



**WALK WHEEL
WINDSOR**



ACTIVE TRANSPORTATION MASTER PLAN
DISCUSSION PAPER #3 | DRAFT LONG-TERM PLAN





SIDE FOODS
Towne
Grocery

GROUND BEEF 2.5
AND PREMIUM 1.9

AVAILABLE





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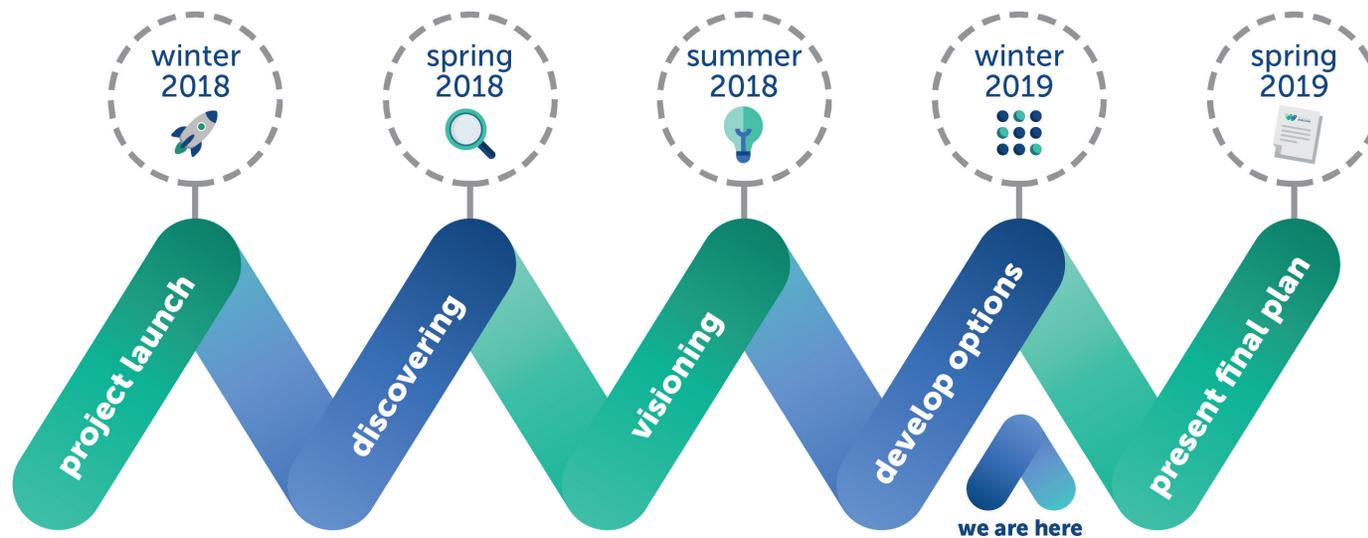
1.0 Introduction

The City of Windsor is Canada's southernmost city, located on the south shore of the Detroit River and Lake St. Clair. Home to approximately 220,000 residents, Windsor is a diverse community, with unique neighbourhoods and several major education and employment centres, including the University of Windsor and St. Clair College.

The City of Windsor is focused on improving walking, cycling, transit, and other sustainable transportation options by developing the Active Transportation Master Plan – known as *WalkWheelWindsor*. The Active Transportation Master Plan will guide Windsor's investments in active transportation over the next 20 years and beyond. The

plan will establish a vision, goals, targets and corresponding strategies and actions for improving active transportation policies, standards, infrastructure and programs. The Active Transportation Master Plan will also contribute to increased transportation options by improving the accessibility, comfort, convenience and safety of sustainable transportation options including walking, cycling, and public transportation.

The Active Transportation Master Plan is being developed over an 18 month timeline that began in early 2018, and will continue until the Spring of 2019.



This is the third Discussion Paper developed as part of the Active Transportation Master Plan process. The purpose of this Discussion Paper is to present the draft long-term plan to guide planning and decision-making for active transportation in Windsor over the next 20 years and beyond. The strategies, actions, and proposed infrastructure projects outlined in this document will be presented as part of the upcoming public engagement taking place in the Spring of 2019.

The next phase of work will involve developing an implementation plan that will outline which actions and infrastructure projects will be implemented over the short-, medium- and long-term, and which municipal departments and outside agencies will be leading or supporting the implementation. The Final Plan will also include cost estimates for the proposed infrastructure, operations and maintenance and support programs that are identified in the proposed Plan.



2.0 Strategies and Actions

The framework for the Active Transportation Master Plan consists of five overarching themes:

This section outlines several strategies and more detailed actions to improve active transportation as it relates to each of these five themes. As identified through community engagement and technical analysis, recommended strategies and action items under each theme address a variety of identified strengths, opportunities, challenges and concerns with active transportation infrastructure, policies, standards and support programs.

The implementation of these strategies and actions will guide the City of Windsor work towards success and achieving the vision,





Connecting Communities

1A: Enhance the Sidewalk Network

1B: Complete the Bicycle Network

1C: Integrate the Off-Street Pathway and Trail Network

1D: Improve Integration Between Walking and Cycling with Transit

1E: Address Major Barriers



Places for People

2A: Develop Complete Streets

2B: Consider Pilot Projects

2C: Improve the Pedestrian, Cycling and Transit User Experience

2D: Land Use and Site Design

2E: Improve Personal Safety



Innovation and Integration

3A: Investigate Bike Share and New Technologies

3B: Provide Bicycle Parking and End-of-Trip Facilities

3C: Enhance Year-Round Maintenance

3D: Develop Regional Connections

3E: Sustainable Parking and Transportation Demand Management Strategies.



Culture Shift

4A: Support Businesses and Economic Development

4B: Active School Travel and Age Friendly Planning

4C: Bicycle Tourism

4D: Wayfinding and Promotion

4E: Education and Awareness



Quality of Life

5A: Improve Public Health and Mental Well-Being

5B: Improve Road Safety

5C: Universal Accessibility

5D: Equity

5E: Celebrate, Market, and Promote

Theme 1: Connecting Communities

goals, and targets of the Active Transportation Master Plan that were presented in Discussion Paper #2.

Background

The purpose of this theme is to build off the existing infrastructure that is already in place to enhance the connectivity of Windsor's network of pedestrian and bicycle routes to public transportation. Through the implementation of new routes and enhancements to existing infrastructure, the City can work to ensure that walking, cycling and transit are safe and comfortable for people of all ages and abilities.

Establishing a complete, connected, and convenient network of walking, cycling and transit facilities is a fundamental part of making active transportation a convenient and attractive travel option in Windsor. Windsor already has an extensive network of sidewalks, multi-use pathways, and bicycle facilities throughout the community. Many Windsor residents are already walking, cycling, and using transit for both recreation and transportation purposes. However, there are a number of gaps and barriers in Windsor's existing active transportation network.

The City can improve connectivity by providing new infrastructure as well as improving existing infrastructure so that is comfortable for people of all ages and abilities. A more well-connected network of both on- and off-street active transportation facilities can significantly improve the ease of moving around Windsor, provide more recreation opportunities, and make

traveling by walking, cycling and transit safer and more practical transportation choices. In addition, ensuring seamless connections between transit and pedestrian and cycling networks can extend the reach of transit and further increase the ease using active transportation for moving around Windsor.

This theme aims to improve connections between the various neighbourhoods and destinations that make up the City of Windsor. The strategies and actions were developed to fill gaps in the existing active transportation network and improve the safety of vulnerable road users. The actions for connecting communities are designed to ensure that walking, cycling, and transit are safe and comfortable transportation choices year-round for people of all ages and abilities.

What We've Heard

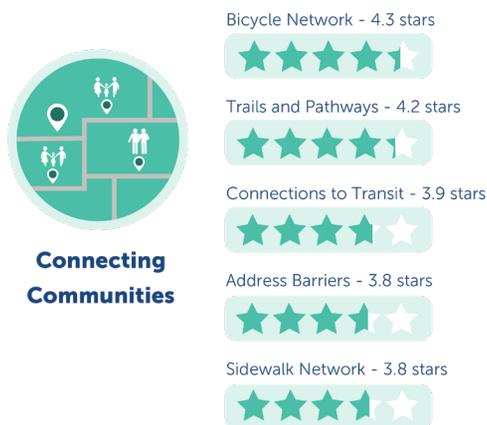
Through the public engagement for the Active Transportation Master Plan, we have heard a number of opportunities and suggestions to improve walking, cycling, and transit connections in Windsor, such as:

- Desired additional bicycle routes and connections, such as Hall Avenue and Russell Street
- Upgrading some bicycle facilities to "Regional Spine" routes, such as Kildare Road and Ypres Boulevard
- Prioritizing areas for new sidewalks, including downtown, Business Improvement Areas, arterial and collector

roads, along bus routes, near schools, in lower-income neighbourhoods along County roads.

- Improving sidewalk infrastructure in South Windsor for access to schools and public transportation
- Improve transit stop amenities, including benches, shelters, bicycle racks, and real-time transit information

Through the on-line survey, participants were asked to rank each of these five strategies on a scale of 1 star (low support) to 5 stars (high support).



The Active Transportation Master Plan includes the following five strategies to improve walking, cycling, and transit connections in Windsor. Each strategy is accompanied by a number of supporting actions that seek to create a walking and cycling environment that is comfortable for people of all ages and abilities.

STRATEGIES

CONNECTING COMMUNITIES

ENHANCE SIDEWALK NETWORK

Build new or widen existing sidewalks in areas of high demand.

COMPLETE THE BICYCLE NETWORK

Address gaps in existing bicycle network, ensure facilities are comfortable for all ages and abilities.

INTEGRATE THE OFF-STREET PATHWAY AND TRAIL NETWORK

Expand and enhance the trails network, ensure integration with on-street facilities, connections to parks and community centres.

IMPROVE INTEGRATION BETWEEN WALKING AND CYCLING WITH TRANSIT

Work with partners to prioritize sidewalk and cycling connections to bus stops.

ADDRESS MAJOR BARRIERS

Improve crossings at major streets, railways and waterways, identify and improve conflict points.



The 'bicycle network' was identified as the highest priority with an average rating of 4.3 stars out of 5, followed by 'trails and pathways' with an average of 4.2 stars.

In total, 56 comments were received under the connecting communities theme. The comments have been grouped into each strategy.

- **BICYCLE NETWORK.** There was strong support for designated bicycle lanes and a bicycle network that will allow commuters to travel more safely and conveniently. It was also commonly noted that the bicycle network currently has many gaps and there is a need for greater connectivity.
- **TRAILS AND PATHWAYS.** The most common theme was a desire to see multi-use trails that are safe and user-friendly for both commuters and recreational users.
- **CONNECTIONS TO TRANSIT.** It was noted that some bus stops are not convenient and accessible for those with limited mobility or those needing wheelchair assistance.
- **ADDRESS BARRIERS.** The most common theme was a desire to see safer crosswalks and intersections. Improvements to street lighting were suggested.
- **SIDEWALK NETWORK.** The most common theme was a need for sidewalks need to be repaired and be more accessible for all types of users, and specifically those with limited mobility or those needing wheelchair assistance.

Further details and other comments provided through the Active Transportation Master Plan engagement process can be found in the **Engagement Summary Report #1 and #2.**

STRATEGY 1A: ENHANCE THE SIDEWALK NETWORK

Expanding and enhancing the sidewalk network supports the Active Transportation Master Plan goals of creating more places for walking, making walking safer, and making walking a more convenient and attractive choice for moving around Windsor. The City of Windsor has an extensive pedestrian network that includes over 1,000 kilometres of sidewalks, as well as an extensive network of over 130 km of paved and unpaved pathways and trails, including the Ganatchio Trail, and Ojibway Nature Centre Trail.

However, there are still some areas of the City with no sidewalks, as well as gaps in the sidewalk network. A lack of sidewalks can discourage people from walking, as they have limited options to walk depending on individual ability and often walk on the roadway, grassed boulevards or on unpaved areas beside the roadway. This is not only less accessible and desirable, it can also be unsafe due to the close proximity of vehicles. Enhancing the sidewalk network focuses on both expanding as well as upgrading the existing sidewalk network in the City.

ACTION 1A.1: IMPROVE PROCESS FOR IMPLEMENTING SIDEWALKS FOR NEW DEVELOPMENTS BASED ON OFFICIAL PLAN REQUIREMENTS.

The City of Windsor's Official Plan requires that sidewalks be provided on both sides of all new collector and arterial roads. The City has a variety of sidewalk standards and policies that ensure the development of this sidewalk network throughout the city. The Official Plan requires that new development and infrastructure proposals include sidewalks and facilitate easy access to public transportation. The Official Plan also requires that school boards implement active transportation plans for new or refurbished schools to support safe walking and cycling routes and facilities for students.

The following sidewalk requirements are recommended:

- Sidewalks should be generally required on both sides of all new and rebuilt arterial and collector roads, and at least one side of all new and rebuilt residential/local roads.
- Boulevards between the road and the sidewalk should generally be required on all new and rebuilt arterial and collector roads, where practical. Boulevards should be at least 1.5 metres wide.
- Based on the current Accessibility for Ontarians with Disabilities Act (AODA) standards, the minimum sidewalk width has been increased as of April 2015 from 1.2 metres to 1.5 metres to ensure universal accessibility.
- Guidelines should be created for retrofitting neighbourhoods with sidewalks and identifying strategies to implement lower cost temporary facilities if full funding is not available.

ACTION 1A.2: USE SIDEWALK CAPITAL FUNDING TO IDENTIFY AND ELIMINATE GAPS IN THE SIDEWALK NETWORK ON MAJOR ROADS

Major roads include arterial roads, collector roads, bus routes, and truck routes throughout the City. These roads typically have higher vehicle volumes and speeds, which can create challenges to pedestrian safety, accessibility and comfort. Many major roads throughout Windsor do not have sidewalks on both sides of the street, including 62 km of arterial and collector roads with a sidewalk on only one side of the street, and 78 km of arterial and collector roads with no sidewalks, although it should be noted that most of these gaps in the sidewalk network on major roads are in rural or undeveloped areas (see **Table 1**). As per recommendations for retrofitting existing roads presented in Action 1A.1, a key recommendation of the Active Transportation Master Plan is that all major roads should have sidewalks on both sides of all major roads and at least one side of local streets. **Figure 1** identifies recommended sidewalk locations on major streets throughout the City (including major streets and local streets). Sidewalks on major streets should be implemented using the City's capital funding and with additional maintenance funding for inspection and upkeep.

A Special Growth Area has been identified in **Figure 1** and includes the land south and east of the airport to the municipal border. The active transportation facilities recommended for this area are outlined in the the Lauzon Parkway Improvements Class EA Study – Environmental Study Report and Addendum. This includes sidewalk and off-street pathway facilities on Luzon Parkway, Country Road 42, the the new E-W arterial road. In addition, active transportation facilities should be installed based on sidewalk and active transportation requirements as identified by road classification. The City will update Schedule F of the Official Plan to include the findings of the Lauzon Parkway Improvements Class EA Study and Addendum.

ACTION 1A.3: REVAMP THE SIDEWALK INFILL PROGRAM AND BUDGET TO PROVIDE SIDEWALKS ON LOCAL ROADS IN AREAS AROUND SCHOOLS, SENIORS CENTRES, HOSPITALS, AND OTHER KEY DESTINATIONS.

While sidewalks on major roads are a priority, several other important areas of Windsor have gaps in the sidewalk network or no sidewalks at all. In fact, nearly half (47.4%) of all residential/local roads in the City do not have a sidewalk on either side of the street. Developing a sidewalk program and budget that seeks to connect these locations to the broader pedestrian network would enable residents to safely walk to important destinations that are not presently part of the Pedestrian Generator Program.

On local roads, the City should work to strategically implement new sidewalks in areas of higher pedestrian demand, including along streets that provide access to schools, seniors centres, community centres, parks, hospitals and other key destinations.

The City should revise its current sidewalk infill program to prioritize sidewalk installation on local roads and determine the best way to allocate funding and resources to ensure that

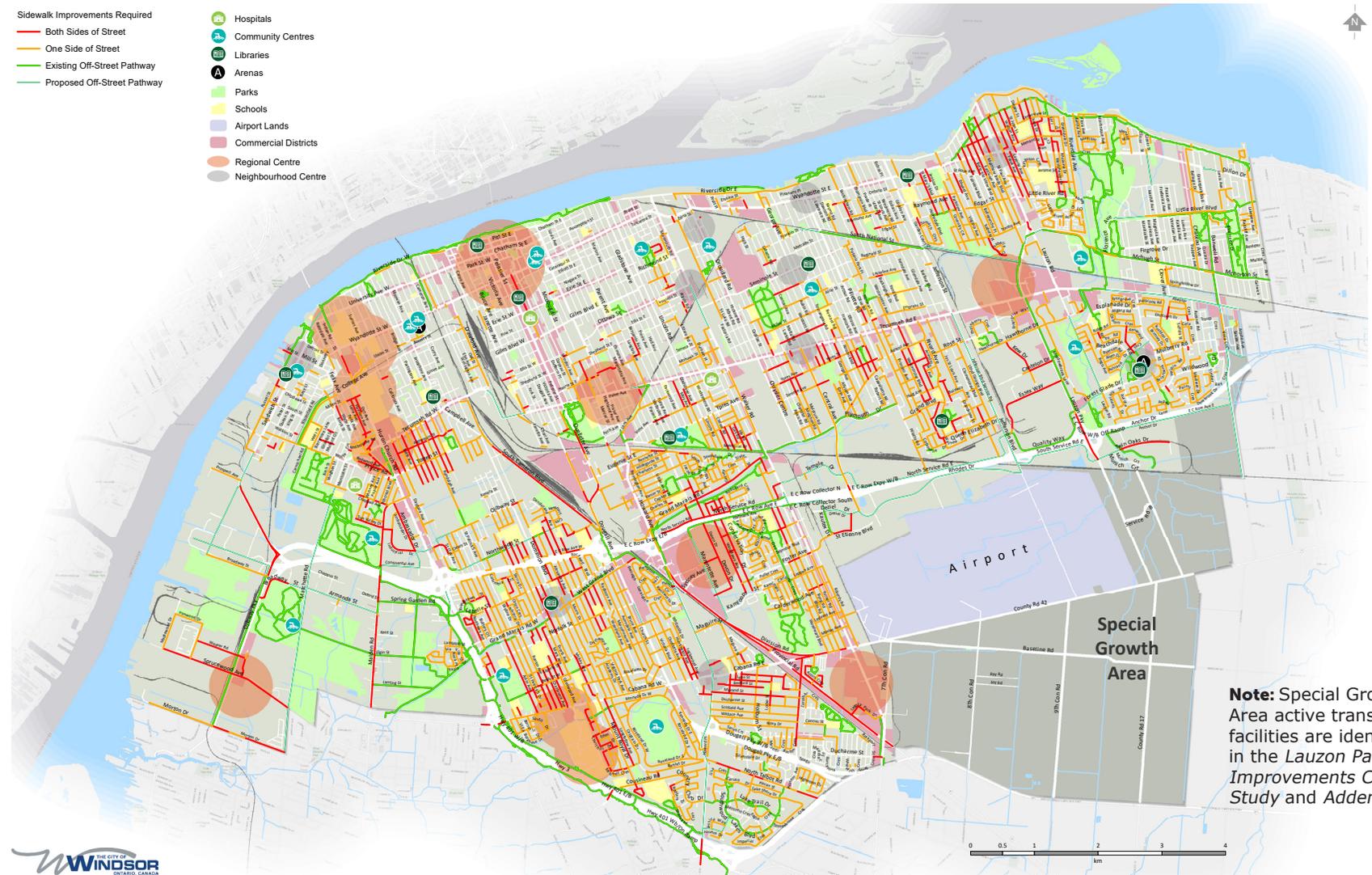
	Arterial Streets	Collector Streets
Total	138 km	177 km
No Sidewalks	41 km (30%)	37 km (21%)
Sidewalk on one side of the street	17 km (12%)	45 km (25%)
Sidewalk on both sides of the street	80 km (58%)	95 km (54%)

TABLE 1 - ARTERIAL AND COLLECTOR STREETS

FIGURE 1 - PROPOSED LONG-TERM SIDEWALK NETWORK

- Sidewalk Improvements Required
- Both Sides of Street
 - One Side of Street
 - Existing Off-Street Pathway
 - Proposed Off-Street Pathway

- Hospitals
- Community Centres
- Libraries
- Arenas
- Parks
- Schools
- Airport Lands
- Commercial Districts
- Regional Centre
- Neighbourhood Centre



Note: Special Growth Area active transportation facilities are identified in the *Lauzon Parkway Improvements Class EA Study and Addendum*.

new sidewalk installation is well planned and connected to the existing network. The City should determine a target rate of infill construction and continued maintenance to address all sidewalk deficiencies within a set number of years. Complex or challenging sidewalk infill projects such as those requiring relocation of trees, utility poles, fire hydrants, with insufficient slope or where there are restricted right-of-way lands, may be placed outside the scope of the City target for sidewalk infill.

ACTION 1A.4: CONTINUE THE CITY'S INSPECTION AND MAINTENANCE PROGRAM TO UPGRADE OR REPLACE EXISTING SIDEWALKS.

The City currently has a formal process for prioritizing upgrades or replacements to the sidewalk network, and issues and repairs are addressed through a complaint-based system. The City should work to identify areas with sidewalks that are either below standard, located too close to the curb (less than 0.6 metres), or are presently too narrow to comfortably serve the volume of pedestrians that currently utilize them. The City should continue to allocate a portion of their capital renewal funds to upgrading and replacing sidewalks, and maintain their list of upcoming projects.

ACTION 1A.5: IMPLEMENT NEW OR IMPROVED SIDEWALKS IN CONJUNCTION WITH OTHER PROJECTS, PLANS, OR DEVELOPMENTS.

The City should continue to ensure that considerations for pedestrian facilities are made throughout the design and implementation stages of all infrastructure projects, including major road upgrades as well as capital projects such as sewer works. This will require different City departments and agencies (as well as external partners) to work collaboratively and share information on appropriate opportunities to incorporate different components of the Active Transportation Master Plan. This goes beyond simply looking at the roadway, and considers peripheral

features such as vegetation, curb ramps, and damaged sidewalks. The City should develop a list of criteria to consider and review when reviewing new plans, developments and infrastructure projects.

ACTION 1A.6: ADD, PRESERVE AND ENHANCE WALKWAYS AND CONNECTIONS THROUGH NEIGHBOURHOODS.

Walkways are identified by the City as a public right-of-way established to facilitate pedestrian movement, and can also provide important cycling connections as well as access to transit. They add to the walkability of neighbourhoods by shortening walking distances and providing important connections to parks, schools, and community centres. These walkways are an important asset to the active transportation network. They should be preserved and enhanced to ensure they remain accessible and open to the public; the City should avoid closing walkways wherever possible. These walkways should be evaluated for their role in the overall active transportation network and assigned a category based on the evaluation to prevent closures that would impact the network.

STRATEGY 1B: COMPLETE THE BICYCLE NETWORK

Providing a complete and interconnected network of bicycle facilities throughout the City is critical to supporting and encouraging more cycling. Windsor's bicycle network is made up of a variety of both on-street and off-street facilities including on-street bicycle lanes, paved shoulders, signed bicycle routes, and paved and unpaved multi-use pathways. There are approximately 50 km of bicycle lanes and paved shoulders, over 30 km of signed bicycle routes, and over 130 km of multi-use pathways. However, there are significant gaps in the existing bicycle network, as well as many areas that do not have any bicycle facilities as of yet.

It is important that bicycle routes are as direct as possible, and that they provide attractive connections to key destinations within the community. Providing direct routes will ensure that cycling travel times are competitive with other travel modes, and increase the likelihood of residents choosing to cycle instead of drive. Expanding and enhancing Windsor's bicycle network will require a combination of strategies, from upgrading existing facilities to address safety concerns, ensuring that new neighbourhoods and infill areas have adequate places for cycling, and addressing existing gaps in the bicycle network.

ACTION 1B.1: DEVELOP A CITY-WIDE NETWORK OF BICYCLE FACILITIES THAT IS COMFORTABLE FOR PEOPLE OF ALL AGES AND ABILITIES.

