symbol Painting</td>
<td>Expanded</td>
</tr>
<tr>
<td>Cycle Lane Sweeping</td>
<td>Expanded</td>
</tr>
<tr>
<td>Green Bike Boxes/Lanes</td>
<td>Expanded</td>
</tr>
</tbody>
</table>
Implement Pedestrian Road Safety Countermeasures (2020 – 2023)

Pedestrian collisions refer to collisions between a motor vehicle and a person on foot. Pedestrians are vulnerable users of the transportation system; 77 per cent of pedestrian collisions result in injuries. Injuries to a pedestrian in a collision with a vehicle are often very serious. Most pedestrian collisions in the city occur at an intersection where traffic controls are present.

School Zones were identified as a key awareness area, which is reflected in the counterinitiatives listed below, and in the programs and policies outlined later on in this section.

The following countermeasures to reduce collisions involving cyclists will be considered as part of the multi-year work plans of the Transportation and Public Works Group:

<table>
<thead>
<tr>
<th>Countermeasure Title</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk/Bicycle Friendly Community Application</td>
<td>Existing</td>
</tr>
<tr>
<td>Signage Repair and Replacement</td>
<td>Existing</td>
</tr>
<tr>
<td>Minor and Routine Repairs of Sidewalks</td>
<td>Existing</td>
</tr>
<tr>
<td>Sidewalk Plowing and Sanding</td>
<td>Existing</td>
</tr>
<tr>
<td>Active School Travel Planning</td>
<td>Expanded</td>
</tr>
<tr>
<td>Review Pedestrian Signal Timings at Traffic Signals</td>
<td>Expanded</td>
</tr>
<tr>
<td>Install Traffic signals for pedestrians</td>
<td>Expanded</td>
</tr>
<tr>
<td>Pedestrian Crossover Bollard Installation</td>
<td>Expanded</td>
</tr>
<tr>
<td>Curb Extensions</td>
<td>Expanded</td>
</tr>
<tr>
<td>Eliminate Right-Turn Channels</td>
<td>Expanded</td>
</tr>
<tr>
<td>Accessible Pedestrian Signals (APS)</td>
<td>Expanded</td>
</tr>
<tr>
<td>Pedestrian Countdown Devices</td>
<td>Expanded</td>
</tr>
<tr>
<td>Leading Pedestrian Intervals (“Pedestrian Jump”) at Traffic Signals</td>
<td>Expanded</td>
</tr>
<tr>
<td>Pedestrian Crossovers (PXOs)</td>
<td>Expanded</td>
</tr>
<tr>
<td>School Zone Safety</td>
<td>Expanded</td>
</tr>
<tr>
<td>Crosswalk Pavement Markings</td>
<td>Expanded</td>
</tr>
<tr>
<td>Expand Sidewalk Network</td>
<td>Expanded</td>
</tr>
</tbody>
</table>
Implement Intersection Road Safety Countermeasures (2020 – 2023)

Intersections are the emphasis area with the highest number of collisions. Rear-end collisions are the most frequent intersection collision; these collisions are often caused by aggressive or distracted driving. Turning movement and angle collisions are also common.

The following countermeasures to reduce collisions at intersections will be considered as part of the multi-year work plans of the Transportation and Public Works Group:

<table>
<thead>
<tr>
<th>Countermeasure Title</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation Management</td>
<td>Existing</td>
</tr>
<tr>
<td>Sign Inspection</td>
<td>Existing</td>
</tr>
<tr>
<td>Sign Repairs</td>
<td>Existing</td>
</tr>
<tr>
<td>Traffic Control Signage</td>
<td>Existing</td>
</tr>
<tr>
<td>Intersection Lighting</td>
<td>Existing</td>
</tr>
<tr>
<td>Street Lighting</td>
<td>Existing</td>
</tr>
<tr>
<td>Sight Distance Triangles</td>
<td>Existing</td>
</tr>
<tr>
<td>Review Traffic Signal Timing Parameters</td>
<td>Existing</td>
</tr>
<tr>
<td>Install traffic control (stop signs, traffic signals)</td>
<td>Existing</td>
</tr>
<tr>
<td>Traffic Signals - Left Turn Phasing</td>
<td>Existing</td>
</tr>
<tr>
<td>Over-Sized Stop Signs</td>
<td>Existing</td>
</tr>
<tr>
<td>Pavement Markings</td>
<td>Existing</td>
</tr>
<tr>
<td>Dedicated Turning Lanes</td>
<td>Existing</td>
</tr>
<tr>
<td>Routine Road Patrol</td>
<td>Existing</td>
</tr>
<tr>
<td>Roundabouts</td>
<td>Expanding</td>
</tr>
<tr>
<td>Intersection Improvements</td>
<td>Expanding</td>
</tr>
<tr>
<td>Red-Light Camera Program</td>
<td>New</td>
</tr>
</tbody>
</table>

Programs, Policies and Operational Initiatives

The following programs, policies, and operational initiatives aim to collectively foster a culture of active transportation in Kingston and support the forthcoming investments in infrastructure laid out in this plan.

6.1 Promoting Active Routes to School

Pilot a Community-level School Travel Planning Program (2019 – ongoing)

Only 25% of Canadian parents say their children, aged five to 17, typically walk or wheel to and from school. 58% are typically driven, and 17% use a combination of active and inactive modes of transportation (Canadian Fitness and Lifestyle Research Institute, 2013). Overcoming the increasingly complex barriers that impede children and parents from choosing active modes of school transportation requires the effort, support, and coordination of multiple stakeholders.

School Travel Planning (STP), is a community-based model for implementing active school travel that systematically addresses barriers to and incentives for walking to school. STP strengthens local commitment to active school travel and is a proven cost-effective way to get more kids walking and wheeling to school. When effectively coordinated and implemented, it results in positive travel behaviour changes with health, safety, environmental, and economic benefits. Through STP (as outlined in Figure 12), school and community stakeholders
collaborate to create and implement school-level action plans that address ongoing transportation and traffic safety problems and increase the number of students using active and sustainable modes for all or part of the journey to school. Evidence suggests that interventions tailored to a school’s specific travel barriers are more effective than generic strategies.

There are five categories of action plan items: education, encouragement, engineering, enforcement and evaluation. It is critical for School Travel Plans to include diverse actions from across the five categories to successfully influence how children travel to/from school. Both non-infrastructure (i.e., education initiatives, encouragement events, enforcement of rules) and engineering measures (i.e., sidewalk or bike rack installation or repair) are needed to increase active school travel over the long-term. Evaluation is also important to identify where to focus efforts and to measure success.

In partnership with community stakeholders, the City will begin piloting STP in three elementary schools. Each implementation is recommended to take place over a 2 to 3 years, and will be guided by the following phased approach:

**Phase 1: Set-up the project**

Getting STP started involves appointing a Facilitator, identifying the schools and stakeholders to participate, and establishing STP committees to support and oversee the process. This phase involves consultation with school communities and other stakeholders to identify school transportation challenges and opportunities. An example of an STP committee structure and associated roles can be found in Figure 13 and in Figure 14 respectively.

