WALK WHEEL
WINDSOR

ACTIVE TRANSPORTATION MASTER PLAN

FINAL REPORT | MAY 2019

THE CITY OF WINDSOR
ONTARIO, CANADA

REPORT PREPARED BY URBAN SYSTEMS LTD

THE PREPARATION OF THIS PLAN WAS CARRIED OUT WITH ASSISTANCE FROM THE GOVERNMENT OF CANADA AND THE FEDERATION OF CANADIAN MUNICIPALITIES. NOTWITHSTANDING THIS SUPPORT, THE VIEWS EXPRESSED ARE THE PERSONAL VIEWS OF THE AUTHORS, AND THE FEDERATION OF CANADIAN MUNICIPALITIES AND THE GOVERNMENT OF CANADA ACCEPT NO RESPONSIBILITY FOR THEM.

CONTENTS

EXECUTIVE SUMMARY

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

The City is part of the larger Windsor-Essex Country region and is surrounded by several adjacent municipalities, including Tecumseh, Amherstburg, LaSalle and Lakeshore. Windsor acts as the economic, political, entertainment and cultural hub for this region of approximately 340,000 residents.

Detroit is a main port of entry between Canada and the United States, serving as an international gateway for people and commerce. The City of Detroit is located across the Detroit River to the North, and Windsor is intimately connected with the Detroit metropolitan region. Windsor's unique location has led to a diverse population that is excited to take advantage of the beautiful waterfront and major employment centres in manufacturing, tourism, and education.

As set out in its Official Plan, the City of Windsor is committed to sustainability in all its forms, and recognizes the importance of active transportation to enhance both community health and safety, as well as quality of life. The City is also committed to contributing to the reduction of air pollution by increasing opportunities for active modes of transportation, including walking, cycling and transit. The City's 20-year Strategic Vision further commits the City of Windsor to promoting active transportation as healthy and environmentally-friendly modes of transportation.

The City has a history of recognizing the significance active transportation plays in shaping a sustainable, healthy, and robust community. The adoption of the recommendations made in the Bicycle Use Development Study in 1991 led to the construction of the marquee waterfront pathway network. The vision and direction were continued with the creation of the Bicycle Use Master Plan in 2001, which shifted the view of bicycles as not only used for recreation, but focused on expanding the City's on and off-road cycling network, facilitating the use of bicycles for commuting, leisure and tourism and providing a genuine transportation alternative. In the years since the adoption of the Bicycle Use Master Plan, significant progress has been made in implementing bicycle lanes along many of the routes identified in the plan. However, with the Bicycle Use Master Plan approaching the end of its lifespan, with a need for a broader focus beyond cycling to other forms of active transportation, and with a focus on community sustainability and meeting the City's Community Energy Plan goals, the City has developed a new Active Transportation Master Plan.

This Active Transportation Master Plan outlines a network that connects key existing trails and pathways, such as the recently completed Herb Gray Parkway Trail, and the downtown Waterfront Trail. Connecting these high-quality pathways to a developed on-street network will allow commuters, recreational users, and others to have safe, convenient, attractive and fun options to travel by walking, cycling, or transit.

The Active Transportation Master Plan will guide Windsor's progress and investments in active transportation over the next 20 years. The plan establishes a vision, goals and targets to improve active transportation, along with a series of strategies and actions related to five overarching themes: Connecting Communities, Places for People, Innovation and Integration, Culture Shift, and Quality of Life. These strategies and actions provide holistic guidance regarding improvements to policies, standards, infrastructure and programming to ensure that walking, cycling, and transit are

accessible, comfortable, and convenient transportation choices for people of all ages and abilities. The Active Transportation Master Plan also includes an implementation and monitoring plan to prioritize investments and actions over the short, medium, and long-term and to monitor progress in achieving the Plan's goals.

Setting the Context

The Active Transportation Master Plan is closely linked to many of Windsor's key planning documents, and it helps to reinforce and further the goals and policies found in these documents. Many of these documents include broader aspirations for growth and transportation and provide specific directions on how walking, cycling, and transit can become an integral part of Windsor's transportation system. By developing an Active Transportation Master Plan, Windsor can become a leader in promoting walking, cycling, and transit while also working towards achieving the community's broader aspirations.

Investments in walking, cycling, transit and other forms of active transportation result in a more balanced transportation system — one that is more accessible, cost-effective and efficient in terms of infrastructure investments. There are also significant quality of life, health, safety and economic benefits associated with investing in active transportation.

Future Directions

As part of the Active Transportation Master Plan process, a vision, together with supporting goals and targets, was developed to shape the overall future direction of the Plan and to serve as a basis from which actions, improvements and investments are identified and prioritized. The vision, goals, and targets were created based on a combination of Windsor's existing commitments (as described in several overarching plans and strategies), as well as the community input received from the public.

Walk Wheel Windsor Vision Statement

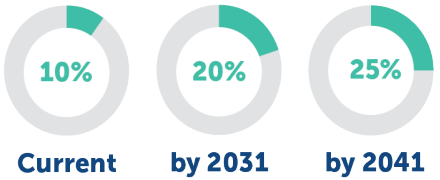
> By 2041, Windsor is a leader in active transportation. Walking, cycling, and transit are safe, convenient, and enjoyable mobility options for all residents and visitors, regardless of age, ability, trip purpose, or time of year. Active transportation connects Windsor's local and regional communities, contributing to a resilient, equitable, and healthy city with a high quality of life for Windsor residents.

Goals

1. Develop a complete active transportation network that connects all neighbourhoods
2. Improve the safety and accessibility of vulnerable road users
3. Support effective land-use planning to build an environment that makes walking, cycling, and transit convenient and enjoyable
4. Ensure that the active transportation network is equitable and accessible for all residents
5. Foster a culture for active transportation

Targets

Double the proportion of trips made by walking, cycling, and transit by 2031, with a longer-term target of 25% of all trips in Windsor made using sustainable transportation by 2041.



Strategies and Actions

The Active Transportation Master Plan consists of five overarching themes. For each theme, the plan includes several strategies and more detailed actions to improve active transportation. The implementation of these strategies and actions will help Windsor work towards achieving the vision, goals, and targets of the Active Transportation Master Plan. The strategies for each theme are summarized below.

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

Implementation + Monitoring

The strategies and actions developed as part of the Active Transportation Master Plan are intended 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. While the Plan has been developed as a long-term plan, it will require financial investment, staff resources and an implementation strategy to prioritize improvements over the short-, medium- and long-term.

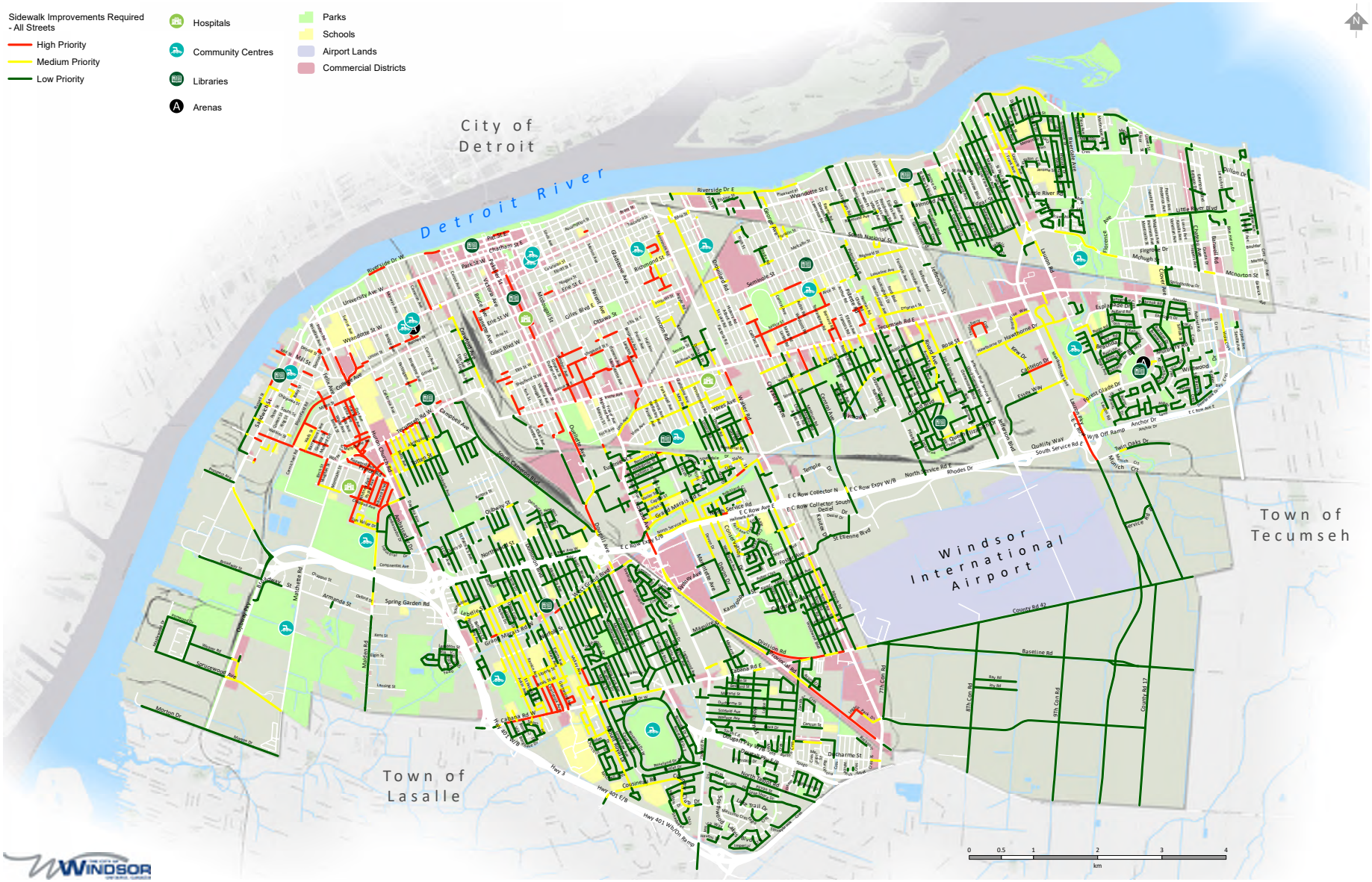
An implementation plan has been developed for each of the actions identified in the Active Transportation Master Plan. Implementation guidance has been provided for each action in terms of:

- **Timeframe.** Each action is identified as either a short-term (within 5 years), medium-term (within 5 to 15 years) or long-term (15 years and beyond) initiative.
- **Method of Implementation.** This identifies how each action will be implemented: as a capital project, through ongoing operations and maintenance, as a policy or programming initiative, or combination thereof.
- **Responsibility.** This suggests the primary and secondary/shared responsibility for each action. Many actions are the primary responsibility of Windsor, while other actions should be led by external agencies.
- **Goals Addressed.** Each action is categorized based on its relative contribution to each of the Active Transportation Master Plan's five goals. Although some actions may only work to achieve one goal, many actions can help achieve multiple goals.
- **Monitoring Activity.** Opportunities to track progress have been identified where possible indicators that may be reasonably available have been scoped out.

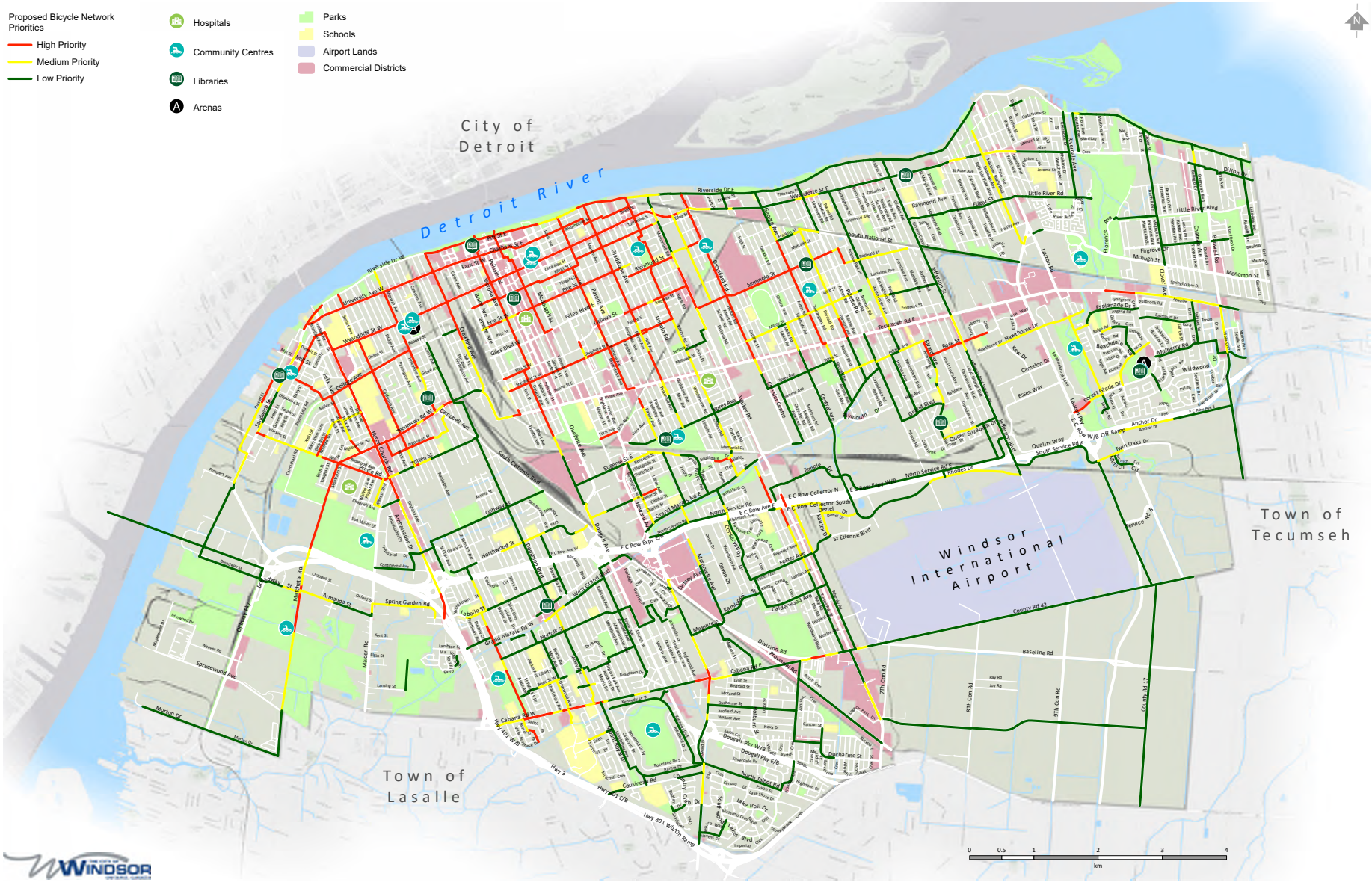
The Active Transportation Master Plan also identifies priority networks for sidewalks, trails and pathways, and bicycle routes, as shown in **Figures ES-1, and ES-2.**

It will take significant time and financial resources to implement the long-term recommendations of the Active Transportation Master Plan. As such, the Plan highlights several quick build techniques and strategies to consider. There are several approaches to implementing active transportation infrastructure based on a continuum of implementation timelines.

A monitoring strategy is essential to ensure that the Active Transportation Master Plan is implemented as intended, and to determine whether the Plan is achieving its goals. A monitoring plan will also enable Windsor to appropriately allocate monetary and staff resources to implement prioritized initiatives. Monitoring also provides a means of identifying changing conditions which would require changes to the Plan.



FIGURES ES-1 - SIDEWALK PRIORITY MAP



FIGURES ES-2 - BIKE NETWORK PRIORITY MAP

Summary

The Active Transportation Master Plan provides a comprehensive approach to guide Windsor's progress and investments in active transportation over the next 20 years. The Master Plan includes recommendations for improving active transportation policies, standards, infrastructure and programs over the long-term, along with priorities over the short and medium-term. The Active Transportation Master Plan will contribute to increased transportation options by improving the accessibility, comfort, convenience and safety of active transportation.

The Active Transportation Master Plan has been developed based on extensive technical work and engagement with the Windsor community over an 18-month period. Through this public engagement process, thousands of community members provided input into the development plan at various phases. The City of Windsor would like to thank all community members for their participation in the process and valuable input developing the Active Transportation Master Plan.

PART 1: INTRODUCTION

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

The City is part of the larger Windsor-Essex Country region and is surrounded by several directly adjacent municipalities, including Tecumseh andLaSalle, as well as several other nearby communities. Windsor acts as the economic, political, entertainment and cultural hub for this region of approximately 340,000 residents.

Detroit is a main port of entry between Canada and the United States, serving as an international gateway for people and commerce. The City of Detroit is located across the Detroit River to the North, and Windsor is intimately connected with the Detroit metropolitan region. Windsor's unique location has led to a diverse population that is excited to take advantage of the beautiful waterfront and major employment centres in manufacturing, tourism, and education.

As set out in its Official Plan, the City of Windsor is committed to sustainability in all its forms, and recognizes the importance of active transportation to enhance both community health and safety, as well as quality of life. The City is also committed to contributing to the reduction of air pollution by increasing opportunities for active modes of transportation, including walking, cycling and transit. The City's 20-year Strategic Vision further commits the City of Windsor to promoting active transportation as healthy and environmentally-friendly modes of transportation.

The City has a history of recognizing the significance active transportation plays in shaping a sustainable, healthy, and robust community. The adoption of the recommendations made in the Bicycle use Development Study in 1991 led to the construction of the marquee waterfront pathway network. The vision and direction were continued with the creation of the Bicycle Use Master Plan in 2001 that shifted the view of bicycles as not only used for recreation, but focused on expanding the City's on and off-road cycling network, facilitating the use of bicycles for commuting, leisure and tourism and providing a genuine transportation alternative. In the years since the adoption of the Bicycle Use Master Plan, significant progress has been made in implementing bicycle lanes along many of the routes identified in the plan. However, with the Bicycle Use Master Plan approaching the end of its lifespan, with a need for a broader focus beyond cycling to other forms of active transportation, and with a focus on community sustainability and meeting the City's Community Energy Plan goals, the City has developed a new Active Transportation Master Plan.

This Active Transportation Master Plan outlines a network that connects key existing trails and pathways, such as the recently completed Herb Gray Parkway Trail, and the downtown Waterfront Trail. Connecting these high-quality pathways to a developed on-street network will allow commuters, recreational users, and others, to have safe, convenient, attractive and fun options to travel by walking, cycling, or transit.

The Active Transportation Master Plan will guide Windsor's investments in active transportation over the next 20 years. The plan establishes a vision, goals and targets to improve active transportation, along with a series of strategies and actions related to five overarching themes: Connecting Communities, Places for People, Innovation and Integration, Culture Shift, and Quality of Life. These strategies and actions provide holistic guidance regarding improvements to policies, standards, infrastructure and programming to ensure that walking, cycling, and transit are accessible, comfortable, and convenient transportation choices for people of all ages and abilities. The Active Transportation Master Plan also includes an implementation and monitoring plan to prioritize investments and actions over the short, medium, and long-term and to monitor progress in achieving the Plan's goals.

The Active Transportation Master Plan has been separated into five parts:

Part 1: Introduction highlights the overall purpose, process and public engagement activities that have taken place to develop the Active Transportation Master Plan.

Part 2: Setting the Stage outlines the analysis and considerations that shaped the plan's strategies and actions. This includes understanding the benefits of active transportation, the market for active transportation in Windsor, connections to other relevant plans and policies, land use and demographic trends, and existing conditions for walking, cycling, and transit.

Part 3: Future Directions outlines the plan's vision, goals and targets, which build on Windsor's overarching plans and policies. The vision and goals will guide active transportation decision-making and actions in Windsor over the next 20 years, while the targets will be used to measure progress in achieving these goals.

Part 4: Strategies and Actions describes the long-term strategies and actions under the Active Transportation Master Plan's five themes: Connecting Communities, Places for People, Innovation and Integration, Culture Shift, and Quality of Life.

Part 5: Implementation and Monitoring outlines the implementation and monitoring plan. The Active Transportation Master Plan's strategies and actions have been prioritized over the short, medium, and long-term, and performance measures have been developed to monitor implementation.

1.1 Plan Purpose and Objectives

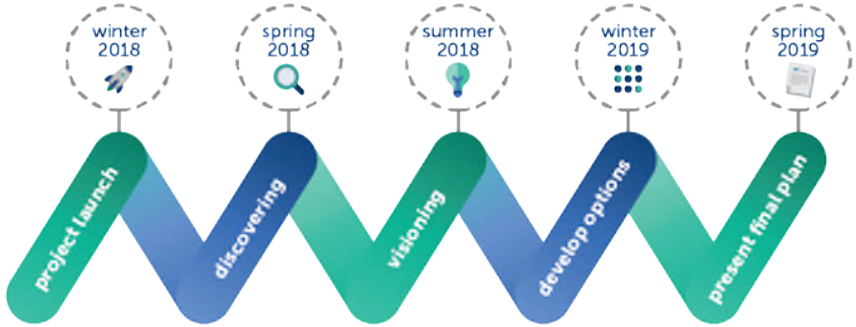
The purpose of the Active Transportation Master Plan is to make walking, cycling, and transit safe, affordable, convenient, normal, and fun ways to travel for residents and visitors. The plan addresses all aspects of active transportation, including strategy, planning policies, procedures and best practices, infrastructure, initiatives and programs, and includes an implementation plan.

The objectives of the Active Transportation Master Plan are to:

- Develop a safe and integrated active transportation network for Windsor.
- Coordinate the development of the Plan concurrently with the development of the Transit Windsor Service Delivery Review.
- Provide a plan that has been developed through citizen and stakeholder engagement.
- Review and update the policy framework for active transportation in Windsor.
- Improve the quality of active transportation in Windsor a comprehensive set of policies and procedures.
- Establish an implementation strategy with funding recommendations to meet short, medium, and long-term initiatives and programs to meet the targets and objectives of the Plan.
- Set priorities for construction of active transportation infrastructure.

1.2 Plan Development Process

The Active Transportation Master Plan was developed over an 18-month period beginning in the spring of 2018. The creation of the Active Transportation Master Plan was an iterative process that involved exploring options, speaking with community members and stakeholders, drafting ideas, sharing initial results, gathering and reviewing further community input, refining the content, and then creating a final plan. Throughout the development of the Active Transportation Master Plan, three rounds of public engagement took place, engaging thousands of people using a range of tools and tactics, including on-line surveys, stakeholder workshops, pop-up bike lanes, tactical urbanism, and school-based and community events.