Developing a complete and connected network of bicycle facilities for all users is an important component of encouraging more cycling. A well-designed cycling network needs to be visible, intuitive, and provide connections between destinations and neighbourhoods. Ideally, a cycling network serves users of all ages and abilities, offering practical route options for those who are interested in cycling, but who may not be comfortable riding on busy streets with high traffic volumes and speeds.

The long-term recommended bicycle network for Windsor was based on a series of four overarching network planning principles:

1. **A Comfortable Network.** The recommended bicycle network plan focuses on developing an All Ages and Abilities ("AAA") network. The purpose of an AAA network is to provide an interconnected system of bicycle facilities that are comfortable and attractive for all users. The network should be designed to be suitable for persons aged 8 to 80 years old and be comfortable for most people cycling, regardless of their cycling ability. Developing an AAA bicycle network was identified by Windsor residents and stakeholders during the Active Transportation Master Plan engagement process as one of the most important ways to encourage more cycling trips. The AAA bicycle network will include three types of bicycle facilities that are most effective at increasing ridership: protected bicycle lanes, multi-use pathways, and local street bikeways,

as described in further detail below. These facilities are the most preferred types of facilities by all users and studies have shown to be the safest types of facilities. While a major guiding principle of Windsor's planned bicycle network is to provide AAA facilities, it is important to note that there is still a place for complementary, non-AAA facilities such as painted bicycle lanes to support the AAA network.

AAA Bicycle Corridor Treatments

Below are further details, examples, and design features associated with multi-use pathways, protected bicycle lanes, and bicycle local street bikeways boulevards.

- **Multi-Use Pathways** are physically separated from motor vehicles by open space or a barrier, depending on the application. They provide sufficient width and supporting facilities to be used by cyclists, pedestrians, and other forms of active transportation. Multi-use pathways can have paved or unpaved surfaces. Paved or firm surfaces are often preferable for cyclists' use, people with mobility aids or strollers. Multi-use pathways are an effective facility on roads where right of way is available either parallel to a major roadway, within a park or along a railway corridor.
- **Protected Bicycle Lanes** are physically separated from motor vehicle travel lanes but are located on-street within the roadway surface. Protected bicycle lanes combine the benefits of increased comfort offered by multi-use pathways due to their separation from motor vehicle traffic, with the benefits of route directness provided by on-street facilities.

There are many types of protected bicycle lanes, offering varying types of treatments to provide protection. Types of separation include: concrete barriers, elevation, bollards, parked cars, visual surface treatments such as pavers, and painted buffers. Protected bicycle lanes are also separated from the sidewalk facilitating separation between cyclists and pedestrians as well.

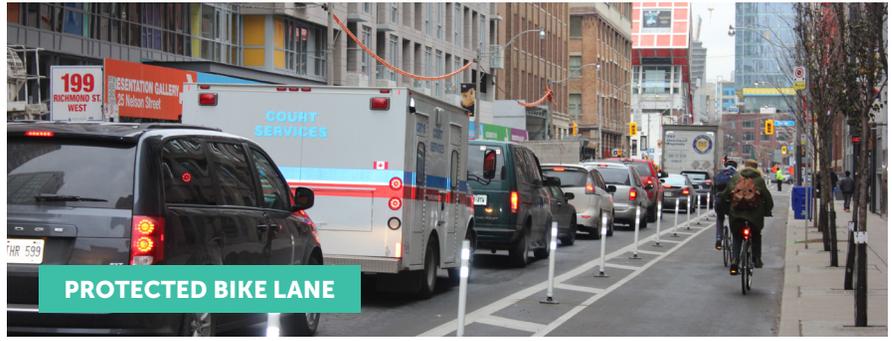
The increased comfort offered by protected bicycle lanes plays a significant role in increasing bicycle ridership, particularly among the interested but concerned demographic. They are an effective way to have people of all ages and abilities cycle on busier streets and have been proven to increase bicycle ridership in other cities.

- **Local Street Bikeways** also often referred to as bicycle boulevards or bicycle priority streets, refer to shared bicycle routes located on streets with low traffic volumes and speeds and that have been optimized to varying degrees to prioritize bicycle traffic. Local street bikeways are often found on low volume streets that run parallel to major roads or within neighbourhoods on residential streets connecting existing trails and pathways.

In cases where the existing streets have relatively low traffic volumes and speeds, the only improvements required may be signage and pavement markings identifying the road as a bicycle route, and enhancements to crossings where the local street bikeway intersects with major roads. However, they can and should be further enhanced with traffic calming measures such as speed humps, traffic circles and traffic diverters if volumes and speeds are high. The critical locations on local street bikeways are where these facilities intersect major



MULTI-USE PATHWAY



PROTECTED BIKE LANE



LOCAL STREET BIKEWAY



BICYCLE LANE



BUFFERED BICYCLE LANE

roads. Crossing treatments can be used to assist cyclists, pedestrians and others in crossing major roads, and to minimize potential conflicts with motor vehicles. The range of crossing treatments that are typically considered where local street bikeways intersect major roads are median islands, pedestrian corridors, signals and sensors.

Non-AAA Bicycle Corridor Treatments

- **Bicycle Lanes** are suggested on secondary routes that provide connections through neighbourhoods on direct roads. In many cases, the routes identified as bicycle lanes support and complement the AAA network by providing additional connections and direct access to destinations. Bicycle lanes can also have a painted buffer, which can be located between the bicycle lane and other traffic lanes.
- **Buffered Bicycle Lanes** are similar to bicycle lanes, but provide additional buffer between motor vehicle traffic or parked cars. Although they do not provide physical separation, depending on traffic volumes and speeds, buffered bicycle lanes may be considered comfortable for people of all ages and abilities due to the additional horizontal separation provided by the buffer.

Multi-Modal Corridors

The proposed bicycle network includes several multi-modal corridors, which are major streets that need further review to consider how they will accommodate active transportation given other competing priorities. The recommended bicycle network has identified these multi-modal corridors are shown in **Figure 4** and **Figure 5**. Along these corridors there is a need to have an established process to consider the mobility of all modes and competing needs when implementing bicycle

facilities. These streets are some of Windsor's main travel corridors, serving a variety of vehicle types and modes while playing an important role in the City's transportation system.

These multi-modal corridors will require more in-depth analysis through specific corridor studies or Environmental Assessments. Recognizing that these corridors serve desire lines within the bicycle network, these studies can determine whether bicycle facilities can be accommodated on the corridors or adjacent streets. As growth occurs within Windsor, additional corridors, or segments of identified corridors, may be designated as multi-modal corridors requiring additional study.

It is important to note that as part of a complete and connected bicycle network that meets the needs of all users, there is still a place for complementary, non-AAA facilities such as painted bicycle lanes.

2. **A Complete Network.** The recommended bicycle network should ensure all areas within the boundary of the City are within a close distance to a designated and complete bicycle route. This involves developing a 'minimum grid' network that ensures that all residents are within 400 metres of a designated bicycle route. The proposed bicycle network for Windsor strives for a minimum network spacing of 400 metres in areas with the highest population and employment density. The minimum grid network includes both the AAA network and the non-AAA network. The minimum grid concept is illustrated conceptually by the green lines in **Figure 2**.

3. **A Connected Network.** Providing direct AAA routes to the City's commercial areas and other community destinations such as schools, parks, and recreation centres is an important component of making cycling a convenient transportation option. A network of "Regional Spines" has been identified to provide high quality and direct north-south and east-west connections within the City to connect each of these main destinations within the City. The conceptual network of Regional Spine routes that connect major destinations is shown in **Figure 2**, with red lines indicating conceptual Regional Spines and blue circles representing conceptual major destinations.
4. **An Enhanced Network.** The City has several existing on-street and off-street bicycle facilities. One of the important components of improving the safety, comfort, and connectivity of the network is ensuring that these existing facilities are high quality, and that they are well integrated into the proposed network. This includes monitoring existing facilities as well as making spot improvements that can help to improve the comfort, safety and connectivity of the network. Additionally, the City can investigate successes and opportunities from past projects to ensure that new facilities are successful. Careful monitoring and applying 'lessons learned' are also critical to improving existing facilities.

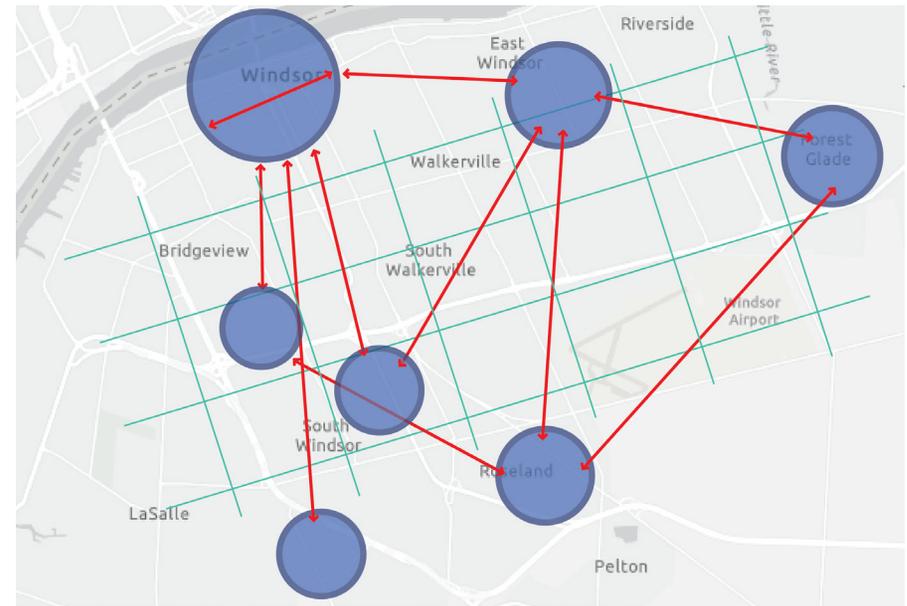


FIGURE 2 - BICYCLE NETWORK NETWORK

The recommended bicycle network will support higher density routes in core neighbourhoods and areas of high cycling potential, with a less dense network in outlying areas and areas with lower cycling potential.

Based on these four guiding principles, the proposed long-term bicycle network for Windsor was developed. The proposed long-term bicycle network was classified into three types of facilities based on the function of the bicycle route: Regional Spine routes, Downtown Grid routes, and Connector routes, as shown in **Figure 3**. In addition, this network also includes AAA and non-AAA facilities. The AAA network is presented in **Figure 4**. This network is made up of three types of facilities: multi-use pathways, protected bicycle lanes and local street bikeways. **Figure 5** illustrates the area of the city that will be within 200 and 400 metres of a AAA cycling facility. The bicycle facilities identified on the network maps included in this report are suggested facilities based on road classification, neighbourhood context, and existing conditions including right-of-way width, number of motor vehicle lanes, traffic volumes and on-street parking. A more detailed assessment of facility type and consultation with adjacent land owners would need to be completed upon plan implementation and facility design.

A Special Growth Area has been identified in **Figure 3, 4, and 5** and includes the land south and east of the airport to the municipal border. The active transportation facilities recommended for this area are outlined in the the Lauzon Parkway Improvements Class EA Study – Environmental Study Report and Addendum. This includes cycling and off-street pathway facilities on Luzon Parkway, Country Road 42, the the new E-W arterial road. In addition, active transportation facilities should be installed based on cycling requirements as identified by proposed road classification. The City will update Schedule F of the Official Plan to include the findings of the Lauzon Parkway Improvements Class EA Study and Addendum.



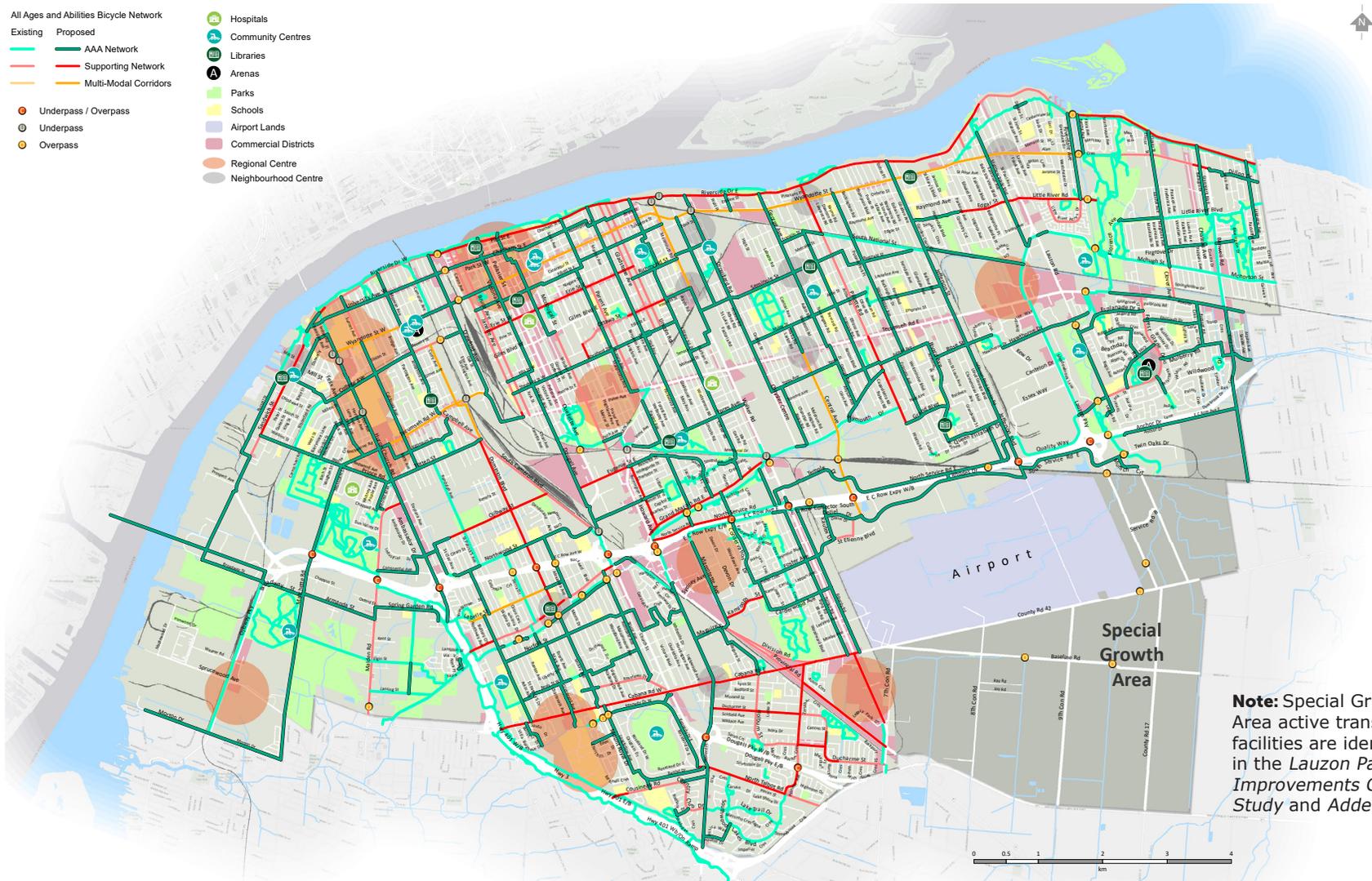
FIGURE 3 - PROPOSED LONG-TERM BICYCLE NETWORK CLASSIFICATION



Note: Special Growth Area active transportation facilities are identified in the *Lauzon Parkway Improvements Class EA Study and Addendum*.

FIGURE 4 - PROPOSED LONG-TERM ALL AGES AND ABILITIES (AAA) BICYCLE NETWORK

- All Ages and Abilities Bicycle Network
- Existing Proposed
 - AAA Network
 - Supporting Network
 - Multi-Modal Corridors
 - Underpass / Overpass
 - Underpass
 - Overpass
 - Hospitals
 - Community Centres
 - Libraries
 - Arenas
 - Parks
 - Schools
 - Airport Lands
 - Commercial Districts
 - Regional Centre
 - Neighbourhood Centre

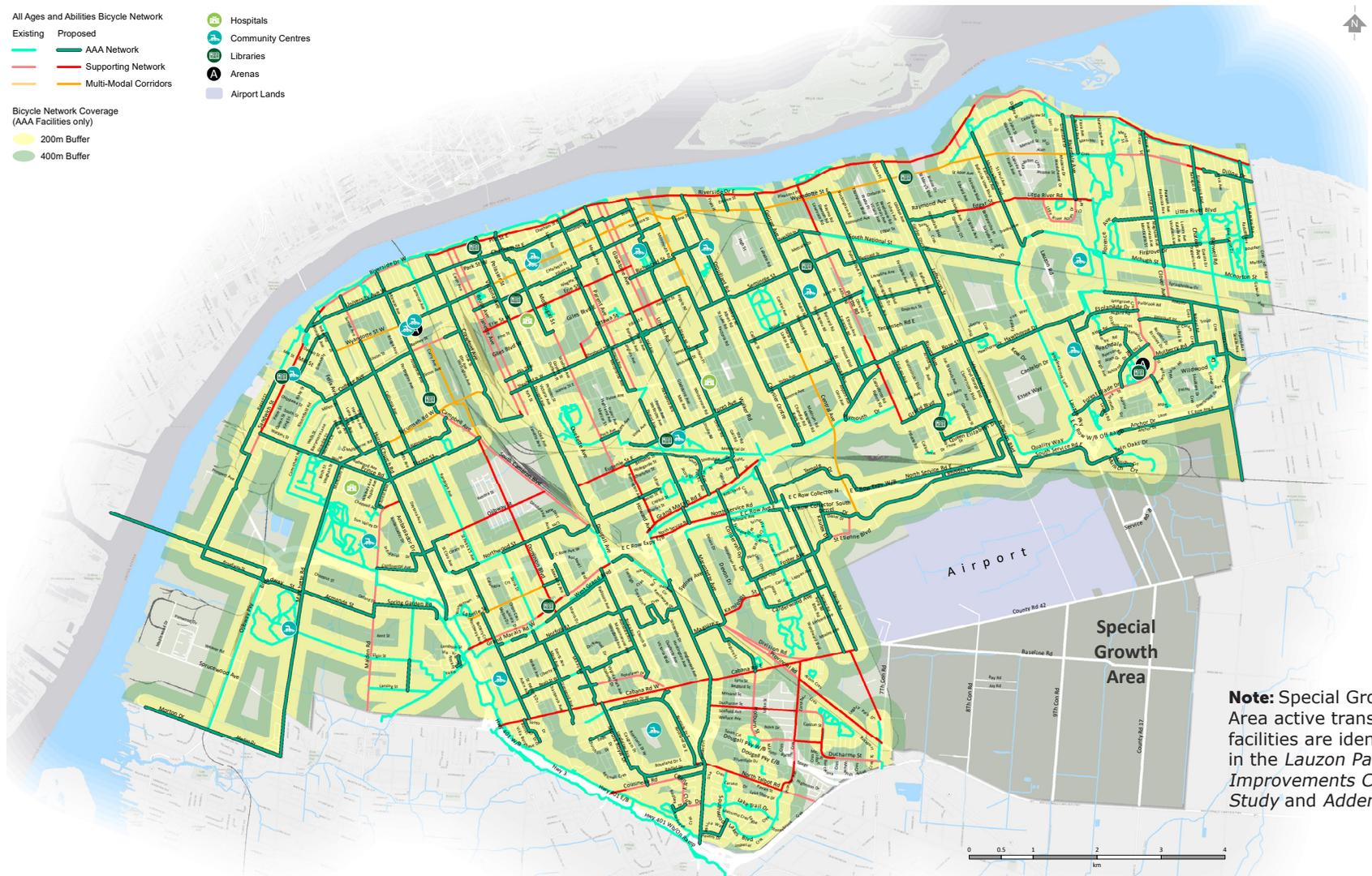


Note: Special Growth Area active transportation facilities are identified in the *Lauzon Parkway Improvements Class EA Study and Addendum*.

FIGURE 5 - AREA OF THE CITY WITHIN 200 AND 400 METRES OF THE PROPOSED LONG-TERM ALL AGES AND ABILITIES (AAA) NETWORK

- All Ages and Abilities Bicycle Network
- Existing Proposed
 - AAA Network
 - Supporting Network
 - Multi-Modal Corridors
- Bicycle Network Coverage (AAA Facilities only)
- 200m Buffer
 - 400m Buffer

- Hospitals
- Community Centres
- Libraries
- Arenas
- Airport Lands



Note: Special Growth Area active transportation facilities are identified in the *Lauzon Parkway Improvements Class EA Study and Addendum*.

ACTION 1B.2: DEVELOP A MINIMUM GRID DOWNTOWN ALL AGES AND ABILITIES BICYCLE NETWORK.

A key to encouraging and supporting the growth of a healthy downtown is to make accessing this area both desirable and easy. With an existing waterfront park that has multi-use pathways connecting directly to the downtown, Windsor is well positioned to connect this well-used spine to other areas of the City through the installation of a minimum grid downtown network of all ages and abilities bicycle facilities. This would help to ensure that Windsorites who choose to travel downtown, including those who choose to travel downtown by transit, have the option of cycling along a protected and well-connected network of cycling facilities in the downtown core. The installation of bicycle network grids in the downtown of major Canadian cities over the past few years has been shown to have a massive impact on the cycling rates in these communities, encouraging those residents who are “interested but concerned” to consider hopping on their bike when travelling downtown, due to the presence of dedicated cycling facilities. This has also been shown to have a positive impact on businesses situated in the core as “sticky streets” where people are walking and cycling more tend to see an increase in both spending and shopping rates. When developing the downtown grid network, access management should be considered to ensure that this network positively impacts success and comfort levels for being to provide active transportation. It is recommended that the City conduct a feasibility study to develop this minimum grid downtown network.

ACTION 1B.3: DEVELOP A REGIONAL SPINE NETWORK TO PROVIDE HIGH QUALITY CONNECTIONS TO DOWNTOWN OR FROM EACH AREA OF THE CITY.

The success of a downtown bicycle network grid is reliant upon ensuring that this grid is well utilized, and connects to areas where people live and will ride from. Installing a “Regional Spine” network that connects the downtown grid to residential areas across the City of Windsor will enable residents to easily access and connect to the downtown bicycle network no matter where they reside, encouraging increased numbers of residents soliciting shops and services downtown, as well as utilizing the tremendous amenity that is the Riverfront Trail. In public engagement sessions, many residents indicated that they would love to be able to ride their bicycles downtown to shop and play, but did not feel safe riding on roads from their home to downtown where they were forced to share space with large volumes of vehicles. Developing a Regional Spine network that connects these communities to the downtown would help provide a comfortable and low stress route for these interested citizens.

ACTION 1B.4: DEVELOP A SPOT IMPROVEMENT PROGRAM TO ADDRESS GAPS IN THE EXISTING CYCLING NETWORK.

Although there are facilities for people cycling in many existing areas across the City, these facilities themselves can be challenging to access due to poor connectivity and gaps in the network. Feedback from the public indicated that many cycling facilities in the City do not continue through intersections and

do not connect to each other to form a connected network. This results in many residents choosing not to ride their bicycle as they know that the route they are taking is not continuous, and will force them into traffic at some point due to these gaps. Developing a program to identify these existing gaps in the cycling network and connecting these facilities to each other where possible will help to close these gaps, and ensure a more connected system of cycling facilities in the City. Closing these gaps may include installing facilities on parallel routes with low motor vehicle volumes and speeds. In addition, this will allow the City to identify problem intersections and employ best practices to redesign intersections to reduce conflicts between road users.

ACTION 1B.5: UPDATE THE CITY'S DEVELOPMENT MANUAL, AND CONTINUE TO FOLLOW CURRENT BICYCLE FACILITY DESIGN GUIDELINES AND BEST PRACTICES

The City should continue to follow guidelines such as the Ontario Traffic Manual (OTM) standards for the design and installation of bicycle infrastructure to ensure that new cycling facilities in the City are reflective of current design standards, and congruent with cycling facilities in other parts of Ontario.

ACTION 1B.6: INCORPORATE BICYCLE FACILITIES AS PART OF ALL NEW ENVIRONMENTAL ASSESSMENTS, INFRASTRUCTURE PROJECTS, AS WELL AS IN CONJUNCTION WITH OTHER PROJECTS, PLANS, AND DEVELOPMENTS.