**STP Process**

1a. Set-up (at regional level)
- Establish Regional STP Committee
- Hire STP Facilitator(s)

1b. Set-up (at school level)
- Choose school(s)
- Establish School STP Committee
- Determine timeline
- Complete School Profile

2. Assess Conditions

3. Develop Action Plan

4. Implement Action Plan

5. Reassess Conditions

6. Keep it Going

**Figure 13 – School Travel Plan Process - Courtesy of Ontario Active School Travel**
Phase 2: Assess Conditions

In Phase 2, data is collected to uncover specifics about the travel issues at each school. Data is also collected about current usage of each transportation mode, which establishes a baseline for comparison. This phase includes the administration of travel surveys for students and families, and various traffic observations and walkabouts.

Phase 3: Develop Action Plan

The purpose of Phase 3 is to develop a plan of action based on the issues and barriers to active school travel that were identified in Phase 2. Problem areas and potential solutions will be prioritized and developed into an actionable plan.

Phase 4: Implement Action Plan

It is critical for School Travel Plans to include diverse actions from across education, encouragement, engineering, enforcement, and evaluation to successfully influence how children travel to/from school. Implementation will be reflective of this multi-disciplinary approach.

Phase 5: Reassess Conditions

During Phase 5, progress is evaluated. This includes collecting follow-up travel data to compare to the baseline data collected in Phase 2 and adapting the School Travel Plan as needed. It also involves sharing results and progress to maintain enthusiasm in the STP process moving forward.
Phase 6: Ensuring Operational Sustainability

Phase 6 involves transitioning the STP Committees to continue working on STP once the Facilitator reduces his/her involvement or is no longer available to formally provide support through the process.
Explore ongoing programming elements to encourage adoption of active routes (2020 – ongoing)

The following supporting programs will be explored as part of or in addition to the School Travel Planning Initiative:

**Walking school buses**
Walking school buses—where children walk in groups supervised by an adult—can increase active transportation and physical activity. Multiple studies have demonstrated that parents prefer having their child walk to school as part of an organized group. A reliance on volunteers can limit the sustainability of walking school buses which may require a more formal program to be developed with schools and other partners to sustain these programs.

**Monitoring air quality**
Monitoring air quality improves parents’ behaviour around school zones. Recent research demonstrates that when air quality monitoring equipment is introduced at schools, parents’ behaviour changes; for example, parents often park farther away from the school and walk their students to the school, relieving pressure from student pick-up/drop-off areas.

**CAA School Safety Patrol**
The CAA School Safety Patrol program has more than 20,000 student volunteers in Ontario. Student Patrollers encourage and model safe behaviour to other students and the greater community. These volunteers are trained each year through a formal course provided by CAA to the local approved training partner.

There are two types of Patrollers – Bus and Foot Patrollers. Schools may have one or both types. Foot Patrollers monitor school crossings by ensuring students cross roads near their school in a safe and responsible manner. Bus Patrollers help the Bus Driver transport student passengers to and from school in a safe and orderly manner. Patrollers only exit the bus to assist with the loading and unloading of students at the school.

**Leveling the Playing Fields Programs**
The City has supported a grant application for School Street and Play Street interventions in partnership with Queen’s University in selected neighbourhoods across the city of Kingston. This initiative, if successfully funded, will provide access to data that will inform the future development of initiatives to increase active school travel among children and youth in Kingston. ‘Free play’ has the potential to increase children’s confidence and independence, which further empowers children to engage in active school travel.

**Upgrade walking and cycling infrastructure along preferred routes to schools (2019 – ongoing)**

In 2019, the City began evaluating and upgrading existing school crossings with an aim to provide more visibility and an improved level of safety to the crossings that school children use each day. School crossings on Front Road at Lakeview Avenue and on Johnson Street at Macdonnell Street are planned to be upgraded to signalized crossings in 2019. Assessments at the remaining 19 existing school crossings along with School Travel Planning efforts will inform new infrastructure to be implemented over the next five years.

The City is responsible for the school crossing guard service and will work closely
to integrate the crossing guard program with school travel planning, parking enforcement, wayfinding signage, and infrastructure upgrades going forward. The Kingston Police Force will provide traffic enforcement as part of the school area work that is planned and will be a key stakeholder that the City will consult with on these program elements.


The City will aim to provide greater clarity and consistency with respect to applications for new and modified school pick-up and drop-off areas. Through best practices and an examination of local context, guidelines will be developed and provided to future proponents to ensure pick-up and drop-off areas are designed in a safe and efficient manner from the start.

### 6.2 Active Transportation Wayfinding

Develop and maintain an Active Transportation Wayfinding System that is consistent, legible, and user-friendly (2020 - 2021)

An active transportation wayfinding system consists of comprehensive signing and pavement markings to guide pedestrians and cyclists to their destinations along preferred routes. Signs are typically placed at decision points, often at the intersection of two or more bikeways or pedestrian routes and at other key locations leading to active routes.

A seamless, easy-to-understand wayfinding system—including directional signage, maps, and trip-planning tools—helps users navigate cycling and pedestrian networks, and confidently traverse from place to place. Signage provides important wayfinding, regulatory, etiquette and warning information. This can enhance users’ awareness of routes, comfort and enjoyment while mitigating conflict and risk. Wayfinding signage is particularly important for recreational and tourist users who typically have less familiarity with their surroundings than regular users. The implementation of a unifying graphic element for wayfinding signage can be an effective strategy to make these signs more recognizable.
Types of signage to be considered along the network are shown as follows in Figure 17.

A phased approach will be undertaken, beginning with Phase 1 in Q2 of 2020, as outlined below in Figure 18.

### Directional Signs
Directional signs are used to inform users of the direction and distance to a nearby destination. They are installed at locations where directional guidance is required.

### Trail Entry Signs
Trail Entry signs are used at the entrances of off-road segments of the network. The sign provides information such as difficulty, length, name and a map.

### Information Signs
Information signs are used on off-road segments of the AT network to inform users of restricted activities.

### Route Marker Signs
Route Marker signs are used to regulate intervals or in locations where additional guidance may be needed (e.g. a change in direction). The sign is meant to provide users their distance travelled along a trail and time to destination.

**Figure 17 – Benefits of Active Transportation Wayfinding**

**Phase 1 (Q2 2020) Background Review & Public Consultation**
- Field Assessment and Inventory
- Background information and best practices review
- Community outreach
- Stakeholder focus groups

**Phase 2 (Q4 2020) Planning and Design**
- Formalize and refine Wayfinding design
- Stakeholder focus groups
- Public exhibition

**Phase 3 (Q2 2021) Map and Element Production**
- Map data review and collation
- Map design and production

**Phase 4 (Q4 2021) Draft and Final Plan**
- Draft Wayfinding plan
- Stakeholder group presentation
- Finalize Wayfinding plan

**Figure 18 – Phased Approach of Wayfinding Strategy**
6.3 Promotion and Education

Education is a key part of realizing a vision of active transportation for all ages and abilities. Promoting and enabling active transportation is about normalizing active travel, and about expanding the array of travel choices for any particular trip. These efforts will bring more out of our new and existing active transportation infrastructure investments and maximize their usage. Small changes in behaviour often have a cascading effect; active travel becomes normalized as more people are seen travelling on foot and by bicycle, encouraging others to try it as well.