1.3 Public Engagement

By creating an Active Transportation Master Plan, the City is taking concrete steps toward creating safer, healthier, and more dynamic public spaces for its residents. Input from community members was an essential component of the Walk Wheel Windsor process, with opportunities for public participation for each phase of the plan's development.

The Walk Wheel Windsor Team engaged with over 5,000 residents through the following engagement activities:

PHASE 1 ENGAGEMENT

Focus Groups

Targeted focus groups were held at the beginning of the Walk Wheel Windsor engagement process. Held over a three-day period, these sessions focused on engaging with groups that are traditionally harder to reach, including children and youth, low income community members, and new immigrants, among others. Engaging these groups early in the process allowed the project team the opportunity to identify pressing issues and challenges from the perspective of the most vulnerable groups.

Stakeholder Workshop

On March 22, 2018, thirty stakeholders, representing various interest groups, attended an afternoon workshop at the WFCU Centre. The workshop included presentations and rotating group discussions. The group discussions were designed to gather input on issues and opportunities related to active transportation in Windsor today.

Walk Wheel Windsor Launch Event

The official public launch for Walk Wheel Windsor was held on April 22, 2018 during the Earth Day event at Malden Park. The purpose of the launch event was to raise awareness of the Walk Wheel Windsor plan and the accompanying online survey. Several activities were also set-up to engage Windsor residents of all ages. Approximately 750 interactions took place during the launch event.

Pop-Up Engagement

The Walk Wheel Windsor team set-up pop-up booths at 16 locations throughout the City. Locations were selected based on areas with high foot traffic and a diversity of residents. The pop-ups were designed to spread awareness for the project and, more specifically, as opportunities to provide input. This activity resulted in more than 2,000 interactions.

Interactive Survey

An interactive survey was available online and through hardcopy for all residents to complete between March 22, 2018 and July 3, 2018. In total, 1,040 people completed the survey.

Engagement Labs

On June 23 and 24, 2018, the City hosted two engagement labs to close out the first round of engagement for Walk Wheel Windsor. The engagement labs included a variety of interactive activities for residents of all ages. The engagement labs resulted in more than 1,000 interactions.

This feedback is summarized in **Engagement Summary Report #1.**

PHASE 2 ENGAGEMENT

Open Streets

On Sunday, September 23, 2018, the Walk Wheel Windsor team set up a Public Engagement booth as part of the Open Streets event held on University Avenue West, and interacted with over 350 people.

Stakeholder Workshop

This workshop brought together 21 invited stakeholders from diverse sectors across the city to develop a shared vision for active transportation in Windsor. During the workshop, the project team presented a brief overview of the plan highlighting the first round of engagement and the current stage of planning. This was followed by facillitated break-out group discussions that invited participants to explore questions related to the vision, goals, priorities for implementation and proposed networks further. These focused discussions resulted in valuable feedback that helped shape and frame the plan.

Pop-Up Engagement

In November 2018, the Walk Wheel Windsor team set-up pop-up booths at 4 locations throughout the city. Reaching different wards within the city, locations were selected based on areas with high foot traffic and a diversity of residents. The pop-ups were designed to spread awareness for the project and more specifically, to invite residents to provide input on the plan. These pop-ups results in more than 190 conversations.

Community Roadshow

In November 2018, the Walk Wheel Windsor team hosted a number of roadshow events at Capri Pizzeria Recreation Complex, Windsor International Aquatic and Training Centre and Forest Glade Recreation Centre to ensure discussions with residents were at a neighbourhood level. The roadshows provided an opportunity to share the results of the first round of engagement and collect feedback for the next stage of the plan. Over 100 interactions were held through these three community roadshow events.

Targeted Engagements

Two targeted engagements were held at Drouillard Place Terrace and Glengarry EarlyOn Centre in November and focused on engaging with mobility device users, new immigrants, and children and youth. Engaging with these groups allowed the project team to identify pressing issues and opportunities and understand the perspectives that are unique to these groups of users.

Interactive Online Survey

An interactive survey was available online and through hard-copy for all interested residents to complete between November 12, 2018 and December 18, 2018. The survey was designed to gather feedback, identify priorities, rate strategies, and review draft active transportation network maps. The survey received 353 visits, resulting in 231 survey responses.

This feedback is summarized in **Engagement Summary Report #2.**

PHASE 3 ENGAGEMENT

Downtown Bike Lane Pop-Up Event

On April 27, 2019, the project team set up a temporary system of protected bicycle lanes in the downtown area on University Avenue and Goyeau Street, accompanied by a public engagement booth in Charles Clarke Square. This project was aimed at providing an opportunity to experience potential cycling facility alternatives and gathering input on the "quick wins" contained within the final report, as well as the proposed improvements to the cycling and pedestrian networks.

Earth Day Pop-Up Booth

On April 28, 2019, the project team set up a Public Engagement booth as part of the Earth Day event held at Malden Park, seeking feedback on the "quick wins" contained within the final report, as well as the proposed cycling and walking network improvements. The team was able to interact with over 300 people during the event, and collected over 100 completed paper surveys on site.

Safe and Healthy Streets Pop-Up Event

On April 29, 2019, the project team closed the roadway on Liberty Street to vehicular traffic to allow for improved walking and cycling conditions for the students and faculty of both Vincent Massey Secondary School and Glenwood Public Elementary School. The team worked with the two area schools to enjoy the public space and create fun temporary art on the road surface. Despite imperfect weather, this event had over 340 students from both schools participate. Elementary students used popsicle sticks to identify the mode of travel used to arrive at school that morning. Walk Wheel Windsor team members were also able to conduct driver intercept surveys during the morning and afternoon travel times, surveying drivers on the main reasons they choose to drop off and pick up their children, and what, if anything, could be done to make it more likely for their children walk, bike or bus to school.

Online Survey

An survey was available online and through hardcopy for residents to complete between April 30 to May 11, 2019. The survey was designed to gather feedback on the quick wins and high priority actions that are presented in the plan. Residents were also asked about their overall impressions of the planning process. In total, the survey received 253 responses.

This feedback is summarized in **Engagement Summary Report #3.**

OPEN STREETS

DOWNTOWN BIKE LANE POP-UP EVENT

STAKEHOLDER WORKSHOPS

EARTH DAY POP-UP BOOTH

POP-UPS

SAFE AND HEALHY STREETS POP-UP EVENT

1.4 Plan Framework

The Active Transportation Master Plan will guide Windsor's investments in active transportation over the next 20 years. Based on the policy context and what was heard through public engagement, the plan establishes a vision, goals and targets to improve active transportation, along with a series of strategies and actions related to five overarching themes. These strategies and actions provide holistic guidance regarding improvements to policies, standards, infrastructure and programming to ensure that walking and cycling are accessible, comfortable, and convenient transportation choices for people of all ages and abilities.

The Active Transportation Master Plan also includes an implementation and monitoring plan to prioritize investments and actions over the short-, medium-, and long-term and to monitor progress in achieving the Plan's goals.


Goyeau St.

PART 2: SETTING THE STAGE

2.1 Why Promote Active Transportation

Investments in walking, cycling, and transit can result in a more balanced transportation system that encourages healthy and active living, creates a more livable community, and results in a cost-effective and efficient solution in terms of the community's infrastructure investments. Increased use of active transportation also contributes to a number of the City's strategic goals, and there are significant quality of life, health, safety, and economic benefits associated with investing in active transportation.

WHAT IS ACTIVE TRANSPORTATION?

Active transportation is any active trip you make to get yourself, or others, from one place to another, whether it is to work, school, the store, or to visit with friends and family. Active transportation includes any form of human powered transportation.

Walking and cycling are the most popular and well-known forms of active transportation. However, the definition extends much further than that—as long as it is 'active,' you choose the mode: skateboarding, wheeling, pushing a stroller, accessing transit, using a mobility aid, etc. The Active Transportation Master Plan also includes a focus on transit since all transit trips start and end by foot or bicycle. Ensuring that these active modes interact cohesively will optimize the City's ability to provide its community and visitors with comfortable and convenient mobility options.

BENEFITS OF ACTIVE TRANSPORTATION

ECONOMIC BENEFITS

Active transportation, as part of an integrated, multi-modal transportation system, is one of the drivers of success for economic diversity and prosperity. The Community Energy Plan estimates that over $380 million dollars was spent on transportation fuels in 2014. When residents can spend less on the costs of car ownership, maintenance, and insurance, they have more disposable income to spend on local services such as groceries, restaurants, and clothing. Walking, transit and bicycle-supportive communities encourage residents to support local businesses, as these consumers tend to shop near the areas they reside in when using active forms of transportation. Neighbourhoods and destinations that are accessible and attractive for active transportation users attract more visitors who will, in turn, become patrons of local services and amenities.

EQUITY

Active transportation provides mobility choices, which is essential to provide a transportation system that is equitable and accessible for lower income individuals, youth, seniors, people with disabilities, and others who may not have access to, or be able to afford, a motor vehicle. Car ownership rates in lower income communities are often much lower than in the surrounding communities, and these residents often use the least expensive form of transportation to move about. In addition

to children and youth who do not have access to their own vehicles, nearly a quarter (22.2%) of the driving-age population in Canada does not own a vehicle. In addition, the Conference Board of Canada recently observed that younger adults under aged 35 are purchasing new vehicles at half the rate of those aged 35 to 54, and this trend of lower vehicle ownership looks to continue.

MENTAL AND PHYSICAL HEALTH BENEFITS

Research has found links between local investments in active transportation and increased rates of physical activity, thereby resulting in a healthier population. Regular physical activity reduces the risk of premature death, as well as the risk of developing numerous chronic diseases. Physical activity has been shown to improve psychological well-being and prevent weight gain and obesity. While the benefits of physical activity have been well documented, low levels of physical activity in children and adults in Canada are still quite high and continue to increase. A recent study published in the British Medical Journal found that cycling to work was associated with a 41% lower risk of dying overall compared to commuting by car or public transport, and that bicycle commuters had a 52% lower risk of dying from heart disease, and a 40% lower risk of dying from cancer. They also had 46% lower risk of developing heart disease and a 45% lower risk of developing cancer at all. Increasing rates of walking and cycling by making changes to the built environment are recognized by health professionals across Canada as one of the most broadly impactful and accessible health improvement strategies available.

IMPROVEMENTS IN THE AIR QUALITY

Recent research has measured the levels of fine particulate matter (2.5 microns or below) near major roadways with large numbers of vehicles in the immediate vicinity, including at schools, and findings indicate that these levels often exceed recommended guidelines. Exposure to high levels of particulate matter can result in negative health effects including cardiovascular effects such as cardiac arrhythmias and heart attacks, and respiratory effects such as asthma attacks and bronchitis. Exposure to particle pollution can result in increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days, especially for those with pre-existing heart or lung disease, older people, and children.

ENVIRONMENTAL BENEFITS

Increasing rates of active transportation have been shown to reduce air pollution and GHG emissions. Promoting walking, cycling, and transit also aids with efforts towards climate change mitigation, while also supporting the protection of the natural environment. In Windsor, the transportation sector accounts for 36% of total GHG emissions, and any shift towards lower rates of vehicle usage will help with efforts at reducing the impact of climate change.

CONGESTION

Recently, the Canadian Automobile Association examined best practices to ease congestion. One of the specific measures in the report noted that experience in other countries shows that building separated bicycle lanes that makes cycling commuters feel safe and secure can be a relatively low-cost way to reduce urban congestion. For every person who bicycles to or from work, this often translates into one less vehicle on the road, thereby helping to increase the overall movement of vehicle traffic.

SOCIETAL BENEFITS

Active transportation provides practical, everyday opportunities for residents to be physically active, thereby

increasing their mental wellness and increasing positive social interactions. High rates of active transportation in a community are a strong indicator of sustainability and livability. Active transportation facilities also provide affordable and accessible transportation choices for people of all ages and abilities. For youth, this encourages sustainable travel patterns at an early age that often continue into adulthood. Studies have shown that community connection and cohesiveness increase when residents are able to walk and cycle in their community.

SAFETY BENEFITS

Making active transportation a more visible and viable transportation choice results in reduced risk of collisions, and a safer transportation system for all road users. Streets designed for slower vehicle speeds feel safer for vulnerable road users, including people walking, cycling, and using other forms of active transportation. Studies have shown that slower vehicle speeds greatly increase survival rates for vulnerable road users. When active transportation rates increase, rates of collisions between vulnerable road users and motor vehicles decreases at the same time.

2.2 The Market for Active Transportation in Windsor

ACTIVE TRANSPORTATION POTENTIAL

An analysis was conducted to identify areas of Windsor where there are the greatest opportunity to increase the number of walking and cycling trips. Identifying the neighbourhoods with the highest potential was based on several factors including road network connectivity, road network density, land use mix, population and employment density, topography, and permeability. The analysis found that the neighbourhoods with the highest potential are Downtown, Walkerville, Ford City, Pillette, South Central and University (**Figure 2**). It is also important to note that these neighbourhoods have several destinations that were identified by survey respondents. The results also found that there were several issues and opportunities for improvements in these areas.

EQUITY

One of the aims of the Active Transportation Master Plan was 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 determined neighbourhoods with higher concentrations of under-served populations and with relatively low levels of existing active transportation facilities. The result of this analysis identifies under-served areas in the city where there is opportunity to strategically invest where there is a 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. The equity analysis examined the distribution of pedestrian and bicycle facilities in relation to under-served populations and identified areas where limited access to walking or bicycle facilities is compounded by socio-economic challenges. The results were used as one of the factors to help prioritize the proposed active transportation networks. The neighbourhoods with the highest equity need were identified as a higher priority for implementation and provided with the highest quality of recommended facilities. Five indicators were used to examine equity across neighbourhoods, including the percentage of youth populations, senior populations, immigrant populations, Indigenous populations and low-income populations. The analysis identifies the following neighbourhoods as areas with the greatest need (**Figure 3**).

MODE SHARE COMPARISON

When compared to other peer cities in Ontario of similar population and physical size, Windsor finds itself in the middle, with a similar breakdown to other communities (**Figure 1**).

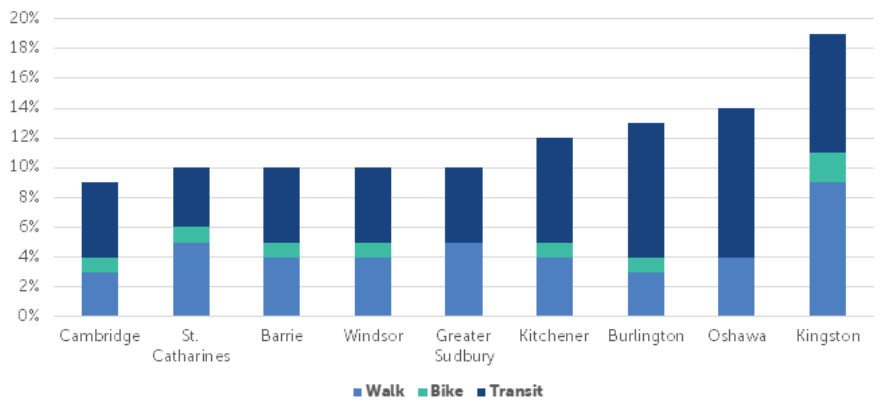


FIGURE 1 - MODE SHARE COMPARISON WITH OTHER PEER CITIES IN ONTARIO (SOURCE: STATISTICS CANADA, 2016 CENSUS)

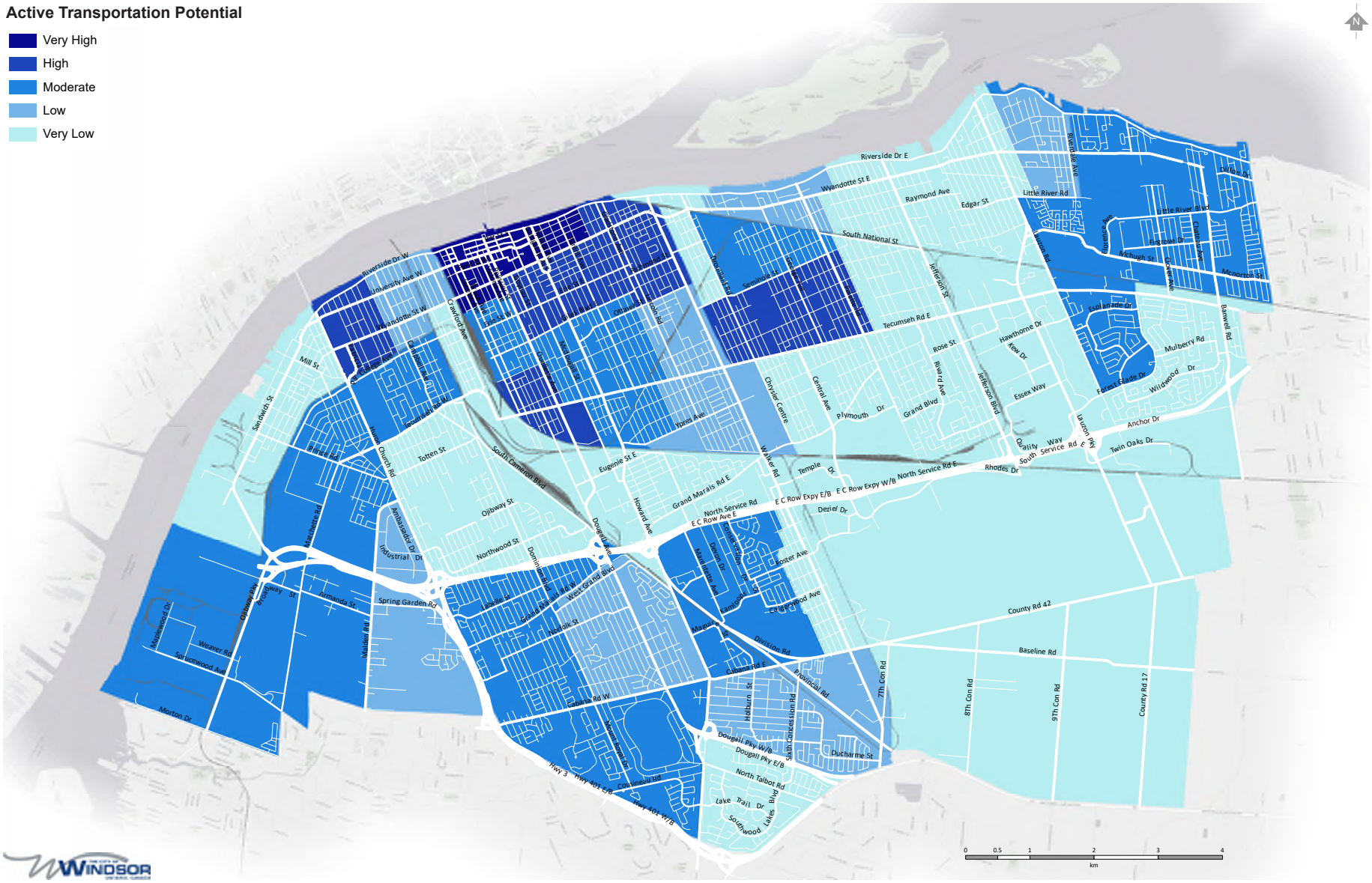
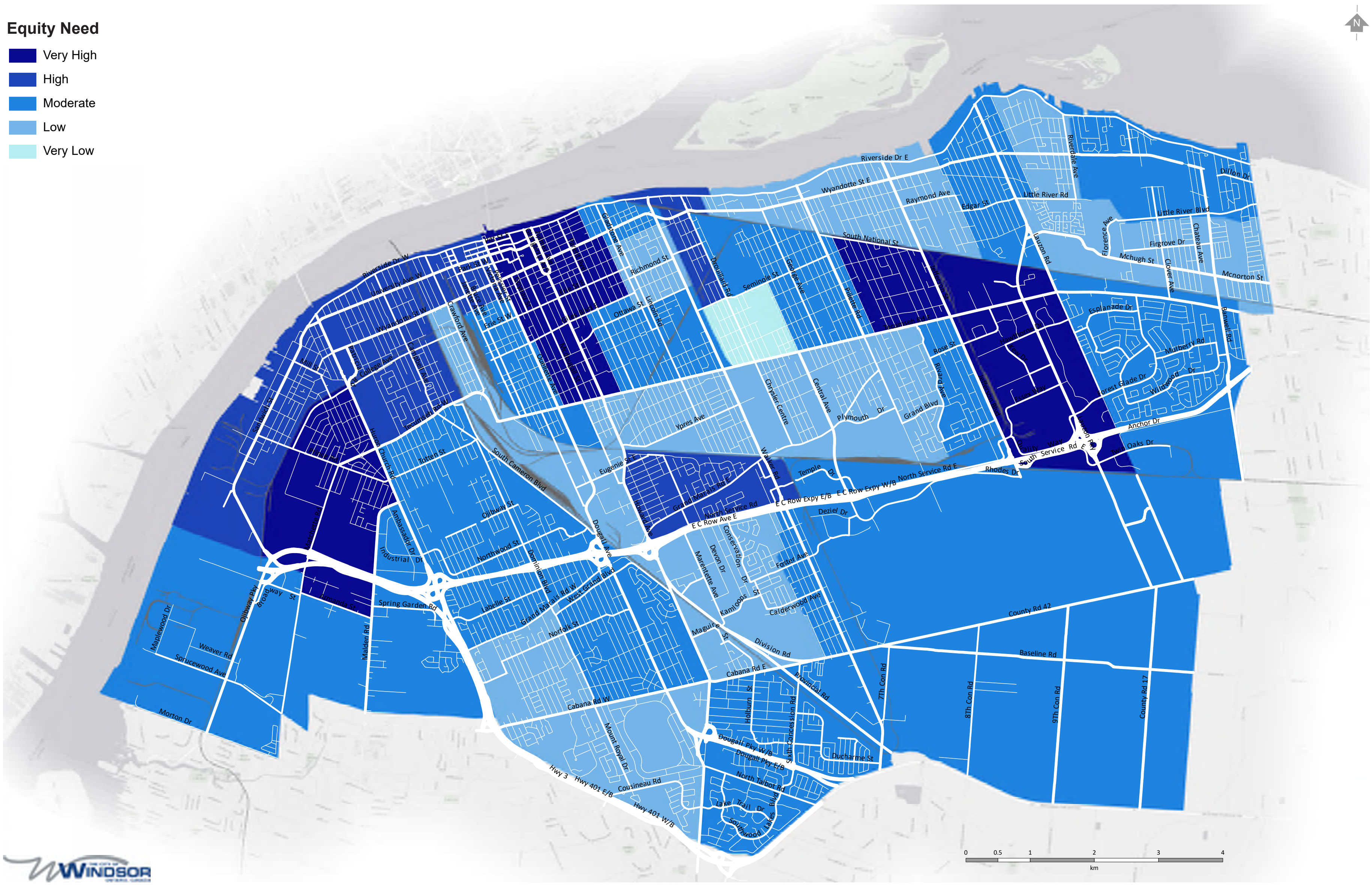


FIGURE 2 - ACTIVE TRANSPORTATION POTENTIAL

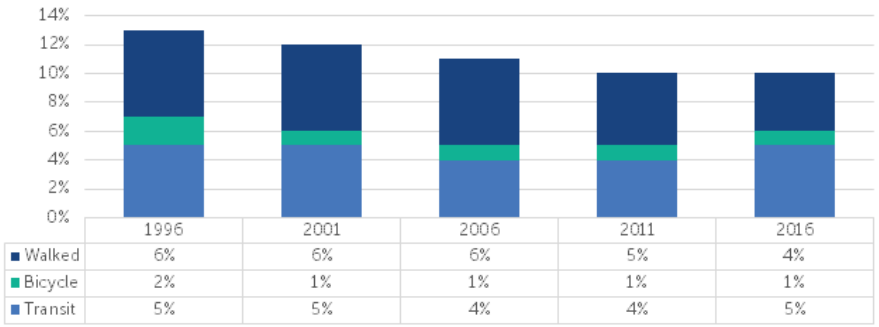


THE CITY OF WINDSOR

FIGURE 3 - EQUITY ANALYSIS

HISTORIC TRENDS

When looking at historic data over the past twenty years, the mode share for active transportation has seen a slight decline, from approximately 13% of all commute trips to work or school in 1996 to approximately 10% in 2016 (**Figure 4**). Transit has experienced a relatively steady mode share over the past twenty years, while walking and cycling have declined somewhat over this period.