The City should continue to ensure considerations for bicycle facilities are made through the design and implementation of new and upgraded roads, as well as other infrastructure projects within the City. This will require the collaboration of different

departments and agencies, as well as external partners, to work together to share information on appropriate opportunities to incorporate various components of the Active Transportation Master Plan into all new infrastructure projects. The City should also seek to integrate bicycling facilities into all future projects, plans and developments. Similarly to Action 1A.6, the City will work to ensure bicycle pathways and shortcuts are provided through neighbourhoods. Ensuring shortcuts are accessible for cycling can help to shorten cycling distances and provide important connections to parks, schools, and community centres.

STRATEGY 1C: INTEGRATE THE OFF-STREET PATHWAY AND TRAIL NETWORK

Trails and off-street pathways are an important component of Windsor's active transportation network. Existing pathways form the backbone of the City of Windsor's active transportation network, and include the Windsor Riverfront Trail, the Ganatchio Trail, the Little River Trail, the McHugh Trail, and the West Windsor Trail among others. These pathways help to connect Windsor east to Tecumseh, as well as southwest to LaSalle. All of these pathways are key active transportation routes within the City, and also play a key role for active transportation within the Windsor-Essex region, connecting the City to the broader region. Pathways also increase an individuals' access to parks, green spaces, and other places for recreation. These facilities are used for both transportation and recreational purposes and provide important connections to the on-street network.

ACTION 1C.1: INTEGRATE THE OFF-STREET PATHWAY NETWORK WITH SIDEWALKS AND ON-STREET BICYCLE ROUTES FOR RECREATIONAL AND UTILITARIAN FORMS OF ACTIVE TRANSPORTATION.

Accessing existing trails and pathways such as the Riverfront Trail from neighbourhood streets has been identified as a challenge by residents and stakeholders. This can be because of grade separation, lack of connections, or limited right-of-way. Providing safe and comfortable connections to off-street pathways can help travelling within Windsor become more convenient and effortless. The City should work to improve connections from neighbourhoods and important destinations to new and existing trails and pathways.

ACTION 1C.2: DEVELOP A HIERARCHY OF OFF-STREET PATHWAYS AND TRAILS.

Using existing and future data, the City should study the usage rates of various off-street multi-use pathways and create a hierarchy based upon these usage patterns. Using this data to

target the maintenance and repair of those pathways that are particularly well used will enable the City to target its spending on those pathways that are most heavily used, ensuring that these pathways are well maintained, and cleared in a timely manner when there are snowfall events.

ACTION 1C.3: DEVELOP NEW PATHWAYS THROUGH PARKS TO IMPROVE ACTIVE TRANSPORTATION CONNECTIONS

Through the development of the Active Transportation Master Plan, several existing and future pathways that are located within parks were identified as important components of the active transportation network. These park connections help provide off street alternatives, can shorten travel distances, and provide important connections to parks, schools and community centres. As a result, the City should work to develop these identified pathways through parks to improve active transportation connections, while also taking into consideration the local context of the park, and finding ways to integrate the facilities.

ACTION 1C.4: DEVELOP A DEDICATED FUNDING PROGRAM FOR THE PARKS DEPARTMENT TO IMPROVE, MAINTAIN, AND DEVELOP NEW PATHWAYS AND TRAILS.

Through the development of the Active Transportation Master Plan, the location of new pathways and trails as well as improvements to existing facilities were identified. Many of the existing and future pathways that are located within parks would be under the City's Parks Department jurisdiction rather than the Transportation Department. As a result, funding improvements to existing pathways, as well as installing new pathways in these locations would be undertaken by the Parks Department. Ensuring the Parks department has a dedicated funding program to make these projects possible will be necessary to ensure the long-term vision for active transportation in the City of Windsor.

ACTION 1C.5: INVESTIGATE OPPORTUNITIES WITHIN EXISTING UTILITY AND, RAILWAY CORRIDORS, ALLEYWAYS, AND EXCESS CAPACITY ON ROADWAYS SURPLUS ROAD RIGHTS-OF-WAY TO DEVELOP NEW PATHWAYS.

There may be opportunities for the City to take advantage of existing railway and utility corridors, alleyways, and roadways with excess capacity to develop active transportation connections. If these rights-of-way can provide an important connection or alternative route to an on-street active transportation facility, then the City should consider purchasing or holding on to these lands. To aid in this decision-making process, the City should develop a formal evaluation process to consider obtaining rights-of-way. In cases of on-street corridors with surplus right-of-way, the City should investigate opportunities to provide off-street active transportation facilities within the right-of-way if the land use and context is appropriate.

ACTION 1C.6: INTEGRATE ACTIVE TRANSPORTATION CONNECTIONS INTO PARKS CONSISTENT WITH THE PARKS MASTER PLAN.

In conjunction with the City's Parks and Outdoor Recreation Master Plan "Rediscover our Parks", the City should seek to ensure that existing and planned trails within City parks and community centres connect to the broader active transportation network. This will enable users to seamlessly connect to active transportation corridors within Windsor parks, encourage Windsorites to utilize active transportation when going to these facilities, and encourage increased usage as residents walk or bike to these recreational destinations.

ACTION 1C.7: ADD, PRESERVE, AND ENHANCE CYCLING CONNECTIONS THROUGH NEIGHBOURHOODS

Action 1A.6 identified the opportunity to add, preserve, and enhanced walkways to provide connections through neighbourhoods. These walkways can also provide important cycling connections as well as access to transit. They add to the bikeability of neighbourhoods by shortening cycling distances and providing important connections to parks, schools, and community centres. As noted in Action 1A.6, these walkways are an important asset to the active transportation network and they should be preserved and enhanced to ensure they remain accessible and open to the public.

STRATEGY 1D: IMPROVE INTEGRATION BETWEEN WALKING AND CYCLING WITH TRANSIT

There are many reasons why integrating transit with walking and cycling is important, including the fact that most people using transit are accessing it on foot or by bicycle. As a result, improving access and connections to transit for people walking and cycling, as well as improving the customer experience at bus stops and exchanges can help to not only promote transit, but also encourage more walking and cycling. There are several infrastructure treatments and amenities that can improve the transit customer experience, including ensuring transit stops are accessible and providing amenities such as shelters, benches, lighting, and transit schedule information. In addition, having the ability to bring a bicycle onto the bus (either using bicycle racks on busses or bringing a bicycle onboard in a bicycle bag) allows people cycling to include transit in their journey, and extend the reach of their trip. It also allows them to more quickly reach destinations that are not immediately adjacent to a transit route.

ACTION 1D.1: IMPROVE WALKING AND CYCLING CONNECTIONS TO TRANSIT SERVICE CONSISTENT WITH THE CONCURRENT TRANSIT WINDSOR SERVICE REVIEW

For the vast majority of the population, every transit trip begins and ends with some form of active transportation, either walking or cycling. In conjunction with recommendations from the Transit Windsor Service Review, the City should seek to increase the accessibility of bus stops for those on foot or on bicycle. Doing so may help to increase ridership as residents feel more comfortable accessing transit by active transportation, and integrate the existing and planned active transportation network with the broader transit networks as well.

ACTION 1D.2: PRIORITIZE AMENITIES AT BUS STOPS SUCH AS BENCHES, SHELTERS, AND CUSTOMER INFORMATION

Transit Windsor is committed to enhancing the transit customer experience by ensuring that more bus stops are accessible, and providing more amenities such as benches, lighting, shelters

and network information at stops. In 2018, the City and Transit Windsor installed approximately 125 new shelters at bus stops throughout the City. The City should continue to work with Transit Windsor to identify and prioritize bus stop improvements, as well as to seek opportunities to increase the number of improved bus stops each year. Improvements to bus stops should be prioritized at stops with the highest boardings and alightings, as well as those in major commercial areas or that are located near schools and senior centres.

ACTION 1D.3: INSTALL SECURE BICYCLE PARKING AT HIGH ACTIVITY BUS STOPS AND TRANSIT EXCHANGES

The City should work with Transit Windsor to provide both short- and long-term bicycle parking at transit stops and exchanges that are heavily used, and at locations that are well integrated with the bicycle network. This can help provide a safe and secure place for people to lock up their bicycle if they are travelling the rest of their journey by transit, or if there is no space available on the bike racks on the bus.

ACTION 1D.4: CONTINUE TO PROVIDE BIKE RACKS ON ALL BUSES THROUGHOUT THE YEAR

All transit buses in the City are equipped with bicycle racks with space for two bicycles, including on the Tunnel Bus to Detroit. Transit passengers are also permitted to bring bicycles on buses in a bicycle bag. Through the public engagement process, it was noted that on busy routes and in wintertime, there is often either not enough space for the number of people wanting to load their bicycle onto the bus, or no space whatsoever in the winter season. The City should continue to ensure that bike racks are provided on all buses throughout the year. In addition, ensuring there is secure bicycle parking options at bus stops can help to make cycling more convenient when bus racks are full or in the winter season.

ACTION 1D.5: CONTINUE TO WORK TOWARDS A FULLY ACCESSIBLE TRANSIT SYSTEM, MAKING IMPROVEMENTS TO BUS STOPS TO ENSURE THAT THEY ARE ACCESSIBLE YEAR-ROUND, AND HAVE SIDEWALK ACCESS

Addressing the needs of those with mobility issues is a challenge that many cities face, but one that should be undertaken to ensure exclusivity and transportation equity for all residents. Continuing to ensure that all Transit Windsor buses and bus stops are fully accessible, and that bus stops are both large enough and maintained in all seasons to ensure all users can utilize these facilities. Lastly, ensuring that bus stops have access to the broader sidewalk network will help encourage use, and ensure adequate pedestrian separation from vehicle lanes.

ACTION 1D.6: PRIORITIZE THE INSTALLATION OF SIDEWALKS AND CROSSINGS ALONG DESIGNATED BUS ROUTES

The relationship between active transportation and transit is clear, as most transit users begin or end their trip by foot or bicycle. Filling gaps in the sidewalk and pedestrian network, as well as installing new crossings that meet warrant or relocating transit stops proximate to an existing crossing when appropriate to provide more direct access to transit stops, should be a priority for the City.

ACTION 1D.7: ENSURE THE DESIGN OF BICYCLE FACILITIES CONSIDERS THE LOCATION OF, AND ACCESS TO, BUS STOPS

There are several different designs that can be used to integrate bicycle facilities with bus stops; however, integrating various users and modes of transportation can be challenging at times, particularly at locations that have space restrictions. For example, the installation of fully separated bicycle facilities on transit routes can present potential issues at bus stops. Several design guidelines and manuals provide recommendations about how to design for separated bicycle facilities and bus stop integration, including the Transportation Association of Canada's Geometric Design Guide for Canadian Roads. The City should continue to work with Transit Windsor to ensure that the design of bicycle facilities considers the location and access to bus stops.



ACTION 1D.8: UNDERTAKE A CAMPAIGN TO ENCOURAGE ALL RESIDENTS TO CONSIDER TRANSIT AS A VIABLE, CONVENIENT, AND COMFORTABLE MEANS OF TRANSPORTATION.

A key component to increasing the number of residents using sustainable transportation options such as transit is to encourage its use. Undertaking a campaign that highlights the many benefits of transit usage including savings on fuel, car repair, environment, and parking costs can help encourage ridership. In conjunction with the Transit Windsor review currently underway, the City should encourage residents to take transit as much as possible. This action can result in an increase in ridership, meaning reduced wear and tear on the roads, less congestion, and increased revenues for the public transportation systems.

STRATEGY 1E: ADDRESS MAJOR BARRIERS

There are a number of major barriers to active transportation throughout the City, including major road crossings, highway and freeway crossings, rail corridors, and waterways. Improving crossings for those on foot or on bicycle at key locations will allow for a reduction in the total distance travelled, and make walking or cycling more attractive for all as distances are shortened, and safer, more direct active transportation corridors are created. In addition, intersections and other street crossings can make using the active transportation network feel uncomfortable, unsafe and inconvenient.

ACTION 1E.1: IMPROVE EXISTING GRADE SEPARATED CROSSINGS OVER MAJOR ROADS, INTERCHANGES, FREE FLOW RAMPS, WATERCOURSES, AND RAIL.

Many existing bridges, underpasses and overpasses have facilities for people walking and cycling; however, they may not necessarily feel comfortable, safe or provide the most direct route. The City should continue to work with its partners to provide safer and more convenient walking and cycling facilities on bridges, underpasses, and overpasses. This includes ensuring facilities meet current design standards in terms of width, clearance, and appropriate railings.

ACTION 1E.2: DEVELOP NEW PEDESTRIAN AND CYCLING GRADE SEPARATED CROSSINGS OVER WATERCOURSES, RAIL, AND MAJOR ROADS.

To enhance the connectivity and convenience of the proposed walking and cycling network, the installation of new underpasses and overpasses may be considered as part of the implementation of the Active Transportation Master Plan. The City should ensure that the design of these new facilities consider Crime Prevention Through Environment Design (CPTED) principles and current best practices.

ACTION 1E.3: IMPROVE WALKING AND CYCLING CONNECTIONS TO GRADE SEPARATED CROSSINGS.

The existing lack of pedestrian and cycling connections to grade separated crossings was identified by stakeholders and public engagement participants as a major barrier to Active Transportation in the City of Windsor. Improving connections to these crossings for those on foot and on bike would improve connections for all, and allow these facilities to be used by more than those in vehicles.

ACTION 1E.4: IDENTIFY ADDITIONAL PEDESTRIAN CROSSING LOCATIONS WHERE WARRANTED, AND PROVIDE A CONTINUATION TO THE ACTIVE TRANSPORTATION NETWORK, IN AREAS OF HIGH PEDESTRIAN ACTIVITY OR WITH A HIGH CONCENTRATION OF VULNERABLE ROAD USERS.

There are opportunities to increase accommodations for people walking at street crossings to make the environment safe and comfortable, and to help encourage more people overall to walk. To evaluate the need for new crossings and to upgrade existing ones, the City uses guidance from the Transportation Association of Canada's Pedestrian Crossing Control Manual and Ontario

Traffic Manual Book 15. The City should develop a list of additional crossing locations that are warranted to enhance the overall active transportation network.

Enhanced crossings, such as curb extensions, protected traffic signal phasing with longer walk times, and decorative crosswalks, should be prioritized at locations with high levels of pedestrian activity or where more walking trips are anticipated such as major commercial areas and areas with a higher concentration of vulnerable road users. The City currently uses a variety of crossing controls, including crosswalks, crossovers, pedestrian activated signals, and grade separated crossings. The City should explore options to integrate new crossing enhancements for pedestrians at key intersections.

ACTION 1E.5: CONTINUE TO REGULARLY REVIEW PEDESTRIAN CROSSINGS TO ENSURE THEY ARE WELL MAINTAINED, MARKED, AND PAINTED TO ENHANCE VISIBILITY.

As with any road markings on vehicle travel lanes, paint that denotes a pedestrian crossing can become worn and faded over time, resulting in these markings either being barely visible or non-existent. Regularly scheduled inspection and repair/repainting of the road markings can help ensure that they remain highly visible, and continue to serve as a visual reminder to vehicle drivers of the presence of the pedestrian crossing that they are located at. Ensuring that all pedestrian crossings are well maintained with functioning lights, fully intact curb cuts, and proper signage will help provide safe crossings for pedestrians.



ACTION 1E.6: IMPROVE CROSSING TREATMENTS AT LOCATIONS WHERE MULTI-USE PATHWAYS INTERSECT WITH A ROADWAY IN ACCORDANCE WITH CURRENT BEST PRACTICES.

There are a number of locations throughout the City where off-street pathways intersect roadways. Many of these locations are marked with a zebra crosswalk and bollards, and the motor vehicle driver is required to stop for people in the crosswalk. At locations where new or upgraded facilities have recently been installed, treatments such as green paint and elephant's feet have been used. The City should work to improve crossing treatments and visibility at locations where multi-use pathways intersect with roadways in accordance with current best practices. By monitoring collision data, the City can also identify high priority locations for improvement.

ACTION 1E.7: PROVIDE IMPROVEMENTS TO BICYCLE CROSSING TREATMENTS WHERE BICYCLE FACILITIES INTERSECT WITH MAJOR STREETS AT SIGNALIZED INTERSECTIONS, INCLUDING CROSS-RIDES, BIKE BOXES, AND/OR DIRECTIONAL PAINT.

Special considerations are needed when designing and installing crossing treatments at locations where bicycle routes intersect with other roads, especially at major roads with signalized intersections. These areas need treatments that distinguish cyclists and separate bikeways at intersections. As an intersection is the connection point between people driving, riding transit, walking and cycling, it is important to have treatments to reduce conflict between road users. Treatment should serve to increase the level of visibility, denote clear right-of-way, and facilitate eye contact and awareness with other modes. Intersection treatments can improve cyclist movements and can be coordinated with timed or specialized signals. Crossing treatments to improve



COLOURED CONFLICT ZONE MARKINGS



DASHED BICYCLE LANE MARKINGS



ENHANCED BICYCLE SIGNAL CROSSING



safety at an intersection for bicyclists can include elements such as colour, signage, medians, signal detection and pavement markings. The type of treatment required depends on the bicycle facility, whether there are intersecting bicycle routes, street function and land uses. Some examples of crossing treatments that can be used throughout the City include:

- **Coloured Conflict Zone Markings** include green markings to designate conflict zones and areas where cyclists are travelling. They provide a visual reminder of the presence of cyclists.
- **Dashed Bicycle Lane Markings** through intersections serve to position people cycling appropriately as they travel through the intersection. They also make other road users aware of the presence of cyclists.
- **Bicycle Boxes** provide a space for people cycling to wait to cross the intersection. They are often located in advance of the automobile stop line and provide the person cycling with a “head start” and make them more visible.
- **Two-Stage Median Crossings**, also referred to as a refuge island, are positioned in the middle of the roadway allowing people cycling to cross the road in two stages instead of one providing them with a space to wait before making the second stage of their crossing.
- **Cross-rides (multi-use crosswalks)** are pavement markings that are used to indicate that people cycling are permitted to use the crosswalk and do not need to dismount. These pavement markings may be combined with a pedestrian crosswalk or may be used on their own to indicate a separated bicycle crossing.
- **Protected Intersections** incorporate a combination of bicycle signal phasing, design elements and space allocation that help

protect cyclists from turning cars.

The City should work to review the existing bicycle crossings at major streets within the city to ensure that these crossings are appropriate for the context, and provide a safe and convenient crossing for those on bicycles, including ensuring that bicycle facilities continue to and through the intersection with treatments such as cross-rides and bicycle boxes. This will help ensure that vulnerable road users such as those on bicycle and foot are able to cross these potential barriers to travel in an efficient manner. The City should also include a public education component for these treatments.

ACTION 1E.8: INSTALL BICYCLE DETECTION AT TRAFFIC SIGNALS ON BICYCLE ROUTES.

Signal activation and detection for people walking and cycling can help facilitate safer and more convenient crossings at signalized intersections. Pedestrian and bicycle pushbuttons are currently used as one way to activate the change in signal, and ensure the pedestrian signal is initiated. Bicycle pushbuttons are particularly important at locations where routes intersect arterial streets. There is existing technology that can automatically detect people cycling and can trigger a signal to change the light without having to be activated manually. The City should ensure that all new or upgraded signals have both pedestrian and bicycle detection and activation that is in accordance with current best practices.

Theme 2: Places for People

Background

Active transportation is not only about the journey, but also the destination. This theme aims to ensure that “people centered planning” is a key component of all transportation projects in Windsor, and that the needs of all road users are considered throughout the planning and design process to create vibrant and attractive public spaces and places.

At a macro-scale, land use plays a profound role in shaping how convenient and safe active transportation is to travel to, from, and within neighbourhoods. Even when streets have comfortable facilities for active transportation, residents will be deterred from using these modes if the street network within their neighbourhood is indirect and circuitous, placing destinations such as grocery stores outside convenient walking or cycling distance. In particular, pedestrians are very sensitive to longer routes. Direct routing should be a priority to encourage more walking and cycling. In several neighbourhoods within the city, levels of walking are higher where a strong grid road network is present, even if there are gaps in sidewalk coverage.

At a micro-scale, land use and growth includes urban design as it relates to individual site layout and orientation, the setback and setting of buildings, the design of streets to accommodate all users, and the details and materials of streetscaping elements (e.g. trees, seating, lighting, bicycle racks etc.) These elements contribute to creating attractive, comfortable and convenient places for people using active transportation.

Planning and development throughout the City presents opportunities to ensure that safe and attractive active

transportation facilities are provided and that these facilities are integrated with the broader existing and proposed active transportation network.

Strategies to create great places for people include the adoption of a Complete Streets policy, using pilot projects to test and seek feedback on the viability of innovative initiatives, focusing on efforts to make walking, cycling, and transit use more comfortable and enticing, and ensuring that all new developments reflect the desire for the City to see more residents using walking, cycling, and using transit as their preferred means of transportation.

What We've Heard

Through the public engagement for the Active Transportation Master Plan, we have heard a number of opportunities and suggestions to create great places and destinations in Windsor, such as:

- Development should be pedestrian-oriented
- Develop a complete streets policy
- Start pilot projects (e.g. bike boxes, pop-up bike lanes)
- Colour code sidewalks and multi-use pathways
- Use curb extensions to create public spaces
- Create an accessible and equitable network for diverse populations (e.g. growing elderly population, lower-income users)

Through the on-line survey, participants were asked to rank each of these five strategies on a scale of 1 star (low support) to 5 stars (high support).

'Land use and site design' and 'improve personal safety' were identified as the highest priority, both receiving an average rating of 4.2 stars out of 5.



The Active Transportation Master Plan includes the following five strategies to create attractive places for people in Windsor. Each strategy is accompanied by a number of supporting actions that seek to create a walking, cycling, and transit environment that is comfortable for people of all ages and abilities.

STRATEGIES

PLACES FOR PEOPLE

DEVELOP COMPLETE STREETS

Consider developing a Complete Streets policy for all new roads and accommodate all road users on new and improved roads.

CONSIDER PILOT PROJECTS

Pilot active transportation infrastructure projects that are new to Windsor.

IMPROVE THE PEDESTRIAN, CYCLING, AND TRANSIT USER EXPERIENCE

Improve amenities for pedestrians, cyclists, and transit users, including streetscaping and community vibrancy projects.

LAND USE AND SITE DESIGN

Continue to ensure new developments in Windsor support sustainable transportation and are connected to the active transportation networks.

IMPROVE PERSONAL SAFETY

Continue to ensure that active transportation routes are well lit, and follow CPTED principles.



In total 40 comments were received under the Places for People theme. The comments have been grouped into each strategy.

- **LAND USE AND SITE DESIGN.** There was support for developments that are connected to safe transit and bicycle networks.
- **IMPROVE PERSONAL SAFETY.** There was support for increased safety measures put in place to protect pedestrians and cyclists.
- **DEVELOP COMPLETE STREETS.** There was support for streets that accommodates all road users and improving existing and new roads.
- **IMPROVE USER EXPERIENCE.** There was a mixed response on the importance of streetscaping to users. Respondents who did not support improvements to streetscaping commented on a need for improvements to infrastructure and network connectivity first.
- **CONSIDER PILOT PROJECTS.** There is support for pilot projects that can be used to learn and gather data about protected bicycle lanes and complete streets in a cost-effective manner.

Further details and other comments provided through the Active Transportation Master Plan engagement process can be found in the **Engagement Summary Report #1 and #2.**

STRATEGY 2A: DEVELOP COMPLETE STREETS

Complete Streets are multi-modal streets that are designed, operated, and maintained in order to allow for the safe, convenient and comfortable travel of all users. This includes anyone who may be using the street, including (but not limited to) pedestrians, cyclists, transit riders, and motor vehicle users, regardless of their age, ability, or income level. Street users must be able to move along a Complete Street right-of-way and across Complete Street designated locations at ease and barrier-free. In support of the land uses they serve, Complete Streets help build strong, livable and vibrant communities.

The concept of a Complete Street reinforces that the travel to and from a destination should be accessible and safe for everyone. The needs of all persons should be adequately addressed in the design of a Complete Street. There is no one-size-fits-all design for Complete Streets; Complete Streets are designed to suit their context. Furthermore, the concept highlights how streets can become vibrant and attractive spaces within the transportation network and support the local neighbourhood's sense of place. Complete Streets may incorporate aspects of urban landscaping, comfortable street furnishing, public art, and stormwater management features to enhance the user's experience.

