



**WALK WHEEL
WINDSOR**



**ACTIVE TRANSPORTATION MASTER PLAN
DISCUSSION PAPER #1 | AUGUST 2018**







TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	What is Active Transportation	1
1.2	Plan Purpose and Objectives	2
1.3	Plan Process	2
1.4	Public Engagement	3
2.0	Setting the Context	6
2.1	Why Promote Active Transportation	6
2.2	Master Plan and Strategy Context	8
2.3	What Are Others Doing	14
3.0	Community Profile	20
3.1	Land Use	20
3.2	Demographics	23
4.0	Active Transportation In Windsor Today	26
4.1	Interest in Active Transportation	26
4.2	The Market for Active Transportation	27
4.3	Travel Patterns	30
4.4	Walking in Windsor	45
4.5	Cycling	57
4.6	Transit	69
5.0	Next Steps	80

SUMMARY OF FIGURES

FIGURE 1 - WINDSOR'S NEIGHBOURHOODS AND KEY LAND USES	21	FIGURE 29 - FREQUENCY OF WALKING ISSUES REPORTED	53
FIGURE 2 - KEY DESTINATIONS	22	FIGURE 30 - LOCATION AND TYPE OF TRAIL ISSUES REPORTED	54
FIGURE 3 - WHY RESPONDENTS WALK	26	FIGURE 31 - FREQUENCY OF TRAIL ISSUES REPORTED	55
FIGURE 4 - WHY RESPONDENTS BIKE	26	FIGURE 32 - TOP 3 OPPORTUNITIES FOR WALKING (SOURCE: ONLINE SURVEY, 2018)	56
FIGURE 5 - WHY RESPONDENTS RIDE TRANSIT	26	FIGURE 33 - CONTINUUM OF PEDESTRIAN FACILITIES	57
FIGURE 6 - ACTIVE TRANSPORTATION POTENTIAL	28	FIGURE 34 - EXISTING BICYCLE NETWORK	58
FIGURE 7 - EQUITY NEED	29	FIGURE 35 - BICYCLE NETWORK COVERAGE	60
FIGURE 8 - MODE SHARE OF COMMUTE TRIPS TO WORK OR SCHOOL	30	FIGURE 36 - BICYCLE PARKING LOCATIONS	61
FIGURE 9 - MODE SHARE COMPARISON WITH OTHER PEER CITIES IN ONTARIO	30	FIGURE 37 - COLLISIONS INVOLVING PEOPLE CYCLING (2013-2017)	63
FIGURE 10 - HISTORIC TRENDS IN MODE SHARE OF COMMUTE TRIPS TO WORK/SCHOOL	31	FIGURE 38 - TOP THREE CYCLING ISSUES (SOURCE: ONLINE SURVEY, 2018)	65
FIGURE 11 - ACTIVE TRANSPORTATION MODE SHARE	32	FIGURE 39 - LOCATION AND TYPE OF BIKING ISSUES REPORTED	66
FIGURE 12 - WALKING MODE SHARE	33	FIGURE 40 - FREQUENCY OF BIKING ISSUES REPORTED	67
FIGURE 13 - BIKING MODE SHARE	34	FIGURE 41 - TOP 3 OPPORTUNITIES FOR CYCLING (SOURCE: ONLINE SURVEY, 2018)	68
FIGURE 14 - TRANSIT MODE SHARE	35	FIGURE 42 - BUS ROUTES AND STOPS	70
FIGURE 15 - GENDER SPLIT FOR ACTIVE MODES OF TRANSPORTATION	36	FIGURE 43 - TRANSIT STOP NETWORK COVERAGE	71
FIGURE 16 - MODE SHARE BASED ON WEATHER CONDITION	36	FIGURE 44 - DAILY BOARDINGS AND ALIGHTINGS	73
FIGURE 17 - FREQUENT DESTINATIONS (ALL)	38	FIGURE 45 - BUS STOP AMENITIES	75
FIGURE 18 - FREQUENT DESTINATIONS FOR WORK	39	FIGURE 46 - TOP THREE TRANSIT ISSUES (SOURCE: ONLINE SURVEY, 2018)	76
FIGURE 19 - FREQUENT DESTINATIONS FOR SCHOOL	40	FIGURE 47 - LOCATION AND TYPE OF TRANSIT ISSUES REPORTED	77
FIGURE 20 - FREQUENT DESTINATIONS FOR RECREATION	41	FIGURE 48 - FREQUENCY OF TRANSIT ISSUES REPORTED	78
FIGURE 21 - FREQUENT DESTINATIONS FOR SHOPPING	42		
FIGURE 22 - FREQUENT DESTINATIONS FOR SERVICES	43		
FIGURE 23 - FAVORITE PLACES	44		
FIGURE 24 - SIDEWALK COVERAGE	46		
FIGURE 25 - CONTINUUM OF PEDESTRIAN FACILITIES	47		
FIGURE 26 - REPORTED COLLISIONS INVOLVING PEOPLE WALKING (2013 – 2017)	49		
FIGURE 27 - TOP THREE WALKING ISSUES	51		
FIGURE 28 - LOCATION AND TYPE OF WALKING ISSUES REPORTED	52		