	1996	2001	2006	2011	2016
Walked	6%	6%	6%	5%	4%
Bicycle	2%	1%	1%	1%	1%
Transit	5%	5%	4%	4%	5%

FIGURE 4 - HISTORIC TRENDS IN MODE SHARE OF COMMUTE TRIPS TO WORK OR SCHOOL (SOURCE: STATISTICS CANADA, 2016 CENSUS)

GENDER

While the gender differences across transportation modes in Windsor are not uncommon, it does set a bar for areas to focus on in terms of working towards transportation equity. Research shows that historically women make more trips than men on transit because they often chain trips, meaning they are also running errands, or doing childcare drop-offs/pick-ups etc. Walking is typically an equal split across genders, and this is consistent in Windsor. The majority of cyclists in Windsor are male riders, and a gap like this can indicate difference in types of confidence in riders, as well as perceptions of safety (**Figure 5**). Cities around the world are finding that female riders prefer higher quality infrastructure, and several Canadian Cities including Calgary, and Edmonton are documenting that with the construction of high quality bicycle facilities, the proportion of female riders does increase. Transportation gender equity is important from economic, accessibility, and health perspectives.

FIGURE 5 - GENDER SPLIT FOR ACTIVE MODES OF TRANSPORTATION (SOURCE: STATISTICS CANADA, 2016 CENSUS)

2.3 Community Profile

2.3.1 Land Use and Destinations

Windsor's location provides residents with numerous amenities, including beautiful parks and trails, a scenic waterfront on the Detroit River, and abundant recreational activities. The community is home to major employment, educational, and regional destinations including the University of Windsor, St. Clair College, as well as Canada's largest automotive manufacturing facility at the FCA Windsor Assembly Plant. The City also has many outdoor and local and regional tourism opportunities.

GROWTH AND DEVELOPMENT PATTERNS

The City has a land area of almost 150 square kilometres and has a rich and longstanding history in Canada. What was once the Huron Church Reserve, established as a fur-trading post in the original town of Sandwich in 1797, the Essex County area grew quickly as with the addition of surrounding communities. The current border of the City of Windsor is a result of various annexations, amalgamations and land transfers that have taken place since the 1930's, culminating in a Provincial initiative in the late 1990's wherein 21 municipalities within Essex County were restructured and/or amalgamated to form the seven municipalities that exist in the area today.

The City's Official Plan provides several overarching goals to balance the environmental, social, and economic needs of the City. The Official Plan promotes compact neighbourhood development that will make walking, cycling, and transit more viable through a more balanced transportation system. The creation of mixed use and employment centres will allow businesses and services to be closer to homes and allow greater opportunities for walking, cycling, and transit.

The Official Plan calls for new development to accommodate the needs of pedestrians, cyclists, and other recreational activities. The plan recognizes that residents want to be in neighbourhoods that meet their needs to live, shop, and play and that each neighbourhood should have a central area that provides a focus on these activities within a convenient walking distance. The plan includes a housing strategy that will see more infill and less sprawl onto agricultural and natural lands. Residential infill is encouraged in key areas, with low and medium density infill throughout existing neighbourhoods, and medium to high density infill encouraged at key areas. A range of housing types will allow residents to age in place and accommodate varying incomes in each neighbourhood. Complete and compact neighbourhoods in turn promotes a range of transportation choices for residents.

NEIGHBOURHOODS

Windsor is made up of diverse neighbourhoods that provide a range of living environments. For the most part, Winsor's neighbourhoods are relatively low-density, comprised predominantly of single detached, semi-detached, and townhouses with densities ranging from 20-35 units per net hectare.

The City is divided into a total of 20 planning districts (**Figure 6**).

KEY DESTINATIONS

Figure 7 identifies key destinations which include educational institutions, community centres, commercial districts, and parks. The map shows clusters and patterns in some of the major destination areas throughout the city including high concentrations Downtown, University, Walkerville, and South Central and along Tecumseh Road in East Windsor.

FIGURE 6 - WINDSOR'S NEIGHBOURHOODS AND KEY LAND USES

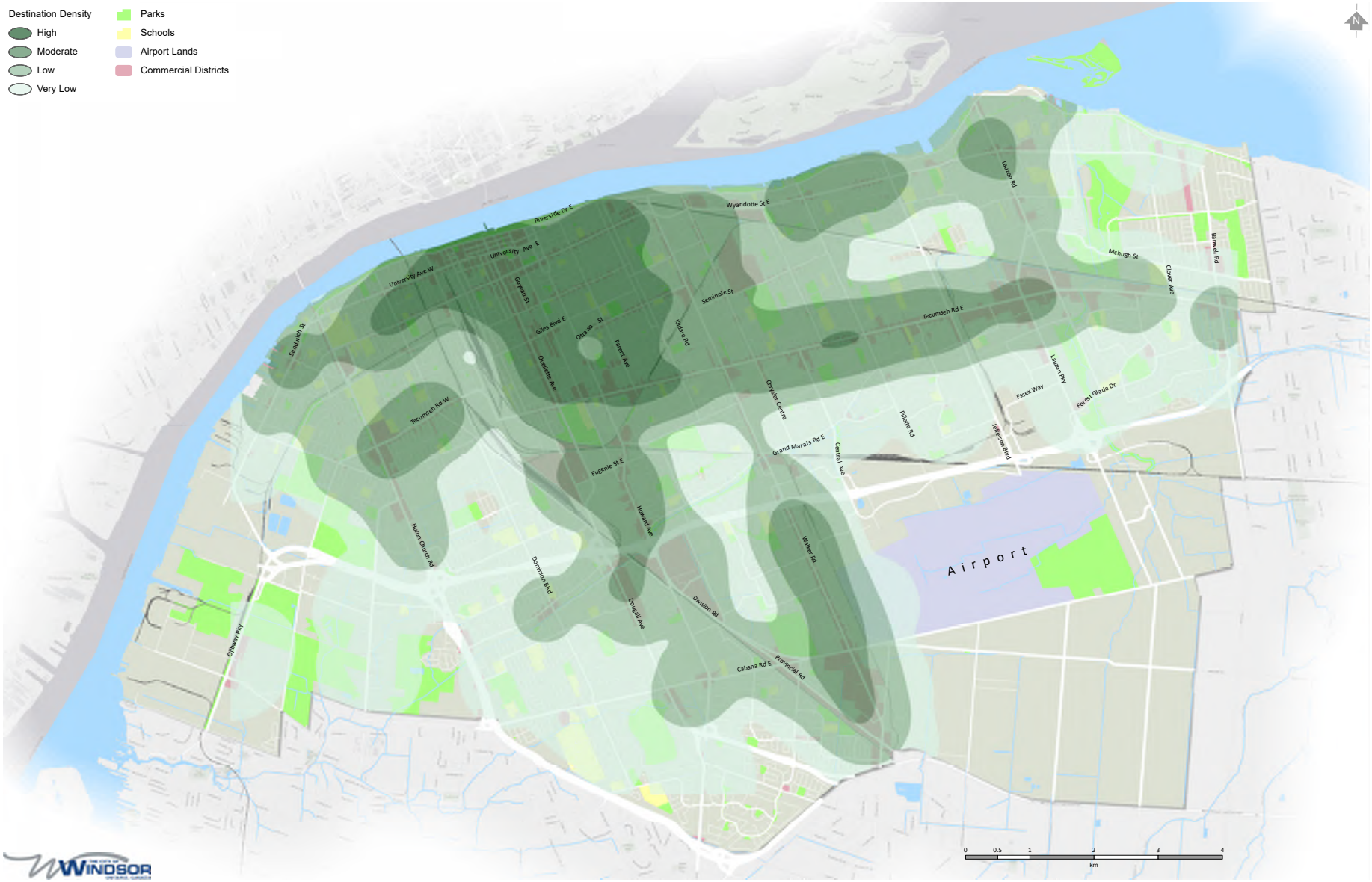


FIGURE 7 - KEY DESTINATIONS

2.3.2 Demographics

Demographics play a significant role in influencing transportation choices and travel patterns. This section summarizes key demographic characteristics that were used as a basis to inform the direction of the Active Transportation Master Plan.

A STABLE CITY

Windsor is home to nearly 220,000 residents. Between 1966 and 2006, the City's population remained relatively stable at around 200,000 people, with a small decline in 2011. Between 2011 and 2016 Windsor's population grew by 3%. This moderate rate of growth is consistent with previous years, but slightly slower than the growth rate of 6.5% identified for the period of 2011 to 2026 in the OCP.

AGE AND GENDER DISTRIBUTION

In 2016, Windsor's population was 48.8% male and 51.2% female. Children under 15 years of age accounted for 16.3% of the city population compared to 16.6% for the rest of Canada. Persons of age 65 years and over accounted for 17.6% of the population in Windsor compared to 16.9% for Canada, and the median age in Windsor is 41.4 years compared to 41.2 years for Canada. The youngest demographic of those 0 to 14 years old represents over 16 % of the population of Windsor, with another 20% of Windsorites over 65. This means that over 36% of the residents of Windsor are either too young to drive, or are senior or older adults, both groups that may be more likely to utilize walking, cycling, and transit on a regular basis.

IMMIGRANT POPULATION

Present day Windsor attracts many immigrants from around the world. 2016 Census data shows that over a quarter (27.7%) of the population of the City of Windsor was foreign-born. Visible minorities make up 25.7% of Windsor's population, making it the most diverse city in Ontario outside of the Greater Toronto Area, and this number is 17% higher than the Canadian average of 21.9% of the total population identifying as immigrants. The bulk of immigrants in the City of Windsor (48%) are from Asian countries, followed by European immigrants representing 33% of the immigrant population, other countries in the Americas represent 13% of the immigrant population, and immigrants from Africa representing 6% of the immigrant population in the City of Windsor.

INCOME

The average annual income of Windsorites is $34,794, with almost 74.8% of residents making less than $50,000 per annum. The Windsor Area Long-Range Transportation Study showed that 86 per cent of all area households have at least one car, and 80 per cent of all study area trips were by car, followed by walking at 10 per cent, transit at 3 per cent, cycling at 2 per cent, and other modes at 5 per cent (school bus, taxi). With the average Canadian paying $10,745 per year to operate and maintain a motor vehicle, this represents a large financial burden for many, resulting in a sizeable portion of the community not being able to afford the significant costs associated with private vehicle ownership. Residents who are not able to afford the costs of vehicle ownership often rely upon the least expensive forms of transportation-walking and cycling.

2.4 Policy Context

The Active Transportation Master Plan is closely linked to and informed by many of the City's and region's key planning documents that contain walking, cycling, and transit-related policies, plans, and goals. Many of these documents include broader aspirations for growth and transportation, and provide specific direction on how walking, cycling, and transit can become an integral part of the City's transportation system. The Active Transportation Master Plan reinforces and furthers the goals and policies found in other official documents.

Many municipal plans and policies played a significant role in informing the development of the Active Transportation Master Plan, including:

- Snow Removal By-Law (1986)
- Windsor Area Long Range Transportation Study (1999)
- Bicycle Use Master Plan (2001)
- All Way Stop Policy (2005)
- Transit Master Plan (2006)
- Pedestrian Generator Policy (2007)
- Community Based Strategic Rail Study (2008)
- City of Windsor Official Plan (2012)
- Transportation Impact Study Guidelines (2013)
- Windsor 20 Year Strategic Vision (2015)
- Traffic Calming Policy (2015)
- Windsor Downtown Transportation Strategy (2016)
- Road Safety Report (2016)

- School Neighbourhood Policy (2016)
- Windsor Community Energy Plan (2017)
- Environmental Master Plan (2017)
- Windsor Transit Review (2018/19)
- Local Improvement Procedure

2.5 Active Transportation in Windsor Today

2.5.1 Travel Patterns

MODE SHARE

According to Statistics Canada's 2016 Census, approximately 10% of all commute trips to work or school in Windsor are made by walking, cycling, or transit (**Figure 8**). It should be noted that Census data only includes commute trips, and does not include trips for other purposes, such as exercise, errands, social outings, or to spend time with family or friends. This is notable because, as stated previously, the interactive survey found that commuting to work was one of the least common reasons why people choose to travel by active modes of transportation. As such, it is anticipated that the Census data underrepresents the actual amount of active transportation trips being made by Windsor residents.

KEY DESTINATIONS

Respondents to the interactive survey were asked to identify locations they frequently travel to and from for daily tasks such as grocery shopping or going to work. Mapping the results of this exercise was particularly helpful to understand active transportation patterns within Windsor. **Figure 9** to **Figure 14** shows the distribution of these trips.

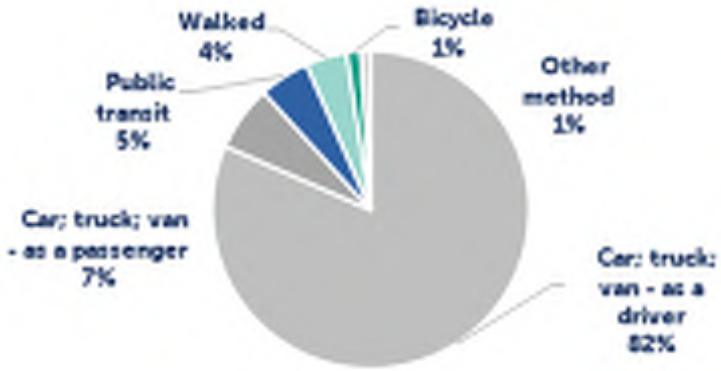


FIGURE 8 - MODE SHARE OF COMMUTE TRIPS TO WORK OR SCHOOL (SOURCE: STATISTICS CANADA, 2016 CENSUS)

Some of the key findings show that people are:

- Shopping at Devonshire Mall, Shopping Plaza at Division Road and Walker Road, Walkerville, Ambassador Plaza, and Tecumseh Mall.
- Working in Downtown, University, Sandwich, and Walkerville.
- Going to school at University of Windsor, Holy Names Catholic High School, Northwood Public School, and St. Clair College.
- Accessing services in University, Sandwich, Walkerville, South Central, Ford City, and Riverside/East Riverside.
- Accessing recreational facilities in Downtown, Waterfront, Walkerville, Malden Park, Black Oak Prairie Heritage Park, Ojibway Prairie Nature Reserve, and Riverside.

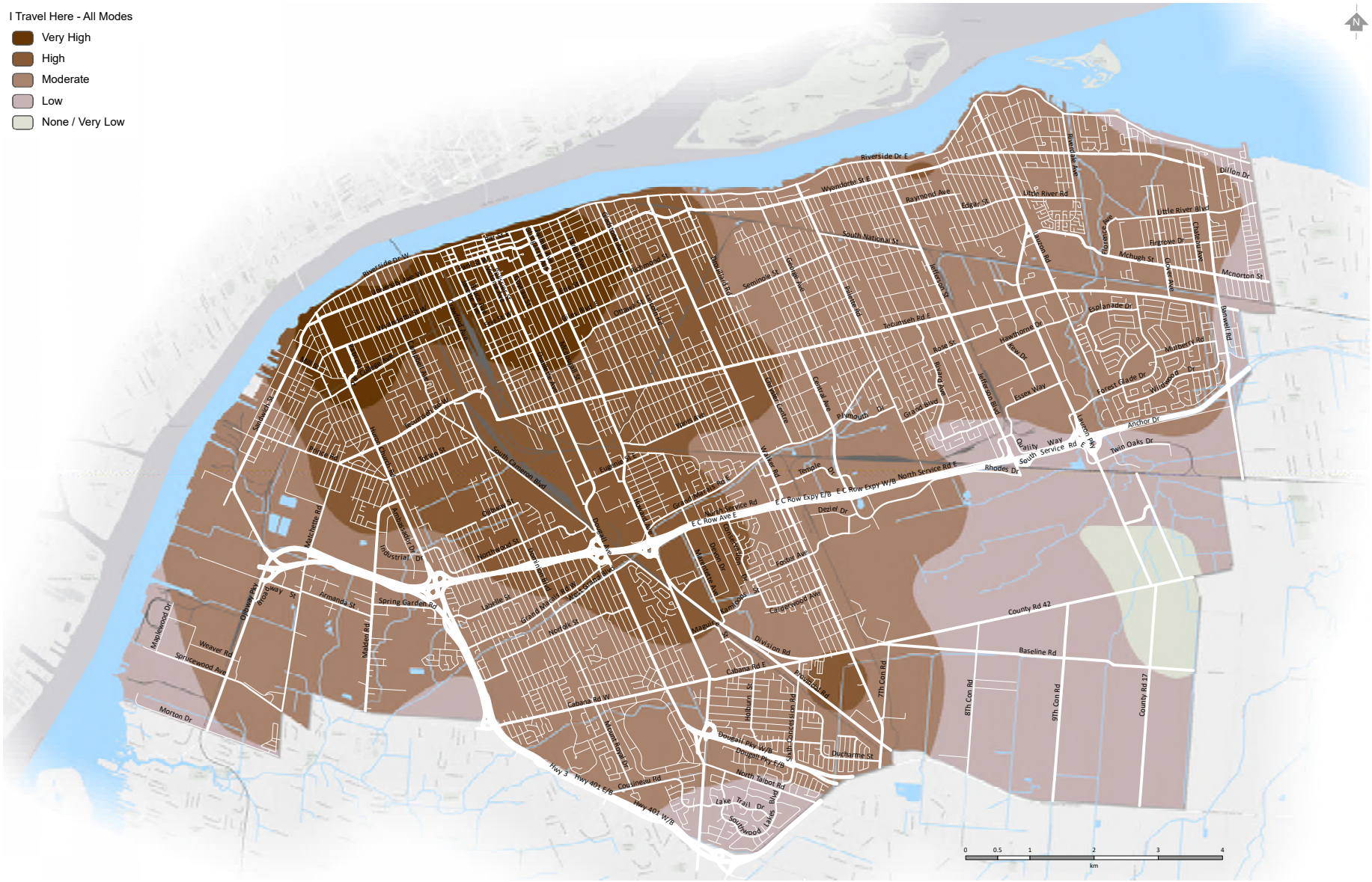


FIGURE 9 - FREQUENT DESTINATIONS

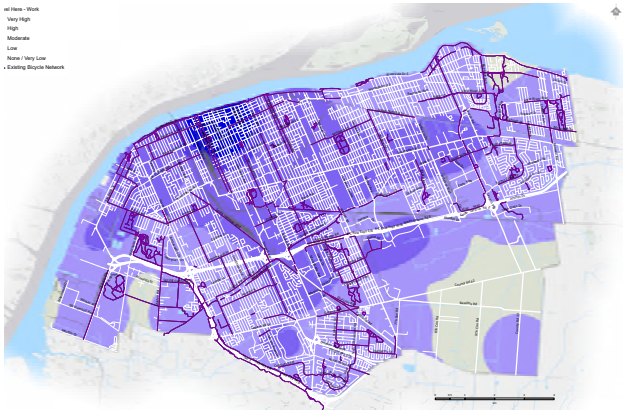


FIGURE 10 - FREQUENT DESTINATIONS FOR EMPLOYMENT

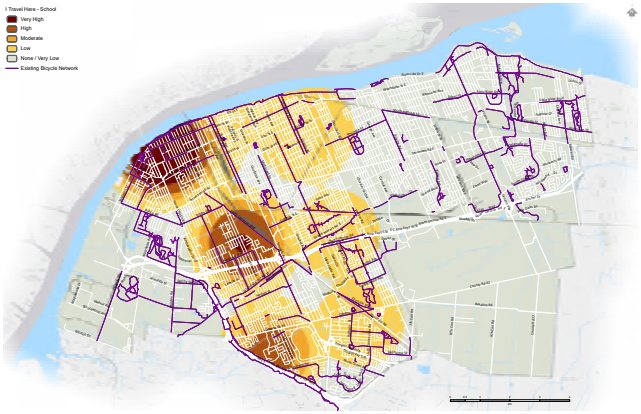


FIGURE 11 - FREQUENT DESTINATIONS FOR SCHOOL

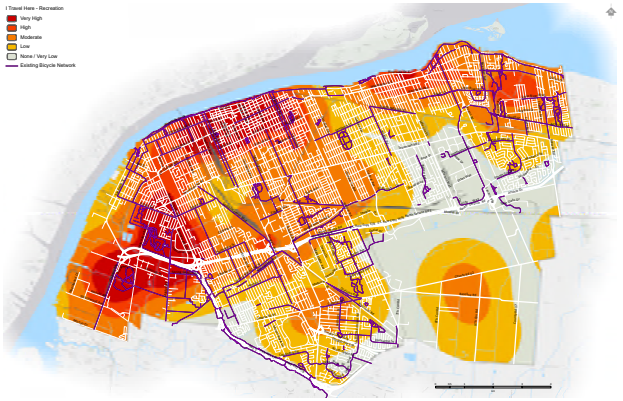


FIGURE 12 - FREQUENT DESTINATIONS FOR RECREATION

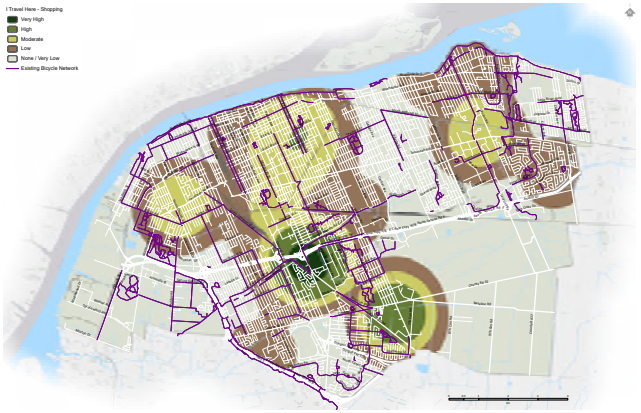


FIGURE 13 - FREQUENT DESTINATIONS FOR SHOPPING

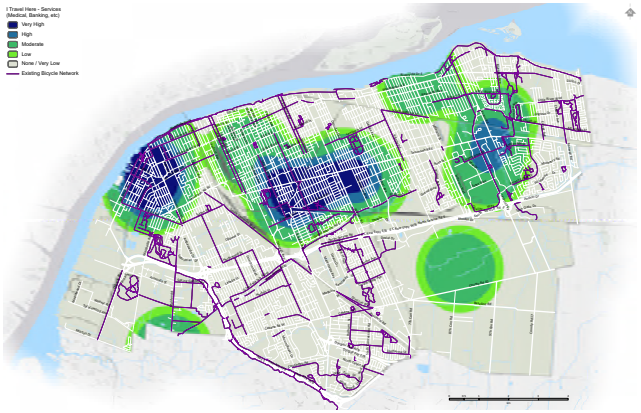


FIGURE 14 - FREQUENT DESTINATIONS FOR SERVICES (MEDICAL, BANKING, ETC.)