Complete Streets should be designed to:

- **Enhance safety for all modes.** Appropriate facilities designed as separated or shared spaces enhance safety and comfort for everyone. For vulnerable users such as pedestrians and bicyclists, addressing perceived and real safety concerns can serve to not only reduce serious collisions, but can ultimately increase usage of these sustainable modes.
- **Expand transportation choice.** Visibility of attractive and comfortable pedestrian, bicycling, and transit facilities will serve to create greater awareness of the transportation options available in Windsor. In turn, increased use of these facilities will motivate people to consider opportunities that can contribute toward personal and community goals.
- **Support universal accessibility.** At some point of any journey, everyone is a pedestrian. As such, the design of sidewalks, crossings and connections with private properties can create barriers for people with physical and/or cognitive disabilities. Universal accessibility is essential not only to support individuals with mobility challenges, but also to make public spaces comfortable for everyone.
- **Enhance connection to community.** Complete Streets are complementary to the surrounding land uses. They provide space for people to move around, within, and between communities, as well as places for people to live, work, shop and play. They can also support the development and creation of a vibrant public realm, extending businesses into the street space with patios, parklets, or simply with better access.
- **Develop a sense of place.** Ultimately, most community streets should be comfortable and desirable places for people. Rather than simply transport people, Complete Streets should be designed as comfortable and desirable public places that welcome the community to gather.

ACTION 2A.1: DEVELOP AND ADOPT A COMPLETE STREETS POLICY AND DESIGN GUIDELINES

Several Canadian cities have adopted complete streets policies, committing these communities to consciously design streets that consider the needs and safety of all road users, including those on foot, on bicycle, and using transit. In 2018, the City prepared a Council Report providing an overview on complete streets, including research findings on the benefits and opportunities associated with complete streets, existing policies that support them, and examples of complete streets best practices from around North America. The Council Report also identified how a complete streets policy could align with Council's 20 Year Strategic Plan. The Council Report noted that a complete streets policy can support the following Quality of Life vision statements from the 20 Year Strategic Plan:

- Planning for development to connect the city together – both green spaces and built form
- Strengthen neighbourhoods to ensure that they are safe, caring and meet the needs of residents
- Continuing to support citizens with diverse needs in all stages of life and create an accessible environment
- Promoting (transportation) choices that support a healthy environment
- Planning for integrated transit and transportation options with consideration for regional opportunities
- Promoting walking and cycling as healthy and environmentally-friendly modes of transportation

While it is impractical to retrofit all existing roads at one time to be complete streets, it is important to adopt a policy that requires

all new and rebuilt roads to be built in a manner that improves safety and encourages sustainable transportation. As such, it is recommended that the City move forward with the development and adoption of a complete streets policy.

In support of a complete streets policy, complete streets design guidelines should be developed to provide more details on how to plan, design, and maintain streets year-round following these principles. In existing urban areas, guidelines for complete streets can help to encourage and support infill and densification on major streets, and balance accommodation for all modes of travel within the public right-of-way. For newer areas, the guidelines can be used to shape the City's street design standards. Design guidelines for complete streets can include recommendations for treatments such as:

- Existing road improvements to entire sections or localized changes to intersections;
- Road and sidewalk rehabilitation projects, providing opportunities to reallocate street space; and
- Street operations and maintenance programs to better support specific travel modes, as well as mobility needs for all ages and abilities throughout the year and across the network.

The City should seek to develop complete streets design guidelines that are contextually appropriate. The design guidelines will recommend where appropriate that planners and engineers to work collaboratively with the community and developers to consistently design the public right-of-way and ensure land uses are integrated, contributing to a people-oriented street environment that works for everyone.

ACTION 2A.2: FOLLOW COMPLETE STREET DESIGN PRINCIPLES IN ALL NEW DEVELOPMENT AND ROAD PROJECTS

As the City moves forward into the future, it should ensure that all new road projects and developments consider the installation of complete streets as part of these projects. This will help ensure consistency in road design, and a predictable and connected walking, cycling, and transit network. This will also help ensure that new communities and roads in the City of Windsor provide safe and efficient facilities for those on foot, bike, or using transit, and encourage the use of these transportation modes.



STRATEGY 2B: CONSIDER PILOT PROJECTS

Pilot projects can serve as a low-cost and effective way to trial new infrastructure, designs, and programs to determine their suitability for the Windsor context. Many of the suggested pilot projects listed below have been permanently installed in other cities across the globe, and have helped to improve both the livability and pedestrian and cycling experience for these jurisdictions. However, this list is by no means prescriptive, and the City is encouraged to explore even more new and innovative ways to improve their street level experience.

ACTION 2B.1: PILOT VEHICLE-FREE RIGHTS-OF-WAY OPPORTUNITIES .

There are several opportunities for the City to explore opportunities for vehicle-free rights of way as pilot projects. One opportunity is to explore a **shared space, or woonerf**, which is a street in which the living environment dominates over the vehicular movements. A shared space functions first as a meeting place, playground, walking area, and extension of any surrounding residences. The street is shared among people walking, cycling, and driving motor vehicles. These streets can serve as an “introduction” for road users to the concept of shared space, and streets that consider the needs of road users beyond those in vehicles. Identifying streets with existing low vehicle volumes and speeds, and exploring the possibility to remake these streets into woonerf-style streets will create public spaces that allows for cyclists, pedestrians, and motorists to interact in a safe manner that encourages street level activity.

Another similar approach is to find opportunities to create **pedestrian streets** either temporarily, seasonally, or permanently. This can range from the length of one block to several blocks. In many cases, these have been temporary or seasonal closures that are often enhanced with the addition of streetscape improvements, amenities, and can have programmed events.

These can also be open to motor vehicles after hours or for select hours for deliveries. Streets that are free of motor vehicles provide additional space for people in areas with high pedestrian volumes, and enhance pedestrian comfort. They can also promote less automobile congestion, in turn reducing air pollution. The City should look for opportunities to create pedestrian-only streets within the City, either on a temporary, seasonal, or permanent basis.

ACTION 2B.2: TRIAL PILOT PROJECTS FOR TESTING OUT PROPOSED IMPROVEMENTS

Pilot projects, also known as “tactical urbanism” projects are low-cost, temporary initiatives that seek to demonstrate potential infrastructure improvements, including pop-up public plazas, road crossings, and protected bicycle lanes. These projects can help to showcase potential or proposed infrastructure, activate an underused public space such as a parking lot or alleyway, and help to build excitement for a project within the community.

The City should consider the design and rapid installation of adjustable and temporary measures such as adjustable curbs, planters, and bollards, as a method to speed up the pace of the installation of road improvements such as protected bicycle lanes.



WOONERF



POP-UP BIKE LANE



TRIAL CURB EXTENSION



PARKLET



ALLEYWAY REVITALIZATION

The temporary and moveable nature of these facilities allows for both a quick and inexpensive installation, as well as easy adjustments as required. The City of Calgary is a good example of this, installing a downtown grid of adjustable protected bicycle lanes in only a few months.

ACTION 2B.3: ENCOURAGE URBAN VIBRANCY BY EXPLORING OPPORTUNITIES TO TEMPORARILY UTILIZE OR REPURPOSE VACANT OR UNDERUSED CITY-OWNED SPACE

Cities often find themselves owning buildings or properties that are underutilized or completely vacant for a period of time. While these can be viewed as a liability due to low utilization, they also present an opportunity to trial new programs and facilities that support active transportation such as secure bicycle parking, repair stations, pop-up plazas, and parks in underused outdoor spaces, and even indoor bike skills training parks where a course may be set up to train interested residents on both safe road riding skills, as well as a fun and exciting skills park. The City should seek to repurpose these facilities where possible to support those who are currently walking and biking, as well as provide those who are reluctant due to a lack of skills the facilities to work on improving them.

ACTION 2B.4: DEVELOP AN ALLEYWAYS REVITALIZATION PROGRAM TO ACTIVATE CERTAIN ALLEYWAYS AND IMPROVE PEDESTRIAN AND CYCLING CONNECTIONS IN THE DOWNTOWN THROUGH PUBLIC ART AND TACTICAL URBANISM.

The City should develop an Alleyways Revitalization Program that seeks to “activate” identified alleyways throughout the downtown area. Alleyways can provide Windsor with an opportunity to build great walking and cycling connectivity both in the short-

and long-term, as identified in the United Way report “Alleyway Revitalization As a Key to Community Development in the City of Windsor”.

Refurbished alleyways could represent an interim solution to some walking and cycling connectivity challenges while proper road-based cycling infrastructure is installed. Alleyway walking and cycling pathways could link together core neighbourhoods, parks, and other community amenities. Examples from the city’s of Calgary and Toronto show great success using signage, on-street markings, bollards, mini-roundabouts, and permanent flower planters where alleyways intersect with sidewalks and streets to mitigate safety concerns.

Activating these spaces can include such actions as painting vibrant colors, installing amenities including benches and lighting, creating commercial space, and restricting vehicle traffic. There are numerous examples of alleyway projects throughout the world that have improved their downtown alleyways with great success, and can serve as examples upon which to base the Alleyways Revitalization Program for the City of Windsor.

The United Way recently published a report exploring the potential for alleyway revitalization as a key to community development in the City. The report was created based on questions brought forward by residents from United Way’s four Neighbourhood Engagement Strategy partners, including Downtown Windsor Community Collaborative, Ford City Neighbourhood Renewal, Our West End, and The Initiative: Glengarry to Marentette, Neighbour to Neighbour. The Alleyway Revitalization report examines the state of existing alleyways and offers suggestions on how other communities have turned alleyways into vibrant spaces that add

value for residents and generate additional tax revenue or cost cutting opportunities for municipalities by re-purposing some alleyways for other uses. The report also proposes City policy changes that could help to fuel revitalization efforts. The City should develop a program that builds upon the recommendations of the Alleyways Revitalization Report.



STRATEGY 2C: IMPROVE THE PEDESTRIAN, CYCLING, AND TRANSIT USER EXPERIENCE

Improving the pedestrian, cycling, and transit user experience goes beyond providing new sidewalks, transit, and bicycle facilities, and focuses on providing enhancements to public space to make it more inviting, safe, and attractive for all people using sustainable modes to move around. There are several different types of opportunities and enhancements to the public realm that can create a more vibrant environment that supports all modes. Streetscapes and the public realm includes streets, pathways, rights-of-way, parks, open spaces, and civic buildings and facilities. Within the public realm, the City-wide street network comprises one of the most extensive public spaces in a community. Enhancing streetscapes and the public realm creates more welcoming and vibrant everyday spaces to travel and move around, linger within, and socialize and creates more spaces for people who are walking, cycling, taking transit, or using other forms of active transportation to access destinations.

ACTION 2C.1: INSTALL PUBLIC AMENITIES INCLUDING BENCHES, STREET TREES, LIGHTING, DRINKING FOUNTAINS, WASHROOMS, AND RECYCLING BINS, IN THE PUBLIC RIGHT-OF-WAY.

Simple improvements to the right-of-way can vastly improve the pedestrian experience, and help to encourage residents to go for a stroll along streets that support these activities. Amenities such as **benches** provide a space for people to rest; **street trees** can provide valuable shade on a hot day and help to reduce the urban heat island effect and noise from vehicles; **lighting** can help provide a safer environment; **washrooms** allow for longer walking trips; and **recycling bins** can encourage the proper disposal of used containers. Installing these amenities in the public right-of-way will demonstrate the commitment of the City of supporting walking, cycling, and transit use as recognized forms of transportation. These amenities are intended to create more attractive, convenient, and lively public areas that encourage people to spend more time outdoors and to provide more opportunities for people to rest and socialize.

ACTION 2C.2: WORK WITH BUSINESS IMPROVEMENT ASSOCIATIONS TO IMPROVE THE STREETScape AND PUBLIC REALM THAT RECOGNIZES THE UNIQUE LOCAL IDENTITY CONSISTENT WITH DISTRICT THEMING OF EACH BUSINESS AREA.

It has been noted that many of the Business Improvement Associations (BIAs) within the City have been very supportive of programs and initiatives that seek to improve the pedestrian, cycling, and transit experience. The City should continue to actively seek to engage with the various BIAs in an effort to work together to identify unique and contextually appropriate streetscape improvements. The improvements should be as reflective as possible of the character of the surrounding area, and seek to create distinctive pedestrian and cycling friendly activity zones within Windsor.

ACTION 2C.3: PROVIDE LANDSCAPING AND PUBLIC ART IN THE RIGHT-OF-WAY.

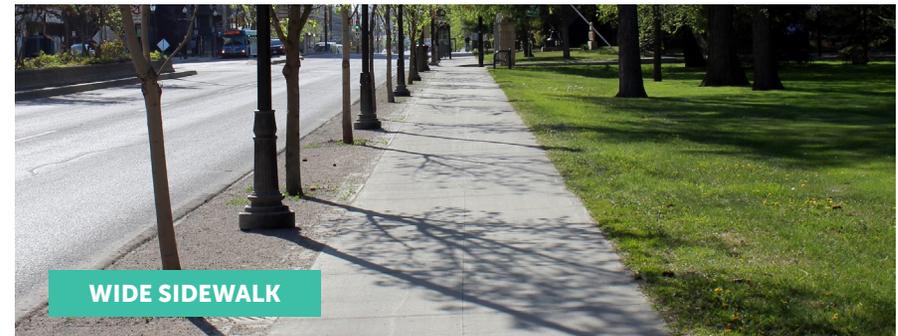
Streetscape enhancements such as plants, trees, street banners and public art are aesthetically appealing and can improve the look and feel of a public space, making it more inviting for residents and visitors to travel through. The City should continue to provide streetscape enhancements where space is available within the public right-of-way. This should include consideration for ownership and responsibility of maintenance for public art and other amenities within the right-of-way.

ACTION 2C.4: ENCOURAGE THE USE OF PATIOS WITHIN THE PUBLIC RIGHT-OF-WAY.

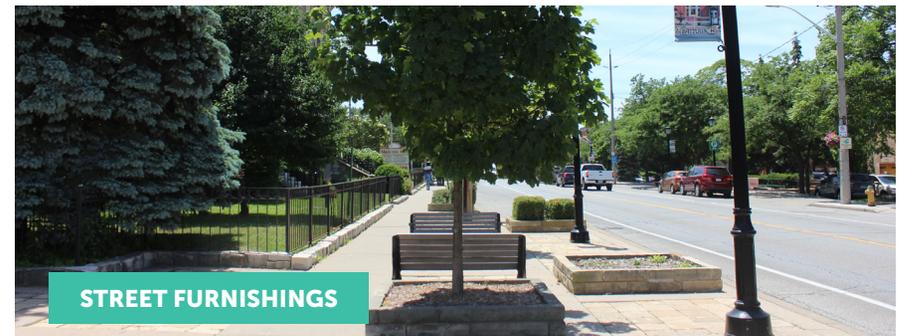
Patios are extensions of the public realm that create designated spaces for people to rest, gather, and socialize. Variations of patios can include 'parklets', which are typically installed in the road right-of-way by converting motor vehicle parking spaces, and 'streateries', which allow restaurants to offer table service in their parklets during business hours. Where appropriate, such as the Downtown and major commercial areas, the City should consider working with interested businesses and other stakeholders to explore the development of a Parklet/Streateries program and promote the use of patios within the public right-of-way.

ACTION 2C.5: WORK WITH BUSINESS IMPROVEMENT ASSOCIATIONS AND OTHER PARTNERS TO ACTIVATE PUBLIC SPACES.

The City should work with BIAs to develop a Reimagined Street Program to activate public spaces. This program would outline cost-effective strategies to experiment with developing new public spaces and street improvements to energize the public realm, such as pilot projects and temporary installations.



WIDE SIDEWALK



STREET FURNISHINGS



WEATHER PROTECTION

ACTION 2C.6: PROVIDE ACCESSIBLE DETOURS FOR PEOPLE WALKING, CYCLING, AND USING TRANSIT DURING CONSTRUCTION AND MAINTENANCE.

Ensuring accessible detours includes providing adequate information and advance notice that a sidewalk, bicycle lane, or transit route is closed, as well as providing adequate detour information to bypass the construction zone. Signage should also display alternate routes. The City can require contractors to establish temporary paths where necessary and implement a penalty structure for those who do not comply. Detours should be provided for users of all ages and abilities.

The City should review its current construction detour policies, and develop new guidelines for contractors and City departments to ensure that they represent best practice for accommodating all active transportation users.



STRATEGY 2D: LAND USE AND SITE DESIGN

Windsor's location within the Windsor-Essex region and Detroit metropolitan region provides residents numerous amenities, including beautiful parks and trails, a scenic riverfront, abundant recreational opportunities, and access to world-class entertainment opportunities. The community is home to major employment and regional destinations such as the University of Windsor, St. Clair College, the Canadian College of Health, Science and Technology, and many tourism opportunities.

Windsor's Official Plan focuses on creating a healthy and livable city in which people can enjoy a vibrant economy and sustainable healthy environment in safe, caring, and diverse neighbourhoods. The land use framework in the Official Plan focuses on ensuring that Downtown Windsor is a vibrant focal point and symbol of Windsor, supported by pedestrian oriented clusters of residential, commercial, employment and institutional uses throughout the City. The Official Plan also recognizes Windsor's unique employment patterns with significant employment areas outside the downtown core, and seeks to accommodate future population and employment growth by preserving sufficient land in appropriate locations.

Focusing growth around neighbourhood clusters has been identified as a key strategy to increase sustainability by promoting compact development, and making walking, cycling, and transit more viable. Currently, most of Windsor's neighbourhoods are fairly low density, and are comprised predominantly of single-family housing. Multiple family developments within neighbourhoods tend to be located along established transportation routes or adjacent to a significant amenity. The Official Plan promotes compact neighbourhoods which encourage a balanced transportation system, and also calls for a complementary range of housing forms and tenures in all neighbourhoods.

ACTION 2D.1: ENSURE FUTURE POPULATION AND EMPLOYMENT AREAS ARE INTEGRATED WITH THE EXISTING AND PLANNED ACTIVE TRANSPORTATION AND TRANSIT NETWORK.

Ensuring that existing neighbourhoods and future development areas have active transportation connections to the City-wide transportation network is key to promoting more trips by walking, cycling, and transit. It is important to ensure that there are adequate access points that provide direct connections to adjacent areas for all road users, both to support direct and short trips between neighbourhoods by walking and cycling, but also to

maximize transit route coverage and directness. Well-designed communities make walking and biking the best way to move around for local trips.

The Active Transportation Master Plan identifies a proposed City-wide active transportation network with a list of priority projects. It is recognized that a key component of expanding and enhancing the active transportation network is to provide access and connections to existing neighbourhoods within the City, as well as future population and employment areas, as they are often areas of high activity and are generators of transit,

walking, and cycling trips. The bicycle routes that connect these destinations have been identified as “Regional Spine” routes, and enhancing the sidewalk coverage within proximity of these destinations has been proposed and prioritized. Discussion Paper #4 will outline the priority projects by focusing first and foremost on providing these connections. The City should prioritize infrastructure projects that provide walking, cycling, and transit connections to these important destinations, both existing and proposed.

The City should also continue to work with developers and other stakeholders and examine existing policies and standards to ensure the development of new walkable and bikeable neighbourhoods and employment areas. The City has a ‘toolkit’ of standards and funding mechanisms to guide planning and design of active transportation facilities in new areas that should be examined to ensure that they effectively support development of active transportation facilities in new areas based on best practice.

To help ensure that new developments consider the recommendations of the Active Transportation Master Plan and help support enhancing network connectivity, the City should develop a checklist that provides land development guidance that is specific to walking, cycling, and transit supportive site planning. This checklist would outline criteria that addresses several considerations such as the location and width of sidewalks, amount and type of bicycle parking provided, if the building can be accessed directly from the street or if individuals are required to walk through a parking lot to enter the building, etc. This checklist can be used to review applications and outline changes needed before approval.

Access points that provide connections to adjacent streets and developments support direct and short walking and cycling trips and maximize transit route coverage and directness. It is important that new developments are integrated and well connected with the existing and proposed active transportation and transit network to ensure there is a comfortable and accessible way to access developments by these modes to help encourage more walking, cycling, and transit trips. The City should review all development applications and consider if active transportation connections have been included and work with developers to find opportunities to enhance connectivity. This includes ensuring new developments have adequate access to transit service, with a goal that all residents be located within a 400 metre walk to transit, and that active transportation connections are provided directly to bus stops. The City should continue to require funding contributions for the construction of future sidewalks when appropriate.

ACTION 2D.2: ENCOURAGE NEW NEIGHBOURHOODS TO BE DESIGNED WITH A MIX OF LAND USES TO ENSURE DESTINATIONS SUCH AS COMMUNITY CENTRES, GROCERY STORES, PARKS AND SCHOOLS ARE WITHIN WALKING DISTANCE.

A diversity of housing, services, and employment within a neighbourhood can increase the opportunities for residents and employees to walk, cycle, or use other forms of active transportation to access local destinations. Opportunities for creating neighbourhoods with a mix of land uses should be examined when amending or update the Official Plan, Zoning Bylaw and/or secondary plans. New development applications should be reviewed to ensure new neighbourhoods include a mix of land uses such as community centres, grocery stores, parks,

and schools to ensure that they are located within easy walking distance of the residential areas of the new neighbourhoods. This could be included as part of the development checklist identified in Action 2D.1.

ACTION 2D.3: IMPLEMENT DESIGN GUIDELINES THAT ENCOURAGE STOREFRONTS TO FACE ONTO SIDEWALKS IN REGIONAL CENTRES AND DEVELOP SIMILAR GUIDELINES FOR MULTI-FAMILY RESIDENTIAL DEVELOPMENTS, TO ENCOURAGE PARKING LOTS THAT AVOID LARGE EXPANSES IN FRONT WITH VEHICLE PARKING LOCATED BEHIND BUSINESSES.

The City's Official Plan includes guidelines for off-street parking areas in the vicinity of traditional commercial streets which encourages vehicle parking to be located behind businesses to create a vibrant streetscape. The City should continue to encourage commercial development that supports street level activity, with business and commercial spaces in regional centres designed and built to face onto the sidewalks located nearby. The City should also develop similar guidelines for multi-family residential developments. These designs should also seek to locate vehicle parking behind the commercial and multi-family residential buildings themselves, as this will help create a more intimate, pedestrian supportive street that encourages residents to walk, bicycle, and use transit to access these businesses, and interact more with the street itself as businesses are located close by.

ACTION 2D.4: CONTINUE TO SUPPORT HIGHER DENSITY, MIXED USE INFILL DEVELOPMENT IN REGIONAL CENTRES THAT PROMOTE AND ENCOURAGE ACTIVE TRANSPORTATION.

Higher density and mixed use developments can help support active transportation by providing more destinations within a shorter travel distance. Areas that contain a mix of commercial, institutional, and recreational uses allow residents the opportunity to 'live, work, and play' in the same area and to move between activities conveniently on-foot, bicycle, or transit. Where space is available and zoning is appropriate, encouraging higher density developments with site specific mixed use options in identified neighbourhood clusters is recommended to help generate more active trips.

STRATEGY 2E: IMPROVE PERSONAL SAFETY

When streets are primarily designed to move vehicles, this can result in a distinct lack of pedestrian amenities, including streetscaping elements that have been shown to improve personal safety. Personal safety measures should be reflective of current best practice in Crime Prevention Through Environmental Design (CPTED) principles that seek to manipulate the environment in a manner that presents a psychological deterrent to crime. This can involve such simple measures as improved lighting, improved sightlines, and clearly demarking the transition from public to private space, and encourage a sense of ownership amongst community members.

ACTION 2E.1: PROVIDE LIGHTING ALONG SIDEWALKS, BICYCLE ROUTES, TRANSIT STOPS, AND PATHWAYS WHERE APPROPRIATE.

Strategically lighting active transportation facilities may help to both reduce the impulse for persons to engage in criminal acts if they feel they will be seen, as well as increase the feeling of safety and comfort for the users of these facilities. This allows for safe and comfortable use of the network both day and night. This is especially important during the winter months as both the morning and evening commutes take place in the dark.