SUMMARY OF TABLES

TABLE 1 - PEER REVIEW	19
TABLE 2 - WINDSOR AGE DISTRIBUTION DATA	23
TABLE 3 - WINDSOR'S IMMIGRANT POPULATION	24
TABLE 4 - INCOME OF INDIVIDUALS IN 2015	24
TABLE 5 - EMPLOYMENT IN WINDSOR	25
TABLE 6 - EXISTING SIDEWALK COVERAGE	45
TABLE 7 - CITY OF WINDSOR SIDEWALK STANDARDS	47
TABLE 8 - TOP LOCATIONS OF REPORTED COLLISIONS INVOLVING PEOPLE WALKING	48
TABLE 9 - ON-STREET WALKING ISSUES ALL RESPONSES	51
TABLE 10 - OFF-STREET WALKING ISSUES ALL RESPONSES	51
TABLE 11 - ON-STREET WALKING OPPORTUNITIES ALL RESPONSES	56
TABLE 12 - EXISTING SIDEWALK COVERAGE	57
TABLE 13 - TOP LOCATIONS OF REPORTED COLLISIONS INVOLVING PEOPLE CYCLING	62
TABLE 14 - CYCLING ISSUES ALL RESPONSES	65
TABLE 15 - CYCLING OPPORTUNITIES ALL RESPONSES	68
TABLE 16 - TRANSIT ISSUES ALL RESPONSES	76

INTRODUCTION

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

Windsor is the main employment, population and cultural centre in the Essex Region consisting of the City of Windsor, Essex County, and Pelee Island. As such, the well being of the region is closely linked to the activities that occur within Windsor.

Windsor is also a main port of entry between Canada and the United States, serving as an international gateway for people and commerce. Windsor is intimately connected with the Detroit metropolitan area with the City of Detroit located on the north side of the Detroit River. Windsor's unique location has led to a diverse population and major employment in manufacturing, tourism, and education.

As set out in its Official Plan, Community Energy Plan Bicycle Use Master Plan, Corporate Climate Action Plan, and the Windsor Area Long Range Transportation Study, the City of Windsor is committed to sustainability and recognizes the importance of active transportation to enhance community health and safety, reduce congestion and improve quality of life. The City is also committed to contribute to the reduction of air pollution by increasing opportunities for walking, cycling and transit. The City's 20-year Strategic Vision further commits 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 Riverfront Trail. The vision and direction continued with the development of the Bicycle Use Master Plan in 2001, which shifted the view of bicycles as not only used for recreation but playing an important role in the transportation system. 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 identified routes. In fact, Windsor has been recognized as a Bronze Bike Friendly Community since 2011. However, with the Bicycle Use Master Plan approaching the end of its lifespan, and with a need for a broader focus beyond cycling to other forms of active transportation, the City is developing a new Active Transportation Master Plan, which is referred to as Walk Wheel Windsor.

The Active Transportation Master Plan will outline an integrated network for cycling, walking and transit use that connects key existing trails and pathways such as the recently completed Herb Gray Parkway Trail and the downtown Riverfront 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.

1.1 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 using 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. Active transportation also includes transit, recognizing that all transit trips start and end either on foot or by bicycle.



1.2 Plan Purpose and Objectives

The purpose of the Active Transportation Master Plan is to make walking, cycling and transit safe, attractive, affordable, convenient, normal and fun ways to travel for residents and visitors. The plan will address all aspects of active transportation, including strategy, planning policies, procedures and best practices, infrastructure, initiatives and programs, and 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 including recommendations for new policy development;
- Improve the quality of active transportation in Windsor with safe, innovative design principles, best practices and 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; and

- Increase opportunities for non-automotive modes of transportation to help achieve the goals and targets of the Community Energy Plan.