INTEREST IN ACTIVE TRANSPORTATION

As noted previously, promoting walking, cycling, and transit can help reduce automobile dependence and greenhouse gas emissions, increase physical activity and improve public health outcomes, increase social connections, and reduce infrastructure demands.

Results from the interactive online survey show that Windsorites are interested in using active forms of transportation for a variety of reasons, with the most common reason for both walking and cycling being to exercise or to have fun; and to go to shops, restaurants, or services (**Table 1**). In contrast to walking and cycling, the most common reason survey respondents indicated for choosing transit was to travel to work or school. Transit is also commonly used to run errands or access services, or to go to shops or restaurants.

	Walking	Cycling	Transit
Exercise or have fun	39%	41%	
Go to shops, restaurants or services	28%	20%	19%
Spend time with family and friends	20%	19%	
Travel to work or school	13%	20%	27%
Run errands or access services			22%
Travel to recreation activities/ facilities			18%

TABLE 1 - COMMON REASON FOR WALKING, CYCLING AND TRANSIT

2.5.2 Infrastructure

EXISTING SIDEWALK NETWORK

Sidewalks form the backbone of a well-connected walking network for all users of all ages and abilities. The City has an extensive sidewalk network that includes over 1,000 kilometres of sidewalks. However, there are still some areas of the City with no sidewalks, as well as gaps in the sidewalk network. 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 (**Figure 15**).

EXISTING CYCLING FACILITIES

Windsor's bicycle network is made up of a variety of both on-street and off-street facilities including on- bicycle lanes, paved shoulders, signed bicycle routes or shared use lanes, 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 or shared use lanes, and over 130 km of multi-use pathways (**Figure 16**).

EXISTING TRANSIT NETWORK AND FACILITIES

Public transit is a significant alternative to automobile travel in Windsor, as well as within the Town of LaSalle with the recent service extension. For those who do not drive, transit can often be the only option for getting to jobs, school, shopping areas, and recreation centres.

There are a variety of transit services throughout Windsor. Services currently provided by Transit Windsor include 14 routes that provide local bus service, regional service to LaSalle, Leamington, Kingsville, and Essex, and international bus services through the Tunnel Route to Detroit (**Figure 17**).

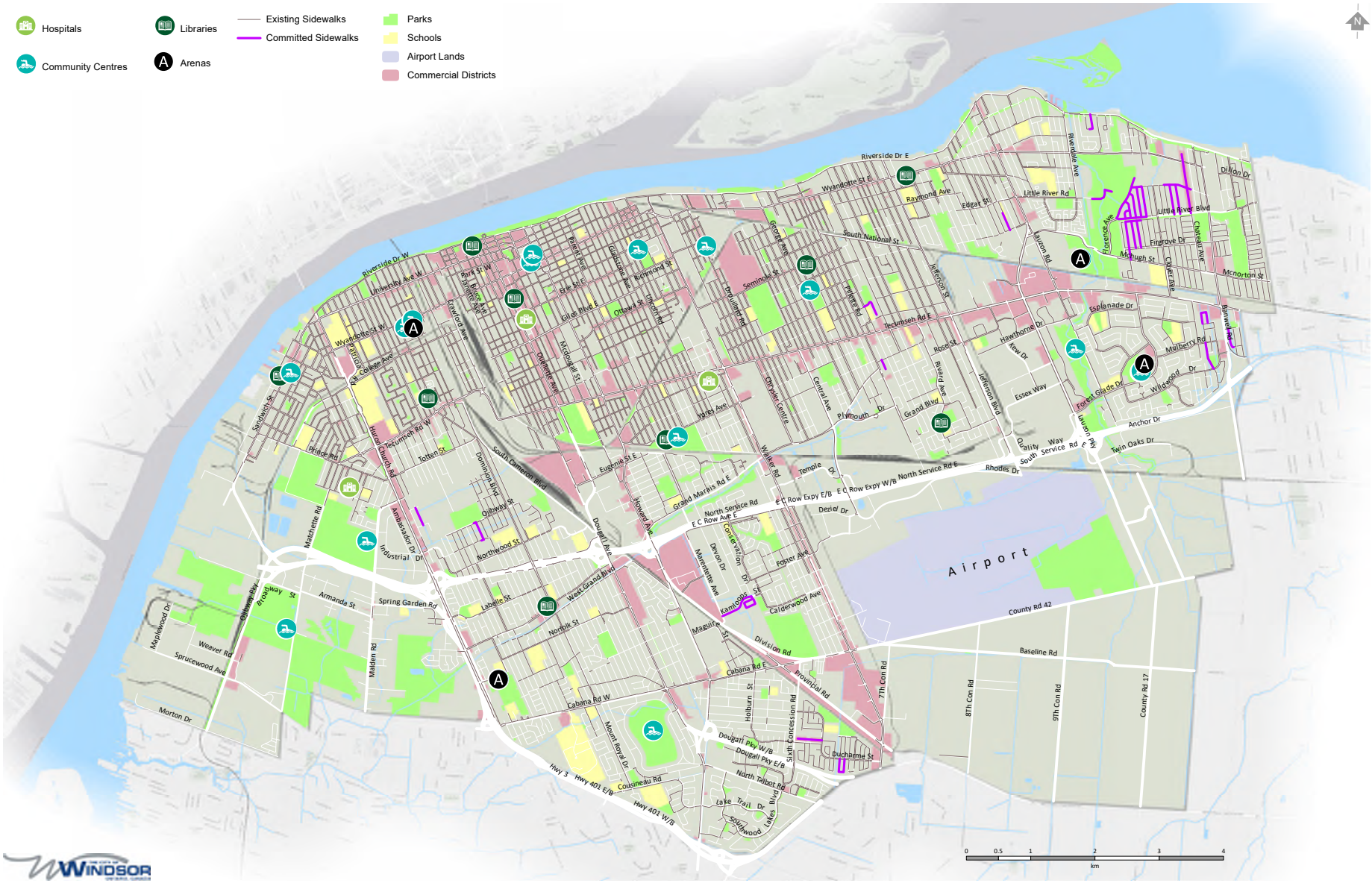


FIGURE 15 - EXISTING SIDEWALK NETWORK

FIGURE 16 - EXISTING BICYCLE NETWORK

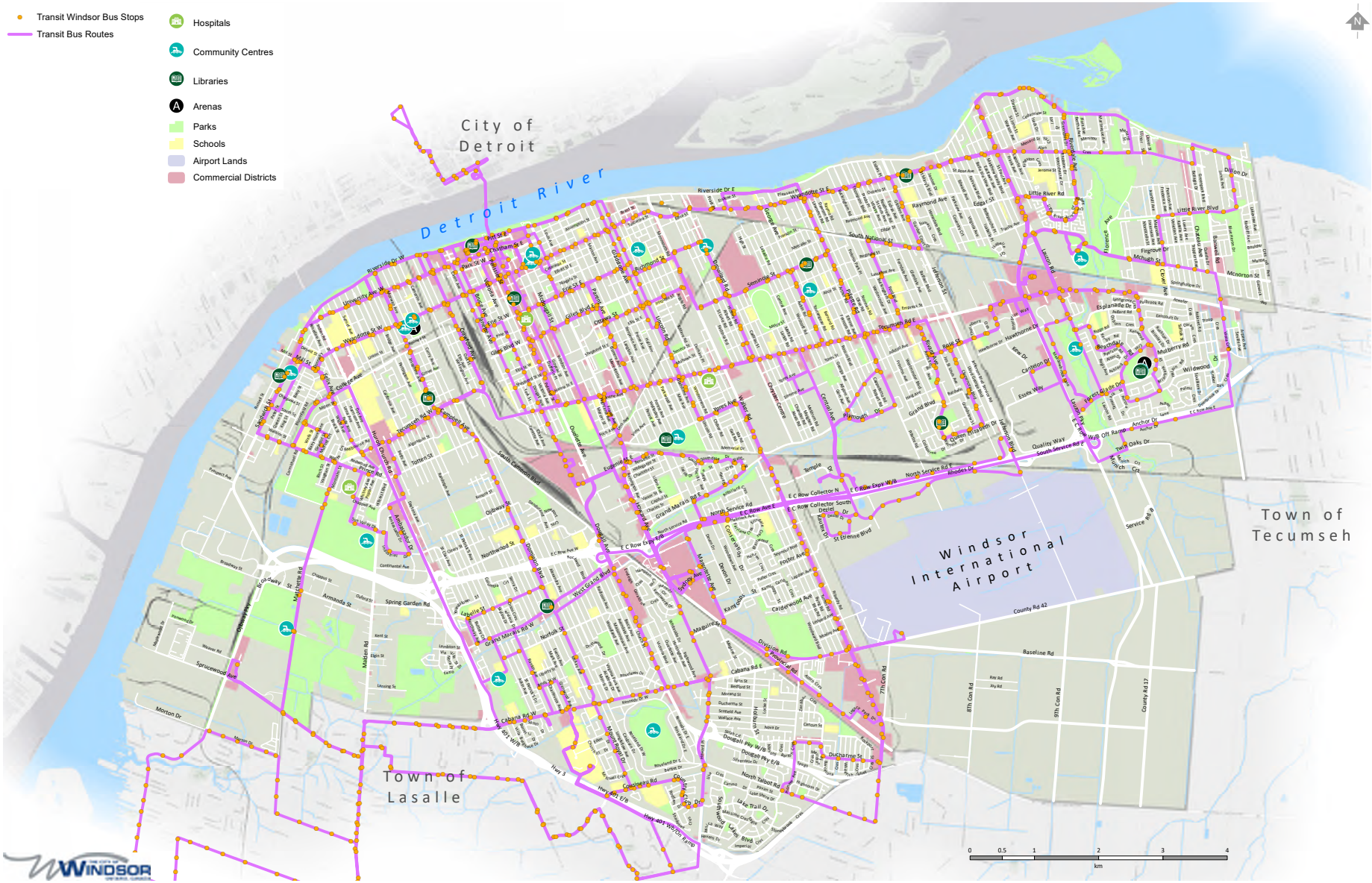


FIGURE 17 - EXISTING TRANSIT NETWORK

2.5.3 Supportive Programs and Policies

Programs and policies create an environment that encourages and supports walking, cycling, and transit as convenient and attractive modes of transportation. The City is committed to continuing to improve active transportation facilities and increase use through policies, programming, and support initiatives throughout Windsor, as described below. The City has several programs and policies to educate and inform residents and visitors about active transportation in Windsor, including:

- **Traffic Calming Policy** is intended to improve the enjoyment and pedestrian friendliness of neighbourhoods throughout the city. The requests are made by residents and reviewed and implemented by the City.
- **Pedestrian Generator Policy** provides sidewalks to increase the separation between pedestrians and vehicle traffic and increase opportunities for active travel. This policy is accomplished through the identification of key areas (schools, community centres, key transit or pedestrian areas, and older adult living facilities). With a set budget, these sidewalks are distributed to these key areas on a request basis.
- **Active and Safe Routes to School (ASRTS**) programs are overseen by the Windsor Essex County Health Unit. The Health Unit aims to support and enhance the implementation of the non-motorized networks and pedestrian crosswalks, has a variety of programs, and seeks to address gaps where programs do not exist. This is especially true for the school communities with younger students. These programs promote walking and cycling to school while providing a safe way for students and parents to find paths to and from the school.
- **Windsor Accessibility Committee** aims to eliminate barriers for persons with disabilities. This includes addressing important gaps in accessible pedestrian infrastructure, advising Council, and making policy recommendations. The committee is made of community representatives and a member of Council who chairs the committee.
- **Windsor Bicycling Committee** strives to enhance the safety and viability of bicycling in the City of Windsor.
- **Transit Windsor Advisory Committee** provides input on policies and procedures with respect to the operation of conventional transit services in Windsor, the extent of service hours and days of operation, and operational rules and regulations relating to transit services.
- **Open Streets Day** takes place every September in Windsor. Open Streets provide free recreation based programs that temporarily open streets to people and close them to cars. This creates space for activities which are programmed at specific activity hubs, as well as room for people to walk, cycle and play to improve their health. The event closes a long stretch of roadway from Sandwich Street through University Avenue, Wyandotte Street to Drouillard Road in Ford City.
- **Bike to Work Day** is a City-wide event the City supports to promote cycling as an option for commuting to work. Through this event, free workshops on bicycle handling and maintenance are offered.
- **Transit and Bike to Fireworks** is a City-wide event that encourages travelling to view the annual Detroit Windsor Fireworks along the riverfront via bicycle or Transit from identified locations.
- **Bicycle Recovery Service** is a service offered by Windsor Police through their website. Residents can register the serial number of their bike, and if it is recovered by police it will be returned.
- **Cycling Education** includes classes offered to both youth and adults to educate them about the rules of the road when cycling. Grade six students also get the chance to meet with School Resource Officers to learn about road safety and visit the Safety

Village where they can practice important riding skills.

- **Bike Repair and Learn to Ride Classes** are provided through the local cycling advocacy group Bike Windsor Essex. The Bike Kitchen offers both courses and open shop hours to learn to repair your bicycle with classes designed for a variety of users. Learn to Ride classes are delivered on a train-the trainer model to build a network of instructors, as well as classes offered to individuals of all ages. The group also leads a variety of Tour Your City rides including some Slow Rides, trips to key destinations including the Farmers Market or Earth Day events, and training for longer rides such as the MS Grand Bend to London.
- **Bicycle and Walking Tours** are a service provided through Windsor Eats, which offers bike tours and walking tours to local and regional destinations including local restaurants and breweries, Pelee Island, and Essex County Wineries. Windsor Eats also hosts a free bi-weekly Friday Night Lights ride which brings hundreds of cyclists to explore various destinations in Windsor.
- **MappMyRide** is a Citywide App that helps users locate cycling infrastructure, bicycle parking and Fix-it Stations
- **MappMySchoolNeighbourhood** is a Citywide App that helps school patrons plan their hassle free route to school with detailed information within 500m radius of every school including sidewalks, cycling infrastructure and crossing guards.

2.5.4 Key Issues and Opportunities

Through input received as part of the Public Engagement process, several key issues and opportunities for walking, cycling, and transit in Windsor were identified. **Figures 18**, **19**, and **20** show the top three walking, cycling, and transit issues, while **Figure 21** shows the top opportunities to improve walking and cycling.

TOP 3 WALKING, CYCLING AND TRANSIT ISSUES

FIGURE 18 - TOP 3 WALKING ISSUES

FIGURE 19 - TOP 3 BIKING ISSUES

FIGURE 20 - TOP 3 TRANSIT ISSUES

TOP 3 WALKING AND CYCLING OPPORTUNITIES

FIGURE 21 - TOP 3 WALKING AND BIKING OPPORTUNITIES


Driving today for a better tomorrow
HYBRID
sensor
HEALTH
POKING
OOD!
d Ketone
Strip
Sandwich St.

PART 3: FUTURE DIRECTIONS

As part of the Active Transportation Master Plan process, a vision along with supporting goals and targets were developed to shape the overall future direction of the plan and serve as a basis from which improvements and investments are identified and prioritized. The vision, goals, and targets were created based on a combination of Windsor's existing commitments as described in several overarching plans and strategies as well as the community input received from the public.

3.1 Vision

Investments in walking, cycling, and transit result in a more balanced transportation system — one that is more accessible, cost-effective and efficient in terms of infrastructure investments. Increased use of active transportation contributes to several of Windsor's strategic goals. There are also significant quality of life, health, safety and economic benefits associated with investing in active transportation.

Walk Wheel Windsor Vision Statement

> By 2041, Windsor is a leader in active transportation. Walking, cycling, and transit are safe, convenient, and enjoyable mobility options for all residents and visitors, regardless of age, ability, trip purpose, or time of year. Active transportation connects Windsor's local and regional communities, contributing to a resilient, equitable, and healthy city with a high quality of life for Windsor residents.

This vision statement for Windsor sets the overall direction of the Plan, its goals and targets, as well as the directions and actions that will be developed as part of this process.

3.2 Goals

Goals are meant to help guide Windsor towards fulfilling its vision. Goals are overarching, simple and succinct statements that are easily remembered and referenced. Five supporting goals were developed to provide clear direction on how to achieve the vision. These goals were refined based on input received from the pubic and are intended to be both achievable and measurable to ensure the successful implementation of the Active Transportation Master Plan:

1. Develop a complete active transportation network that connects all neighbourhoods
2. Improve the safety and accessibility of vulnerable road users
3. Support effective land-use planning to build an environment that makes walking, cycling, and transit convenient and enjoyable
4. Ensure that the active transportation network is equitable and accessible for all residents
5. Foster a culture for active transportation

3.3 Targets

Targets are a critical component of an Active Transportation Master Plan, as they provide an effective way to measure progress towards achieving the goals of the Plan. Targets will help to ensure the Active Transportation Master Plan is implemented as intended and help to determine whether the plan is achieving its goals. The overarching target of the Active Transportation Master Plan is to double the proportion of trips made by walking, cycling, and transit by 2031, with a longer-term target of 25% of all trips in Windsor made using sustainable transportation by 2041 (**Figure 22**).

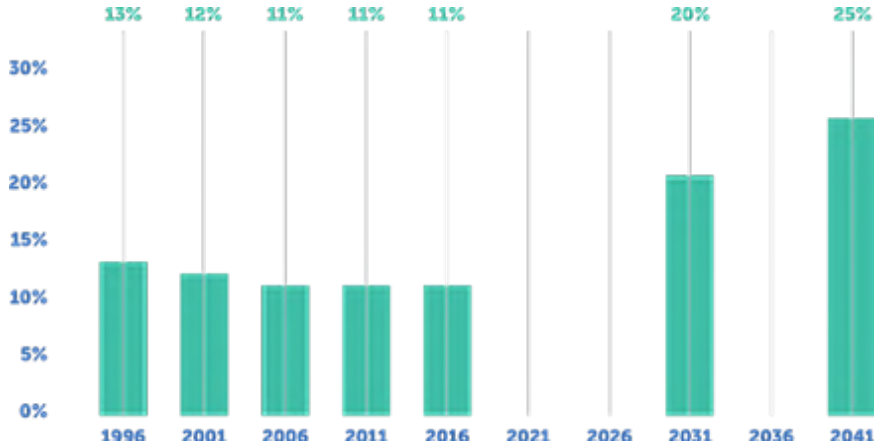


FIGURE 22 - TARGETS FOR SUSTAINABLE TRANSPORTATION

The Active Transportation Master Plan recognizes that a significant portion of the increase in walking, cycling, and transit trips will be achieved in the urban areas and more mature areas that have been designed to better accommodate walking, cycling, and transit use. As such, the Active Transportation Master Plan includes targets that vary by neighbourhood type (**Table 2**).

	Existing mode share (walking, cycling, transit combined)	2041 target mode share (walking, cycling, transit combined)	%change
Total city-wide	**10.20%**	**25%**	**145%**
Inner City Neighbourhoods	22.50%	45%	100%
Mature Neighbourhoods	8.30%	22%	165%
Newer Communities	3.80%	14%	270%
Industrial and Undeveloped Areas	2.10%	6.50%	215%

TABLE 2 - NEIGHBOURHOOD MODE SHARE TARGETS

In addition to the long-term target, it is also useful to establish interim targets to monitor progress. Interim targets are recommended for each five-year horizon that reflect historic trends (**Figure 23**).

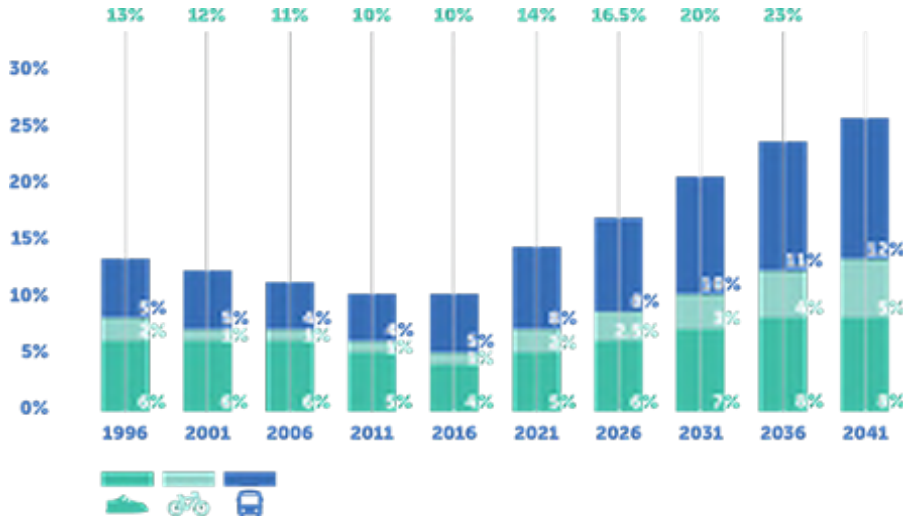


FIGURE 23 - INTERIM TARGETS

PART 4: 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, the 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 help Windsor work towards achieving the vision, goals, and targets of the Active Transportation Master Plan.

Theme 1: Connecting Communities

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.

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.

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.

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 3**). 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 24** 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 25** 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 east-west 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.