Leading walk- and bicycle-friendly cities around the world are beginning to reap the rewards of shifting their efforts to education and promotion, with budgets and staffing specifically dedicated to their areas. Many are building their active transportation ‘brand’ to attract visitors and to show a consistent commitment to residents around walking and cycling, in turn building participation and a shared identity.

Educational and promotional efforts will target broad-scale societal changes in perception and attitude towards active transportation, while being cognizant of the realities in Kingston where active travel is one of a handful of modes that residents may choose to take. Marketing will focus on promoting the ease and enjoyment of walking and cycling experienced by a diversity of residents. Specific pilot projects will be layered in that target perception and behavioural change in key audiences.

There are several groups who are interested in the promotion of active travel, lifestyles and improving health within the community. These groups already offer outreach programs, education and training opportunities, and will be integrated into education and promotion efforts by the City going forward. Community events and activities are more successful when delivered in a collaborative manner.

The following educational components are proposed to be the focus of the five-year plan but will evolve and be responsive to changes in behaviour, trends, and technology.

Education: Intersections & AT Infrastructure (2019 – ongoing)

- Pedestrian Crossovers, with a focus on Type D crossings (a lower form that requires only regulatory signage and ladder-type crosswalk markings)
- Bike Boxes
- Two-stage Turn Queue Boxes (offer bicyclists a safer way to make left turns at multi-lane signalized intersections)
- Bicycle Signals
- School Crossings
- Streetscape design for everybody: motorists, cyclists, pedestrians, skateboards, wheelchairs, mobility scooters, and other non-motorized vehicles
- Traffic Calming Measures
- Concept of ‘Induced Demand’ (increased roadway capacity encourages more residents to use a motor vehicle)
Promotion: Benefits of Active Transportation (2019 – ongoing)

Active Transportation promotional campaigns will shift to become long-term focused. Shorter events can lead to peaks in interest, but without sustained efforts, changes in behaviour are often temporary.

Active Transportation Benefits:

Health
• Improved cardiovascular and mental health
• Reduced health care costs
• Decreased stress, anxiety and chronic diseases
• Promotion of active lifestyles

Social
• Decreased cost of travel options and increased access to jobs/amenities
• Increased mobility and equity for vulnerable and low-income populations
• Increased independence, mobility and health for people of all ages including children, youth and older adults.

Environment
• Reduced carbon dioxide emissions and overall air pollution
• Decreased water pollutants related to driving
• Increased protection of green space and natural environments

Safety
• Improved sense of safety and livability among residents
• Increased motorist awareness of cyclists and pedestrians
• Improved sense of safety if there are other pedestrians and cyclists around
• Reduction in collisions involving cyclists and pedestrians

Economic
• Money saved on car expenses
• Decreased infrastructure costs for municipal government (and taxpayers)
• Increased local investment in business and community development
• Greater retention of young people in the City
• Increased tourism and popularity of cycling and hiking for visitors to Kingston

6.4 Policy & Bylaw Updates

Review and Update City Policies & By-laws to Align with Active Transportation Implementation Goals (2019 – 2023)

The following By-laws and Policies will be reviewed and updated (as needed) to align with or support the recommendations of the ATMP:

• Official Plan
• Zoning By-laws
• Maintenance and Closure of Laneways and Road Allowances – By-Law Number 91-272 – A By-Law To Authorize The Adoption Of A Policy With Regard To The Maintenance And Closure Of Laneways And Road Allowances
• Parking Bylaw – By-Law Number 2010-128 – A By-Law To Regulate Parking
• Sidewalk Bylaw – By-Law Number 87-136 – A By-Law To Authorize The Adoption Of Regulations Established For The Purpose Of Dealing With Applications For The Extended Use Of Sidewalks
• Site Plan Control Bylaw – By-Law Number 2010-217 – A By-Law To Designate The Whole Of The City Of Kingston As A Site Plan Control Area, Pursuant To Section 41 Of The Planning Act, R.S.O. 1990, Chapter P.13, As Amended, And To Adopt Certain Procedures For The Processing Of Site Plan Control Applications, And To Exempt Certain Classes Of Development From Approval Of Plans And Drawings
• Streets Bylaw – By-Law Number 2004-190 – A By-Law To Regulate The Use Of City Streets
• Traffic Bylaw – By-Law Number 2003-209 – A By-Law To Regulate Traffic
• Traffic Calming Policy
• Site Plan Control Guidelines
• Subdivision Development Guidelines & Technical Standards

Enact Policy & By-law Changes that Support the Adoption of Active Transportation Infrastructure (2020 – 2022)

The following is a list of potential policy and enforcement directions to be explored further by the City:
• An Active Transportation Bylaw that would further specify where bicycles, bicycle-style E-bikes, scooter-style E-bikes, and in-line skates, rollerblades, & skateboards can travel. Potential locations to be defined include multi-use trails, sidewalks (Downtown), sidewalks (outside of the Downtown), roads, and on-road bicycle facilities;
• The development of Street-level Guidelines that guide the implementation of active transportation infrastructure;
• Enacting Bicycle Lane Restrictions such that they are deemed ‘No Stopping’ rather than ‘No Parking’ (with an exemption for Kingston Transit); and
• Amending the Official Plan, Section 4 to support suitable road allowance widths for proposed Active Infrastructure and future planning.
• Amending the Parking Bylaw – By-Law Number 2010-128, allowing vehicles to park next to a painted line (when signed appropriately), rather than a curb.

6.5 Online Connections

Develop an Active Transportation Online Hub (2019 – ongoing)

The ongoing development of infrastructure and programs as part of this Implementation Plan necessitates the need to centralize active transportation information online. The intent is to build a ‘one-stop-shop’ for active transportation residing on the City’s website with consideration given to the following components:
• The production of city-wide interactive maps of the current cycling and pedestrian networks, respectively;
• An education & information repository, and;
• Projects & Programs currently in development, design, and under construction.
As the active transportation network changes over time, information and databases will be updated to reflect the most up-to-date conditions. New programming and policy information will be updated as initiatives are launched.

The integrated Active Transportation Hub will also serve as a home base for the public engagement of all projects and policies. This will ensure the public remains engaged in discussions that shape the City’s active transportation efforts and understands how input is incorporated into the decision-making process.