1.3 Plan Process

The Active Transportation Master Plan is being developed through a five-phase process over an 18-month period. We are currently in the first phase of the process to understand existing conditions and explore options to improve active transportation in Windsor.

At the end of the process, the City will have an implementable action plan to guide investments in active transportation infrastructure and support programs and policies to help make active mobility options safe, convenient, and attractive transportation choices for people of all ages and abilities.



1.4 Public Engagement

By creating an Active Transportation Master Plan, the City is taking steps toward creating safer, healthier and more dynamic public spaces for its residents. The first step in the creation of any successful community-wide plan is to ensure residents are included in the process from the outset. As such, input from community members is an essential component of the Walk Wheel Windsor process, with opportunities for public participation planned for each phase of the plan's development.

1.4.1 RAISING AWARENESS

A project website - walkwheelwindsor.ca - was developed to provide community members with accessible background information on the Active Transportation Master Plan as well as important updates as the Plan is developed. All public engagement opportunities are also advertised on the project website.

The City's existing social media channels were also used to promote the Active Transportation Master Plan and opportunities to participate. Specifically, Facebook ads were placed to promote the online survey and engagement labs. The ad promoting the online survey reached more than 8,000 people. This resulted in 342 engagements including 160 clicks, 45 shares, 116 likes and 21 comments. The ad promoting the engagement labs reached more than 3,000 people and generated 109 engagements.

1.4.2 ENGAGEMENT EVENTS AND ACTIVITIES

During the first round of public engagement the Walk Wheel Windsor team engaged with approximately 4,000 residents through the following engagement activities. Further details can



be found in the corresponding Public Engagement Summary Spring 2018.

FOCUS GROUPS

Targeted focus groups meetings 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, 30 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 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

In May and June, 2018, 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 and were selected to ensure all neighbourhoods were represented. The pop-ups were designed to spread awareness for the project and more specifically, provide opportunities to provide input.

These pop-up events resulted in more than 2,000 interactions.

INTERACTIVE SURVEY

An interactive survey was available online and through hard-copy for all residents to complete between March 22, 2018 and July 3, 2018.

In total, 1,040 people completed the survey.

ENGAGEMENT LABS

Two engagement labs were held towards the end of June to close out the first round of engagement for Walk Wheel Windsor. The first engagement lab was held on June 23 at the WFCU Centre during the annual Meet-A-Machine event. The second engagement lab was held on June 24 at Devonshire Mall. These locations were selected to target residents where they are, as opposed to having them come to the City.

The purpose of the engagement labs was to provide a flexible and informal avenue for residents to learn about Walk Wheel Windsor and provide input on the future of active transportation in the city.

In total, 1,000 conversations took place during the engagement labs.



SETTING THE CONTEXT

2.1 Why Promote Active Transportation

Investments in walking, cycling, and transit can result in a more balanced transportation system that encourages healthy 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 contributes to a number of the City's strategic goals. There are also significant quality of life, health, safety, environmental and economic benefits associated with investing in 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. 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 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 be 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. Furthermore, the Conference board of Canada recently observed that millennials 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 prevents 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 a 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.