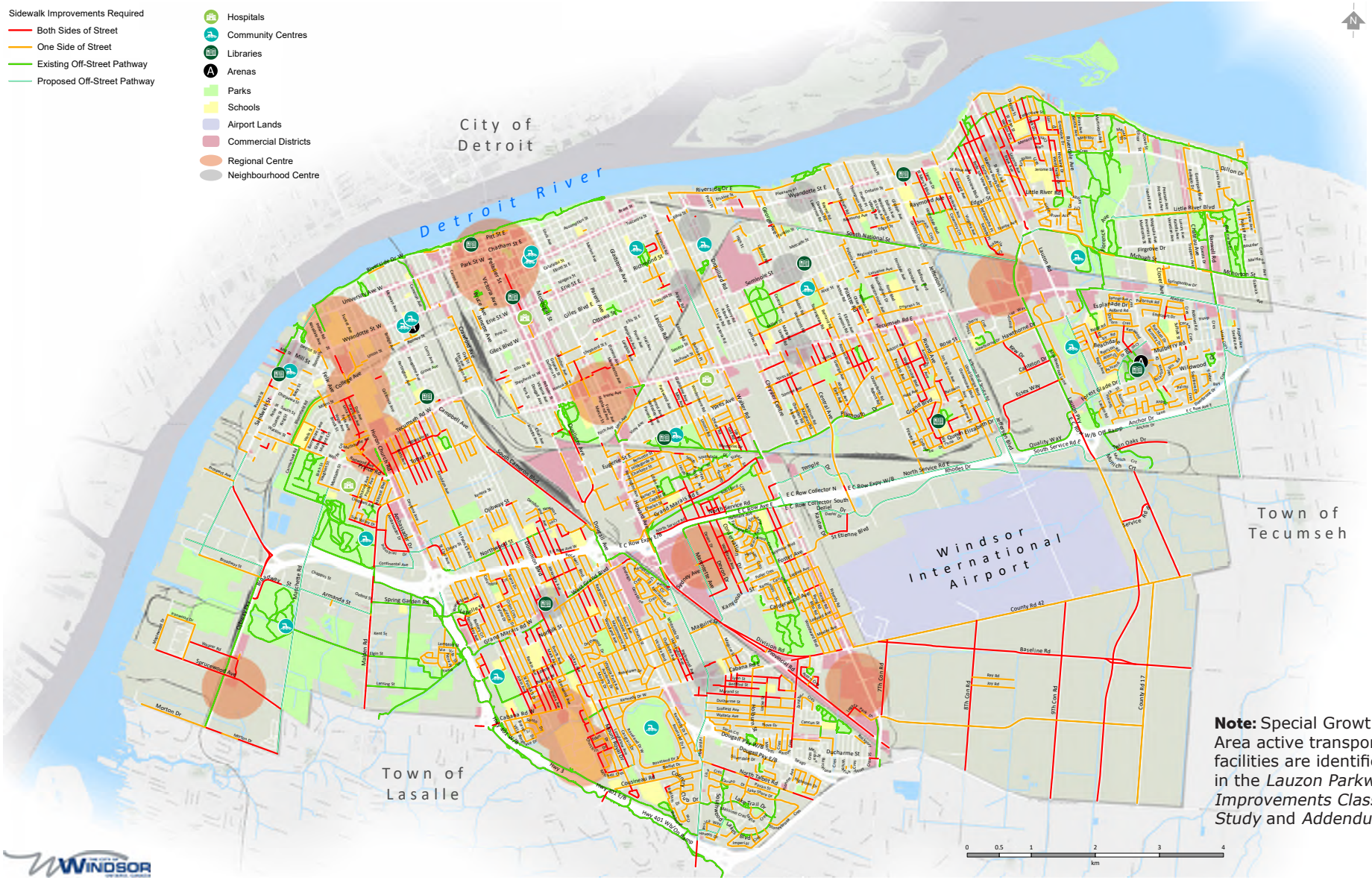
While sidewalks on major roads are a priority, several other important areas of Windsor have gaps in the sidewalk network or no sidewalks at all. In fact, nearly half (47.4%) of all residential/ local roads in the City do not have a sidewalk on either side of the street. Developing a sidewalk program 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 new sidewalk installation is well planned and connected to the existing network.

	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 3 - EXISTING SIDEWALK COVERAGE ON ARTERIAL AND COLLECTOR STREETS



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

FIGURE 24 - PROPOSED LONG-TERM SIDEWALK 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 Bicyle 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 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.

MULTI-USE PATHWAY

PROTECTED BIKE LANE

LOCAL STREET BIKEWAY

BICYCLE LANE

BUFFERED BICYCLE LANE

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 26** and **Figure 27.** 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 25.**

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 25**, 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.

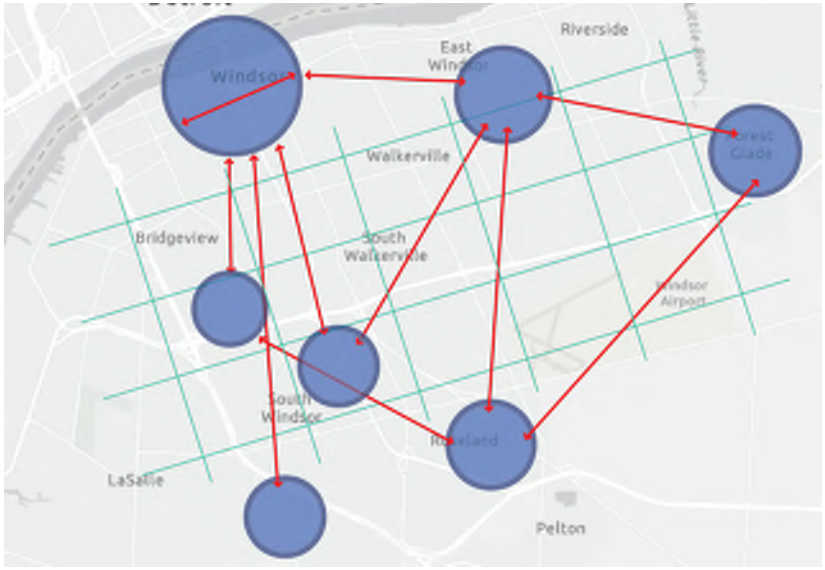


FIGURE 25 - BICYCLE NETWORK CONCEPT

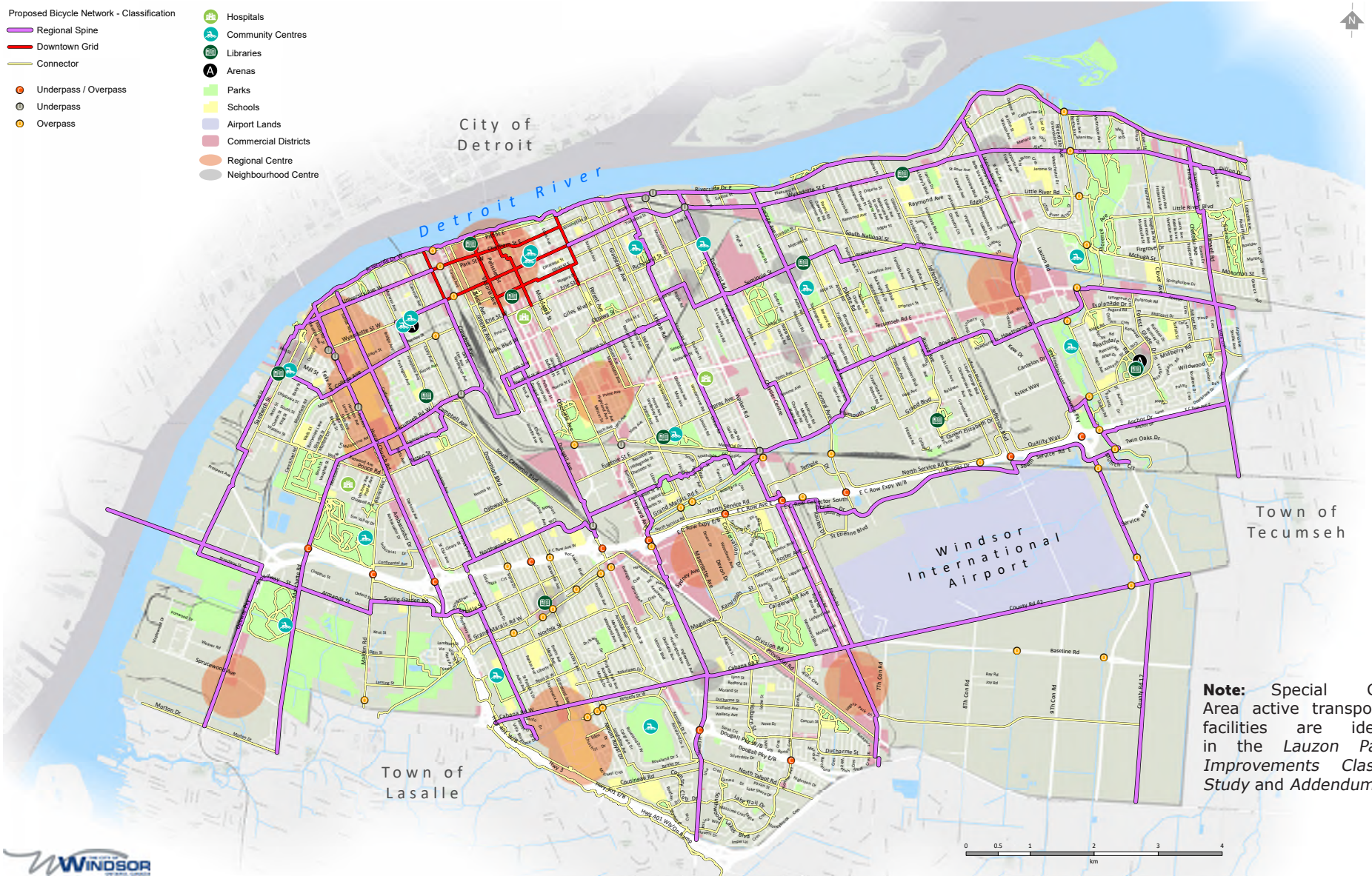
The recommended bicycle network will support higher density routes in core neighbourhoods and areas of high cycling potential, with a less dense network in outlying areas and areas with lower cycling potential.

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 26**. In addition, this network also includes AAA and non-AAA facilities. The AAA network is presented in **Figure 27**. This network is made up of three types of facilities: multi-use pathways, protected bicycle lanes and local street bikeways. **Figure 28** 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 28**, **29**, and **30** 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.

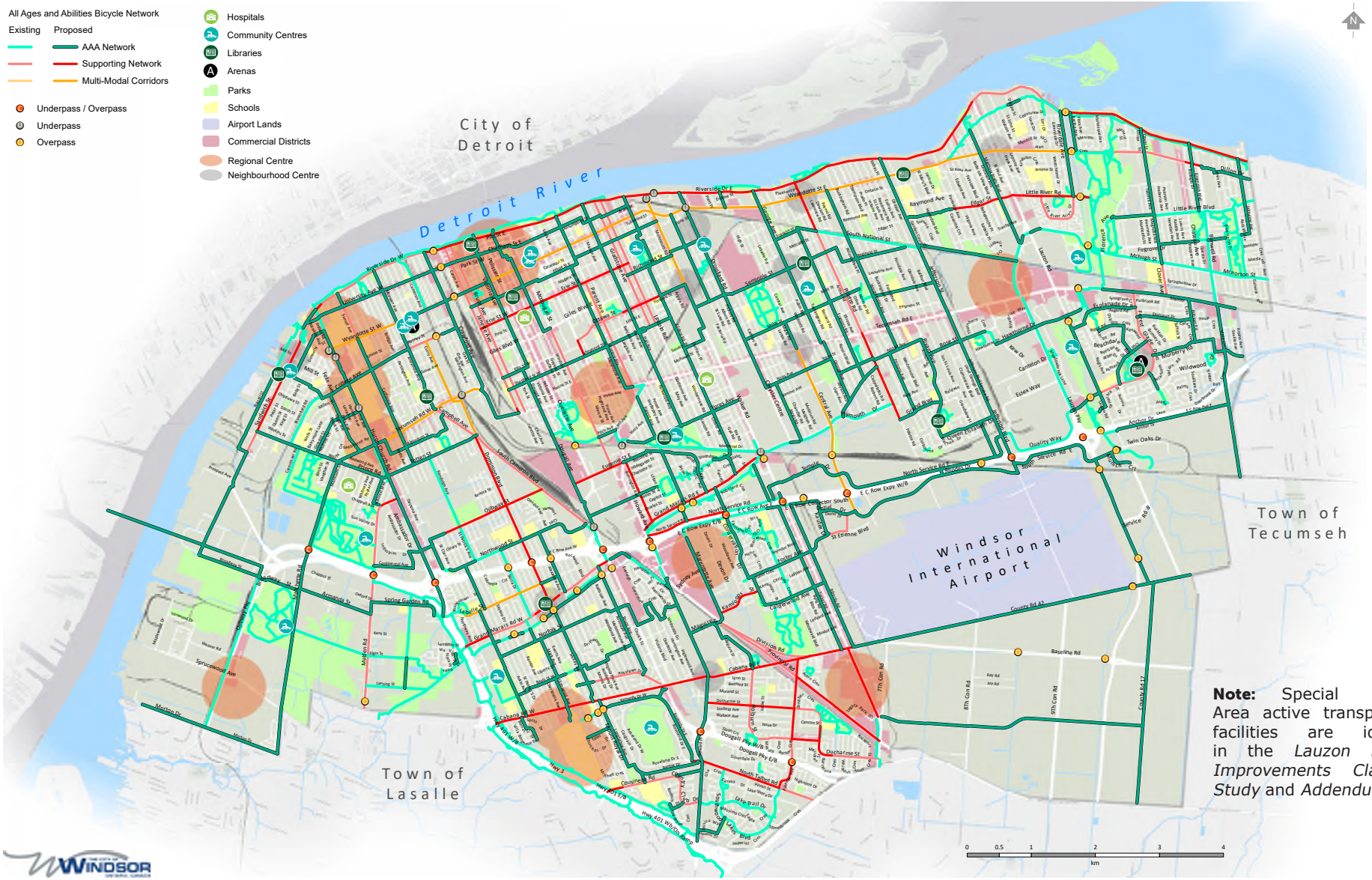
ACTION 1B.2: DEVELOP A MINIMUM GRID DOWNTOWN ALL AGES AND ABILITIES BICYCLE NETWORK.

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



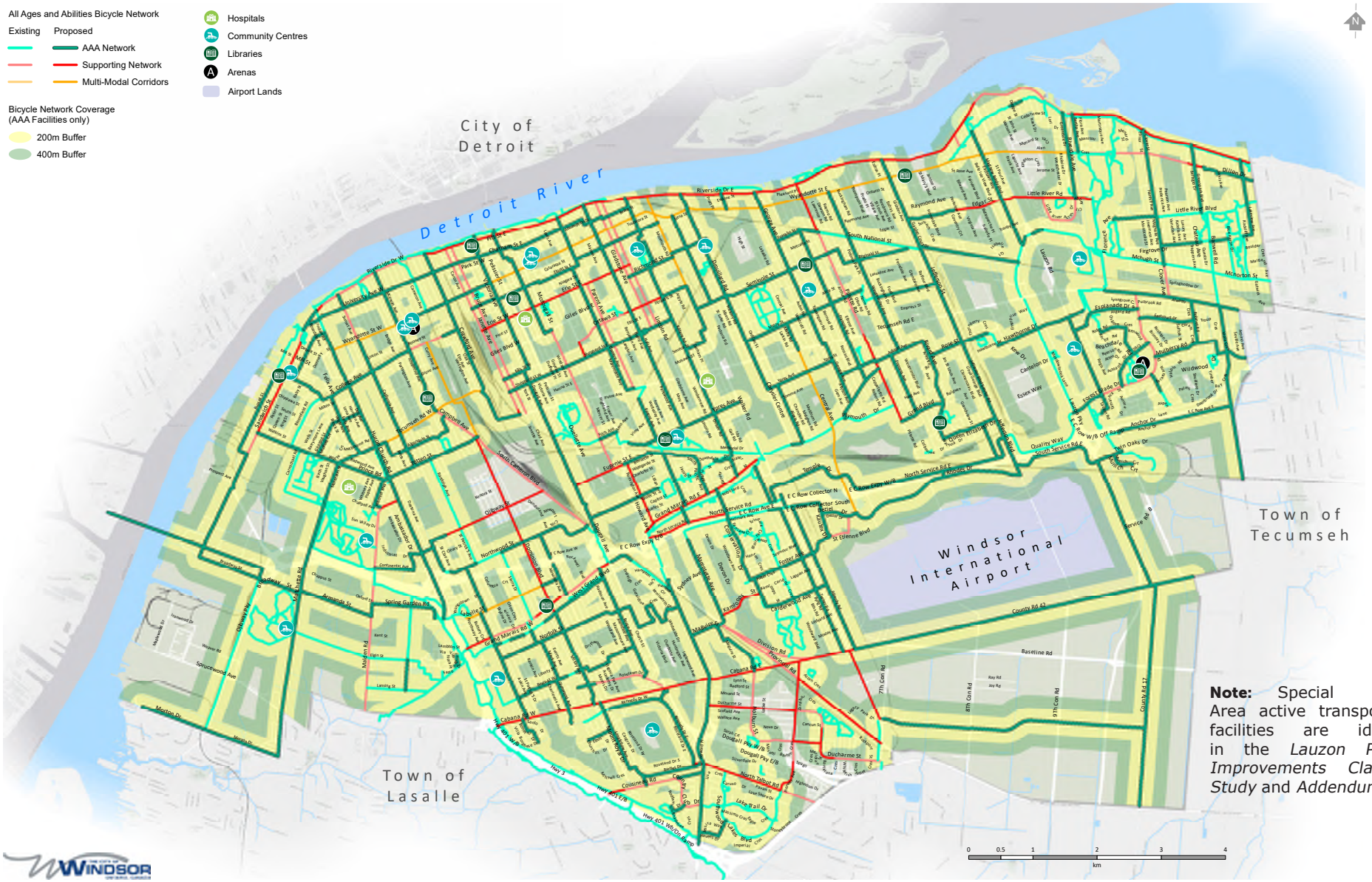
Note: Special Growth Area active transportation facilities are identified in the *Lauzon Parkway Improvements Class EA Study* and *Addendum*.

FIGURE 26 - 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 27 - PROPOSED LONG-TERM ALL AGES AND ABILITIES (AAA) BICYCLE NETWORK



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

FIGURE 28 - PROPOSED LONG-TERM ALL AGES AND ABILITIES BICYCLE NETWORK COVERAGE

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.


CREATIVE CROSSWALK


MARKED CROSSWALK


SIDEWALK RAMP AND EXTENSION

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 date, 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 safety at an intersection for bicyclists can include elements such as colour, signage,

COLOURED CONFLICT ZONE MARKINGS

DASHED BICYCLE LANE MARKINGS

ENHANCED BICYCLE SIGNAL CROSSING

CROSSRIDE

TWO-STAGE MEDIAN CROSSING

BICYCLE PUSH BUTTON

BICYCLE BOX

PROTECTED INTERSECTION

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.

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.

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 mean 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

WOONERF

POP-UP BIKE LANE

TRIAL CURB EXTENSION

PARKLET

ALLEYWAY REVITALIZATION

installation of road improvements such as protected bicycle lanes. 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 active 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.

SPECIAL EVENT SIGN

ALTERNATE ROUTE SIGNAGE

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.

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.

SUSTAINBLE 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 buildngs 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.

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

BICYCLE CORRALS

SECURED BICYCLE PARKING

BICYCLE VALET

BICYCLE LOCKER

BICYCLE SHELTER

ON-STREET BICYCLE PARKING

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.

BICYCLE REPAIR AND MAINTENANCE STATION

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 4**, the bicycle lane is deemed to be in a state of repair in respect of snow accumulation.

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.

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 4 - SNOW ACCUMULATION - BICYCLE LANES

However, these major roads to 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 daylights 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 though 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.

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.

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 though 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 continue to seek grant funding and 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 costeffective 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.

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 is 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.

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 doe 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 to 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.

FIGURE 29 - PEDESTRIAN COLLISION LOCATIONS (2013 - 2017)

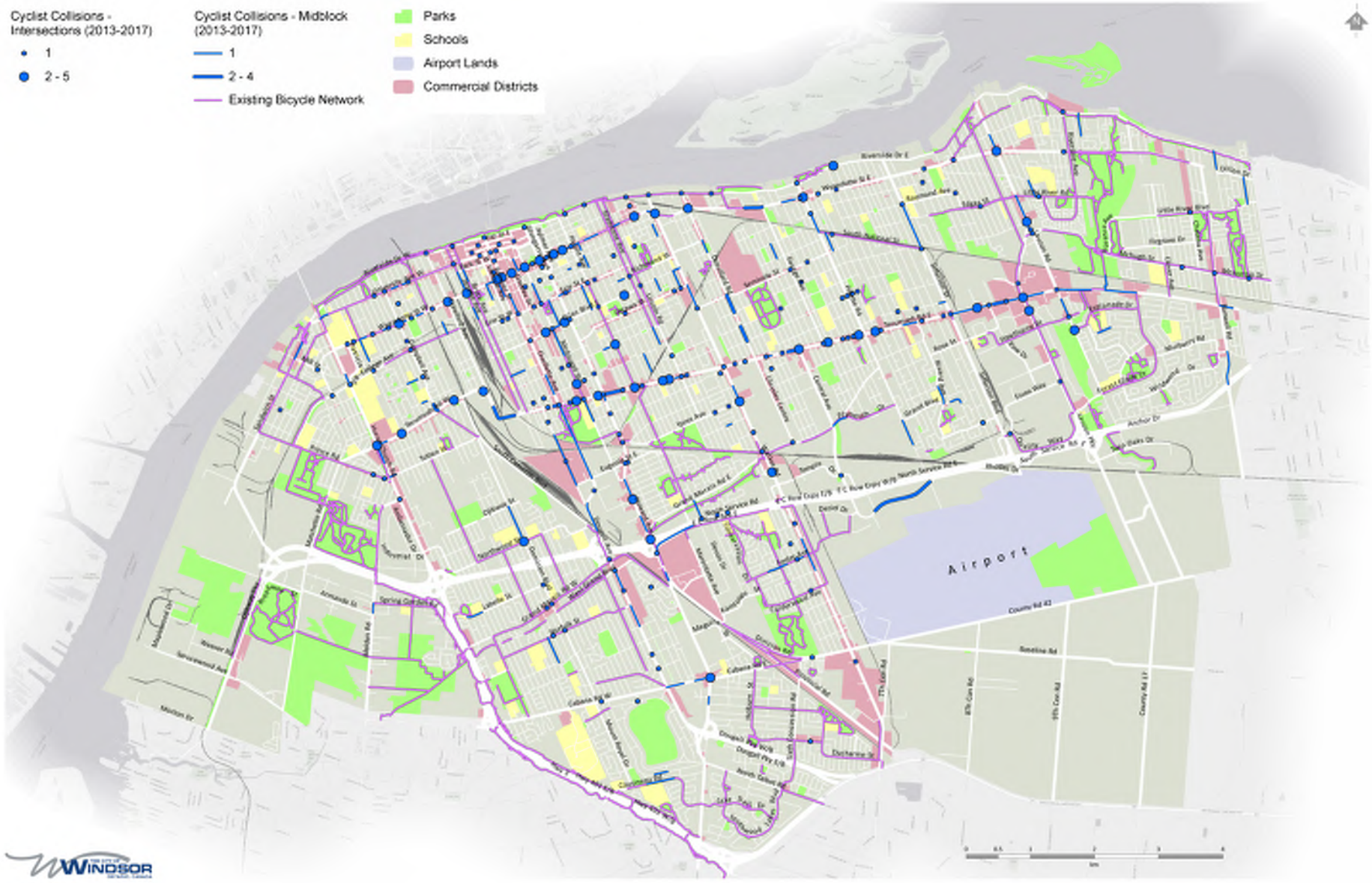


FIGURE 30 - CYCLING COLLISION LOCATIONS (2013 - 2017)

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 it's 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.