The Hub will also serve as a public education tool, with a focus on the following topics:
- Benefits of Active Transportation
- Rules of the Road
- Road signage
- Cycling and Pedestrian Infrastructure
- First & last mile connections to Kingston Transit

**Establish Integrated Open Data Partnerships (2020 – 2021)**

Residents rely on a variety of applications and tools to plan their active trips each day. By applying the City’s data-driven approach to this context, the City intends to establish and regularly update geospatial open data sets of cycling and pedestrian infrastructure for use by third-party applications (i.e. Google Maps) and residents alike. This will ensure applications are providing safer and more efficient suggested active transportation routes, leveraging the use of new and existing infrastructure. Future work may include the integration of perception-based Level of Traffic Stress (LTS) data into route algorithms to further enhance this process.

**6.6 Data-driven Decision-making, Monitoring, and Evaluations**

**Updating the Household Travel Survey and Transportation Model (2019 – ongoing)**

Household travel surveys support a wide variety of transportation planning, analysis, modeling applications, and infrastructure planning.

The City last conducted a Household Travel Survey in the fall of 2008. The survey was designed to capture trip-making patterns of Kingston residents throughout a typical weekday, collecting information such as home location, time of trip, trip origin and trip destination, mode of travel, and trip purpose. The City’s current strategic transportation model (Visum) is based on the data from the 2008 Household Travel Survey and is a representation of the afternoon peak hour travel in the Kingston Census Metropolitan Area (CMA).

The City will be conducting a new Household Travel Survey in the fall of 2019, the results of which will serve as a new baseline for active transportation in Kingston. Paradigm-shifting changes in communications technology, namely the reduction in use of landline telephones in addition to other methodological challenges, have limited the ability of previously-used methodology to collect the high-quality data that are required for the continued support of these applications in the future. For this upcoming survey and/or beyond, the City will explore and monitor a number of alternative methods to collect and validate travel data, including:
**Web-based Surveys**

The usability of an online travel survey could play a significant role in expanding the breadth of transportation data collection efforts. In recent years, there has been an increasing use of web-based technologies in travel surveys because of their potential to decrease respondent burden and reduce operational costs. However, many of these surveys are custom-built, as commercial platforms (e.g. Survey Monkey, Qualtrics, etc.) often lack features necessary for efficient data collection of detailed travel information, such as including tailored question and answer choices based on location and the use of interactive maps for geospatial data collection.

The City will explore web-based travel surveys in greater detail as part of the upcoming household travel survey and monitor the implementation of these custom-built solutions in other municipalities across North America on an ongoing basis.

**In-person Surveys**

An in-person approach involves collecting travel data with the assistance of a tablet. This method is particularly effective at a neighbourhood level or as part of an active route to school initiative.

**Smartphone App**

As part of a broader shift away from landline-based data collection methods, smartphone-based applications have the potential to facilitate the collection of efficient and accurate transportation information. A handful of large cities across North America are currently testing customized platforms for use in this capacity. The City will closely monitor the levels of uptake and data quality outputs of this medium.

**Explore the use of a Bicycle Level of Traffic Stress (LTS) Map (2021 – 2022)**

Level of Traffic Stress (LTS) is a rating given to a road segment or crossing indicating the traffic stress it imposes on cyclists. LTS provides a data-driven approach to evaluating cycling infrastructure by correlating individual perceptions of comfort to roadway design, traffic volumes, and vehicular speeds.

A number of elements are examined as part of LTS, including roadway design, traffic controls, and geometric features.

Levels of traffic stress range from 1 to 4:

- **LTS 1:** Comfortable for all ages and abilities
- **LTS 2:** Comfortable for most adults
- **LTS 3:** Comfortable for confident bicyclists
- **LTS 4:** Uncomfortable for most

Level of Traffic Stress (LTS) will be explored as a model to rate road segments and intersections. This approach would allow for quantifiable pre- and post-implementation evaluations of perceptions related to cycling facilities and would introduce additional active transportation route planning information for residents.
Accessing and Integrating Supplemental Data Sources (2020 – 2021)

At both a city-wide and neighbourhood level, the City will look to better integrate and analyze both existing and additional supplemental data sets to inform infrastructure and programming decisions for cyclists and pedestrians. Improvements will be made to create a more integrated traffic database. Aggregated and anonymized supplemental data can be integrated and paired with traditional bicyclist and traffic data (surveys and bike counts), also leading to new potential insights on preferred bicyclist routes and characteristics of intersections that require safety improvements.

Automated traffic counters can monitor active transportation 24 hours a day at various locations, including multi-use paths, sidewalks, stairs, over/underpass locations, and along on-road cycling facilities. These counters will be used to monitor specific routes on a needs-basis. Data collection in this fashion will facilitate benchmarking and monitoring pre- and post-implementation.

6.7 Bicycle Parking

Conduct Review of Current Bike Parking Supply and Identify Gaps (2020 – 2022)

Bicycle parking was identified through public consultation as a critically important component for improving commuter and recreational cycle trips. Safe, secure and convenient bike parking provides residents with the peace of mind when stopping and leaving their bikes for short or long durations. The City has developed bicycle parking design guidelines and maintains an inventory of all public bicycle parking areas. The City actively seeks input on potential bicycle parking locations across the urban area and piloted a program of test locations that measured use and sought input from cyclists that used the locations in summer 2018.

This plan includes a funding envelope to continue testing and deploying bicycle parking areas across the city and will explore opportunities for bicycle parking as part of neighbourhood transportation plans and first mile and last mile connections with Kingston Transit.

Develop Bicycle Anti-Theft Initiatives (2020 – 2022)

Like many cities in Ontario, Kingston has an issue with bicycle theft. Bicycle thieves will also remove parts or portions of a bicycle for resale. This is a shared but significant problem in municipalities across Ontario and will take a multi-disciplinary approach to address.

Downtown Secure Bike Storage

The City will begin exploring options for the development of a secure bike storage facility in the downtown core. A potential pilot has been identified to test the uptake and viability of secure bike parking in the form of a secured bike corral downtown. Should the pilot prove to be successful, the City will explore a more permanent solution/facility going forward.

Education on best practices for locking bikes

Many bicycles are stolen as a result of insufficient bicycle locks and/or improper locking practices. Educating residents on
best practices for locking their bicycles will not likely curb theft on its own but could contribute to a reduction in theft occurrences.

**Bike Theft Prevention Apps**
The City will explore a potential partnership with 529 Garage. 529 Garage is a free online mobile application registration system that allows police departments and bicycle enthusiasts to join forces through improved education, prevention and communication to combat bicycle theft. Results in other municipalities have shown that the potential to effectively reduce the number of bike thefts and increase the number of recovered bikes that police can then return to their rightful owners. The app allows users to enter the bike’s information, such as make, model, year, cost, and serial number, as well as upload photos. A tamper-proof sticker that contains a code corresponding to the registry is placed on the bike. If the bike is stolen, it can be reported to the community of users on 529 Garage.