Currently, many of the trails and pathways within the City that are not located adjacent to a major street are unlit. Properly placed lighting may discourage criminal activity, enhances natural surveillance opportunities, reduces fear of those walking and cycling in the dark and allows people using active transportation to see any barriers, obstructions, or curves along the pathway. Another positive aspect is that well-lit and visible pedestrian and cycling facilities and pathways can influence user's feelings about the environment from an aesthetic standpoint.

The City should seek to work with members of the public as well as identified stakeholders to determine current areas of concern

at these locations within the City, and work to install adequate lighting at these identified locations. This will help to not only ensure that there is a reduction in the potential for crime at these locations, but also encourage usage of these facilities by residents at all hours of the day.

The requirement for lighting will be influenced by the type and intensity of use and by the context of a particular pathway or active transportation facility. Generally, lighting should be provided on well-used bicycle and multi-use pathways, pathways through parks, open spaces, and neighbourhood walkways that do not currently have sufficient ambient lighting from adjacent streets, if they are obscured from public view, and at locations with hazards, conflict points, and personal safety concerns.

Lighting should be context sensitive and pedestrian scale. It should not obstruct the pathway and should avoid producing any unnecessary ambient light. Therefore, additional lighting for active transportation facilities should be identified according to the general principles listed above and applied only when needed.

ACTION 2E.2: FOLLOW THE STANDARDS OF CPTED (CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN) TO ENSURE PRINCIPLES ARE FOLLOWED AS APPROPRIATE.

Crime Prevention Through Environmental Design (CPTED) is a context-sensitive, multi-disciplinary approach to urban design that reduces the opportunity for crime to occur and increases both real and perceived safety in public areas. Incorporating CPTED principles in active transportation facility design reduces the opportunity for crime to occur and increases real and perceived safety in public areas, which in turn promotes active transportation as a safe and attractive transportation mode choice. Special considerations for lighting, sightlines, fencing, and maintenance are important for ensuring that CPTED principles are applied properly and effectively in active transportation facility design.

CPTED has three main design principles: Surveillance, Territorial Reinforcement, and Access Control. The City should seek to integrate these core principles in the design of its communities, streets, and commercial areas to ensure that these facilities include design elements that reduce the opportunity for crime, as well as improve the comfort and safety of users. CPTED Ontario is an excellent resource to refer to, and clearly states what specific elements should be considered when designing community amenities within Ontario cities such as Windsor.

ACTION 2E.3: ADDRESS PERSONAL SAFETY CONCERNS ON EXISTING UNDERPASSES AND OTHER LIMITED ACCESS ROUTES WITH LIGHTING IMPROVEMENTS AND/OR DESIGN ENHANCEMENTS.

The City should continue its efforts to address personal safety concerns on existing and planned underpasses and other limited access routes by the installation of appropriate improvements such as improved lighting, sightlines, and access/egress points. Improving these facilities as well as designing new ones to include these elements will help ensure that residents feel safe when passing through, and also serve to discourage potential criminal activity.

Theme 3: Innovation and Integration

Background

Innovation and integration seeks to support year-round usage of active transportation by making walking, cycling, and transit use convenient forms of transportation. This includes a focus on year-round maintenance, providing amenities such as bicycle parking and end-of-trip facilities to support moving around, and the development and implementation of new technologies such as a bike share program and bicycle repair maintenance stations. This theme also includes improved regional connections to surrounding communities, and employing current Transportation Demand Management (TDM) strategies to encourage more Windsorites to travel in a sustainable manner. Such features help to break down perceptions that walking, cycling, and using transit are not convenient and establish more areas of the city as destinations for people using active transportation. Investing in these areas will help to make walking, cycling, and transit more practical, attractive and convenient options for day-to-day travel.

What We've Heard

Through the public engagement for the Active Transportation Master Plan, we have heard a number of opportunities and suggestions to promote innovation and integration for active transportation in Windsor, such as:

- Sidewalks need to be well-maintained, wheelchair friendly, cleared from snow, and well-lit
- Research ways to integrate bike share in the city
- Create an app to help track bus wait and travel times
- Make inviting areas for people to visit
- Add secure bike parking or lockers
- Ensure other modes are as comfortable as driving (e.g. shade, end-of-trip facilities, benches, stops, signage)

Through the on-line survey, participants were asked to rank each of these five strategies on a scale of 1 star (low support) to 5 stars (high support).

'Year-round maintenance' was identified as the highest priority with an average of 4.2 stars out of 5, followed by 'demand management' with 4.1 stars.

In total, 34 comments were received under the Innovation and Integration theme. The comments have been grouped into each strategy.



Innovation and Integration

Year-round Maintenance - 4.2 stars



Demand Management - 4.1 stars



Bicycle Parking - 3.9 stars



Regional Connections - 3.9 stars



Bike Share and Technology - 3.3 stars



- **YEAR-ROUND MAINTENANCE.** The most common theme was the need for winter maintenance and snow removal enforcements.
- **TRANSPORTATION DEMAND MANAGEMENT.** There was support for encouraging more sustainable modes of transportation.
- **BICYCLE PARKING.** It was noted that more secure parking facilities should added near developments, shops and main streets and within the two city-owned parking garages.
- **REGIONAL CONNECTIONS.** There was more support for local networks as the priority before working on expanding the network regionally. It was also noted that there needs to be better transit connectivity to LaSalle and Tecumseh for commuters who work in those areas
- **BIKE SHARE AND TECHNOLOGY.** There was common desire to see more infrastructure, designated bike lanes, and network improvements before the introduction of bike shares or other new programs. It was also noted that a City-wide bike share program would be convenient for commuters.

Further details and other comments provided through the Active Transportation Master Plan engagement process can be found in the **Engagement Summary Report #1 and #2.**

The Active Transportation Master Plan includes the following 5 strategies to promote innovation and integration for active transportation in Windsor. Each Strategy is accompanied by a number of supporting actions that seek to create a walking and cycling environment that is comfortable for people of all ages and abilities.

STRATEGIES

INNOVATION AND INTEGRATION

INVESTIGATE BIKE SHARE AND NEW TECHNOLOGIES

Consider ways to incorporate bike share and new technologies to enhance active transportation.

PROVIDE BICYCLE PARKING AND END-OF-TRIP FACILITIES

Provide ample and secure bicycle parking and other end-of-trip facilities at key destinations.

ENHANCE YEAR-ROUND MAINTENANCE

Ensure the active transportation network and supporting amenities are durable and are well-maintained year-round.

DEVELOP REGIONAL CONNECTIONS

Connect Windsor's sustainable transportation network to surrounding communities, as well as provincial and federal facilities.

SUSTAINABLE PARKING AND TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Manage demand for transportation by supporting and encouraging sustainable forms of transportation.

STRATEGY 3A: INVESTIGATE BIKE SHARE AND NEW TECHNOLOGIES

When streets are primarily designed to move vehicles, this can result in a distinct lack of pedestrian amenities, including streetscaping elements that have been shown to improve personal safety. Personal safety measures should be reflective of current best practice in Crime Prevention Through Environmental Design (CPTED) principles that seek to manipulate the environment in a manner that presents a psychological deterrent to crime. This can involve such simple measures as improved lighting, improved sightlines, and clearly demarking the transition from public to private space, and encourage a sense of ownership amongst community members.

ACTION 3A.1: PURSUE A PARTNERSHIP WITH PRIVATE OPERATORS TO PROVIDE A PUBLIC BIKE SHARING PROGRAM AND CONSIDER THE FEASIBILITY OF AN ELECTRIC SCOOTER SHARING PROGRAM.

Public bike share programs provide community members with temporary access to a bicycle, through payment for short-term rental periods. Public bike share programs around the world each have their own blend of unique characteristics which range from a variety of ownership and operation models, user experiences, distribution and integration with other modes and systems, among other factors. Public bike Share systems can make it more convenient and enjoyable for those that walk or use transit daily and can also provide an important service for tourists.

Windsor has already begun its journey into public bike share. Beginning in September 2016, an initial public bike share pilot project was led by the University of Windsor Students Association. This pilot provided students with access to 40 Zagster bicycles, which were housed at several docking stations located around the campus.

The City recently completed a Bike Share Feasibility Study to review and report on potential options available for the

development of a city-wide public bike share system. The study recommended that the City pursue a partnership with one or multiple private operators to provide bike share and/or e-bike share services to Windsor. To ensure the City of Windsor is able to achieve its vision and objectives for bike sharing under a private ownership and operation model, it is recommended that the City establish clear requirements in the context of a pilot service agreement with one or many operators, with a strong focus on equity and transit integration considerations in the service agreement.

In addition, third party micro-mobility operators are increasingly looking to expand their service offerings to include electric assist kick scooters (e-scooters). E-scooters are single occupant vehicles with an integrated battery that have a maximum speed of 24.9 km/h and have a range of approximately 30 km. E-scooters are now being provided for rent by a number of private companies in many US cities (including Detroit). In these cities, e-scooters are generally parked on city sidewalks and are unlocked via a smart phone app, just like dockless bike share bicycles. Currently, the Ontario Highway Traffic Act does not permit the operation of e-scooters on public roadways in Ontario. Additionally, the

City of Windsor Traffic Bylaw considers e-scooters as 'vehicles'; vehicles are banned from operating on sidewalks and footpaths. As such, under current provincial legislation and existing bylaws, e-scooters cannot be operated within the public right of way in Windsor. Even if a bylaw amendment were pursued to enable e-scooter operation on sidewalks, Provincial legislation would need to be amended to permit operation on Provincial and municipal roadway vehicle and bike lanes.

ACTION 3A.2: CONTINUE TO PROMOTE THE TRANSIT APP TO LIVE TRACK BUSES, AND TO SEE WAIT AND TRAVEL TIMES FOR EACH BUS. IN ADDITION, CONTINUE TO PROMOTE THE USE OF THE ONLINE PREDICTION PORTAL, THE CALL OR TEXT THE BUS STOP FEATURE, AND REAL TIME DISPLAY SIGNS FOR ROUTE AND SCHEDULE INFORMATION

As cities witness a rise in new technologies that seek to streamline the process of booking transportation to make it both convenient and easy to track, many transit agencies are making efforts to improve their services through the inclusion of different technologies. Transit Windsor makes use of real-time vehicle tracking technology. The Prediction Portal is an online tool that helps residents find their bus quickly. The tool integrates location, route and bus information (including schedules and maps) that provides passengers with the most accurate arrival predictions. Transit Windsor has a number of features aimed to provide the rider with real-time information, these features include a Short Messaging Service (SMS) which allows riders to text the bus stop to hear arrival times, this is also available by a phone call through an Interactive Voice Response prediction feature, the web portal feature, automated bus stop announcements and the use of the Transit App. Transit Windsor should continue to work to enhance



its digital real-time transit information through providing real-time bus tracking, wait time displays at specific bus stop locations, and update the approximate travel time of each bus along with the estimated time of arrival at a designated location. Also, the use of a third party application called the Transit App is a reliable way to connect riders to the bus location and arrival time.

Together, the use of these new technologies and Transit Windsor feature will improve the customer experience through improved reliability and predictability. It will also increase the attractiveness of transit for all Windsor residents, particularly those who utilize technology services on a regular basis.

ACTION 3A.3: WORK WITH PARTNERS TO ENSURE SUSTAINABLE TRIP PLANNING INFORMATION IS WIDELY ACCESSIBLE THROUGH AN INTEGRATED TRANSPORTATION DATA SYSTEM AND INNOVATIVE MOBILE APPLICATIONS

Providing multi-modal trip planning information in one consolidated place can make planning trips by foot, bicycle and transit convenient and effortless. As cities witness a rise in new technologies that seek to streamline the process of booking transportation to make it both convenient and trackable, many transit agencies are making efforts to improve their services through the inclusion of new technologies. Transit Windsor currently leverages Google Transit to provide transit trip planning services. Google Transit is a feature of Google Maps, is a public trip planning tool that combines the latest Transit Windsor schedule and route information with the power of Google Maps. However, when it comes to active transportation, many of the existing trip planning applications, including Google Maps, simply route cyclists and pedestrians on the straightest route between points, without any consideration for traffic volumes, cycling

facilities, or vehicle speeds.

The City and Transit Windsor should work with partners to research opportunities to support the development of a consolidated transportation database that can be shared. This type of tool may encourage the development of an innovative third-party mobile application. This could be similar to how the Transit App uses the GTFS feed from the buses to track their location in real-time to let riders know where the bus is. A new application to promote sustainable transportation will need data to be available and shared in an open format (similar to Transit Windsor's GTFS feed), but incorporate walking, cycling and transit.

ACTION 3A.4: CONDUCT A NEW MOBILITY STUDY TO ENSURE THE CITY CONSIDERS THE IMPACT OF CHANGING TECHNOLOGIES AND DIFFERENT USERS ON THE ACTIVE TRANSPORTATION NETWORK.

In the next few years, the City of Windsor, along with many other communities throughout North America and the world, will see the advent of many new technologies in the transportation sector, including Autonomous Vehicles (AVs), ride-hailing and ride-sharing services, mobility services that seek to integrate public transportation with other services, and other services including micro-transit. While many of these new technologies present opportunities to increase transportation options, they can also negatively impact the health and financial stability of cities. We have yet to realize the impact that zero occupancy vehicles will have on our roads, nor the implications of allowing third parties to collect user data and payment on behalf of public transportation services. The City should seek to conduct a New Mobility study to consider the impact that these new technologies will have, and strive to ensure that the adoption of these new technologies improves quality of life in Windsor.

STRATEGY 3B: PROVIDE BICYCLE PARKING AND END-OF-TRIP FACILITIES

Bicycle parking and end-of-trip facilities are critical to encourage people to cycle as a primary mode of transportation by providing a secure place to leave their bicycle and a place to tidy up and or change upon arriving at their destinations.

Short-term and long-term bicycle parking is currently provided at various locations throughout the City of Windsor.

- **Short-term bicycle parking** typically consists of bicycle racks distributed in the public right-of-way in commercial areas and at key destinations in the City. Since bicycle racks are generally oriented toward residents and visitors stopping in an area for shopping or other personal business, they should be located as close to destinations as possible, in convenient locations that are highly visible for users. Providing a limited number of covered bicycle racks for protection from the elements is desirable.
- **Long-term bicycle parking** is more secure than typical bicycle racks. This may include bicycle lockers or larger secure facilities, such as bicycle rooms, bicycle cages, secure bicycle parking areas or full service bicycle stations. Long-term parking is generally oriented toward cyclists needing to park a bicycle for an entire day or longer. Major employment areas, transit stations, and areas with high cycling activity are ideally suited to long-term parking facilities. They can also be required in private developments. Other end-of-trip facilities, such as changing rooms, receptacles for charging electric bicycles, showers and storage space for equipment can also make cycling more convenient and help build a culture for active transportation within a specific development or place of employment.

ACTION 3B.1: DEVELOP AND IMPLEMENT A BIKE PARKING POLICY

The City should develop a bike parking policy to outline criteria for bicycle parking in the public right-of-way (including bicycle corrals as noted in Action 3B.4) and at public facilities (as noted in Action 3B.3), as well as to support businesses in existing developments to retrofit existing buildings to provide bicycle parking and other amenities, such as storage and change room facilities to support employees' cycling to work year-round. Adding these facilities would likely require a reallocation of existing motor vehicle parking to bicycle parking. There are a number of other North American cities that have implemented these bylaw regulations including San Francisco, Toronto and Minneapolis.

ACTION 3B.2: CONDUCT A BICYCLE PARKING STUDY TO REVIEW AND UPDATE REQUIREMENTS FOR SHORT-TERM AND LONG-TERM BICYCLE PARKING AND END-OF-TRIP FACILITIES FOR NEW DEVELOPMENTS,

The City of Windsor Official Plan sections (7.2.2.17) and (7.2.4.1) state: "*Council shall make provision for bicycle parking spaces by requiring bicycle spaces at all developments*" and "*Council shall require all proposed developments and infrastructure undertakings to provide facilities for cycling movement and parking wherever appropriate.*"

These guidelines are reinforced by the City's Zoning Bylaw, which is the regulatory tool that specifies the number of bicycle parking spaces required based on the total number of vehicle parking spaces as follows:

- 1 to 9 vehicle parking spaces: No bicycle parking is required
- 10 to 19 vehicle parking spaces: 2 bicycle parking spaces are required
- 20 or more vehicle parking spaces: 2 bicycle parking spaces required for the first 19 spaces, plus 1 additional bicycle parking for each additional 20 vehicle parking spaces

The Zoning Bylaw also provides requirements for the size and location of bicycle parking spaces. However, the Zoning Bylaw does not distinguish between short-term and long-term secure bicycle parking requirements, nor does it provide guidance on siting, location, or quality of bicycle parking. In addition, the Zoning Bylaw does not provide any requirements for end-of-trip facilities for new developments. It is recommended that the City conduct a Bicycle Parking Study to inform a subsequent update to the bicycle parking requirements in the Zoning Bylaw and to expand current Official Plan policies:

- To be based on the corresponding land use (instead of based on motor vehicle parking requirements);
- To specify different requirements for short-term and long-term bicycle parking, including secure bicycle parking facilities;
- To provide design guidance for the siting, location, and quality of short-term and long-term bicycle parking;
- To provide flexible parking requirements to allow for a reduction in motor vehicle parking if bicycle parking and other amenities go beyond minimum requirements; and
- To require end-of-trip facilities such as showers and clothing lockers in new developments based on land use.

In addition, the City should continue to ensure that these bicycle parking regulations are being enforced in all new developments.

ACTION 3B.3: ENSURE BICYCLE PARKING AND END-OF-TRIP FACILITIES ARE PROVIDED AT ALL CITY OF WINDSOR OWNED AND OPERATED FACILITIES.

Installing and improving existing bicycle parking and end-of-trip facilities at City of Windsor owned and operated buildings demonstrates leadership, and reinforces to residents, developers, and private business owners that bicycle parking is important. Adequate bicycle parking at libraries, recreation centres, City-owned parkades, and other civic facilities will benefit employees, residents and visitors and support access to these facilities using active transportation. Providing bicycle parking and end-of-trip facilities at City of Windsor sites would require identifying the type and quantity of facilities required and appropriate for each of the buildings. This can include the provision of short-term facilities at locations and buildings that see a lot of visitor activity. Longer-term bicycle parking and other end of trip facilities should be considered at locations where there are high concentrations of employees. Provision of both short- and long-term bicycle parking at civic facilities should be generally consistent with requirements for new developments.



BICYCLE CORRALS



SECURED BICYCLE PARKING



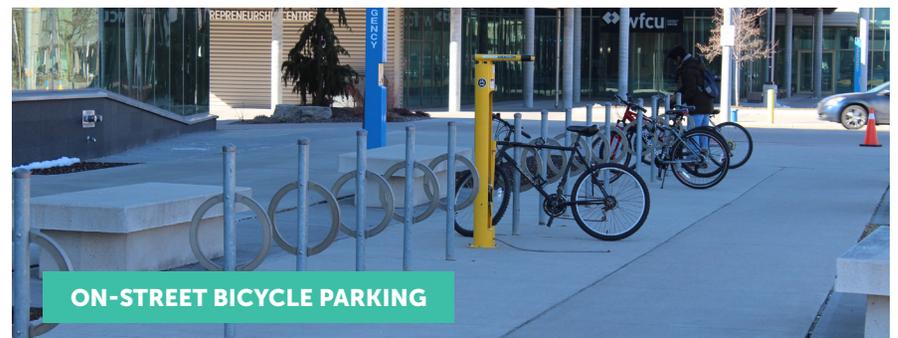
BICYCLE VALET



BICYCLE LOCKER



BICYCLE SHELTER



ON-STREET BICYCLE PARKING

ACTION 3B.4: DEVELOP AND IMPLEMENT AN ON-STREET BICYCLE CORRAL PROGRAM (PENDING BIKE PARKING POLICY).

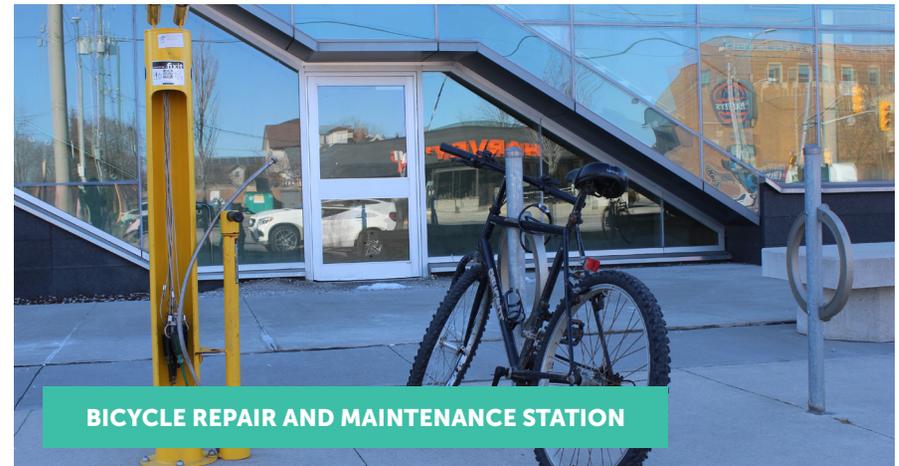
Bicycle corrals refer to a grouping of bicycle racks located on the street. They are typically located in a parking space that was traditionally allocated to motor vehicles, but may also be considered in a corner clearance without removing motor vehicle parking spaces because they do not impact sightlines. Because they are often located within the roadway, bicycle corrals minimize sidewalk clutter, free up space for other uses and increase bicycle parking at locations with high demand. The City should work with businesses and other interested partners to develop an on-street bicycle corral program, and look for opportunities to increase on-street parking in strategic locations with bicycle corrals.

ACTION 3B.5: WORK WITH EVENT COORDINATORS AND PARTNERS TO PROVIDE TEMPORARY BICYCLE PARKING AT COMMUNITY EVENTS.

Large community events can create traffic congestion and overwhelm motor vehicle parking capacity. Depending on their location, they can also generate a significant amount of walking and cycling trips and a temporary spike in bicycle parking demand. One way to mitigate such challenges is to work with event organizers to provide and promote the use of temporary secure bicycle parking and/or bicycle valet programs. The City should work with event coordinators to ensure that temporary bicycle parking is provided at large community events such as the Detroit River Fireworks Festival, Earth Day, Art in the Park, and other events.

ACTION 3B.6: IMPLEMENT BICYCLE REPAIR AND MAINTENANCE STATIONS AT KEY LOCATIONS THROUGHOUT THE CITY OF WINDSOR.

The City has already installed several bicycle repair and maintenance stations that provide tools and equipment to make quick bicycle repairs. These stations are located in public spaces throughout the City. In addition to these self-serve stations, there are opportunities for the City to partner with the private sector to provide additional bicycle repair and/or retail and rental services at different locations. These facilities work best at high demand locations. The City should continue to install bicycle repair and maintenance stations at high demand locations.



ACTION 3B.7: MAINTAIN AND UPDATE A DIGITAL INVENTORY OF PUBLIC BICYCLE PARKING LOCATIONS AS PART OF THE "MAPP MY CITY APP" AND PROMOTE USE OF THE APPLICATION.

The *mappmycity.ca* website is a powerful portal that provides direct links to updated maps including construction and detours, garbage/recycling/yard waste schedules, and the "MyRide" interactive map. This map also includes the location of various bicycle parking facilities throughout the City, although this list is not currently considered exhaustive. The City should continue to provide the bike parking locations listed on the "MyRide" map are current, updated regularly, and reflect the comprehensive network of bike parking facilities that exist in Windsor at present and into the future. This action enables users to reliably depend on the data displayed, and plan their trips with the knowledge that they will have bike parking facilities located at their destination. The City should also promote the use of this mapping tool, and encourage riders to utilize this valuable tool in trip planning.



STRATEGY 3C: ENHANCE YEAR-ROUND MAINTENANCE

While new infrastructure to promote walking and cycling is often seen as a top priority, ongoing rehabilitation and maintenance of existing infrastructure needs to be an equally important focus. Sidewalks, bicycle routes, and pathways are an important component of Windsor's transportation system and, therefore, they must be capable of accommodating all users in all seasons. Maintenance is necessary to keep infrastructure functional and usable over time. Additionally, proper maintenance is required throughout the year. In some situations, maintenance can often be overlooked or neglected due to tight operating budgets, large outstanding maintenance needs, or an insufficient inventory of bikeway maintenance issues.