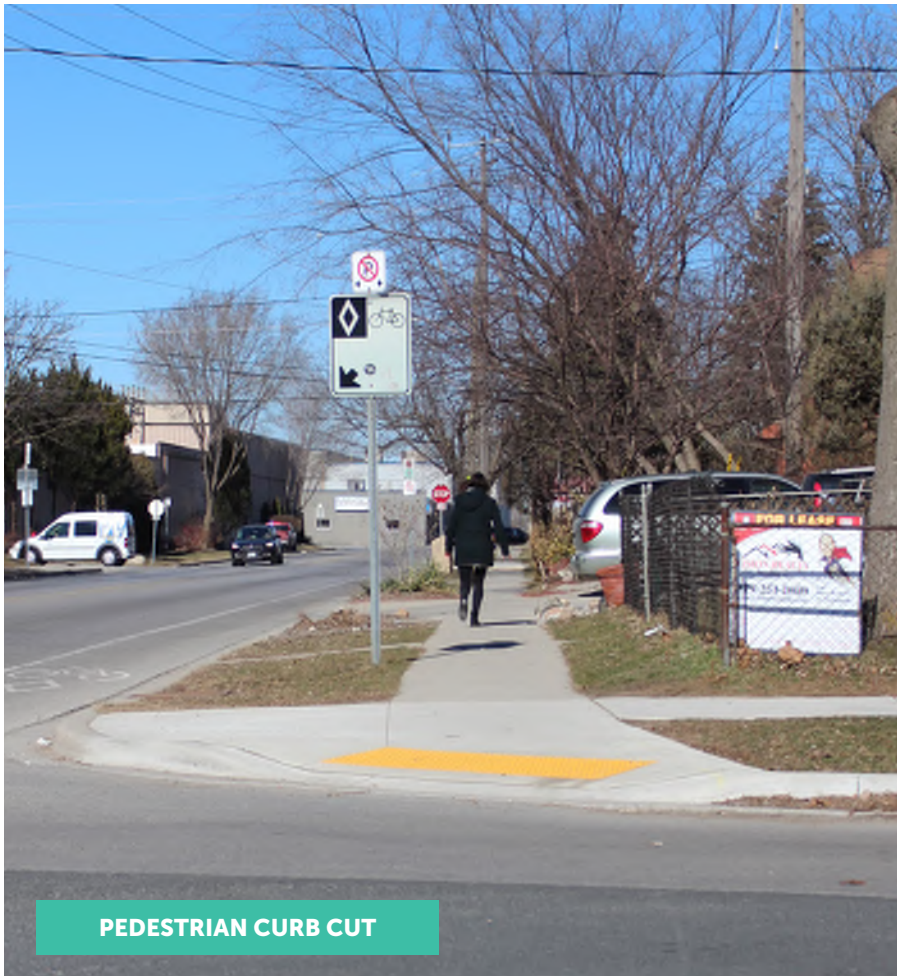
As part of the City of Windsor Official Plan, the City has committed to recognize the needs of the community in terms of shelter, support services, accessibility and mobility. As part of this commitment, the City should seek to ensure that the policies and plans that it enacts reflect this, and continue 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.



PEDESTRIAN CURB CUT

PEDESTRIAN ACTIVATED PUSHBUTTON

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.

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 wey 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.


Chatham St. E.
DIAMONDS

PART 5: IMPLEMENTATION STRATEGY

The strategies and actions developed as part of the Active Transportation Master Plan are intended to guide the City's policy, planning, programming, and capital investment decisions as well as on-going public engagement, operations, and maintenance activities in support of active and sustainable transportation over the next 20 years. While the Active Transportation Master Plan has been developed as a long-term plan, it will require financial investment, staff resources, and an implementation strategy to prioritize improvements over the short-, medium- and long-term. This section presents an implementation plan, including prioritization of the actions and network improvements identified over the short-term (within 5 years), medium-term (5-10 years) and long-term (10-20 years). In addition to the short-term initiatives, the implementation and phasing strategy also identifies a number of 'quick win' initiatives that the City should begin within the next two years.

5.1 Implementation Principles

The implementation strategy for the Active Transportation Master Plan is based on a number of principles that the City should consider as it moves forward with implementing the actions of the Plan.

- **The Active Transportation Master Plan is one step towards implementing the vision for active transportation in the City of Windsor, it is not the last.** The Strategies and Actions in the Active Transportation Master Plan are intended to lay the groundwork for implementation over the long-term. However, it is important to recognize that successful implementation will require ongoing, long-term, significant investment and resources. This includes investments in new infrastructure, upgrades and improvements to existing infrastructure, ongoing maintenance of both existing and new facilities, dedicated resources for the development of new standards and policies, and funding for new programming, education and awareness initiatives, and staff resources. Achieving the vision, goals, and targets will require the ongoing support of the City and its partners, along with sustained investment in active transportation.
- **The Active Transportation Master Plan is a flexible and living document.** The Active Transportation Master Plan is intended to be a flexible document. For the proposed walking and cycling networks, there is some level of flexibility regarding the specific locations, corridors, and facility types that are recommended. For the proposed transit recommendations, the Plan should be dynamic and respond to changes in transit from the concurrent Transit Windsor Service Review. The Plan presents recommendations and suggestions based on feedback received as part of the public engagement process, technical analysis, and current best practices in cycling and pedestrian facility design. However, the City will need to review the feasibility and desirability of each recommended infrastructure project, and the implementation of the identified projects within the Active Transportation Master Plan will require ongoing public engagement as these new projects are considered.
- **The city should monitor, review, and update the Active Transportation Master Plan on a regular basis as needed.** As the City begins implementing the Strategies and Actions of the Active Transportation Master Plan, a monitoring and reporting strategy will be needed to measure and communicate progress

towards achieving the vision, goals, and targets contained within the plan. An **Active Transportation Report Card,** detailed in **Section 5.7.2**, is one way that the City can report on progress made in implementing the Active Transportation Master Plan. Based on the results of the monitoring and reporting strategy, the Active Transportation Master Plan will need to be adapted to changing priorities and conditions over time. Reporting back on the indicators identified in the monitoring and reporting strategy outlined in this document is one of the ways the City will report on progress made in implementing the Active Transportation Master Plan. As the City moves forward with implementing the Active Transportation Master Plan, the document will need to be regularly updated to reflect the changing priorities and conditions over time.

- **The City should develop a yearly Active Transportation Action Plan and multi-year forecast** as part of the annual budgeting process to identify upcoming projects, initiatives, funding sources and implementation partners as part of its efforts to prioritize implementation of the Active Transportation Master Plan actions, monitor and communicate successes and to keep the Plan a living document.
- **The City should engage in further public consultation to implement many recommendations of the Active Transportation Master Plan.** Many of the initiatives in the Active Transportation Master Plan require more detailed input and technical work. The City of Windsor will work closely with partners, residents, and stakeholder groups to move forward with the priorities identified in the Active Transportation Master Plan.
- **Successful implementation of the Active Transportation Master Plan will require significant changes in terms of:**
  - Increased funding levels;
  - Increased staff resources;
  - Improved monitoring; and
  - Continued collaboration with stakeholders.

5.2 Prioritizing Actions

This section groups and prioritizes each action identified under each of the five themes. Strategies for implementing each of the actions identified in the Active Transportation Master Plan are outlined in the tables below. This table provides guidance with respect to:

- **Timeframe.** Each action is identified as either a short-term (0-5 years), medium-term (5-10 years) or long-term (10-20 years) initiative. Many actions will be implemented on an ongoing basis, in which case they are shown under each timeframe. It should also be noted that these priorities may change over time. If an opportunity arises to immediately implement an action identified as a medium or long-term priority, such as an infrastructure redevelopment opportunity or other capital project, the City should seek to maximize the opportunity.
- **Method of Implementation.** This column identifies how each action will be implemented: as a capital project, through ongoing operations and maintenance, as a policy or programming initiative, or some combination.
- **Responsibility.** This column suggests the primary and secondary responsibility for each action. Many actions are the primary responsibility of the City of Windsor (including the Engineering, Transportation, Parks and Recreation, Public Works and Operations, Planning, and Transit Windsor), while other actions should be led by external agencies, such as community groups or the private sector.

- **Goals Addressed.** Each action is categorized based on its relative contribution to each of the Active Transportation Master Plan's five goals. Although some actions may only work to achieve one goal, many actions can help achieve multiple goals. The goals are numbered below for reference:

    1. Develop a complete **active transportation network** that connects all neighbourhoods
    2. Improve the **safety and accessibility** of vulnerable road users
    3. Support effective **land use planning** to build an environment that makes walking, cycling, and transit convenient and enjoyable
    4. Ensure that the active transportation network is **equitable and accessible** for all residents
    5. Foster a **culture** for active transportation

TABLE 5 - ACTIVE TRANSPORTATION MASTER PLAN THEMES AND ACTIONS

	TIMEFRAME								
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Theme One: Connecting Communities									
Strategy 1A - Enhance the Sidewalk Network									
Action 1A.1: Improve process for implementing sidewalks for new developments based on Official Plan requirements.	✓					✓	Planning	Engineering	1, 2, 3, 4
Action 1A.2: Use sidewalk capital funding to identify and eliminate gaps in the sidewalk network on major roads.	Ongoing (see network priorities)			✓	✓		PW Operations		1, 2, 4
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.	Ongoing (see network priorities)			✓	✓	✓	Engineering	PW Operations	1, 2, 4
Action 1A.4: Continue the City's Inspection and Maintenance Program to upgrade or replace existing sidewalks	Ongoing				✓		PW Operations		2, 4
Action 1A.5: Implement new or improved sidewalks in conjunction with other projects, plans, or developments.	Ongoing			✓	✓	✓	Engineering, PW Operations	Transportation Planning, Planning	1, 2, 3, 4
Action 1A.6: Add, preserve and enhance walkways and connections through neighbourhoods.	Ongoing			✓	✓		Planning, PW Operations	Engineering, Parks, Planning, and Recreation	1, 2, 3
Strategy 1B – Complete the Bicycle Network									
Action 1B.1: Develop a city-wide network of bicycle facilities that is comfortable for people of all ages and abilities.	Ongoing (see network priorities)			✓	✓		Transportation Planning	Engineering, PW Operations	1, 2, 4
Action 1B.2: Develop a minimum grid downtown all ages and abilities bicycle network		✓		✓	✓		Transportation Planning	Engineering, PW Operations	1, 2, 4
Action 1B.3: Develop a Regional Spine network to provide high quality connections to downtown or from each area of the city	Ongoing (see network priorities)			✓	✓		Transportation Planning	Engineering, PW Operations	1, 2, 4
Action 1B.4: Develop a spot improvement program to address gaps in the existing cycling network.		✓		✓	✓	✓	Transportation Planning	Engineering, PW Operations	1, 2, 4
Action 1B.5: Update the City's Development Manual, and continue to follow current bicycle facility design guidelines and best practices.	✓					✓	Engineering	Transportation Planning, Traffic Operations	2, 4
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.	Ongoing			✓	✓		Transportation Planning, Engineering, PW Operations	Planning	1, 2 4

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Strategy 1C– Integrate the Off-Street Pathway and Trail 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.	Ongoing			✓	✓		Parks and Recreation	PW Operations, Transportation Planning	1, 2, 4
Action 1C.2: Develop a hierarchy of off-street pathways and trails.	✓					✓	Parks and Recreation	Transportation Planning	1, 2, 4
Action 1C.3: Develop new pathways through parks to improve active transportation connections	Ongoing			✓	✓		Parks and Recreation	Transportation Planning	1, 2, 4
Action 1C.4: Develop a dedicated funding program for the Parks Department to improve, maintain and develop new pathways and trails.	✓			✓	✓	✓	Parks and Recreation		1, 2, 4
Action 1C.5: Investigate opportunities within existing utility, railway, alleyways and surplus road rights-of-way to develop new pathways	Ongoing			✓	✓		Parks and Recreation	Transportation Planning, Planning, Engineering	1, 2, 4
Action 1C.6: Integrate active transportation connections into parks consistent with the Parks Master Plan	Ongoing			✓	✓		Parks and Recreation	Transportation Planning	1, 2, 3, 4
Action 1C 7: Add, preserve, and enhance cycling connections through neighbourhoods.	Ongoing			✓	✓		Transportation Planning, PW Operations	Parks, Recreation, Planning	1, 2, 3, 4
Strategy 1D- Improve Integration Between Walking and Cycling with Transit									
Action 1D.1: Improve walking and cycling connections to transit service consistent with the concurrent Transit Windsor service review.	Ongoing			✓	✓		Transit Windsor PW Operations, Planning, Transportation		2, 3
Action 1D.2: Prioritize amenities at bus stops such as benches, shelters, and customer information.	Ongoing			✓	✓		Transit Windsor, Engineering		3
Action 1D.3: Install secure bicycle parking at high activity bus stops and transit exchanges	Ongoing			✓	✓		Transit Windsor	Transportation Planning, PW Operations	1, 3
Action 1D.4: Continue to provide bike racks on all buses throughout the year.	Ongoing				✓	✓	Transit Windsor		1, 3, 4
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.	Ongoing			✓	✓		Transit Windsor	PW Operations	2, 3, 4
Action 1D.6: Prioritize the installation of sidewalks and crossings along designated bus routes.	Ongoing					✓	Transit Windsor	PW Operations, Traffic Operations, Transportation Planning	1, 2, 3, 4
Action 1D.7: Ensure the design of bicycle facilities considers the location of, and access to, bus stops.	Ongoing					✓	Transportation Planning	Transit Windsor	2, 4
Action 1D.8: Undertake a campaign to encourage all residents to consider transit as a viable, convenient, and comfortable means of transportation.	✓			✓		✓	Transit Windsor	Environmental Sustainability and Climate Change	5

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Strategy 1E-Address Major Barriers									
Action 1E.1: Improve existing grade separated crossings over major roads, interchanges, free flow ramps, watercourses, and rail.		Ongoing		✓	✓		PW Operations, Engineering		2, 4
Action 1E.2: Develop new pedestrian and cycling grade separated crossings over watercourses, rail, and major roads.		✓	✓	✓	✓		PW Operations, Engineering	Transportation Planning, Parks and Recreation	2, 4
Action 1E.3: Improve walking and cycling connections to grade separated crossings.		✓	✓	✓	✓		PW Operations, Engineering	Transportation Planning, Parks and Recreation	1, 2. 4
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.	✓	✓		✓	✓		Transportation Planning	PW Operations, Traffic Operations, Engineering	2
Action 1E.5: Continue to regularly review pedestrian crossings to ensure they are well maintained, marked and painted to enhance visibility.		Ongoing			✓		Traffic Operations		2
Action 1E.6: Improve crossing treatments at locations where multi-use pathways intersect with a roadway in accordance with current best practices.		Ongoing		✓	✓		Transportation Planning, PW Operations, Traffic Operations, Engineering		2
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.		Ongoing		✓	✓		Transportation Planning, PW Operations, Traffic Operations, Engineering		2
Action 1E.8: Install bicycle detection at traffic signals on bicycle routes.		Ongoing		✓	✓		Traffic Operations		2, 3
Theme Two: Places for People									
Strategy 2A – Develop Complete Streets									
Action 2A.1: Develop and adopt a Complete Streets policy and design guidelines.	✓					✓	Transportation Planning, Planning, Asset Planning, Engineering, Environmental Sustainability and Climate Change	Transit Windsor	2, 3
Action 2A.2: Follow Complete Street principles in all new development and road projects		Ongoing		✓	✓	✓	Engineering, Transportation Planning, PW Operations	Planning	2, 3
Strategy 2B – Consider Pilot Projects									
Action 2B.1: Pilot vehicle-free rights-of-way opportunities		Ongoing		✓			Transportation Planning	PW Operations	2, 3
Action 2B.2: Trial pilot projects for testing out proposed improvements		Ongoing		✓	✓		Transportation Planning, PW Operations		2, 5

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Action 2B.3: Encourage urban vibrancy by exploring opportunities to temporarily utilize or repurpose vacant or underused City-owned space		Ongoing				✓	Legal, Parks, Recreation and Culture		3
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.	✓					✓	Asset Planning, PW Operations, Parks, Recreation, Planning, Transportation Planning, and Culture		3
Strategy 2C – Improve the Pedestrian, Cycling, and Transit User Experience									
Action 2C.1: Install public amenities including benches, street trees, lighting, drinking fountains, washrooms, and recycling bins, in the public right-of-way.		Ongoing		✓	✓		PW Operations, Parks, Engineering,PW Environmental Services		3
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.		Ongoing		✓	✓		Planning	PW Operations & Engineering	3
Action 2C.3: Provide landscaping and public art in the right-of-way.		Ongoing		✓	✓		Engineering Culture, Planning		3
Action 2C.4: Encourage the use of patios within the public right-of-way.		Ongoing		✓	✓		Engineering	PW Operations	3
Action 2C.5: Work with Business Improvement Associations and other partners to activate public spaces.		Ongoing		✓	✓		Parks and Culture		3
Action 2C.6: Provide accessible detours for people walking, cycling, and using transit during construction and maintenance.		Ongoing		✓	✓		Traffic Operations, PW Operations, Engineering, Transit Windsor		2,3,4
Strategy 2D – Land Use and Site Design									
Action 2D.1: Ensure future population and employment areas are integrated with the existing and planned active transportation and transit network.		Ongoing		✓	✓		Planning	Transportation Planning & Transit Windsor	1, 2, 3, 4
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.		Ongoing			✓		Planning		2, 3, 4
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.		Ongoing			✓		Planning		2,3
Action 2D.4: Continue to support higher density, mixed use infill development in regional centres that promote and encourage active transportation.		Ongoing			✓		Planning		3

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Strategy 2E – Improve Personal Safety									
Action 2E.1: Provide lighting along sidewalks, bicycle routes, transit stops and pathways where appropriate.		Ongoing		✓	✓		Engineering, Parks and Recreation		2
Action 2E.2: Follow the standards of CPTED (Crime Prevention Through Environmental Design) as appropriate.		Ongoing		✓	✓		Police Services, Engineering, Parks and Recreation		2
Action 2E.3: Address personal safety concerns on existing underpasses and other limited access routes with lighting improvements and/or design enhancements.		Ongoing		✓	✓		Engineering, Parks and Recreation	PW Operations	2
Theme Three: Innovation and Integration									
Strategy 3A – Investigate Bike Share and New Technologies									
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.	✓					✓	Transportation Planning, Engineering and Licensing		4,5
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.		Ongoing			✓		Transit Windsor		2, 5
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.		✓			✓		Engineering	Transit Windsor	5
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.		✓				✓	Transportation Planning and Traffic Operations		2, 3, 5
Strategy 3B: Provide Bicycle Parking and End-of-Trip Facilities									
Action 3B.1: Develop and implement bike parking policy.	✓	Ongoing		✓	✓	✓	Transportation Planning, Engineering, Planning, Facilities		
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.	✓					✓	Transportation Planning	Planning	3
Action 3B.3: Ensure bicycle parking and end-of-trip facilities are provided at all City of Windsor owned and operated facilities.		Ongoing		✓	✓		Facilities		3, 5
Action 3B.4: Develop and implement an on-street bicycle corral program(pending bike parking policy).		Ongoing		✓	✓	✓	Traffic Operations, Transportation Planning	PW Operations, Engineering	3
Action 3B.5: Work with event coordinators and partners to provide temporary bicycle parking at community events.		Ongoing			✓	✓	Parks and Recreation		3, 4
Action 3B.6: Implement bicycle repair and maintenance stations at key locations throughout the City of Windsor.		Ongoing		✓	✓		Parks, Recreation and Facilities		3, 5
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.		Ongoing			✓	✓	Engineering		3, 5

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Strategy 3C – Enhance Year-Round Maintenance									
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	✓				✓	✓	PW Operations, Parks and Recreation	Transit Windsor	2, 3, 4
Action 3C.2: Design bicycle routes to facilitate drainage and snow removal and pursue alternate snow storage.	Ongoing				✓		PW Operations, Engineering		2
Action 3C.3: Increase enforcement of snow clearing bylaws for sidewalks.	Ongoing					✓	By-Law Enforcement		2, 3 4
Strategy 3D – Develop Regional Connections									
Action 3D.1: Improve active transportation connections to Detroit, including the Gordie Howe International Bridge and a pilot program for an active transportation ferry.		✓	✓	✓	✓	✓	Transportation Planning	Transit Windsor	1, 2, 3
Action 3D.2: Work closely with neighbouring communities and jurisdictions to ensure active transportation connections.	Ongoing					✓	Transportation Planning and Planning		1, 2, 4
Strategy 3E – Sustainable Parking and Transportation Demand Management Strategies.									
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.	✓					✓	Planning, Transportation Planning, Traffic Operations, Parking	Transit Windsor	3
Action 3E.2: Establish a Transportation Demand Management (TDM) program to work with local businesses to encourage employees to use sustainable modes of transportation	Ongoing					✓	Environmental Sustainability and Climate Change	Transit Windsor	5
Action 3E.3: Lead by example to encourage and incentivize City employees to walk, cycle, or take transit to work.	✓	✓				✓	Human Resources, Environmental Sustainability and Climate Change	Transportation Planning, Transit Windsor	5
Action 3E.4: Continue to review parking rates in the downtown and other Business Improvement Areas to encourage walking, cycling, and transit usage.	Ongoing					✓	Traffic Operations, Parking	Transit Windsor	3
Theme Four: Culture Shift									
Strategy 4A – Support Businesses and Economic Development									
Action 4A.1: Continue to ensure the City is informed of research and evaluation of the benefits of active transportation infrastructure.	✓					✓	Windsor Essex County Health Unit		5
Action 4A.2: Support partners wanting to develop Bicycle Friendly Business Districts and seek bike friendly business designation.	Ongoing					✓	Tourism Windsor Essex Pelee Island		3, 5