**6.8 Bike Sharing**

Integrate existing Bike-sharing into all program, policy, & operational initiatives (2019 – ongoing)

In 2017, Kingston completed a successful pilot program for a dockless bike-share program with Dropbike Inc., and selected Dropbike, through an RFP process, to deliver a city-wide bike-share program that launched in the spring of 2019. Dropbike is a private bike-sharing company, and the City has licensed them to provide their service on city streets. There is no operating cost to the City to provide this service and people wishing to use Dropbike can access and pay for bike-sharing via Dropbike’s website or mobile app.

Bike-sharing can aid in providing first and last-mile options for public transit, provide city staff with anonymized ridership data, increase cycling mode shares, and improve accessibility to cycling, all of which are related to key objectives of the Active Transportation Master Plan.

Bike-sharing will be closely integrated into all aspects of active transportation programming and policy initiatives going forward.

**6.9 Traffic Calming**

Implement traffic-calming measures as part of an integrated transportation approach (2019 – ongoing)

Traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users. As part of an integrated active transportation approach, traffic calming will be considered as part of each component of this Implementation Plan, particularly as it relates to the work at a neighbourhood level.
By helping improve road safety, integrated traffic-calming strategies help to promote active transportation among residents. Reducing the gap between the speeds of motorized and active travel can make the latter more attractive. Similarly, changes to the streetscape that prioritize cycling and walking often also promote the calming of traffic. For instance, the use of buffered bike lanes or cycle tracks can narrow the width of traffic lanes, effectively calming traffic. The following traffic-calming measures will be considered as part of an integrated active transportation approach:

**Vertical Traffic-Calming Measures**
- **Raised crosswalks** – A marked pedestrian crosswalk at an intersection or mid-block location that is constructed at a higher elevation than the adjacent roadway.
- **Rumble strips** – Raised buttons, bars or grooves closely spaced at regular intervals on the roadway that create both noise and vibration in moving vehicles. Due to serious noise concerns, rumble strips are only recommended for installation in isolated areas.
- **Sidewalk extensions** – A sidewalk is continued across a local street or intersection. For a “raised” sidewalk extension, it is continued at its original elevation, with the local roadway raised to the level of the sidewalk at the intersection. For an “unraised” sidewalk extension, the sidewalk is lowered to the level of the roadway.
- **Textured crosswalks** – A crosswalk incorporating a textured and/or patterned surface which contrasts with the adjacent roadway.
- **Speed humps** – A raised area of a roadway, which deflects both the wheels and frame of a traversing vehicle. Vehicles traversing a properly designed speed hump at a reasonable speed can drive with relative ease across the hump. Not to be confused with speed bumps, which are sometimes installed on private roadways and in parking lots and can be very abrupt and jarring to motorists. Only properly designed speed humps are recognized within the Canadian Guide to Neighbourhood Traffic Calming.
- **Traffic-calming bollards** – On-street bollards that narrow the travel path of the road.

**Horizontal Traffic-Calming Measures**
- **Chicanes** – A series of curb extensions on alternating sides of a roadway, which narrow the roadway and require drivers to steer from one side of a roadway to the other to travel through the chicane. Typically, a series of at least three chicane extensions is used.
- **Curb extensions** – A horizontal intrusion of the curb into the roadway resulting in a narrower section of roadway.
- **Curb radius reduction** – The reconstruction of an intersection corner using a smaller radius, usually in the 3.0 m to 5.0 m range.
- **On-street parking** – The reduction of the roadway width available for vehicle movement by allowing motor vehicles to park adjacent and parallel to the curb.
- **Raised median island** – An elevated median constructed on the centerline of a two-way roadway through an intersection, which prevents left turns and through movements to and from the intersection roadway.
- **Mini roundabout** – A raised island located in the center of an intersection, which requires vehicles to travel through the intersection in a counter-clockwise direction around the island.
6.10 Operations and Maintenance

The operation and maintenance of new and existing infrastructure is critically important to encourage new active transportation users and ensure existing users have a safe and accessible trip. The City is committed to ensuring active transportation facilities are maintained and in good working order.

The following standards are currently applied towards the operations and maintenance of active transportation facilities:

**Sweeping** - All sidewalks, roadways and bike lanes are swept in the spring, and sidewalks are monitored and swept as needed afterwards. Roadways with bike lanes are routinely swept throughout the summer months.

**Line painting** – Roadway centrelines and bike lane lines are painted annually each spring. Roadway centrelines on arterial and high-volume roads are painted a second time in the fall. Bike symbols are plastic, and therefore have increased durability. They are monitored and replaced as needed.

**Sidewalk repair** – Annual inspections of sidewalks help determine where vertical deflections need to be repaired. Information received through customer requests help to identify problem areas on sidewalks that are then inspected and repaired as needed.

**Snow Plowing** – Unlike most other municipalities in Ontario, sidewalks are plowed by the City.

Priorities and service levels have been developed to identify different designation for sidewalks in Table 6.

### Table 6 – Sidewalk Designations

<table>
<thead>
<tr>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sidewalks / walkways adjacent to high volume roadways and/or sidewalks / walkways with high pedestrian volumes</td>
</tr>
<tr>
<td>2</td>
<td>Balance of sidewalks / walkways that can be cleared with mechanized plow equipment</td>
</tr>
<tr>
<td>3</td>
<td>Sidewalks / walkways that require a blower or hand shoveling to clear</td>
</tr>
<tr>
<td>4</td>
<td>Sidewalks that will not be cleared due to the nature of their destination</td>
</tr>
</tbody>
</table>

When snow begins to accumulate, resources to clear snow from sidewalks and walkways are deployed as soon as practical after becoming aware of the snow accumulation and when accumulation is less than or equal to the snow defined in Table 7. This information can also be found in City of Kingston Winter Operations Level of Service Policy.
### Table 7 – Snow Depth Procedures

<table>
<thead>
<tr>
<th>Designation</th>
<th>Snow Depth for Accumulation Response</th>
<th>Treatment Used</th>
<th>Objective After Winter Event</th>
<th>Timeframe to Achieve Objective After End of Winter Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>≤ 2.5cm</td>
<td>Plow</td>
<td>Safe and passable for pedestrians</td>
<td>24 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sand / De-ice as required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>≤ 5cm</td>
<td>Plow</td>
<td>Safe and passable for pedestrians</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sand / De-ice as required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>≤ 5cm</td>
<td>Plow</td>
<td>Safe and passable for pedestrians</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sand / De-ice as required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>N/A</td>
<td>May be cleared, if deemed required and as time and resource availability permits</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Currently the City of Kingston does not have an approved standard for clearing snow from on-road cycle lanes. However, in most locations the existing cycle lanes are cleared with current snow clearing practices where snow removal is not required. Snow removal requires additional staffing resources, snow blowers, tandem trucks and operators.

The new maintenance standards set by the Province now provide standards for snow clearing on sidewalks and bike lanes. The City’s service level standards for snow clearing of sidewalks are not expected to change significantly as current practices meet or exceed the Provincial recommendations.

The City will revise the level of service standards for snow clearing on bike lanes to meet or exceed the Provincial minimum maintenance standards. It is expected that the new standard will involve more snow removal than has been done in the past.