ACTION 3C.1: REVIEW AND UPDATE CURRENT MINIMUM MAINTENANCE STANDARDS AND ICE/SNOW REMOVAL REQUIREMENTS FOR ACTIVE TRANSPORTATION INFRASTRUCTURE INCLUDING SIDEWALKS, BICYCLE LANES, PATHWAYS, AND TRANSIT STOPS.

The Province of Ontario recently developed the Minimum Maintenance Standards (MMS) for Municipal Highways, which outlines standards for snow clearing on bicycle routes. The MMS standard for addressing snow accumulation on bicycle lanes is as follows:

- a) After becoming aware of the fact that the snow accumulation on a bicycle lane is greater than the depth set out in the Table below, to deploy resources as soon as practicable to address the snow accumulation; and
- (b) after the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the Table below to provide a minimum bicycle lane width of the lesser of 1 metre or the actual bicycle lane width

If the depth of snow accumulation on a bicycle lane is less than or equal to the depth set out in **Table 2**, the bicycle lane is deemed to be in a state of repair in respect of snow accumulation.

Class of Highway / Adjacent Highway	Depth	Time
1	2.5 cm	8 hours
2	5 cm	12 hours
3	8 cm	24 hours
4	8 cm	24 hours
5	10 cm	24 hours

TABLE 2 - SNOW ACCUMULATION - BICYCLE LANES

Major roads within the City are currently salted and/or ploughed once snow begins to fall and accumulation exceeds 4 inches. This includes 21 major roads within the City. If accumulation exceeds 4 inches and weather is to remain below freezing, the main routes are plowed/salted, and then residential streets are completed after that. School areas are designated as residential areas. However, these major roads do not necessarily correspond to all bicycle routes within the City. As such, if a bicycle route is not located on one of the designated major roads, it may be subject to these snow clearing practices. In addition, the City has not yet updated its policies and practices to reflect the Province of Ontario's MMS. Key challenges associated with the MMS include cases where there is no boulevard space available for snow storage, which results in a need for snow removal, which can result in significant additional costs.

In addition, the City is responsible for winter maintenance at bus stops, with a practice of clearing and salting the area immediately around transit shelters for high activity bus stops. In the case of a snowfall event with 6 inches or greater accumulation, and once the priority of road plowing is complete, the City clears high usage bus stops only along priority bus route corridors. This effort along major arterial roads includes the downtown core, hospitals and medical centres, and most commercial/retail built-up areas. However, public input indicated concerns that people cannot always access the bus stop, or that they get dropped off on an island and they cannot travel anywhere from the bus stop due to the snow.

The City should review existing debris, ice, and snow removal requirements for walking and cycling infrastructure, and provide additional guidance specific to on-street bicycle facilities. Although the City is not required to follow the MMS standards, the City

should review and update its current maintenance and ice/snow removal requirements to reflect MMS standards, including an understanding of the operational and cost implications of following these standards. This review could also include re-prioritizing streets that are identified as part of the active transportation network within the city-wide bicycle network, as well as areas such as bridges where icing may be more likely, including designating a "winter cycling network" for snow clearing.

ACTION 3C.2: DESIGN BICYCLE ROUTES TO FACILITATE DRAINAGE AND SNOW REMOVAL AND PURSUE ALTERNATE SNOW STORAGE.

One of the best ways to facilitate the removal of snow from bicycle routes is thoughtful roadway and bicycle facility design. Unfortunately, conventional bicycle lanes at the edge of the roadway often become the area for snow storage, and can accumulate debris and gravel. The City should update its Development Manual to account for snow/ice removal as well as other maintenance activities in the design of bicycle infrastructure.

ACTION 3C.3: INCREASE ENFORCEMENT OF SNOW CLEARING BYLAWS FOR RESIDENTIAL SIDEWALKS.

For residential properties throughout the City, snow and ice must be removed from sidewalks in front, alongside and at the rear of the buildings within 12 hours after the completion of snow and/or formation of ice during daylight hours. For commercial properties throughout the City, snow and ice must be removed from sidewalks in front, alongside and at the rear of the buildings within 4 hours after the completion of snow and/or formation of ice during daylight hours or within 4 hours following sunrise in the case of snow falling or ice forming overnight.



Many stakeholders, including those with visual and mobility issues, expressed concern at their lack of mobility when snow accumulates on sidewalks and paths in Windsor after a major snow event. With an existing bylaw that requires homeowners to clear the snow from sidewalks adjacent to their property, many residents felt that the City should do more to enforce this important bylaw. They conveyed that all it can take is one or two homeowners on a block to not clear the snow from their sections to result in this sidewalk becoming impassable for those with visual and/or mobility challenges. Assigning staff to monitor and enforce this bylaw will help to ensure that sidewalks remain passable after a snowfall, and that residents are not limited in their movements around the city when there is snow accumulation.

STRATEGY 3D: DEVELOP REGIONAL CONNECTIONS

The City of Windsor is part of the larger Windsor-Essex Region. The City is bordered by Essex County, which consists of 7 towns including Amherstburg, Essex, Kingsville, Lakeshore, LaSalle, Leamington, and Tecumseh. In addition, the City of Windsor lies just across the Detroit River from the City of Detroit with a metropolitan population of 4 million people. The vision identified in the City's Active Transportation Master Plan is to ensure that citizens of all ages and abilities in all parts of the region will be able to travel on a seamless network of active transportation facilities. Ensuring this seamless integration of facilities with Windsor's neighbouring municipalities, agencies and the City of Detroit is a critical component of this strategy and the actions identified below.

ACTION 3D.1: IMPROVE ACTIVE TRANSPORTATION CONNECTIONS TO DETROIT, INCLUDING THE GORDIE HOWE INTERNATIONAL BRIDGE AND A PILOT PROGRAM FOR AN ACTIVE TRANSPORTATION FERRY.

Located just across the Detroit River from Windsor, the City of Detroit has a metropolitan population of over 4 million people, and a well established cycling network of over 300 kilometres of bicycle lanes and trails. This represents both a significant opportunity for cycling tourism for the City of Windsor, as well as an opportunity to connect the active transportation network in the City of Windsor to Detroit's active transportation network, increasing the range and options to cycle and walk between these two cities. The new Gordie Howe International Bridge is committed to include a multi-use pathway to accommodate pedestrians and cyclists, which this will be the first connection between Windsor and Detroit that allows for people to cross directly on bike or foot. The City should ensure high quality active transportation connections are provided to the new Gordie Howe International Bridge.

Transit Windsor should also seek to maintain its bus service through the Detroit-Windsor tunnel, and ensure that this service

continues to run year-round and that all buses continue to have bike racks. In addition, Transit Windsor should explore opportunities to include the availability of space for bicycles on buses on the Transit App, thereby improving reliability and predictability for those wanting to use the bus to transport their bicycle to and from the City of Detroit.

Lastly, the City of Windsor should continue to explore new options to increase active transportation connections to the City of Detroit, including launching a pilot project to provide a dedicated passenger ferry for pedestrians and cyclists.

ACTION 3D.2: WORK CLOSELY WITH NEIGHBOURING COMMUNITIES AND JURISDICTIONS TO ENSURE ACTIVE TRANSPORTATION CONNECTIONS.

The City should work closely with neighbouring counties and towns in the Windsor-Essex Region, including Lakeshore, LaSalle, Leamington, Tecumseh, Amherstberg, Kingsville and Essex, in an effort to improve and expand the active transportation connections between these communities. Creating a network of connected communities will help to not only support usage within



the City of Windsor, but also expand the broader network through improved connections to existing networks in other communities. Lastly, a system of connected communities will help to promote cycling tourism in all of these communities, and introduce people to the ease and benefits of cycling as a means of transportation.

STRATEGY 3E: SUSTAINABLE PARKING AND TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

As part of any successful move toward a more sustainable transportation system, cities need to consider all aspects of how to incentivize and encourage residents to get out of their personal vehicles and instead utilize public transportation, cycling, or walking as a preferred means of movement. This can include efforts to look at reducing what is often an over abundance of parking in certain areas. This will help to increase the barriers to single occupancy vehicle travel, and increase the incentives to utilize public or active transportation instead. A reduction in the availability of parking in certain areas is part of a suite of tools and policies to be considered as part of a Transportation Demand Management (TDM) Strategy. Specific tools can include the improvement of cycling and pedestrian facilities, requiring users of parking facilities to pay the actual costs of construction and maintenance without public subsidy, subsidization of transit for employee groups, and encouraging the use of flex-time schedules to reduce congestion at peak travel times.

ACTION 3E.1: CONDUCT A DOWNTOWN PARKING STRATEGY AND A CITY-WIDE PARKING STRATEGY TO STUDY THE REMOVAL OF PARKING SPACE REQUIREMENTS WITHIN THE CENTRAL BUSINESS DISTRICT AND OTHER BUSINESS IMPROVEMENT AREAS AND OTHER LOCATIONS THROUGHOUT THE CITY

The City should undertake a review of the current requirements for parking minimums on downtown developments and in other BIAs both existing and new. The removal of parking minimums can help to encourage development that is a more compact in form, and has bicycle parking facilities included in the design to offset the removal of vehicle parking spaces. Developments that are not required to include vehicle parking can also be much less costly to build, and often result in a more efficient use of space.

The City should conduct a Downtown Parking Strategy to study the removal of parking space requirements within the downtown, provided that there is sufficient public and on street parking to support proposed developments. This study will ensure that active transportation facilities are required for all new developments

in the downtown core. The City should also conduct a separate City-Wide Parking Strategy to examine parking requirements elsewhere in the City, including in BIAs.

ACTION 3E.2: ESTABLISH A TRANSPORTATION DEMAND MANAGEMENT (TDM) PROGRAM TO WORK WITH LOCAL BUSINESSES TO ENCOURAGE EMPLOYEES TO USE SUSTAINABLE MODES OF TRANSPORTATION.

This action includes the promotion of Transportation Demand Management (TDM) programs and initiatives that encourage employees to use active forms of transportation. This includes encouraging employers located in Windsor to provide amenities and benefits that help to encourage employees to travel by sustainable modes. This can include providing secure bicycle parking, showers and storage lockers, and subsidized or discounted transit passes for employees. This can also include encouraging employers to consider flexible work schedules and work from home policies, promoting carpool and ride share arrangements, allowing for tele-commuting options, subsidizing

transit fares for groups of employees, and managing on-site parking. As an example of an existing initiative, the City has a Corporate ValuPass program which benefits employees of any company that partners with Transit Windsor to provide discounted bus passes to participating staff. Once enrolled, an employee receives a 15% discount on a monthly pass.

The City should hire a full-time TDM coordinator consistent with the Transit Service Review and establish a TDM program to work with local businesses to raise awareness about the opportunities to manage transportation demand and to work with employers to develop TDM programs.

ACTION 3E.3: LEAD BY EXAMPLE TO ENCOURAGE AND INCENTIVIZE CITY EMPLOYEES TO WALK, CYCLE, OR TAKE TRANSIT TO WORK.

Using similar TDM tools as those used by other employers in Windsor, the City itself should expand its efforts to encourage and motivate its own civic employees to walk, cycle, and take Transit Windsor as much as possible. Undertaking this action will help to shift many of the approximately 2,200 City of Windsor employees out of their personal vehicles into other more sustainable forms of transportation, and studies have shown that this modal shift results in improved physical and mental health, and a reduction in illness and employee absenteeism rates. Actively demonstrating a commitment to sustainable transportation through the adoption of this policy will show that the City is committed to a healthier and less polluted city, and “walks the walk” when it comes to reducing the use of single occupancy vehicles.

ACTION 3E.4: CONTINUE TO REVIEW PARKING RATES IN THE DOWNTOWN AND OTHER BUSINESS IMPROVEMENT AREAS TO ENCOURAGE WALKING, CYCLING, AND TRANSIT USAGE.

TDM strategies often include an examination of pay parking rates in the downtown cores and other built up areas of urban centres to ensure that they are priced appropriately, and act as a deterrent to driving a personal vehicle, while also encouraging the use of public and active transportation. The City should undertake a regular review of parking rates and transportation patterns in the downtown and other BIAs to ensure that these prices serve to promote the use of other forms of transportation.

Theme 4: Culture Shift

Background

Although 'hard' measures are critical, a range of 'soft' support measures are also important to encourage people to use active forms of transportation in Windsor. These 'soft' measures can help to provide education and raise awareness about active transportation in Windsor, and can help to achieve goal #5 of the Active Transportation Master Plan to foster a culture of active transportation. By fostering a culture of active transportation, walking, cycling, and transit can be viewed as preferred and normal means of transportation, where residents who use these modes can feel supported and encouraged by the City.

Actions in this theme aim to encourage the business community and partners to support the use of active transportation in Windsor and to increase the rates of active school travel as well as encourage seniors and older adults to increase physical activity. Actions in this theme also aim to support the expansion of bicycle tourism in the Windsor area, as well as to make it easier for people to navigate the City on foot, by bicycle, or on transit. In addition, education and awareness initiatives are important and cost-effective measures to enable residents to feel more safe and comfortable walking, cycling, and transit connections throughout Windsor.

What We've Heard

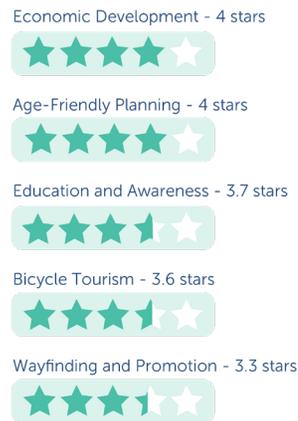
Through the public engagement for the Active Transportation Master Plan, we have heard a number of opportunities and suggestions to shift towards a culture for active transportation in Windsor, such as:

- Raise awareness and educate people about what is available, how to use it, and road safety for biking and transit
- Create destinations that draw people out
- Combat the idea that we can only bike or walk in the summer
- Kids and seniors need to feel safe using active transportation
- Incentivize major employers to provide showers, bike parking, transit passes, and weather protection
- Outreach to immigrants on biking options at schools, places of worship, etc.
- Provide bike access to lower-income neighbourhoods and work with schools to get more kids biking
- Have more Open Streets events
- Make it harder to drive and easier to walk, bike, or transit in order to change people's behaviours
- Make transit more convenient
- Embrace and promote sense of community

Through the on-line survey, participants were asked to rank each of these five strategies on a scale of 1 star (low support) to 5 stars (high support).



Culture Shift



'Economic development' and 'age-friendly planning' were identified as the highest priorities, both receiving an average of 4 stars out of 5.

The Active Transportation Master Plan includes the following five strategies to shift towards a culture for active transportation in Windsor. Each strategy is accompanied by a number of supporting actions that seek to create a walking and cycling environment that is comfortable for people of all ages and abilities.

STRATEGIES

CULTURE SHIFT

SUPPORT BUSINESSES AND ECONOMIC DEVELOPMENT

Work with local businesses to encourage sustainable transportation usage.

ACTIVE SCHOOL TRAVEL AND AGE-FRIENDLY PLANNING

Support the creation of an Active School Travel Program, and continue to support age-friendly planning principles.

BICYCLE TOURISM

Support the existing bike tourism program in Windsor.

WAYFINDING AND PROMOTION

Improve wayfinding and signage to identify routes and key destinations.

EDUCATION AND AWARENESS

Work with partners to support education and awareness for users of all ages and abilities.

In total, 30 comments were received under the Culture Shift theme. The comments have been grouped into each strategy.

- **ECONOMIC DEVELOPMENT.** There was a common theme that by focusing on creating an excellent network and infrastructure is more important to focus on first and will naturally encourage commuters to try sustainable transportation modes of travel.
- **AGE-FRIENDLY PLANNING.** There was support for age-friendly planning, specifically for children and seniors.
- **EDUCATION AND AWARENESS.** There was support for more education on safety, especially for children. More enforced by-laws and improved wayfinding signage were also suggested.
- **BICYCLE TOURISM.** There was support for bicycle tourism locally and regionally.
- **WAYFINDING AND PROMOTION.** There was mixed support from public input for improving wayfinding.

Further details and other comments provided through the Active Transportation Master Plan engagement process can be found in the **Engagement Summary Report #1 and #2.**



STRATEGY 4A: SUPPORT BUSINESSES AND ECONOMIC DEVELOPMENT

Active transportation can contribute to the development of a healthy and diverse economy. Walking, bicycle, and transit-supportive neighbourhoods, employment areas, and other destinations throughout Windsor can encourage residents to support local businesses. Neighbourhoods and destinations that are accessible and attractive for active transportation users can attract more visitors, who will in turn be patrons of local services and amenities. For employment areas, active transportation provides more choice for people travelling to work, which is essential for lower income individuals, youth, seniors and others who may not have access to a vehicle. Furthermore, having options that support residents who use active forms of transportation in their neighbourhoods and to other destinations can decrease traffic congestion and increase the attractiveness and vibrancy of the area for both locals and visitors.

ACTION 4A.1: CONTINUE TO ENSURE THE CITY IS INFORMED OF RESEARCH AND EVALUATION OF THE BENEFITS OF ACTIVE TRANSPORTATION INFRASTRUCTURE.

There are various municipalities, agencies, and organizations that have been researching or are interested in furthering research on the economic impact that investments in active transportation infrastructure have on local businesses. For example, the Capital Regional District (CRD) in British Columbia recently conducted a “Bikenomics” study to assess the economic impact of cycling in Greater Victoria. The study examined how cycling affects the local economy, from boosting tourism and helping attract top tech talent to helping retail business flourish, providing jobs and more. Similarly,

The Centre for Active Transportation (TCAT) recently published an Economic Impact Study of the bicycle lanes the City of Toronto’s Bloor Annex and Korea Town Neighbourhoods. The City of Windsor should ensure that it stays abreast of the research and evaluate the local economic benefits walking, cycling, and transit

infrastructure. The results should also be shared to encourage business to be friendly towards new walking, cycling, and transit infrastructure.

ACTION 4A.2 SUPPORT PARTNERS WANTING TO DEVELOP BICYCLE FRIENDLY BUSINESS DISTRICTS, AND SEEKING BIKE FRIENDLY BUSINESS DESIGNATION.

Bicycle Friendly Business Districts can increase awareness about cycling by establishing initiatives that encourage visitors, as well as residents and employees, to cycle to shops and restaurants. Bicycle Friendly Business Districts can vary in their focus, but all allow a business district to “brand” itself as welcoming to customers who arrive by bicycle. Long Beach, California pioneered the Bicycle Friendly Business District and this has spread to a number of other communities, including Los Angeles, California and Canmore, Alberta.

The Ontario Share the Road Cycling Coalition has a well established and respected Bicycle Friendly Business program that the City of Windsor should continue to encourage local businesses

to consider. With four different levels of certification, the program is designed to be both accessible for those businesses making initial movement towards becoming more bike friendly as well as encourage existing certified members to take further steps towards increased recognition. The City of Windsor should work with local Business Improvement Associations to not only encourage them to seek individual business recognition, but also the creation of Bicycle Friendly Business Districts within the City of Windsor that support customers on bike, and advertise these zones accordingly as a way to increase their customer base.



STRATEGY 4B: ACTIVE SCHOOL TRAVEL AND AGE-FRIENDLY PLANNING

Targeting walking, cycling, and transit education, encouragement, and other support programs to people of all ages and abilities – including children, youth and seniors – can lead to significant community-wide benefits. The actions under this strategy include working with these groups directly as part of on-going targeted engagement to understand their issues and barriers to walking, cycling, and transit in more detail, in order to collaboratively develop targeted strategies to increase walking, cycling and transit use among all residents. The City should also work with its partners, including non-profit associations and other government agencies, to develop and deliver targeted outreach programs.

ACTION 4B.1: ACTIVELY SUPPORT THE ACTIVE AND SAFE ROUTES TO SCHOOL PROGRAM TO ENCOURAGE AND SPREAD AWARENESS OF THE BENEFITS OF WALKING, CYCLING AND BUSSING TO SCHOOL.

Active and Safe Routes to School is a community-based initiative that promotes the use of active transportation for daily trips by children to and from school. This program is currently organized by the WEC Health Unit as well as school transportation staff throughout the region. Active and Safe Routes to School programs typically focuses on the 5 e's: engineering, education, encouragement, enforcement and evaluation. Initiatives such as in-class curriculum, walking clubs, walking/cycling school buses, no-idling campaigns, active transportation-based field trips, and road safety education for secondary school students supports active transportation education and uptake among students. The City should continue to support the Active and Safe Routes to School program. This action could also include the creation of active transportation plans for all new or refurbished schools in Windsor, as per section 7.2.2.27 of the Official Plan: "Council shall require that school boards implement active transportation plans for new or refurbished schools that include: (a) *Safe walking routes including new sidewalk connections, street crossing improvements and other pedestrian infrastructure within*

the school property or municipal road allowance fronting the school property; (b) Appropriate way finding signage where necessary; and (c) Sufficient bicycle parking facilities for all students." The City should also promote the MappMySchool neighbourhood app to plan hassle free routes to school and walk-a-block initiatives.

ACTION 4B.2: PROVIDE BICYCLE EDUCATION AND SKILLS TRAINING FOR STUDENTS IN ELEMENTARY AND SECONDARY SCHOOLS.

Hands-on bike skills courses offered at schools, including those participating in Active and Safe Routes to School programs, help students gain the confidence and skills to ride to school. These courses are primarily offered through the individual schools and include the Children's Safety Village for elementary schools. The City of Windsor should work with partners to provide bicycle education and skills training for all students attending elementary and secondary schools within the City. In addition, education can be provided about how to use the public transit system.

ACTION 4B.3: DEVELOP AN EDUCATIONAL CAMPAIGN ON THE BENEFITS OF ACTIVE SCHOOL TRAVEL AND THE HEALTH AND SAFETY RISKS OF DRIVING CHILDREN TO SCHOOL.

Active school travel initiatives have become more rapidly growing over the past decade as communities have increasingly looked to address the increasing number of vehicles on the roads associated with driving children to school. The City should continue to seek local partners with whom to run an educational campaign that highlights the benefits of active school travel (cleaner air, improved mental and physical health, safer streets, less congestion), as well as the risks of driving children to school (poor physical and mental health, increased air pollution, more injuries and accidents, and an increased risk of injury and death). With nation-wide estimates of up to 25% of the vehicles on the roads at peak travel times being from child pick-up and drop-off, and only 13% of Canadian children walking or cycling to school, there is a significant opportunity to improve the health and safety of children in Windsor by supporting and encouraging active school travel.

ACTION 4B.4: SUPPORT THE SENIORS ADVISORY COMMITTEE, AND ENCOURAGE TARGETED COMMUNITY OUTREACH PROGRAMS FOR OLDER ADULTS TO BE ACTIVE IN THEIR COMMUNITY.

Throughout the development of the Active Transportation Master Plan, engagement with many groups – including seniors – has been an important component of the planning process. Building on the relationships developed through this process and by continuing to focus communication efforts on seniors, the City should develop targeted community outreach programs to encourage active transportation for older adults through the Seniors Advisory Committee of Council.

ACTION 4B.5: SUPPORT THE PROVISION OF ADULT EDUCATION AND CYCLING SKILLS TRAINING.

The City already offers cycling skills courses and workshops for adults. These courses and workshops recognize that cycling education in adults as well as children and youth is an important component of encouraging individuals who may be interested in cycling, but do not feel confident to make it a part of their everyday lives. The City should continue to offer these courses, and explore partnering with others to support adult education and cycling skills training on an on-going basis throughout Windsor, and encourage workplaces and the public to participate.

ACTION 4B.6: WORK WITH CHILDREN, YOUTH, AND PEOPLE WITH PHYSICAL DISABILITIES TO UNDERSTAND THEIR KEY ISSUES WITH ACTIVE TRANSPORTATION.

The City recognizes that children, youth, and people with physical disabilities may face different barriers within the transportation network; that they are often more likely to walk, bike or take transit; and that they are less likely to have access to a motor vehicle. These groups are also often identified as more vulnerable road users when it comes to safety. Though the development of the Active Transportation Master Plan, the City has had opportunities to engage with members of these groups to understand the challenges and opportunities for walking and cycling in Windsor from their perspectives. The City should continue to work with these groups and the Accessibility Committee of Council to understand their key issues with active transportation and identify opportunities to promote more walking and cycling among these groups.