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Strategy 4B – Active School Travel and Age-Friendly Planning									
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 busing to school.	Ongoing					✓	Windsor Essex County Health Unit & Windsor-Essex Student Transportation Services	School Boards, Transportation Planning, Environmental Sustainability and Climate Change	3, 5
Action 4B.2: Provide bicycle and public transit education and skills training for students in elementary and secondary schools.	Ongoing					✓	School Boards & Safety Village	Transportation Planning, Transit Windsor	2, 5
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.	✓					✓	School Boards & Safety Village	Environmental Sustainability and Climate Change, Transportation Planning, Parking Enforcement	2, 5
Action 4B.4: Support the Seniors Advisory Committee, and encourage targeted community outreach programs for older adults to be active in their community.	Ongoing					✓	Seniors Advisory Committee	Transportation Planning	5
Action 4B.5: Support the provision of adult education and cycling skills training.	Ongoing				✓	✓	Parks and Recreation	Windsor Bicycling Committee	2, 5
Action 4B.6: Work with children, youth, and people with physical disabilities to understand their key issues with active transportation.	Ongoing					✓	School Boards, Safety Village, Windsor Accessibility Advisory Committee		2, 4
Action 4B.7: Encourage students in Windsor to use public transit.	✓					✓	Transit Windsor		5
Strategy 4C – Bicycle and Walking Tourism									
Action 4C.1: Support the expansion of a bicycle and walking tourism initiative, such as walking and cycling tours.	Ongoing					✓	Tourism Windsor Essex Pelee Island	Transit Windsor	5
Action 4C.2: Encourage initiatives and events to integrate active transportation between Windsor and Detroit.	Ongoing					✓	Tourism Windsor Essex Pelee Island	Transit Windsor	1, 5
Strategy 4D – Wayfinding and Promotion									
Action 4D.1: Enhance and expand pedestrian wayfinding information in the downtown and other major destinations throughout the city.	✓			✓	✓		Traffic Operations	Transportation Planning	3, 4, 5
Action 4D.2: Continue to provide cycling and pedestrian mapping and applications.	Ongoing					✓	Transportation Planning, Engineering, Parks and Recreation, Communications		2, 5
Action 4D.3: Work with partners to integrate information and resources that promote sustainable transportation and transportation demand management.	Ongoing					✓	Transportation Planning, Transit Windsor, Environmental Sustainability and Climate Change		5
Strategy 4E – Education and Awareness									
Action 4E.1: Ensure dedicated and stable annual funding is allocated to education, awareness and encouragement, including road safety.	Ongoing				✓	✓	Transportation Planning, Communications	Windsor Essex County Safety Village and Health Unit	2, 5
Action 4E.2: Develop videos and other tools to educate all road users on active transportation infrastructure and how to share the road.	Ongoing					✓	Transportation Planning, Communications	Windsor Police Service	2, 5

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Action 4E.3: Develop a positive messaging campaign to portray active transportation as a normal, everyday mode of transportation.		Ongoing				✓	Transportation Planning, Communications, Environment Sustainability and Climate Change	Transit Windsor	2, 5
Action 4E.4: Continue to work towards meeting and exceeding the greenhouse gas (GHG) emissions and energy reductions targets in the transportation sector.		Ongoing				✓	Environmental Sustainability and Climate Change		
Theme Five: Quality of Life									
Strategy 5A – Improve Public Health									
Action 5A.1: Support Committees of Council representing vulnerable and under-represented groups to identify their unique needs.		Ongoing				✓	Transportation Planning		2, 4
Action 5A.2: Continue to be informed by work from researchers and initiatives that are studying the relationship between health and active living.		Ongoing				✓	Windsor-Essex County Health Unit	Social Policy and Planning	2, 5
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.		Ongoing				✓	Environmental Sustainability and Climate Change	Transportation Planning	2, 5
Strategy 5B – Improve Road Safety									
Action 5B.1: Continue to provide a road safety report and monitor pedestrian and cycling safety trends.		Ongoing				✓	Transportation Planning		2
Action 5B.2: Continue to monitor hot spot collision locations and identify safety mitigation measures.		Ongoing			✓	✓	Transportation Planning	Engineering, Police Services, PW Operations, Traffic Operations	2
Action 5B.3: Continue to implement the traffic calming and school neighbourhood policy.		Ongoing		✓	✓	✓	Transportation Planning	Engineering, PW Operations, Traffic Operations	2
Action 5B.4: Fund the mitigation measures identified stemming from of the Road Safety Report.		Ongoing		✓	✓	✓	Transportation, Planning, Engineering, PW Operations and Traffic Operations		2
Action 5B.5: Adopt a formal Vision Zero policy.	✓					✓	Transportation Planning, Engineering, PW Operations, Traffic Operations, Windsor Police Services, Windsor Fire and Rescue Services, Windsor Essex County Health Unit		2
Strategy 5C – Universal Accessibility									
Action 5C.1: Continue to follow AODA standards.		Ongoing		✓	✓	✓	Engineering, Parks and Recreation, PW Operations,Traffic Operations, Transit Windsor	Windsor Accessibility Committee	2, 4
Action 5C.2: Where appropriate, continue to consult with the Accessibility and Diversity Officer on transportation projects.		Ongoing				✓	Engineering, Parks and Recreation, PW Operations, Traffic Operations, Transportation Planning		2, 4

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Action 5C.3: Continue to consult with City of Windsor Accessibility Advisory Committee and incorporate best practices into engineering design standards.		Ongoing		✓	✓	✓	PW Operations, Engineering, Facilities, Parks and Recreation	Windsor Accessibility Committee	2, 4
Action 5C.4: Continue to review and install audible pedestrian signals		Ongoing		✓	✓		Traffic Operations	PW Operations	2, 4
Action 5C.5: As per current best practice, continue to monitor, review, and adjust as necessary, crossing times at intersections to ensure adequate time is provided for all pedestrians.		Ongoing			✓	✓	Traffic Operations		2, 4
Action 5C.6: Reduce pedestrian crossing distances by providing narrower roads and lanes and considering curb extensions or median islands where feasible.	✓	✓		✓	✓		Transportation Planning, Engineering, PW Operations	Transit Windsor	2, 4
Strategy 5D – Equity									
Action 5D.1: Continue to conduct targeted communication and engagement with vulnerable and under-represented groups to identify unique needs.		Ongoing				✓	Social Policy and Planning, Communications		2, 4
Action 5D.2: When evaluating pedestrian programs, prioritize infrastructure improvements to those neighbourhoods with a high equity need.	✓	✓		✓	✓	✓	Engineering, PW Operations		4
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.		Ongoing				✓	Social Policy and Planning	Windsor Essex Local Immigration Partnership	4, 5
Strategy 5E – Celebrate and Promote									
Action 5E.1: Use the Walk Wheel Windsor brand as a recognizable visual identity and expand information on the website.		Ongoing			✓	✓	Communications	Transportation Planning	5
Action 5E.2: Report biennially on growth in active transportation network, annual spending on active transportation, and meeting (or exceeding) targets outlined in the Community Energy Plan.		Ongoing				✓	Environmental Sustainability and Climate Change	Transportation Planning	5
Action 5E.3: Find opportunities to celebrate the installation of walking and cycling facilities.		Ongoing			✓	✓	Transportation Planning & Communications		5
Action 5E.4: Continue to support sustainable transportation events and festivals		Ongoing				✓	Parks, Recreation and Culture	Windsor Bicycling Committee, Transportation Planning, Transit Windsor	5
Action 5E.5: Continue to work towards recognition under the Bike Friendly Community program through Share the Road		Ongoing				✓	Transportation Planning		5

5.3 Network Prioritization

The Active Transportation Master Plan includes a network of recommended pedestrian and bicycle facilities over the long-term. The implementation priorities identified in the previous section identify developing a city-wide network of bicycle facilities that is comfortable for people of all ages and abilities and eliminating gaps in the sidewalk network as on-going priorities. This section provides the City with a prioritization process to identify priorities to improve the pedestrian and cycling networks over the short-term (0 to 5 years), medium-term (5 to 10 years), and long-term (10 years and beyond).

An objective, systematic, GIS-based prioritization methodology was developed for the Active Transportation Master Plan. The prioritization methodology includes a Multiple Account Evaluation (MAE) that assesses each pedestrian and bicycle facility on each individual criterion. The MAE methodology includes ten criteria for each of the pedestrian and cycling networks as shown in **Table 6**. Wherever possible, the same or similar criteria was used for the pedestrian network and the cycling network.

Each criterion contains scoreable information about a facility's ability to address an existing or future need in the City of Windsor. Each criterion was scored on a ten-point scale, and the results were combined to generate an overall score for each new or upgraded pedestrian and cycling facility in the City. By combining these criteria into an aggregated score, a ranked project list can be developed that reflects each project's relative priority level for implementation. The results of the analysis are not intended to be cast-in-stone but, rather, to provide a flexible tool to assist the City with its on-going decision making. Each of the criteria are described in further detail below.

This network prioritization sets the base score for the proposed projects. The City will review priority projects annually looking at current collision data, road rehabilitation schedules, and other upcoming projects to refine priority projects further.

	Pedestrian Network	Cycling Network
1	Destination Density	Destination Density
2	Walking Mode Share	Cycling Mode Share
3	Walking Potential	Cycling Potential
4	Equity	Equity
5	Pedestrian Generators – Commercial Areas	Cycling Generators – Commercial Areas
6	Pedestrian Generators – Community Facilities	Cycling Generators – Community Facilities
7	Transit	Transit
8	Road Classification	Bicycle Network Classification
9	Network Contribution	Level of Protection
10	Network Need	Network Need

TABLE 6 - NETWORK PRIORITIZATION CRITERIA

5.3.1 Overall Results

Using the combined analysis scores created from the previous 10 criteria above, results were combined to general an overall score for each proposed pedestrian and cycling network improvement, as shown in **Figure 31**, **Figure 32** and **Figure 33**. Please note, these figures are intended to be viewed electronically to allow the reader to zoom into specific areas of the map.

The results of the network prioritization process provides the City with guidance on the overall approach to prioritization. These assessment results are not intended to identify specific projections implementations each year, but, rather, are intended to be a tool to be used to help inform the City's priorities on an annual basis.

In addition to the high priority projects identified through the network prioritization process, the City should use three additional criteria to help select among priority projects on an annual basis, including:

COLLISION

For each priority project, the City should review pedestrian and cycling collision data for the previous five years to identify projects that could address a safety issue.

- More than 10 pedestrian and/or cycling collisions = Score of 10
- 5 to 10 pedestrian and/or cycling collisions = Score of 5
- 1 to 5 pedestrian and/or cycling collisions = Score of 1

TRAFFIC VOLUMES

For each priority project, the City should review annual average daily traffic data to identify projects that could benefit the most based on high motor vehicle volumes.

- More than 20,000 vehicles per day = Score of 10
- 10,000 to 20,000 vehicles per day = Score of 5
- 5,000 to 10,000 vehicles per day = Score of 1

ROAD REHABILITATION

For each priority project, the City should review annual average daily traffic data to identify projects that could benefit the most based on high motor vehicle volumes.

- Identified for road upgrades within 1 year = Score of 10
- Identified for road upgrades within 2-3 years = Score of 5
- Identified for road upgrades within 4-5 years = Score of 1

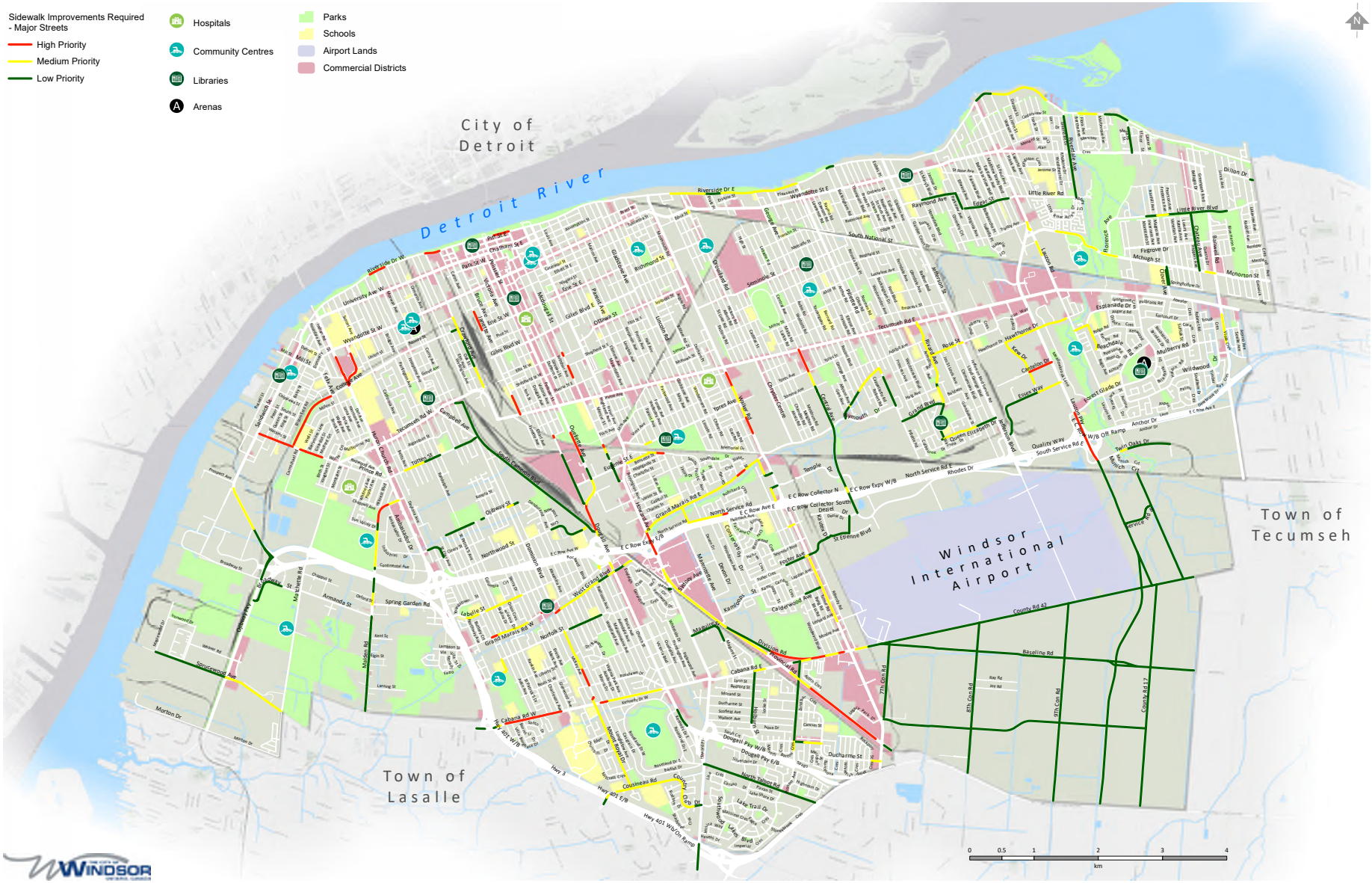


FIGURE 31 - PEDESTRIAN NETWORK PRIORITIZATION RESULTS (MAJOR STREETS)

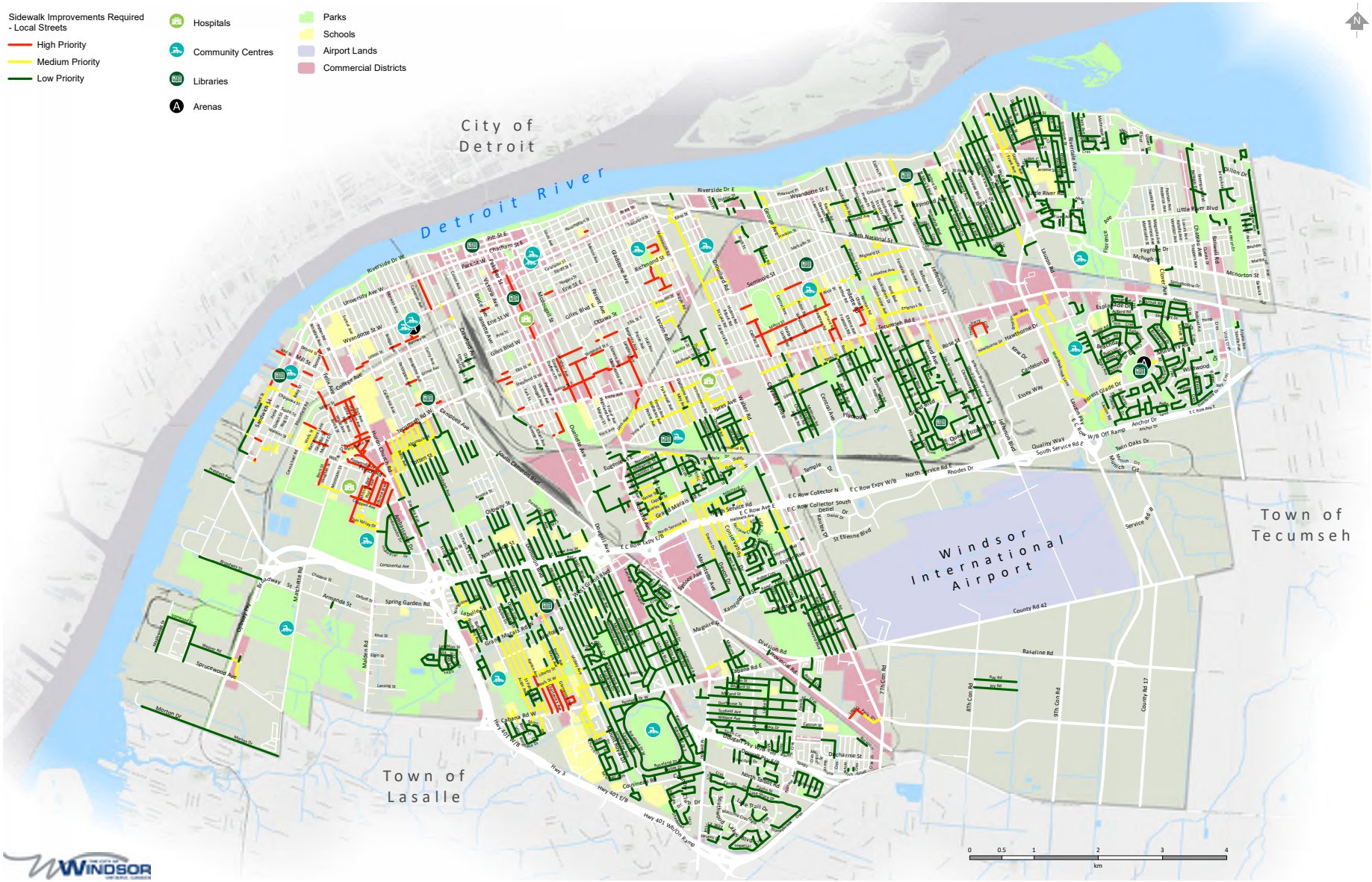


FIGURE 32 - PEDESTRIAN NETWORK PRIORITIZATION RESULTS (LOCAL STREETS)

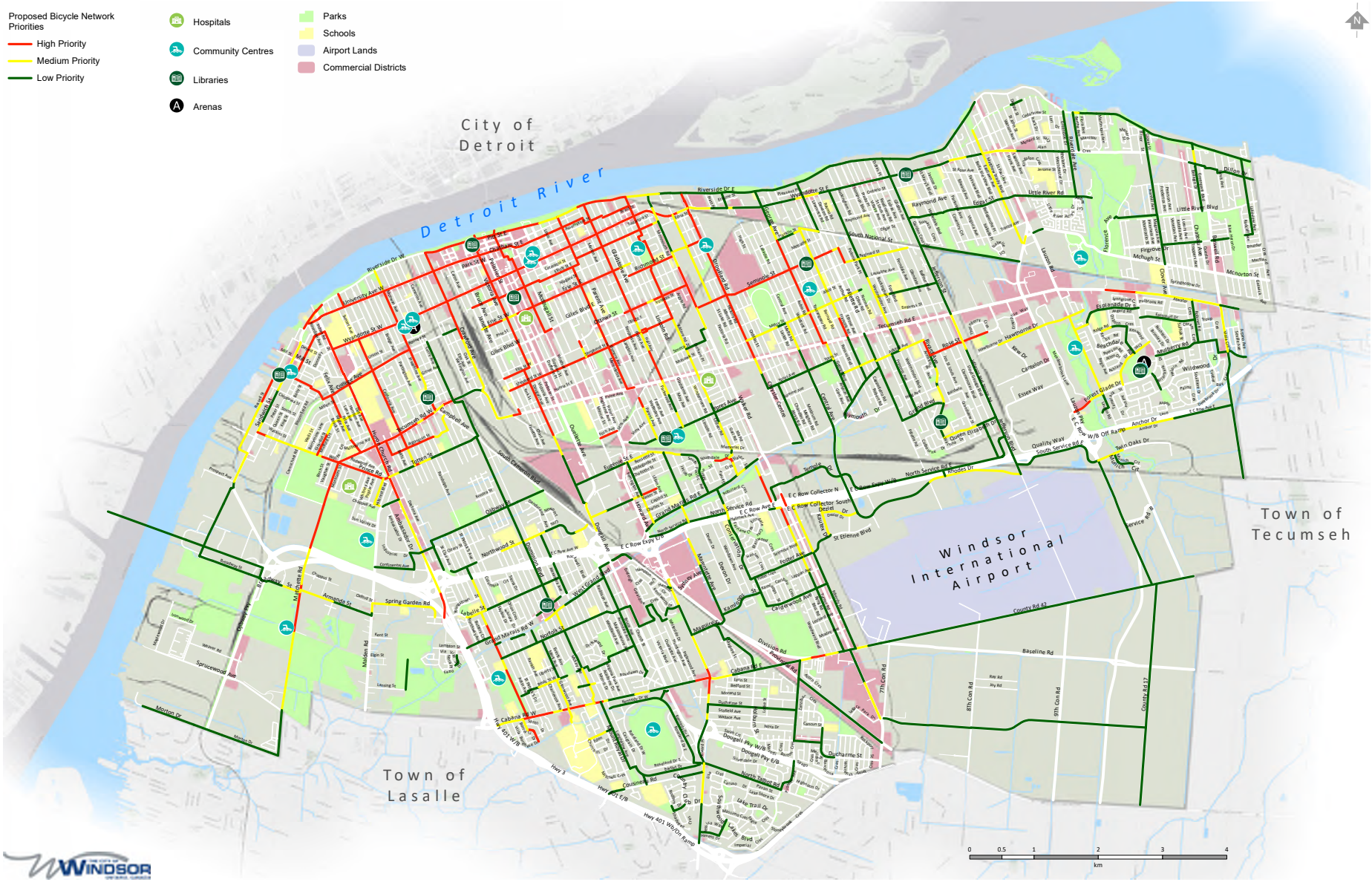


FIGURE 33 - CYCLING NETWORK PRIORITIZATION RESULTS

5.4 Quick Wins

The Implementation Plan identifies a number of high priority actions and network improvements to be undertaken over the short-term. In addition to these short-term actions identified in the implementation tables and bicycle network priorities that are identified over the next five years, the City should focus on a number of "quick wins" to move forward with implementing the Active Transportation Master Plan immediately and to build momentum. Quick wins that the City should prioritized over the next one to two years, include:

THEME 1: CONNECTING COMMUNITIES

- Improve process for implementing sidewalks for new developments based on Official Plan requirements
- Use sidewalk capital funding to identify and eliminate gaps in the sidewalk network on major roads with a focus on transit connectivity
- Use sidewalk infill program and budget to provide sidewalks on local roads in areas around schools, senior centres, hospitals, and other key destinations.
- Develop a dedicated funding program for the Parks Department to maintain and develop new pathways and trails
- Install secure bicycle parking at high activity bus stops and transit exchanges
- Network improvements:
  - Develop a minimum grid downtown for all ages and abilities bicycle network as a pilot project
  - Develop Regional Spine routes that connect directly to the downtown network and form important east-west and north-south connections in mature neighbourhoods, with a focus on transit connectivity, including:
    - Implementing a University Avenue protected bicycle lanes plan
    - Implementing a Victoria Road bicycle boulevard plan
    - Shepherd Street bicycle boulevard
  - Conduct a feasibility study to investigate the potential for providing bicycle facilities on Wyandotte Street between George Avenue to Clarview trail head
  - Ensure pedestrian and cycling facilities are considered as part of all roadway projects designated as part of the Pedestrian Network and Cycling Network currently included in the City's 2019 Operating and Capital Budgets

THEME 2: PLACES FOR PEOPLE

- Develop a Complete Streets Policy and design guidelines
- Develop an Alleyways Revitalization Program
- Work with Business Improvement Associations to improve the streetscape and public realm that recognizes the unique local identity of each business area, similar to Wyandotte Street in Walkerville

THEME THREE: INNOVATION AND INTEGRATION

- Pursue a partnership with private operators to provide a public bike sharing program and consider the feasibility of an electric scooter sharing program
- Develop bicycle parking policy
- 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

- Develop a program that supports businesses and other partners to implement short-term bicycle parking and other end-of-trip facilities within public space
- Work with partners to develop an on-street bicycle corral program

THEME FOUR: CULTURE SHIFT

- Continue to support the Active and Safe Routes to School program to encourage and spread awareness of the benefits of walking, cycling and busing to school.
- Continue to work with partners to develop an educational campaign on the benefits of active school travel and the health and safety risks of driving children to school.
- Enhance and expand pedestrian wayfinding information in the downtown and other major destinations throughout the city.

THEME FIVE: QUALITY OF LIFE

- Use the Walk Wheel Windsor brand as a recognizable visual identity and expand information on the website.
- Find opportunities to celebrate the installation of significant walking and cycling facilities.

5.5 Cost Estimates

The Active Transportation Master Plan includes order-of-magnitude capital cost estimates and ongoing operating and maintenance cost estimates for the implementation and ongoing maintenance of sidewalks, on-street bicycle facilities, and off-street pathways. The cost estimates presented are based on typical unit costs and recent construction and maintenance pricing in the City of Windsor and elsewhere in Canada. The cost estimates have been provided to identify the relative cost for planning purposes and should not be used for budgeting purposes. Wherever possible, the City should continue to, and seek out new opportunities to work with developers, other agencies and levels of governments to establish cost-sharing agreements, or to seek grant opportunities in order to offset total project costs.The capital cost estimates for the Active Transportation Master Plan have been broken down into two types of projects: pedestrian infrastructure projects and cycling infrastructure projects.

The capital cost to implement the Active Transportation Master Plan is approximately **$148 million** over the long-term as seen in **Table 7.** This includes approximately $19.4 million for the installation of new sidewalks on major streets and $46.4 million for the installation of new sidewalks on local streets. This also includes approximately $65.7 million for new and upgraded on-street bicycle facilities, and $16.7 million for new or upgraded off-street pathways. However, by prioritizing projects as high priority and identifying longer term priority projects, it is estimated that the highest priority projects for implementation over the short-term would cost approximately $1.9 million for the installation of new sidewalks on major roads, and approximately $23.9 million for new and upgraded bicycle facilities and off-street pathways (it is recognized that high priority sidewalks on local streets may be funded through a separate program, including the Local Improvement Program). As such, the installation of priority projects is estimated to cost an average of approximately **$6.2 million per year over the short-term.**

In addition to these capital costs, the City should consider the ongoing operating costs of existing bicycle facilities off-street pathways, and sidewalks. The Operating and Maintenance Costs associated with the recommended levels of service have not been quantified at this time. Operating and maintenance costs include: winter control, sweeping, surface maintenance, lines and markings, signage and surface life cycle replacement costs.

To put these numbers in context, the City has spent an average of at least $2 million per year on the construction and maintenance of

active transportation projects over the past five years (excluding active transportation projects implemented as part of other roadworks projects). In addition, the City's average annual investment in construction and maintenance in active transportation that is currently forecast in the current capital plan from 2019 to 2026 is approximately $3 million. Although the implementation of this plan represents an increase in capital and operating funding, there are many funding strategies the City can and has used to reduce the City's portion of these capital costs, as noted in the following section.

	Sidewalks (Major Streets)*		Sidewalks (Local Streets)		On-Street Bicycle Facilities		Off-Street Pathways		Total	
Priority	Distance (km)	Capital Cost ($M)	Distance (km)	Capital Cost ($M)	Distance (km)	Capital Cost ($M)	Distance (km)	Capital Cost ($M)	Distance (km)	Capital Cost ($M)
High Priority	17	$1.9	40	$4.2	69	$23.9	5	$1.1	131	$31.1
Medium Priority	43	$4.6	78	$8.2	43	$11.2	19	$4.9	184	$25.9
Low Priority	123	$12.9	324	$34.0	111	$30.6	29	$10.7	600	$88.2
Total	183	$19.4	441	$46.4	223	$65.7	54	$16.7	914	$148.2

**includes arterial, collector, and scenic parkway road classifications*

TABLE 7 - SUMMARY OF CAPITAL COSTS AND PRIORITIES

5.6 Funding and Leverage Strategies

Although the Active Transportation Master Plan is estimated to cost approximately $148 million over the next 20 years and beyond, these costs can be shared by pursuing external funding from other levels of governments, partnerships with other organizations and the development industry and integration of cycling and pedestrian projects with other plans and projects.

This section describes several strategies that the City may consider to help leverage its investments and to maximize its ability to implement active transportation improvements.

CAPITAL PLANNING

The City should incorporate the Active Transportation Master Plan recommendations into its Operating and Capital Budgets to ensure that projects are accounted for in the City's capital planning process. In this regard, the City should seek changes to its Operating and Capital Budget for 2020 and beyond to fund implementation of the Active Transportation Master Plan.

Currently, approximately $3 million of the City's annual budget is allocated to active transportation, including additional funds provided through other initiatives, programs, and projects that have active transportation components. Based on the existing capital budget allocation and the recommendations of the Active Transportation Master Plan, the City will need to significantly increase its annual investment to ensure the Active Transportation Master Plan is implemented within the proposed timelines.

INTEGRATION

The City should integrate cycling and pedestrian improvements with other plans and capital projects, where possible. There are active transportation components associated with many upcoming and planned road renewal programs, development projects and major capital projects which have been identified as a part of the City's active transportation network. The best opportunities to provide safe and convenient active transportation facilities is during the initial planning and design of these projects. Wherever possible, the City should seek out opportunities to integrate active transportation facilities with new infrastructure or renewal and rehabilitation projects, such as major road resurfacing and servicing upgrades. The City needs to also make necessary amendments to existing policies and standards to ensure opportunities to integrate proposed active transportation projects are required as new developments occur.

EXTERNAL FUNDING SOURCES

The costs of implementing the improvements identified in the Active Transportation Master Plan can be significantly reduced by pursuing external funding sources and partnership opportunities for many of the identified projects. This section describes some funding strategies and potential funding sources that the City may want to consider to assist in leveraging its investments, and maximize its ability to implement transportation improvements. The City regularly checks grant funding opportunities. The City should also pursue all available sources of funding for transportation infrastructure and programs, including the programs identified below (Note: as funding opportunities change regularly, the information in this section is subject to change):

- **Provincial Programs and Initiatives.** The Provincial Government administers the **CycleON Action Plan 2.0** program, which promotes new, safe and high-quality cycling infrastructure through cost-sharing with local governments. Some possible projects include new bicycle trails and bicycle lanes, improvements to existing cycling infrastructure, and providing bicycle lockers and other equipment that makes cycling a safer and more convenient option for travellers. The **CycleON** program provides funding for

infrastructure which forms part of a bicycle network plan adopted by an Ontario local government.

- **Federal Funding.** There are several programs that provide funding for environmental and local transportation infrastructure projects in municipalities across Canada. Typically, the federal government contributes one-third of the cost of municipal infrastructure projects. Provincial and municipal governments contribute the remaining funds, and in some instances, there may be private sector investment as well.
- **Green Municipal Funds.** The Federation of Canadian Municipalities manages the Green Municipal Fund, with a total allocation of $550 million. This fund is intended to support municipal government efforts to reduce pollution, reduce greenhouse gas emissions and improve quality of life. The expectation is that knowledge and experience gained in best practices and innovative environmental projects will be applied to national infrastructure projects.
- **Developers.** The City should explore opportunities for road improvements to be constructed as development occurs within Windsor. This process could be formalized through an update to the City of Windsor Official Plan or through individual negotiations.
- **Private sector.** Many corporations wish to be good corporate neighbours — to be active in the community and to promote environmentally-beneficial causes. Bicycle and pedestrian routes and facilities are well-suited to corporate sponsorship and have attracted significant sponsorship both at the local level and throughout North America.
- **Service Clubs.** In many communities, service clubs have been involved in funding and building bicycle infrastructure and facilities including pathways and bicycle parking.
- **Advertising.** In regards to a bicycle route map, the City should continue to work with local business who are interested in providing advertising and therefore revenue to cover some or all of the cost of advertising.

STAFF RESOURCES

Implementation of the Active Transportation Master Plan includes not only additional financial resources, but the City requires additional staff resources to implement the various strategies. Dedicated bicycle and pedestrian program managers are common in North American cities and, along with other transportation planners and active transportation advocates, are a critical part of creating a walkable and bicycle-friendly community.

The City should start by hiring a dedicated full-time Active Transportation Coordinator position within the first year after adopting the Active Transportation Master Plan. This should be supplemented within 2 years by a full-time Transportation Demand Management Coordinator and Active Transportation Engineer. Within 5 years, the City should also hire a full-time Active Transportation Planner. This dedicated team would work together and with other municipal departments, agencies and organizations to implement the Active Transportation Master Plan. It will be important that these staff members continue to develop expertise in active transportation adbo, planning and communications including regular training in active transportation policy, design and best practices.

COMMITTEE STRUCTURE

The City has a number of Committees of Council, including the Windsor Bicycling Committee. The Windsor Bicycling Committee is comprised of 10 members, including one City Councillor. The purpose of this committee is to enhance the safety and viability of bicycling in the City of Windsor. The committee acts as an effective advisor to Council and City departments on matters related to bicycling in Windsor. Although this committee is effective at advising on cycling issues in the committee, there is no similar committee tasked with dealing with pedestrian issues. There are other similar committees that address seniors, youth, accessibility issues and environment. As such, it is recommended that these committees

(or representatives from each committee) meet twice a year or on a quarterly basis to discuss active transportation issue collectively. This collaborative committee will also include representatives from Transit Windsor.

5.7 Monitoring and Reporting

Monitoring and reporting is essential to ensure that the Active Transportation Master Plan is implemented as intended, and to determine whether the Plan is achieving its goals. Monitoring will also enable the City to appropriately allocate monetary and staff resources to implement prioritized initiatives. Monitoring also provides a means of identifying changing conditions which would require changes to the Active Transportation Master Plan. The monitoring needs to be:

- **Meaningful.** Monitoring should yield meaningful results and point to the success in achieving the vision, goals, and targets of the Active Transportation Master Plan.
- **Measurable.** Monitoring needs to establish criteria that are measurable and for which data or information can be readily obtained.
- **Manageable.** Monitoring implementation needs to consider resource limitations and identify measures where information is accessible or data is simple to collect.

5.7.1 Monitoring

MEASURES OF SUCCESS

The Active Transportation Master Plan monitoring program focuses on identifying 'measures of success' for two components: first, the degree of progress in implementing the plan, and secondly, the outcomes of the plan. Measures of success are described in the tables below, including general measures of success for the overall Active Transportation Master Plan, as well as specific measures of success related to each Theme. While targets have been identified for walking, cycling and transit mode share, they have not been identified for the other measures.

Measure of Success	Indicator	Source
Walking, cycling, and transit mode share (work)	%	Statistics Canada Census
Walking, cycling, and transit mode share (all trips)	%	City of Windsor Household Travel Surveys
Proportion of each of women, children, and seniors walking, cycling, and using transit (work)	%	Statistics Canada Census
Proportion of each of women, children, and seniors walking, cycling, and using transit (all trips)	%	City of Windsor Household Travel Surveys
Walking, cycling, and transit volumes on key corridors	#	City of Windsor
Walking and cycling funding levels (% of total budget)	%	City of Windsor
City of Windsor staff resources dedicated to Active Transportation (FTE)	#	City of Windsor
Transportation GHG emissions/ capital	Tonnes CO2/ capital	City of Windsor

TABLE 8 - OVERALL MEASURES OF SUCCESS

THEME 1: CONNECTING COMMUNITIES

There are five strategies identified under the theme Connecting Communities, each focusing on enhancing the connectivity of Windsor's network of pedestrian and bicycle networks. The success measures identified under this theme focus on establishing a complete, connected, and convenient network of walking and cycling facilities integrated with transit is a fundamental part of making active transportation a convenient and attractive travel option in Windsor. The following measures of success will help the City determine if it is achieving the goals of the Active Transportation Master Plan.

Measure of Success	Indicator	Source
Total length of bicycle network (by facility type)	Total km	City of Windsor
Total length of AAA bicycle network (by AAA facility type)	Total km	City of Windsor
Proportion of Windsor's total jobs and population within 400 metres of the total bicycle network	% of City	City of Windsor
Proportion of Windsor's land area within 400 metres of the total bicycle network	% of City	City of Windsor
Proportion of Windsor's total land area within 400 metres of the AAA bicycle network	% of City	City of Windsor
Proportion of Windsor's land area within 400 metres of the AAA bicycle network	% of City	City of Windsor
Total length of sidewalk network	Total km	City of Windsor
Proportion of streets with a sidewalk on at least one side	% of all streets (by street classification)	City of Windsor
Length of completed bicycle network projects	Total km	City of Windsor
Length of completed pedestrian network projects	Total km	City of Windsor
Number of new and enhanced trail and pathway projects that are part of the active transportation network.	#	City of Windsor
Proportion of bus stops that are accessible	%	City of Windsor
Proportion of bus stops with shelters	%	City of Windsor
Bicycle detection installed at traffic signals	#	City of Windsor
Secure bike parking at transit stops	#	City of Windsor
Proportion of sidewalks of both sides of the street within 400 meters of a bus stop	%	City of Windsor
Length of sidewalk inspected	Total km	City of Windsor

TABLE 9 - THEME 1 MEASURES OF SUCCESS

THEME 2: PLACES FOR PEOPLE

There are five strategies identified under the theme Places for People focusing on making active forms of transportation a more attractive and competitive transportation choice. The strategies aim to make active travel more convenient by making active travel to and between destinations more convenient.

Measure of Success	Indicator	Source
Sidewalk coverage within 400 metres of all Regional Centres	% of streets	City of Windsor
Bicycle network coverage within 400 metres of all Regional Centres	% of streets	City of Windsor
Percentage of signals with bicycle actuators	%	City of Windsor
Number of pilot projects	#	City of Windsor
Number of alleyway revitalization projects	$	City of Windsor
Complete Streets	#	City of Windsor

TABLE 10 - THEME 2 MEASURES OF SUCCESS

THEME 3: INNOVATION AND INTEGRATION

There are five strategies identified under the theme Innovation and Integration. This theme aims to support increased usage of active transportation through the development and implementation of new technologies, as well the increased integration of walking, cycling, and transit with other modes of transportation. This theme targets to increase rates of sustainable transportation by providing end-of-trip facilities including secure bicycle parking, identification and installation of areas in need of bicycle parking facilities, and employing current transportation demand management strategies to encourage more Windsorites to travel in a sustainable manner.

Measure of Success	Indicator	Source
Number of bike share bicycles	#	City of Windsor
Proportion of Windsor's total jobs and population within 400 metres of the bike share service area	%	City of Windsor
Proportion of Windsor's land area within 400 metres of the bike share service area	%	City of Windsor
Proportion of bike share service area located in neighbourhoods identified as having high equity need	%	City of Windsor
Number of bicycle racks downtown and in BIAs	#	City of Windsor
Percentage of new developments with short-term and long-term bicycle parking and end-of-trip facilities	%	City of Windsor
Percentage of City owned and operated facilities with short-term and long-term bicycle parking and end-of-trip facilities	%	City of Windsor
Number of secure bicycle parking spaces at transit stops	#	City of Windsor
Total km of pathways cleared	Km	City of Windsor
Total km of sidewalks cleared	Km	City of Windsor
Total km of bicycle routes cleared	Km	City of Windsor
Total operating budget for year-round maintenance of sidewalks, bicycle routes, trails, and bus stops	$	City of Windsor
Number of bicycle repair stations	#	City of Windsor
Number of ssers of the transit app	#	City of Windsor

TABLE 11 - THEME 3 MEASURES OF SUCCESS

THEME 4: CULTURE SHIFT

There are five strategies identified under the theme Culture Shift focusing on making active travel a part of every day life for residents and visitors of the City of Windsor. The 'softer' measures identified here can help to provide education and raise awareness about active transportation in Windsor, and will help to achieve goal #1 of the Active Transportation Master Plan: building a culture of active transportation in Windsor.

Measure of Success	Indicator	Source
Number of courses offered for adult education and cycling skills training.	#	City of Windsor
Number of school aged students participating in an education and cycling skills training courses.	#	City of Windsor / School Boards
Number of schools within the City of Windsor that have completed Active and Safe Routes to School Programs	#	City of Windsor / School Boards
Number of public wayfinding displays	#	City of Windsor
Amount of funding allocated for promotion and education	#	City of Windsor / School Boards
Number of Student bus pass	#	City of Windsor

TABLE 12 - THEME 4 MEASURES OF SUCCESS

THEME 5: QUALITY OF LIFE

There are five strategies identified under the theme Quality of Life focusing on the design and redesign of streets and pathways, ensuring that all residents of Windsor are as safe and comfortable as possible on their journey, no matter the mode.

Measure of Success	Indicator	Source
Number of collisions involving people walking and cycling	#	City of Windsor
Number of fatal collisions involving people walking and cycling	#	City of Windsor
Proportion of all collisions involving people walking and cycling	%	City of Windsor
Proportion of all fatal collisions involving people walking and cycling	%	City of Windsor
Number of hospitalizations due to injuries involving people walking, cycling or using other forms of active transportation	#	Windsor-Essex County Health Unit
Number of road safety audits/corridor studies completed or currently underway	#	City of Windsor
Number of audible pedestrian signals	#	City of Windsor
Percentage of intersections with curb ramps connecting all sidewalks and multi-use trails	%	City of Windsor
Number of annual walking and cycling events including infrastructure grand openings	#	City of Windsor

TABLE 13 - THEME 5 MEASURES OF SUCCESS

5.7.2 Reporting

To assist in monitoring these and other measures of success, the City should develop and implement a comprehensive Active Transportation Monitoring Program baseline report within one year of adoption of this plan. It is recognized that data may be more challenging to collect for some measures than others and, as a result, it is understood that the Monitoring Program may not include all the measures identified above.

The City should communicate the results though the development and publishing of an **Active Transportation Report Card** every 4 yeaars. An Active Transportation Report Card is a tool to monitor the development of walking and cycling activity and link this back to the walking, cycling, and transit vision, goals, targets and strategies. The report card can be filled out over time – not all data may be available at once, so as time goes on and data is collected, the report card can be updated with new insights. Active transportation report cards typically report on public input, which can be incorporated into the bicycle and pedestrian planning process for the development of projects, policies and standards, programs and other initiatives. The Active Transportation Report Card can also be, in itself, an opportunity to do community-wide marketing and communication on walking and cycling.

By monitoring the Active Transportation Master Plan on an-going basis and by developing and publishing an Active Transportation Report Card, the City will be able to monitor its success in implementing the Active Transportation Master Plan and track progress towards achieving the vision and goals of the plan. This monitoring is critical to ensure the on-going success of the Active Transportation Master Plan and that the City is successfully working towards its vision to become a leading city for active transportation, where walking and cycling are convenient, comfortable, attractive, fun and accepted methods of moving around the city year-round for residents and visitors of all ages and abilities.

5.8 Summary and Closing

The Active Transportation Master Plan provides a comprehensive approach to guide Windsor's progress and investments in active transportation over the next 20 years. The Master Plan includes recommendations for improving active transportation policies, standards, infrastructure and programs over the long-term, along with priorities over the short and medium-term. The Active Transportation Master Plan will contribute to increased transportation options by improving the accessibility, comfort, convenience and safety of active transportation.

The Active Transportation Master Plan has been developed based on extensive technical work and engagement with the Windsor community over an 18-month period. Through this public engagement process, thousands of community members provided input into the development plan at various phases. The City of Windsor would like to thank all community members for their participation in the process and valuable input developing the Active Transportation Master Plan.

WALK WHEEL WINDSOR

THE CITY OF WINDSOR
ONTARIO, CANADA