**Establish a Winter Network that will be maintained year-round (2020-2021)**

The City is currently reviewing the designation of a winter cycling network that would prioritize the bike lanes throughout the city for snow clearing and removal. It is expected that this approach would assist residents, who rely on the active transportation network during the winter months, to plan their trips with greater certainty. The winter cycling network would strive to ensure connectivity across the city, service many residents, and provide links to key destinations. The City will engage the community in determining an appropriate maintained route.
Strengthen Engagement with Operations and Maintenance staff during the design phase of all new active transportation facilities (2019 – ongoing)

As previously mentioned, sound maintenance is critical to the successful adoption of active transportation facilities by residents. To ensure current policies and operations can meet the demands of maintaining new infrastructure, Transportation Services staff will work closely with Public Works to ensure the facility is being designed in such a way that it can be properly maintained.

6.11 Active and Sustainable Transportation Options for Workplaces

Establish Partnership with Commute Ontario (2020 – ongoing)

The City is currently exploring a partnership with Commute Ontario, a turnkey Transportation Demand Management (TDM) program, that is currently available free of charge for commuters, workplaces and municipalities. This program has been fully funded through a grant from the Ontario Trillium Foundation. The program has the following suite of services:

**Carpool Ontario - Ride-Matching Tool**
Participating organizations have access to a network on the online ride-matching tool that allows commuters to plan routes, find and share rides with colleagues, and measure the impact of their travel choices. Employees can choose to search for matches within their organization only, or within the greater pool of participants from within their region.

**Active Switch Program**
Active Switch allows users to track their active travel behaviour and monitor the impact of active travel on their health and the environment.

**Emergency Ride Home Program**
The Emergency Ride Home Program provides a reimbursement (up to $75 maximum per ride) to employees at participating organizations to cover commuting expenses related to a personal emergency on a day when the employee used a sustainable travel mode to get to work. Claims for Emergency Ride Home can be made using forms located on the Commute Ontario Portal.

**Marketing Programs**
Through the Commute Ontario Portal, participating organizations have access to a variety of electronic marketing and communications materials to assist them in promoting the travel demand management program to their employees.

**Access to the Commute Ontario Information Portal**
The Commute Ontario Portal is the gateway to all programs and services associated with the Project. Employees of organizations can access the portal to find links and information to campaigns, resources, tools and other materials associated with the Project.
7 Capital and Operating Costs

The estimated cost to fully implement the long-term active transportation network and associated programs was developed for the ATMP to inform future budgets and decision-making as part of good asset management practices. Implementation of the active transportation network and programs will require significant investment for planning, designing, implementing and maintaining infrastructure and programs/initiatives. It is important to ensure that the financial plan is for the full lifecycle of the asset, from planning and design, construction, commission, operate and maintain, to decommission.

7.1 Infrastructure Capital Costs

The estimated cost to implement the infrastructure identified in this five-year plan is based on a unit cost per kilometre of construction per facility type. Select unit prices used to cost the network will be used as a reference for future projects as the City moves from the master planning stage through detailed design and implementation.

The unit prices have been identified based on best practices from various municipalities in southern Ontario and reflect 2018 dollars. These are blended rates and have been reviewed by City staff. It is recognized that the level of effort will vary on a project-by-project basis and some projects may reflect higher unit costs than others. This will be confirmed/refined at the design stage. The estimated total cost to construct the five-year active transportation network and infrastructure is approximately $22.3 million. The City has $1.6 million of existing funding dedicated to active transportation infrastructure resulting in approximately $20.7 million of new capital funding required over five years, this includes 2019 funds which have already been allocated. The capital numbers provided in Table 8 includes $1,000,000 in Federal gas tax funding associated with upgrading four pedestrian crossings allocated as part of Council’s strategic priority session. The funds associated with the intersection upgrades at Highway 15 and Gore Road and John Counter Boulevard at Montreal Street are allocated within other project capital budget and not included in Table 8.

Table 8 provides details on the costs associated with the five-year plan and new capital funding required each year. The infrastructure costs shown in this table include conservative estimates for design and permits (15 per cent) and a contingency (10 per cent) on top of the unit price developed for the estimates. These assumptions are consistent with the City’s existing practice for all infrastructure construction projects.

The City-wide portion of the capital costs include new cycling and pedestrian infrastructure along the City-wide routes identified in Table 2 – Segments within Active Transportation Routes and Table 5 – Additional Cycling Infrastructure.

The neighbourhood portion of the capital costs include new sidewalks identified in Table 4 - Sidewalk Project List and also funds reserved for transportation focus areas and other neighbourhood improvements including pedestrian crossings, pedestrian and cycling links to transit and to the city-wide network, traffic calming, and upgrading cycling and pedestrian infrastructure along active routes to school at a neighbourhood level. Specific funds have been reserved for intersection improvements and pedestrian crossings city-wide.
The costs associated with intersection and pedestrian crossings in Table 8 include specific intersections that have been identified as needing upgrades to improve safety and reduce barriers along new City-wide routes and active routes to school. Some of this work aligns with previously planned projects, and therefore provides an opportunity to achieve cost savings by completing them in conjunction. The costs associated with the programs and policies incorporate expenses related to wayfinding development and implementation, data collection and analysis software, promotion and education, and active routes to schools.

**Table 8 – Estimated Capital Costs (dollars) - Short Term Implementation**

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Infrastructure Costs – Citywide</td>
<td>1,762,000</td>
<td>2,364,000</td>
<td>2,590,000</td>
<td>2,935,000</td>
<td>940,000</td>
</tr>
<tr>
<td>Capital infrastructure Costs - Neighbourhood</td>
<td>500,000</td>
<td>990,000</td>
<td>1,455,000</td>
<td>1,526,000</td>
<td>1,158,000</td>
</tr>
<tr>
<td>Intersection and Pedestrian Crossing</td>
<td>1,130,000</td>
<td>1,133,000</td>
<td>1,133,000</td>
<td>1,133,000</td>
<td>800,000</td>
</tr>
<tr>
<td>Policies and Programs</td>
<td>50,000</td>
<td>185,000</td>
<td>135,000</td>
<td>135,000</td>
<td>235,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3,442,000</td>
<td>4,672,000</td>
<td>5,314,000</td>
<td>5,729,000</td>
<td>3,133,000</td>
</tr>
</tbody>
</table>

The projects associated with estimates provided in Table 8 can be found in Table 2, Table 3, Table 4 of this document. It is expected that the projects would be completed in the year identified in this plan; however, there may be some modifications to phasing on a year-to-year basis to align with City initiatives, grant opportunities and projects. These modifications will be reflected in the annual capital budget from Transportation and Public Works.
7.2 Operating Costs

Maintenance of the City’s active transportation network will be part of a commitment to provide high-quality routes and facilities in Kingston. Maintenance is also a key component of providing viable transportation options to encourage pedestrians and cyclists to use the active transportation network year-round and to help achieve a 20 per cent AT mode share target by 2034.