ACTION 4B.7: ENCOURAGE STUDENTS IN WINDSOR TO USE PUBLIC TRANSIT.

Transit Windsor is currently conducting a fare structure review. With 23% of Windsor's population being 19 years old or younger, this represents a significant portion of the total population that is either attending school, or are too young to drive. Encouraging this cohort to utilize the existing reduced transit fare program and providing training on how to use transit to elementary school children will help encourage young people to use transit, establishing transportation patterns for later life, and reducing the overall number of vehicles on the road. With studies showing that up to 25% of peak traffic being from children being driven to school, this action represents a significant opportunity to reduce the overall number of vehicles on the road.

STRATEGY 4C: BICYCLE AND WALKING TOURISM

Bicycle and walking tourism can contribute to the development of a healthy and diverse economy, allowing for visitors to experience the City at a much slower pace, making for a far more connected and intimate experience than when travelling in a vehicle. Many tourists are looking for unique experiences that allow them to view the area they are travelling in much greater detail, with the opportunity to stop frequently and explore shops and services along the way. Bicycle and walking tourism offers this type of flexibility, as users can stop and browse without having to look for a location to park their vehicle, and easily and quickly shop due to the close proximity of bicycle parking to these businesses.

ACTION 4C.1: SUPPORT THE EXPANSION OF A BICYCLE AND WALKING TOURISM INITIATIVE, SUCH AS WALKING AND CYCLING TOURS.

Promoting active transportation from a tourism perspective can provide a variety of benefits to the local economy. The City should continue to partner with local organizations to promote active transportation options, such as walking and cycling tours and activities for visitors, as well as transit tours to Peche Island. For example, bicycle friendly businesses can increase awareness about walking and cycling by establishing initiatives that encourage both visitors, residents, and employees to walk and cycle to local shops and restaurants. Promoting existing walking and cycling tours of Windsor such as "WindsorEats" can help to increase active transportation, and grow local businesses such as wineries, farmers markets, and other attractions. The City should also work with neighbouring municipalities to encourage hotels, airbnb's, and bed and breakfasts, to invest in bicycles to lend to their patrons to support active transportation. The City should reference and promote these tourism initiatives on existing City of Windsor websites and applications.

ACTION 4C.2: ENCOURAGE INITIATIVES AND EVENTS TO INTEGRATE ACTIVE TRANSPORTATION BETWEEN WINDSOR AND DETROIT.

With a metropolitan population of over 4 million people, a recently completed Bicycle Network Strategy, and over 380 kilometres of bike lanes and trails, the proximity of the City of Detroit to downtown Windsor offers a unique and significant opportunity to integrate a well established cycling and walking network used by millions of people into Windsor's existing and planned network. Supporting events that highlight the active transportation links between the communities will help to encourage cycling and walking tourism, along with the potential to reduce congestion on the Ambassador bridge and in the Windsor-Detroit tunnel at peak travel times. The City should continue to work with partners to encourage initiatives such as the Tour De Troit, Open Streets, Bike the Bridge, and the Detroit Free Press Marathon as well as to ensure Tunnel Bus access to major events.

STRATEGY 4D: WAYFINDING AND PROMOTION

A seamless, consistent, and easy-to-understand City-wide system of trip planning tools, signage, and wayfinding for active transportation is important. It can make the transportation network easier to navigate, identify the location of important destinations, and provide information about route types. Most importantly, wayfinding helps people make decisions about how to navigate a neighbourhood or area. Current wayfinding, signage, and trip planning measures in Windsor are primarily focused on bicycles and vehicles, and situated along designated bicycle routes. The City of Windsor's website includes webpages dedicated to walking, cycling, and transit use, which provide information on the existing networks, maps, upcoming projects, and information on how infrastructure projects are selected. Building on and expanding existing wayfinding, signage, and trip planning tools enables people walking, cycling, and using transit to identify facilities and destinations City-wide.

ACTION 4D.1: ENHANCE AND EXPAND PEDESTRIAN WAYFINDING INFORMATION IN THE DOWNTOWN AND OTHER MAJOR DESTINATIONS THROUGHOUT THE CITY.

The City should work with local businesses and associations to create kiosks identifying key information, such as transit, community facilities and businesses, as well as a map with "you are here" locators with five-minute walking distance walkshed (sites within five-minute walking distance). This should be implemented consistently throughout the Downtown and other key commercial areas. Transit stops are key opportunities for locating wayfinding facilities.

ACTION 4D.2: CONTINUE TO PROVIDE CYCLING AND PEDESTRIAN MAPPING AND APPLICATIONS.

The City currently develops and publishes a 'Parks, Trails and Recreation' map. This map identifies on-street and off-street bicycle facilities as well as key destinations such as community centres, pools, ice rinks, libraries and dog parks. The map is

available online in PDF format and is available as a hard copy. The City continues to support on-going updates to this map on an annual basis in both print and digital formats. The City provides the data for both parks and trails on the City's website as an open source data. The City also provides an interactive mapping application know as 'MyRide' which provides additional information to the public.

ACTION 4D.3: WORK WITH PARTNERS TO INTEGRATE INFORMATION AND RESOURCES THAT PROMOTE SUSTAINABLE TRANSPORTATION AND TRANSPORTATION DEMAND MANAGEMENT.

Providing multi-modal trip planning information in one consolidated place can make planning trips by foot, bicycle, and transit convenient and effortless. The City should work with partners to research opportunities to support the development of a consolidated transportation database that can be shared. This type of tool may encourage the development of an innovative third-party mobile application for promoting transportation

options, and the sharing of existing data by allowing the data to be available in an open format. Potential partners could include the University of Windsor. Examples of some of the data that could be consolidated and shared includes walking, cycling and transit routes, trip planning and trip chaining information, bike parking locations, bicycle repair stations, public washrooms, and real-time information on the availability of bicycle racks on approaching buses to name a few. As an example, the “Active Switch” program is a health and wellness program that focuses on motivating users to get from 'Point A to B' using active and healthy travel options, and is available to communities, organizations, and post-secondary institutions across Ontario.

The City of Windsor has partnered with Commute Ontario to assist with the development of a transportation demand management program. The project will provide opportunities for residents of Windsor including City of Windsor staff to engage in initiatives promoting the reduction of single occupancy vehicle travel through carpooling, walking, cycling and public transit usage. The following programs and tools will be available as part of the initiative: Access to the Commute Ontario Information Portal, a Regional Ride-Matching tool, the Active Switch Program, an Emergency Ride Home Program as well as various marketing and monitoring tools.



STRATEGY 4E: EDUCATION AND AWARENESS

Education and awareness initiatives geared towards both motorists and active transportation users are important components of any active transportation plan. Education and encouragement initiatives can include providing information to the public on the benefits of active transportation, hosting events to promote active transportation, and supporting programs that teach skills and awareness of road safety and active transportation. Education and awareness initiatives are both important as well as cost-effective measures to enable residents to feel more safe and comfortable walking and cycling throughout Windsor. These initiatives encourage all parties to "share the road" and can contribute to increased compliance among all road users. While infrastructure is not built overnight, education and awareness items are often "quick wins" that can be implemented at relatively low-cost. In addition, education and awareness campaigns can actively build community interest for the City's investments in active transportation.

ACTION 4E.1: ENSURE A DEDICATED AND STABLE ANNUAL FUNDING IS ALLOCATED TO EDUCATION, AWARENESS AND ENCOURAGEMENT, INCLUDING ROAD SAFETY.

An important component of installing new infrastructure projects is ensuring that residents are aware of these new investments, and are familiar with how to properly use these facilities. Promotion of new infrastructure projects helps to build education, as well as share safety information specific to new facilities that may be unfamiliar for some. The City of Windsor should consider producing videos, accessible through the City of Windsor's website, as well as on social media, to educate all road users, including cyclists and motorists, on how to use new and existing infrastructure, and how to safely share the road. To ensure appropriate funds are available for education, awareness and encouragement, the City should dedicate consistent and stable funding on annual basis education, awareness, and encouragement. The City should seek grant funding, obtain permission to use and share materials from the Provincial government and other existing promotions.

ACTION 4E.2: DEVELOP VIDEOS AND OTHER TOOLS TO EDUCATE ALL ROAD USERS ON ACTIVE TRANSPORTATION INFRASTRUCTURE AND HOW TO SHARE THE ROAD.

A challenge with the installation and implementation of new types of active transportation infrastructure can be ensuring that all road users, including cyclists and motorists, are both aware of its presence, as well as how to safely navigate it, either by bicycle or in a vehicle. Often times, these new facilities may be entirely new or unfamiliar to many, and can result in confusion as to how to safely interact with them. Undertaking a campaign that demonstrates the proper usage of these facilities for all road users, including cyclists and motorists, can help to increase both the safety of all road users, as well as help to encourage usage of these new facilities amongst residents.

ACTION 4E.3: DEVELOP A POSITIVE MESSAGING CAMPAIGN TO PORTRAY ACTIVE TRANSPORTATION AS A NORMAL, EVERYDAY MODE OF TRANSPORTATION.

Amongst many, there still exists a perception of active transportation as being only for those who are athletic, dressed in specialized clothing, and seeking to improve their cycling travel times, or by low income groups. In order to see an increase in the number of people walking and cycling, it is important to change this perception, and promote walking and cycling as safe, reliable, convenient, and accessible transportation choices for all Windsorites, not just those seeking exercise. A campaign that features women, children, and people of color as regular users of the active transportation system will help to counter this perception, and normalize walking and cycling for all. The City should also seek to highlight its favourable climate and position as Canada's Southernmost City, drawing attention to the warm weather and minimal snowfall it experiences as a reason to "Get outside" in all seasons by walking, cycling or taking transit.

Communities around the world have focused on promoting active transportation positively through marketing and communications. Campaigns can help to break down myths and misconceptions regarding perceived barriers to active transportation, namely perceptions about lack of time, health issues, weather, safety and security, age, and the feeling that active transportation is impractical. The City should work with partners to improve education and awareness of active transportation, as a cost-effective approach to encouraging more Windsorites to walk and wheel in their community.

ACTION 4E.4: CONTINUE TO WORK TOWARDS MEETING AND EXCEEDING THE GREENHOUSE GAS (GHG) EMISSIONS AND ENERGY REDUCTIONS TARGETS IN THE TRANSPORTATION SECTOR.

The City's recently adopted Community Energy Plan commits the City to reducing its per capita GHG emissions by 40% by 2041. With 36% of emissions presently coming from the transportation sector, the City should seek to undertake initiatives that reduce the number of vehicle emissions, including the adoption of various TDM initiatives such as providing more pedestrian and cycling facilities, improving public transportation, and encouraging the adoption of workplace travel plans for businesses and institutions, including hospitals and universities. If the City of Windsor is committed to meeting these targets, it must address the emissions created by the transportation sector, and do all that it can to see these emissions reduced.

Theme 5: Quality of Life

Background

Over the past several years, public health agencies across Canada have been researching the impacts that the built environment has on our mental and physical health, criminal activity, safety, and the ability of persons with disabilities to live barrier-free lives. This theme aims to address these issues through the design and redesign of the City's streets and pathways, ensuring that all residents of Windsor are as safe and comfortable as possible on their journey, no matter the mode. This theme includes strategies with a specific focus on improving physical and mental health and well-being and improving road safety for all road users. This also includes strategies to ensure that the transportation system is designed to be accessible for everyone, regardless of age or ability, as well as to ensure the transportation system is equitable and provides opportunities for all residents, regardless of geographic location within the City or individual circumstances. Finally, this theme includes strategies to celebrate, market, and promote active transportation in Windsor.

What We've Heard

Through the public engagement for the Active Transportation Master Plan, we have heard a number of opportunities and suggestions to improve quality of life in Windsor, such as:

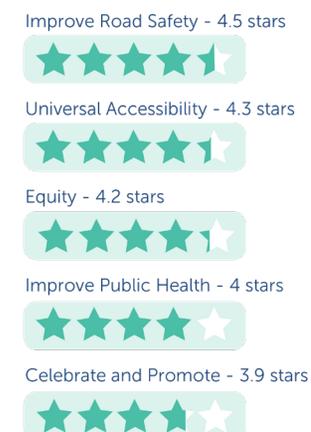
- Promote positive benefits (e.g. mental health, sense of place and community, pollution reduction)

- Implement safety measures (e.g. lighting, security, policing, visibility)
- Encourage leisure cyclists to cycle for commutes, errands, etc.
- Promote group rides
- Reduce carbon emissions
- Focus on safety, affordability, and accessibility for lower-income areas
- Provide options for seniors
- Add safe and comfortable local roads or greenways instead of busy arterial roads for bike routes

Through the on-line survey, participants were asked to rank each of these five strategies on a scale of 1 star (low support) to 5 stars (high support).



Quality of Life



'Improve road safety' was identified as the highest priority with an average of 4.5 stars out of 5, followed by 'universal accessibility' with 4.3 stars.

In total, 27 comments were received under the Quality of Life theme. The comments have been grouped into each strategy.

- **IMPROVE ROAD SAFETY:** There was support that road safety should be a priority, especially for bicyclists and children.
- **UNIVERSAL ACCESSIBILITY:** It was noted that there is currently a lack of accessibility for those with limited mobility, strollers, or those needing wheelchair assistance.
- **EQUITY:** There was support for increased infrastructure improvements in the city core and in neighbourhoods that have high traffic and need.
- **IMPROVE PUBLIC HEALTH:** There was common concern that improved pedestrian and bicycle networks should be the priority before focusing on promotions.
- **CELEBRATE AND PROMOTE:** There was support for more events and programs that promote sustainable transportation usage, such as Open Streets and Bike to Work.

Further details and other comments provided through the Active Transportation Master Plan engagement process can be found in the **Engagement Summary Report #1 and #2**.

The Active Transportation Master Plan includes the following five strategies to shift towards a culture for active transportation in Windsor to improve quality of life. Each strategy is accompanied by a number of supporting actions that seek to create a walking and cycling environment that is comfortable for people of all ages and abilities.

STRATEGIES

QUALITY OF LIFE

IMPROVE PUBLIC HEALTH AND MENTAL WELL-BEING

Promote the benefits to mental and physical well-being from sustainable transportation.

IMPROVE ROAD SAFETY

Continue to monitor and identify strategies to enhance road safety for all users.

UNIVERSAL ACCESSIBILITY

Continue to ensure that walking, cycling and transit infrastructure is accessible for users of all ages and abilities.

EQUITY

Develop a transportation network that connects all communities & prioritizes infrastructure improvements to neighbourhoods with a high equity need.

CELEBRATE, MARKET, AND PROMOTE

Promote sustainable transportation and continue to hold events that encourage walking, cycling, and transit.

STRATEGY 5A: IMPROVE PUBLIC HEALTH

The connection between active transportation and public health has increasingly been researched and promoted by those in both the health and planning fields, as well as within municipalities. There is a growing understanding that increasing the number of trips an individual makes by foot, bicycle, or transit increases levels of physical activity, and in turn improves both mental and physical well-being.

ACTION 5A.1: SUPPORT COMMITTEES OF COUNCIL REPRESENTING VULNERABLE AND UNDER-REPRESENTED GROUPS TO IDENTIFY THEIR UNIQUE NEEDS.

Groups of residents such as those with physical and cognitive conditions are often under-represented through the public engagement process, but have unique needs that can make travelling through communities challenging. The City should conduct targeted communication and engagement with vulnerable and under-represented groups, including continued support of current Committees of Council to better understand and address the barriers that prevent these groups from walking and cycling, to identify the best forums for participation, and to explore opportunities to encourage active transportation. The City has several relevant Committees of Council that could be engaged in these discussions, including the Seniors Advisory Committee, Windsor Accessibility Advisory Committee, and Windsor Bicycling Committee.

ACTION 5A.2: CONTINUE TO BE INFORMED BY WORK FROM RESEARCHERS AND INITIATIVES THAT ARE STUDYING THE RELATIONSHIP BETWEEN HEALTH AND ACTIVE LIVING.

The City should continue to look for opportunities to use the findings of researchers such as those at the University of Windsor

and The Centre for Active Transportation (TCAT) in an effort to study the relationship between health and active living. There are existing examples of studies in other municipalities that look at the health benefits of new active transportation infrastructure on community residents. Looking for opportunities to collaborate on these types of studies can help to demonstrate and report out on local examples of the benefits of active transportation infrastructure and can help promote innovation and applied research to support the planning and design of high quality active transportation facilities in Windsor.

ACTION 5A.3: DEMONSTRATE THE IMPACTS OF VEHICLE EMISSIONS ON LOCAL AIR QUALITY AND HIGHLIGHT THE POSITIVE IMPACTS OF ACTIVE TRANSPORTATION ON AIR QUALITY IN REDUCING OVERALL VEHICLE EMISSIONS AND IMPROVING PUBLIC HEALTH.

Air quality is a significant determinant of physical health and mental well-being. As motor vehicles are a significant contributor to localized air pollution, efforts to reduce vehicle use and promote sustainable transportation can help to improve local air quality and improve public health in the community. The City should promote initiatives to highlight, demonstrate, and communicate the positive impacts of active transportation on air quality in reducing overall vehicle emissions, along with the corresponding health benefits.

As part of the Environmental Master Plan and Community Energy Plan, the City should work to increase the awareness of the *Air Quality Health Index*, a scale designed in Canada to help understand the impact of air quality on health. The index is a health protection tool used to make decisions to reduce short-term exposure to air pollution by adjusting activity levels during increased levels of air pollution. The index also provides advice on how to improve air quality by proposing behavioural change to reduce the environmental footprint. This index pays particular attention to people who are sensitive to air pollution, and provides them with advice on how to protect their health during air quality levels associated with low, moderate, high and very high health risks.

In addition, the City should work with partners to establish a school-based program that uses small, inexpensive units to measure the levels of particulate matter and other gases that make up the *Air Quality Health Index* around schools and other community destinations. Using this data, The City can present to the community the impact of vehicle emissions. This can be a particularly effective tool around schools to show reduced air quality as increasing numbers of children are driven to school every day. These programs have been used in other Canadian cities to great effect, helping to encourage less vehicles within the vicinity of the school, and promote the use of other sustainable transportation methods such as walking, cycling, and transit.



STRATEGY 5B: IMPROVE ROAD SAFETY

Traffic safety is a key barrier that prevents people from walking and cycling more often. Given that pedestrians and cyclists are 'vulnerable road users' who are particularly prone to injuries and fatalities when involved in a traffic collision, it is important to evaluate the current conditions that cause these road safety issues. Evaluating the safety needs and issues for people walking and cycling in Windsor can contribute to improving road safety and reducing traffic related fatalities. By evaluating these conditions, the City can identify more clearly what measures should be undertaken to create a safer environment for vulnerable road users. Making efforts to reduce the risk to all road users can include the adoption of a formal Vision Zero policy, localized street improvements, the monitoring and resolution as required of high collision areas, and the consideration and protection of vulnerable road users in all future street design and road redesign/reconstruction.

ACTION 5B.1: CONTINUE TO PROVIDE A ROAD SAFETY REPORT AND MONITOR PEDESTRIAN AND CYCLING SAFETY TRENDS.

Road safety reports can be critical to raising awareness of common behaviours that can cause both serious injuries and potentially fatal consequences for all road users. Road safety reports can focus on common behaviours identified through a review of collision and safety data.

The City produces an annual Road Safety Report that provides statistical data on all reported collisions on roads under the jurisdiction of the City of Windsor. The intent of this annual report is to provide factual information to agencies and individuals involved in road safety in the City in order to provide a sound basis for road-safety related decisions, as well as to provide a source of data to allow the evaluation of the performance of ongoing safety-related programs, policies, and strategies. The report includes overall road safety trends as well as specific trends and findings related to pedestrian and cycling safety. The City should continue to produce these reports on an annual basis.

Several cities (including New York City, Toronto, and Vancouver) have developed specific pedestrian and cycling safety studies which provide an opportunity to go into further detail about the safety of vulnerable road users, as well outlining detailed action plans identifying ways to address the identified pedestrian and cycling safety issues through a range of education, engineering, and enforcement measures. The purpose of these types of safety studies is to understand the main source of road safety issues that act as barriers to people walking and cycling. This is particularly important because pedestrians and cyclists are vulnerable road users who are disproportionately impacted by traffic collisions. Between 2013 and 2017, a total of 865 collisions reported between motor vehicles and people walking or cycling in Windsor. By focusing on a detailed analysis of pedestrian and cycling collision data and trends, the City can develop an evidence-based action plan to reduce the number of collisions involving these vulnerable road users.

The City should work with the Windsor-Essex Road Safety Working Group in the development of road safety reports and monitoring of pedestrian and cycling safety trends.

ACTION 5B.2: CONTINUE TO MONITOR HOT SPOT COLLISION LOCATIONS AND IDENTIFY SAFETY MITIGATION MEASURES.

Hot spots are areas within Windsor with higher collision concentrations. Hot spots can include corridors as well as specific intersection locations. Through a detailed review of collision data and the completion of safety studies like those discussed above, more specific details about the key issues at these locations will become clear. Through the identification of hot spot collision locations, the City can develop mitigation measures which can take the form of engineering, education, or enforcement. Locations with high pedestrian and cycling collisions between 2013 and 2017 are shown in the figures below. Hot spot collision locations include several locations along Wyandotte Street, Tecumseh Road, Park Street, Erie Street, Lauzon Parkway, and Hanna Street.