Section 4.5 of the ATMP provides an overview of the proposed maintenance practices, considerations and estimated costs to maintain the City’s active transportation network.

It is expected that as new infrastructure is built, there will be a need for additional operating budget to maintain that infrastructure. As such, the City has used unit costs developed in the ATMP to determine estimated budget increases required over the five-year Implementation Plan, as shown in Table 9. These numbers do not include the costs associated with the procurement of new equipment.

Table 9 – Public Works Active Transportation Budget Requirements

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Cost ($)</td>
<td>0</td>
<td>143,000</td>
<td>93,000</td>
<td>112,000</td>
<td>124,000</td>
</tr>
</tbody>
</table>

The operating cost associated with starting the new programs and initiatives will largely be related to new staff positions being developed in the Transportation Services department. The equivalent of two full time positions, one to coordinate infrastructure development and the other to coordinate policy and programs, are dedicated to active transportation.
8 Monitoring and Evaluation

Implementation does not end with construction. Evaluating and documenting what is achieved will help assess what influence the infrastructure and programs have on achieving the goals and objectives of this plan. Performance measures can help to prioritize projects, track project progress and gauge user interest. Performance measures can help to:

- Demonstrate the value of cycling and pedestrian projects to residents;
- Track the success of active transportation programs, policies and facilities;
- Inform smarter investments through data-driven measures of success;
- Comply with funding requirements at varying levels of government;
- Provide information to engage a broad set of stakeholders in project and program identification and prioritization, and;
- Capture the value of new and innovative datasets and data collection methods for the active transportation field.

8.1 What is being done in Kingston?

Consistent with requirements set out by the Ontario Ministry of Municipal Affairs and Housing, the City of Kingston is enrolled in the Municipal Performance Measurement Program (MPMP) to collect and report on various City service areas. The City is committed to being open and accountable about how programs and services are delivered to the community and to regularly report on key performance indicators. The City prepares annual reports and develops a Report Card to Citizens which provides a summary of the Kingston MPMP results for the previous year.

The City has taken an active role in monitoring and evaluating roadways for active transportation use by conducting detailed traffic counts that include motor vehicles, pedestrians and cyclists at intersections across the city. The City regularly conducts speed studies at different locations in the city to determine the operating speed of vehicles on the road, which can be used to help determine the appropriate facility for both cyclists and pedestrians.

8.2 Performance Measures

Identifying and applying a set of performance measures can help City staff assess the effectiveness of active transportation infrastructure and programs to achieve the overall vision and objectives. The data collected to quantify, and measure performance targets can help inform future priorities and rationalize increased capital investments that support the future growth of active transportation in Kingston. The City will report annually on the implementation of this plan using the guiding metrics below.

Existing Use

The City will be conducting a new Household Travel Survey in the fall of 2019, the results of which will serve as a new baseline for active transportation in Kingston. The survey will be designed to gather detailed information, including:

- Trip origin and destination
- Trip purpose
- Time of trips
- Mode of transportation
- Access of different forms of transportation
At both a city-wide and neighbourhood level, the City will look to better integrate and analyze both existing and additional supplemental data sets to inform infrastructure and programming decisions for cyclists and pedestrians. Automated traffic counters can monitor active transportation 24 hours a day at various locations, including multi-use paths, sidewalks, stairs, over/underpass locations, and along on-road cycling facilities. These counters will be used to monitor specific routes on a needs-basis. Data collection in this fashion will facilitate benchmarking and monitoring pre- and post-implementation.

Several existing components will be assessed in regular intervals as determined by the availability of data, including concrete and asphalt monitoring, and signage monitoring.

**Investment**

Measures of the level of investment towards infrastructure and programming components will include investments in:

- Active transportation routes / 1000 residents
- Programming and outreach initiatives
- Route maintenance

**Network Provisions**

Measures of the amount of the network that has been built will include:

- Total distance of new pedestrian and cycling facilities added
- Number of bike rack spaces per 100,000 residents
- Number of signs (regulatory, warning, route, trail, information, wayfinding, etc.) added to the on-road and off-road pedestrian / cycling routes
- Percentage of cycling route constructed

**Greenhouse Gases**

The measurement of annual greenhouse gas emissions is reported at a community level by the City every two years. Transportation emissions generated in the combustion of fossil fuels to power vehicles are captured in this reporting. Through an analysis of mobile combustion (combustion of fuels for transportation) as part of the bi-annual community GHG reporting process, the City will monitor changes in GHG outputs in conjunction with the implementation of this plan.

**Public Engagement**

The number of public involvement opportunities, educational programs, media coverage, community support and tourism. Measurements can include:

- Number school children participating in walking / cycling education programs
- Number of media coverage opportunities regarding active transportation
- Number of Active Transportation Hub webpage hits
Active Transportation Master Plan Short-Term Implementation Priorities and Phasing Survey: What we Heard

Background

The City of Kingston began developing its first Active Transportation Master Plan (ATMP) – branded as Walk ‘n’ Roll – in fall 2016. This included a broad range of public engagement activities, and concluded with approval of the plan, by Council, in June 2018. The plan sets out a blueprint for staff, decision makers and stakeholders to better understand, plan for, design and implement active transportation improvements throughout Kingston over the next 20+ years.

With the Plan in place, the next step was to develop a short-term implementation plan for the first phase of infrastructure projects and programs to be implemented over the next five years.

An online survey was conducted from July 31 to Sept. 7, 2018 on the City’s “Get Involved” platform and was promoted through traditional and social media and supported by a series of concurrent pop-up events. This survey collected input on the proposed short-term priorities for:

- the implementation of cycling and walking infrastructure
- initial transportation focus area studies
- programs, policies, and initiatives.

There were 130 respondents who completed the survey – 22 of them during a pop-up event. Respondents represented all areas of Kingston and offered valuable input. Assisted by maps, they identified cycling routes (cycling route maps) and transportation focus areas (focus area map).
This document provides a snapshot of what we heard and learned from analyzing the comments and data you provided in the survey. Going forward, staff will use these findings to inform recommendations and decisions on cycling and pedestrian infrastructure projects, focus area studies, and programs to be implemented over the next five years. These recommendations will be reflected in the ATMP short-term implementation plan that will be presented to council in early 2019.

At-a-glance summary

- The City identified four cycling routes as priorities for improving cycling infrastructure – routes 3, 6, 8, and 14. Route 6 was selected as the most important by respondents. Route 6 runs along Bayridge Drive, Henderson Boulevard, Days Road, Front Road, King Street and Union Street. It connects many of the west-end neighbourhoods with a key east-west cycling facility.
- Routes 1, 2, and 9 were identified as key routes for future improvements to the city-wide cycling network.
- 78 per cent of respondents agreed that developing neighbourhood plans is a priority for focus areas C, I, and G for their potential to connect with planned east-west cycling routes, proximity to express transit, and improvements to address existing active transportation infrastructure gaps.
- Focus areas J and L were also identified by respondents as priorities for future neighbourhood plans.
- Respondents were only slightly more concerned about pedestrians being able to cross safely at intersection crossings over maintenance of existing sidewalks and gaps in the sidewalk network.
- Respondents identified road safety as the greatest barrier to cycling within their neighbourhood.
- 81 per cent of respondents felt it was important to have a map of all the cycling routes in Kingston, with 72 per cent indicating a map would encourage them to bike more.
- 93 per cent of respondents agreed they would likely cycle more if more cycling infrastructure was provided on main roads and collector roads.
- Respondents felt that focusing initial programs, policies, and initiatives on improving walking and cycling connections to transit and developing a way-finding strategy for active transportation routes would be most beneficial for increasing cycling and walking behaviour.