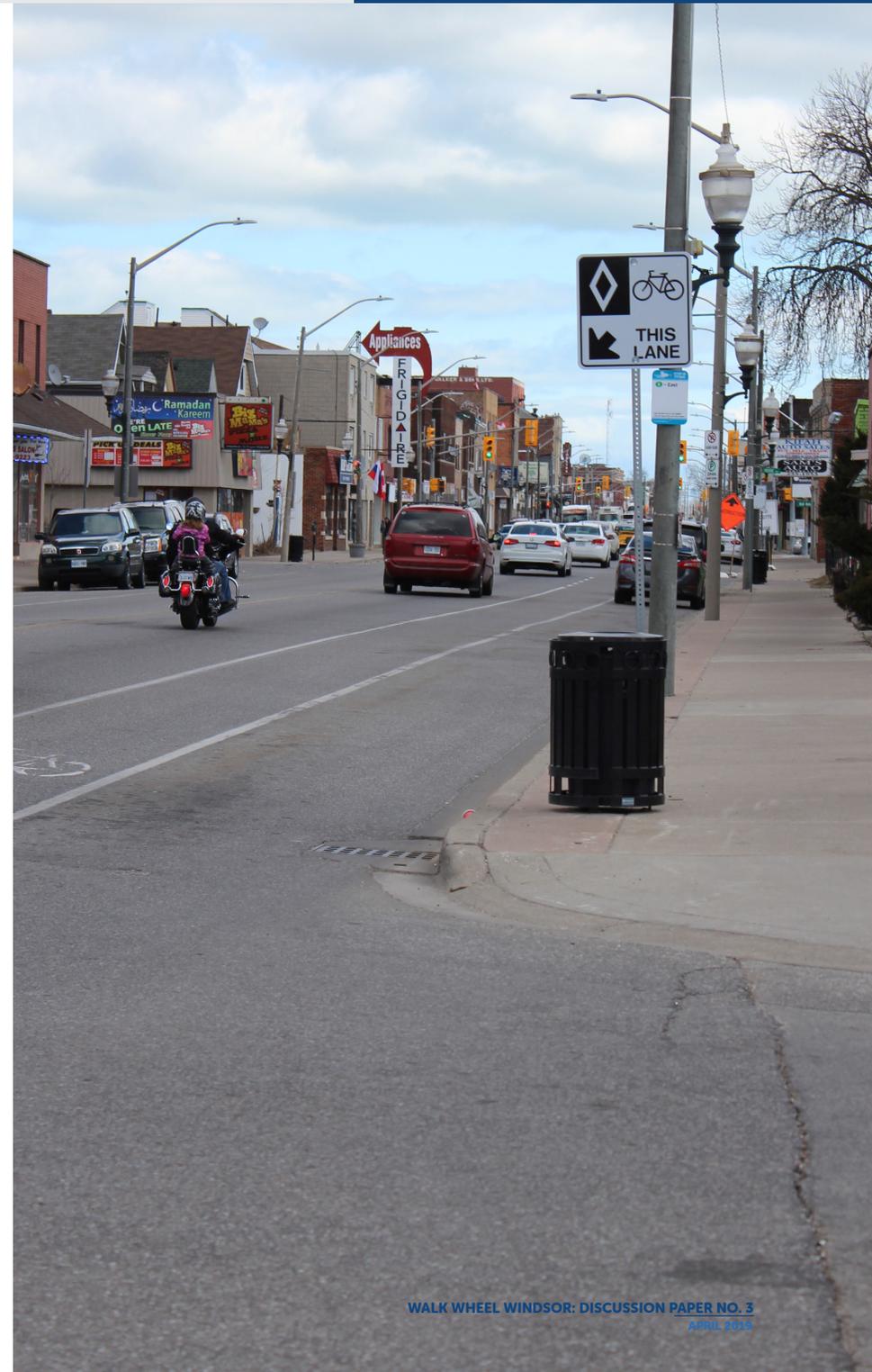


FIGURE 6 - PEDESTRIAN COLLISION LOCATIONS (2013 - 2017)

- | | | |
|---|--|---|
| <p>Pedestrian Collisions - Intersections (2013-2017)</p> <ul style="list-style-type: none"> • 1 • 2 - 5 • 6 - 11 | <p>Pedestrian Collisions - Midblock (2013-2017)</p> <ul style="list-style-type: none"> — 1 — 2 | <ul style="list-style-type: none"> ■ Parks ■ Schools ■ Airport Lands ■ Commercial Districts |
|---|--|---|



FIGURE 7 - CYCLING COLLISION LOCATIONS (2013 - 2017)

- Cyclist Collisions - Intersections (2013-2017)
 - 1
 - 2 - 5
- Cyclist Collisions - Midblock (2013-2017)
 - 1
 - 2 - 4
 - Existing Bicycle Network
- Parks
- Schools
- Airport Lands
- Commercial Districts



ACTION 5B.3: CONTINUE TO IMPLEMENT THE TRAFFIC CALMING AND SCHOOL NEIGHBOURHOOD POLICIES

The City adopted a *Traffic Calming Policy* in 2015 which outlines a transparent framework to assess, design, and implement neighbourhood traffic calming features on local and collector roads in residential areas where warranted. Traffic calming can help address concerns about the volume and/or speed of vehicles through their communities. A reduction in the volume and speed of vehicles has been shown to encourage the usage of walking and cycling in these communities, helping to increase the safety and comfort of these vulnerable road users. However, the City should strive to ensure that traffic calming does not encourage dead end streets, and that connectivity is preserved for people walking and cycling. The City should continue to implement the recommendations contained within the Traffic Calming Policy.

The City adopted a *School Neighbourhood Policy* in 2016 which provides the City with a consistent approach to addressing parking, traffic, and transportation issues involving school sites and surrounding neighbourhoods. This Policy is intended to provide guidance as to the implementation of school zones, outlines best practice for the planning of buses and motor vehicles in the vicinity of schools, and supports increasing bicycle and pedestrian traffic around schools as a means to improve the health and well-being of school communities. Implementation of this policy will help to ensure that students and parents at schools in the City are afforded the opportunity to commute to and from school in a safe and sustainable manner. The City should also continue to implement the policy recommendations contained within the School Neighbourhood Policy.

ACTION 5B.4: FUND THE MITIGATION MEASURES IDENTIFIED STEMMING FROM OF THE ROAD SAFETY REPORT.

The annual Road Safety Report produced by the City's Transportation Planning Division provides a valuable insight into collision data, and should continue to be used to help direct the implementation of various road safety programs, policies, and strategies within the City.

ACTION 5B.5: ADOPT A FORMAL VISION ZERO POLICY.

The City should consider the adoption of a formal "Vision Zero" policy that seeks to eventually reduce all serious road injuries and deaths to zero. Vision Zero is a program launched in Sweden in 1997 that has at its core the belief that life and health are paramount over any other benefit to society, such as the increasing the maximum travel speed of vehicles, thereby shortening their travel time. The City of Edmonton was the first Canadian City to officially adopt Vision Zero as a policy, although this policy does not include a target of zero deaths or injuries. Since that time, other major cities including Toronto, Vancouver, Ottawa, and Surrey have adopted formal Vision Zero Policies. Adopting a formal Vision Zero Policy will help guide future road planning and design, as the goal of achieving zero road deaths and serious injuries is paramount over all other considerations. Using the well established principles that make up Vision Zero policies will not only help to reduce the overall number of serious injuries and deaths in Windsor, but also serve to improve the cycling and pedestrian experience through the reduction of vehicle speeds, and installation of barriers and separation at high risk areas.

STRATEGY 5C: UNIVERSAL ACCESSIBILITY

Walking to everyday destinations can be convenient for people of all ages and abilities if streets and neighbourhoods are safe and well-designed to support pedestrian accessibility. It is important that the pedestrian environment throughout the City be accessible by a large cross-section of people, including people with disabilities, seniors, and parents with children. The walking environment should include accessibility features to accommodate the unique needs of these groups and to provide better pedestrian circulation for everyone.

Improving accessibility at intersections and crossings is particularly important as difficult crossings can act as significant barriers to walking, making trips longer or creating safety issues, particularly for seniors, children, and people with physical and cognitive disabilities.

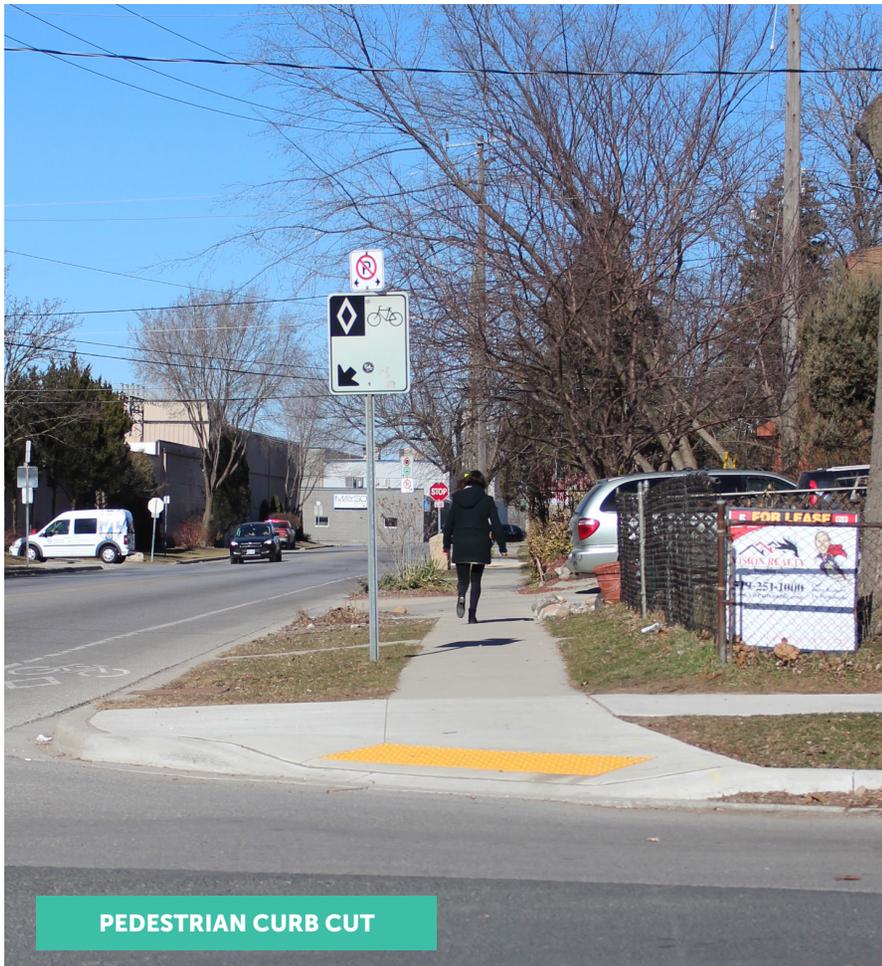
As part of the City of Windsor Official Plan, the City has committed to recognize the needs of the community in terms of shelter, support services, accessibility and mobility. As part of this commitment, the City should seek to ensure that the policies and plans that it enacts reflect this, and continue to develop in a manner that is inclusive of all Windsorites. Many major cities across the globe have adopted formal policies to ensure that residents with mobility challenges and not only considered but actively consulted in the design of new infrastructure, and the City should continue to make efforts in this regard.

ACTION 5C.1: CONTINUE TO FOLLOW AODA STANDARDS.

The Accessibility for Ontarians with Disabilities Act (AODA) is an Ontario law that mandates that organizations must follow certain standards in an effort to become more accessible for persons with disability. There are five standards that make up the act, including the Transportation Standard that includes provisions for accessible parking spaces, taxicab licensing, and public transit. The City should continue to follow the standards outlined in the AODA, working to ensure that persons with disabilities enjoy the same ability to move freely about Windsor as those who are able-bodied.

ACTION 5C.2: WHERE APPROPRIATE, CONTINUE TO CONSULT WITH THE ACCESSIBILITY AND DIVERSITY OFFICER ON TRANSPORTATION PROJECTS.

The City has a demonstrated commitment to considering the needs of persons with disabilities by the creation of the position of the Accessibility and Diversity Officer. The City should continue in these efforts at inclusivity by actively consulting with this officer on transportation-related projects to ensure that the needs of persons with disabilities are being addressed at all stages of the planning and design process. In this way, newly designed streets will include these elements, and serve as comfortable and welcoming streets for all.



ACTION 5C.3: CONTINUE TO CONSULT WITH CITY OF WINDSOR ACCESSIBILITY ADVISORY COMMITTEE AND INCORPORATE BEST PRACTICES INTO ENGINEERING DESIGN STANDARDS.

The City should continue to actively consult with the Windsor Accessibility Advisory Committee on all transportation projects, seeking their input on proposed designs, and ensuring that the designs are inclusive of the needs of persons with disabilities. Engineering design standards have changed dramatically over the past few years. The City should continue to ensure that current best practice in AODA standards is employed when designing new facilities and infrastructure projects. Undertaking this action will help to improve the quality of life for those residents with mobility challenges, and ensure an equitable transportation system for all.

ACTION 5C.4: CONTINUE TO REVIEW AND INSTALL AUDIBLE PEDESTRIAN SIGNALS

Audible pedestrian signals communicate non-visual information for visually impaired pedestrians at signalized intersections. Countdown timers provide information to people walking about the amount of time left to safely cross the street. The City has begun to develop a plan that shows how it installs audible pedestrian signals.

ACTION 5C.5: AS PER CURRENT BEST PRACTICE, CONTINUE TO MONITOR, REVIEW, AND ADJUST AS NECESSARY CROSSING TIME AT INTERSECTIONS TO ENSURE ADEQUATE TIME IS PROVIDED FOR ALL PEDESTRIANS.

Signal timing can help ensure that people travelling at slower speeds have time to cross an intersection. As part of its efforts to increase the safety and comfort of all pedestrians, the City should continue in its efforts to monitor, review and adjust the crossing time given to pedestrians at all intersections to ensure that these times are reflective of the needs of those who move at a slower

pace, including children, seniors, and those with mobility issues. This is particularly important in areas of high concentrations of children, seniors or people with disabilities. The Transportation Association of Canada (TAC) Manual of Uniform Traffic Control Devices for Canada (MUTCDC) provides guidance on determining appropriate crossing times at intersections. Additionally, the District should consider opportunities for protected and advanced signal phasing for people walking, cycling and transit to improve safety and operations of these modes. Continuing this action will help to ensure that these road users are comfortable and safe in their commute, and are not exposed to encroachment or collision as vehicles proceed on green lights before they have had time to clear the crosswalk.

ACTION 5C.6: REDUCE PEDESTRIAN CROSSING DISTANCES BY PROVIDING NARROWER ROADS AND LANES AND CONSIDERING CURB EXTENSIONS OR MEDIAN ISLANDS WHERE FEASIBLE.

The City should strive to reduce the crossing distance on its streets by narrowing the cross-section of roadways, either through the installation of median islands in the centre of roadways, or through the addition of curb extensions to the side of roadways. Any reductions in the width of the street should ensure the needs of transit are considered. Reducing crossing distances not only serves to improve the safety and comfort of pedestrians by requiring less time to cross the street, but also serves to reduce the speed of vehicles passing through these corridors, as the width of roads is a one of the biggest determinants of vehicle speeds.

STRATEGY 5D: EQUITY

As much as it is important to ensure that all residents receive equal priority in the transportation system, it is also important to ensure that those with the highest need are given priority – this is equity. Seeking the input of under-represented and vulnerable groups to help guide the design and construction of transportation infrastructure will help ensure that these facilities are reflective of the particular needs of these groups. Efforts should also be made to consult and coordinate with these groups to educate and encourage these residents to utilize sustainable transportation as much as possible, as this can save them significant amounts of time and money, and help to establish transportation patterns for future generations.

ACTION 5D.1: CONTINUE TO CONDUCT TARGETED COMMUNICATION AND ENGAGEMENT WITH VULNERABLE AND UNDER-REPRESENTED GROUPS TO IDENTIFY UNIQUE NEEDS.

Vulnerable and under-represented groups often have a difficult time conveying the needs of their particular communities in transportation planning projects. The City should make an effort to conduct comprehensive and meaningful consultation with these groups to ensure that their needs are being addressed in the design of transportation infrastructure. This action will help to ensure that the residents feel included in the planning process, and that they feel ownership, inclusion, and connection to city facilities that they have had input in creating.

ACTION 5D.2: WHEN EVALUATING PEDESTRIAN PROGRAMS, PRIORITIZE INFRASTRUCTURE IMPROVEMENTS TO THOSE NEIGHBOURHOODS WITH A HIGH EQUITY NEED.

One of the aims of the Active Transportation Master Plan is to develop a well-connected network for walking, cycling, and transit that provides equitable access and serves all areas of the city. An equity analysis was conducted to determine neighbourhoods with higher concentrations of under-served populations and with

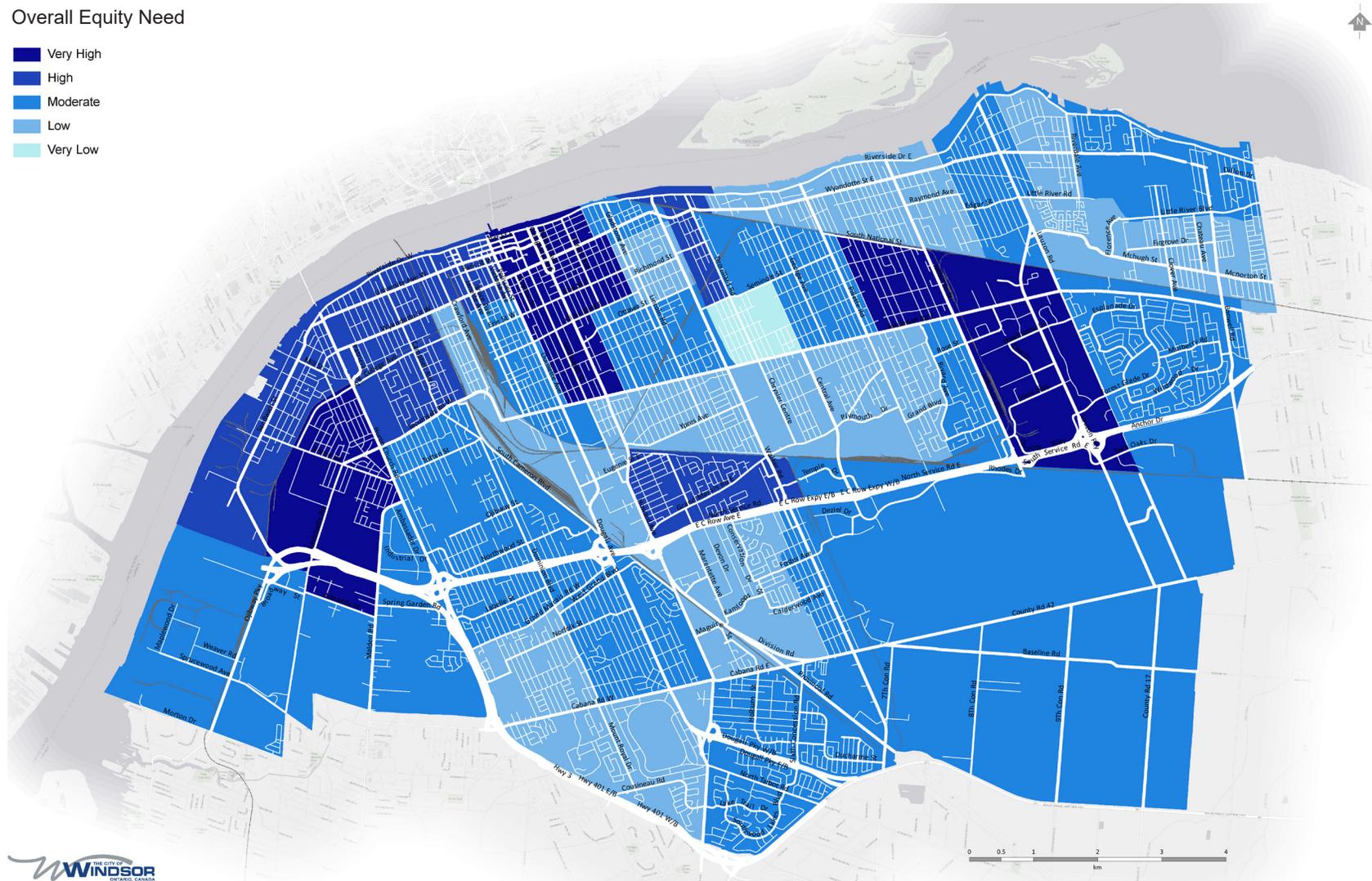
relatively low levels of existing active transportation facilities. The results of this analysis identify under-served areas in the City where there is opportunity to strategically invest in areas that have high demand today, the greatest potential to increase future use of active transportation and where there are higher concentrations of people who are more dependent on active transportation for moving around. Five indicators were used to examine equity across neighbourhoods, including the percentage of youth populations, senior populations, immigrant populations, aboriginal populations and low income populations. The analysis identified the neighbourhoods as areas with the greatest equity need.

In areas with high equity need, car ownership rates are often quite low due to the expense of owning and maintaining a vehicle. The City should ensure that these areas receive targeted pedestrian, cycling, and transit improvements. This will help ensure that residents of these communities have access to pedestrian facilities that support them in their movements around their community on foot, and allow them to safely move around their neighbourhood without requiring a vehicle to do so.

FIGURE 8 - EQUITY NEED

Overall Equity Need

- Very High
- High
- Moderate
- Low
- Very Low





ACTION 5D.3: CONTINUE TO WORK WITH IMMIGRANT AND REFUGEE ORGANIZATIONS IN WINDSOR SUCH AS THE WINDSOR ESSEX LOCAL IMMIGRATION PARTNERSHIP TO PROMOTE CYCLING, WALKING AND TRANSIT AS SAFE, COMFORTABLE, AND INEXPENSIVE TRANSPORTATION OPTIONS.

New Canadians represent the fastest growing segment of Windsor's population, and offer an opportunity to establish sustainable transportation patterns from the outset of their arrival in Windsor. The City should continue its efforts to connect with organizations such as the Windsor Essex Local Immigration Partnership, and work with these groups to encourage the use of public and active transportation as a safe and affordable means of moving around Windsor. This will not only help with the financial stability of these new Canadians due to the reduction in costs associated with vehicle ownership, but also serve to lessen the wear and tear on roads in the City of Windsor due to lower vehicle usage.

STRATEGY 5E: CELEBRATE AND PROMOTE

Walking to everyday destinations can be convenient for people of all ages and abilities if streets and neighbourhoods are safe and walkable. Key to encouraging a modal shift in the City of Windsor towards sustainable transportation options is to highlight efforts and successes in building a comprehensive active transportation network. Demonstrating this commitment to reducing the total vehicle distance travelled is important, as it shows that the City is committed to this change in transportation patterns, and is excited and supportive of infrastructure and programs in this regard.

ACTION 5E.1: USE THE WALK WHEEL WINDSOR BRAND AS A RECOGNIZABLE VISUAL IDENTITY AND EXPAND INFORMATION ON THE WEBSITE.

A comprehensive branding strategy and/or a visual identity can be used to market educational material and spread awareness about active transportation programs, policies and standards and facilities. This can be important, particularly as more events, construction, and news pertaining to walking, cycling, and transit are available. Currently there is a WalkWheelWindsor webpage on the City of Windsor's website. This page should be maintained and updated to provide all information about walking, cycling, transit, and other forms of active transportation in Windsor going forward.

ACTION 5E.2: REPORT ANNUALLY ON GROWTH IN ACTIVE TRANSPORTATION NETWORK, ANNUAL SPENDING ON ACTIVE TRANSPORTATION, AND MEETING (OR EXCEEDING) OF TARGETS OUTLINED IN THE COMMUNITY ENERGY PLAN.

The City of Windsor should report back on active transportation statistics and trends to residents, as well as through regular reports to the Municipal Council. This information can be shared through various means including social media and future Active Transportation report cards, an annual report being produced in

many cities across Canada. The City of Windsor should develop a program for reporting back to the public information that indicates the annual spending on active transportation, growth in the active transportation network, and progress on meeting the sustainable transportation targets as outlined in the Community Energy Plan.

ACTION 5E.3: FIND OPPORTUNITIES TO CELEBRATE THE INSTALLATION OF WALKING AND CYCLING FACILITIES.

The City should continue to find ways to celebrate the installation of new active transportation projects through website material, videos, posts on social media, and events that raise awareness and get people excited about the ongoing implementation of the Active Transportation Master Plan. When new major active transportation projects are completed, the City should host celebration events, and continue to promote new projects through social media, press releases and other forums to both raise awareness as well as provide people with an opportunity to try the new facilities.

ACTION 5E.4: CONTINUE TO SUPPORT SUSTAINABLE TRANSPORTATION EVENTS AND FESTIVALS.

The City should continue to find ways to celebrate the installation of new active transportation projects through website material, videos, posts on social media, and events that raise awareness and get people excited about the ongoing implementation of the Active Transportation Master Plan. When new major active transportation projects are completed, the City should host celebration events, and continue to promote new projects through social media, press releases and other forums to both raise awareness as well as provide people with an opportunity to try the new facilities.

ACTION 5E.5: CONTINUE TO WORK TOWARDS RECOGNITION UNDER THE BIKE FRIENDLY COMMUNITY PROGRAM THROUGH SHARE THE ROAD

In 2018, the City received Bronze Level recognition under the Share the Road Bike Friendly Community Program. This certification program evaluates applicants based upon the five E's of engineering, evaluation and planning, encouragement, education, and enforcement, and is tangible recognition of efforts to improve the cycling experience in these communities. The City should continue in its efforts to receive recognition under this program, and strive to improve its standard of recognition to silver, gold or even platinum levels. In this way, the City will demonstrate its commitment to improving the cycling experience in Windsor, and make recognized efforts in this regard.



3.0 Summary and Next Steps

This Discussion Paper summarizes the draft long-term Active Transportation Master Plan for Windsor, including the proposed strategies, actions, and proposed infrastructure projects. The Discussion Paper summarizes the strategies and actions for each of five overarching themes to support the achievement of the goals and targets developed as part of the planning process and to guide Windsor's policy, planning and capital investment decisions as well as on-going operations and maintenance activities in support of active transportation over the next 20 years and beyond.

While the Active Transportation Master Plan has been developed as a long-term plan, it will require significant additional financial investment, staff resources and an implementation strategy to prioritize improvements over the short-, medium-, and long-term. The next phase of the Active Transportation Master Plan process will include a fourth Discussion Paper which will outline a proposed implementation and phasing strategy, including prioritization of the Plan's actions and network improvements and cost estimates. This will also include a number of 'quick win' initiatives that the City of Windsor should begin within the next two years as well as a funding and leverage strategy. This will also include a monitoring strategy to ensure the Plan is implemented as intended and making progress towards the vision statement, targets and goals.