Survey results

Cycling routes
The ATMP identified the need for new and improved east-west cycling routes to connect neighbourhoods and link users to all areas of the city (cycle route map). The City has identified Routes 3, 6, 14 and the northern section of Route 8 as potential projects that could be implemented in the short term. Not all sections of these routes will be constructed in next five years. However, the routes will be designed to increase connectivity and eliminate gaps in the city-wide cycling network.
The ATMP identified 13 transportation focus areas intended for future detailed neighbourhood transportation plans. These transportation focus areas (transportation focus areas) are based on similar transportation, natural environment, and mobility characteristics that impact how residents travel both within each area and across the city. Each neighbourhood plan will identify specific changes such as crosswalks, traffic-calming features, on-street parking and new infrastructure to improve the experience for all road users.
Areas I and C were identified for further study and the development of neighbourhood plans in the next five years based on:

- the opportunities to connect with planned east-west city-wide cycling routes 6 and 3,
- proximity to express transit, and
- improvements to address existing gaps in active transportation infrastructure.

Area G aligns with a North King’s Town Secondary Plan transportation study that is currently underway and will identify the needs of the neighbourhood.

Do you agree with the areas selected for the above reasons?

- Yes: 78%
- No: 22%
Programs, policies and initiatives

How important is having a map of all the cycling routes within Kingston to you?

- Very Important: 48%
- Somewhat Important: 34%
- Somewhat Unimportant: 7%
- Very Unimportant: 11%

Would having a map encourage you to bike more?

- Yes: 72%
- No: 28%

To what extent would any of the following make it more likely that you would ride a bike?

<table>
<thead>
<tr>
<th>Option</th>
<th>Very Likely</th>
<th>Somewhat Likely</th>
<th>Somewhat Unlikely</th>
<th>Not likely at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes where I can learn safe cycling skills and basic maintenance</td>
<td>37</td>
<td>28</td>
<td>33</td>
<td>52</td>
</tr>
<tr>
<td>Better pedestrian-level lighting</td>
<td>47</td>
<td>50</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>More marked crosswalks and crossing areas that give priority to bicycles</td>
<td>72</td>
<td>37</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Neighbourhood streets that have cycling routes and infrastructure</td>
<td>68</td>
<td>34</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>More cycling infrastructure (lanes, multi-use paths) on arterial and collector roadways</td>
<td>100</td>
<td>21</td>
<td>17</td>
<td>17</td>
</tr>
</tbody>
</table>
The following short-term initiatives have been proposed to increase walking and safe cycling behaviour in Kingston. Rank them in order from 1, most important, to 8, least important.

1. First mile and last mile connections to transit - Improve walking and cycling connections to and from the transit backbone (e.g. new routes and route maintenance and bike parking facilities)

2. Way-finding (signs and other markers) - developing a formal wayfinding strategy for active transportation routes to help cyclists reach key destinations

3. Establish a program to monitor and evaluate route usage as well as public feedback on user experience to continually improve the usage of on and off-road active transportation routes and facilities.

4. Incentive programs for active commuting - partnerships with local businesses to create programs to incentivize employees to walk/cycle to work (e.g. developing contests or mentorship programs, providing bicycles and bicycle parking)

5. Active school travel initiatives - work with school boards and KFL&A Public Health to expand and support active school travel (e.g. logging active routes to school by encouraging students to track travel using the Strava app)

6. Provide updated information on the active transportation network - provide ongoing updates regarding the implementation of Kingston’s active transportation network, including updates to the City’s mapping of existing on and off-road routes

7. CAN-Bike safe cycling courses - partner with CAN-Bike to host courses at local schools, businesses or community destinations to educate cyclists of all ages and abilities on safe cycling practices.

8. Design and develop active transportation specific information brochures / pamphlets (i.e guide to cycling facilities) that can be accessed on the City website and social media sites or hard copies at City offices / facilities.
What we heard

**East-west connections:** Responses confirmed the desire to improve the city’s east-west connections for cyclists. In addition to routes 6, 3, and 8 ([cycle routes map](#)) that had already been identified as potential priority cycling routes by City staff, respondents also selected east-west routes 1, 2, and 9 as their top priorities for the focus of future improvements to the city-wide cycling network.

**Connectivity and integration:** Responses reflected a desire to focus on projects leading to the greatest levels of connectivity and integration. Improving walking and cycling connections to and from Kingston Transit was identified as the top initiative by respondents. Respondents also agreed that connectivity and integration were appropriate metrics for prioritizing transportation focus-area studies. Respondents felt the potential to connect with planned east-west cycling routes, improvements to address existing gaps in active transportation infrastructure gaps, and the proximity to express transit made developing neighbourhood plans for focus areas C, I, and G ([transportation focus area map](#)) appropriate priorities.

**Directions and wayfinding (maps, signage, information):** Responses indicated a map of all cycling routes would be an important resource. Likewise, developing a formal wayfinding strategy for active transportation routes ranked second among other short-term policies, programs, and initiatives that would increase walking and cycling in the city.

**Safety:** Infrastructure that provides more separation for cyclists from motor vehicles was a common theme. Responses identified road safety as the greatest barrier to cycling within neighbourhoods. Similarly, when prioritizing future improvements to the sidewalk network, respondents were most concerned about providing safe intersection crossings over maintaining existing sidewalks and reducing gaps in the sidewalk network.

**Infrastructure:** Responses supported constructing a city-wide cycling network that concentrates initial improvements along key arterial and collector roads. Respondents agreed new and improved cycling infrastructure on arterial and collector roads would increase their likelihood of cycling.

Learn more

See the final Active Transportation Master Plan (ATMP) and the [executive summary](#) and let us know if you have questions.

In the ATMP you will find more information about all of the active transportation infrastructure and initiatives identified for the next 20+ years, as well as the City’s strategic approach to guiding future implementation to help the City achieve its goal of a 20 per cent active transportation mode share by 2034. These include:

- detailed maps of the existing and proposed cycling and walking networks
- the complete list of recommendations to guide supportive planning, design, implementation and operations of active transportation
- all 29 proposed active transportation initiatives for encouraging increased use of walking and cycling

**NEXT STEPS**

Staff will use this data to develop the ATMP Short-Term Implementation Plan. This plan will be finalized and available to the public in late 2018 and presented to the Environment Transportation Policy Committee in early 2019.