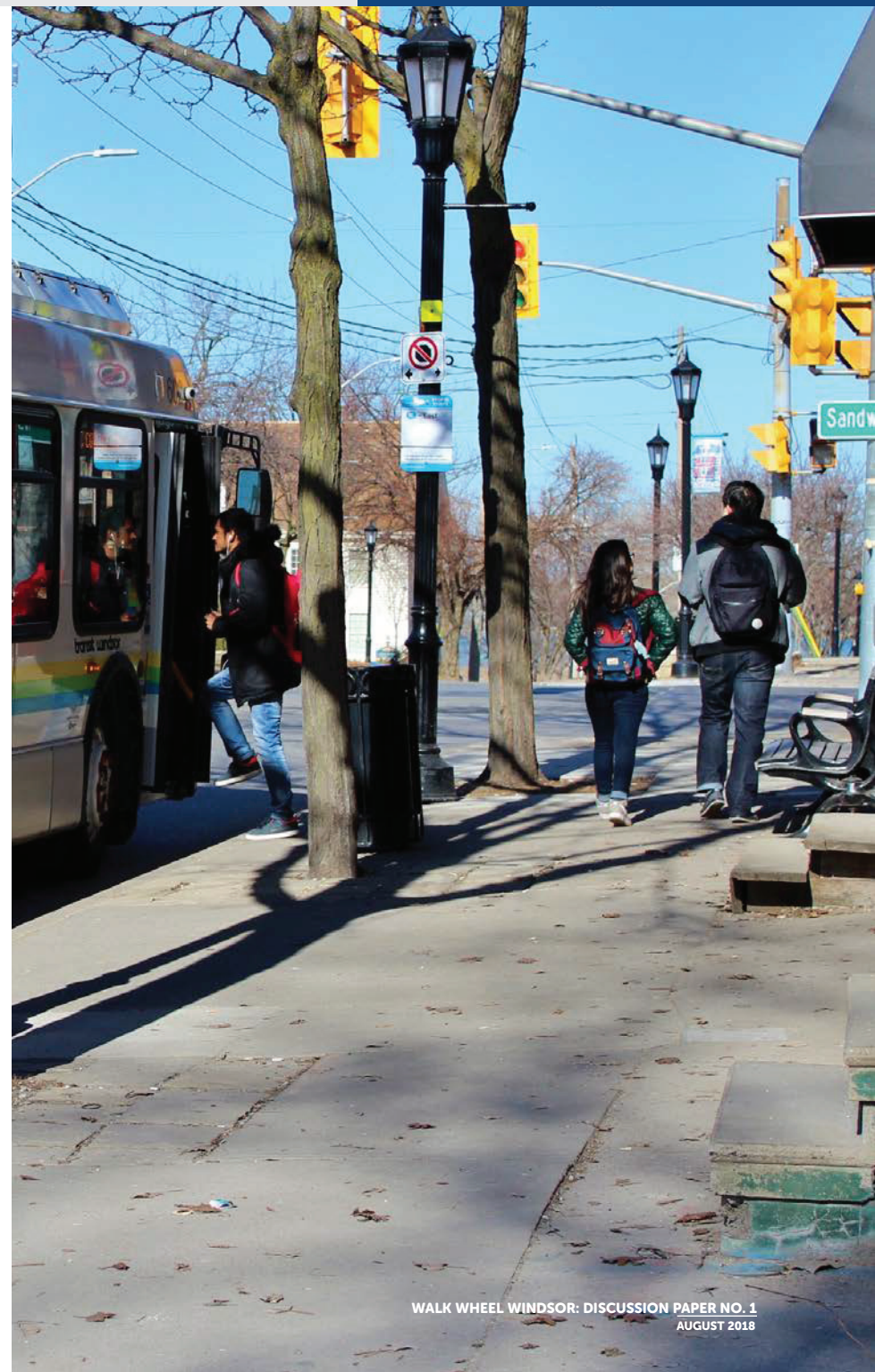
In addition, children who walk and cycle to school not only experience increased physical activity, but also their academic performance. A 2012 Danish study found that even a small amount of exercise has greater benefits for academic performance than even food does

IMPROVEMENTS IN 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 found that these levels can 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.

CLIMATE CHANGE MITIGATION

Increasing rates of active transportation have been shown to reduce air pollution and GHG emissions. Promoting walking and cycling 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. The City of Windsor's Community Energy Plan (2017) estimates that a relatively modest elimination of 2 per cent of average journeys will result in an emissions reduction of about 8,000 tonnes CO₂/year



CONGESTION

Recently, the Canadian Automobile Association examined best practices to ease congestion. The report noted that experience in other countries shows that building dedicated bicycle facilities that makes cycling commuters feel safe and secure can be a relatively low-cost way to reduce 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 flow of vehicle traffic.

SOCIETAL BENEFITS

Active transportation provides practical opportunities for residents to be physically active, thereby increasing mental wellness and social interactions. High rates of active transportation 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 also encourages sustainable travel patterns at an early age that often continue into adulthood and provides a sense of freedom at a which often leads to more interdependent adults. When residents are able to walk and cycle in their community, studies have shown that community connection and cohesiveness also increase.

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 and cycling. Studies have shown that slower vehicle speeds greatly increase survival rates for road users involved in a collision. When active transportation rates increase, rates of collisions between vulnerable road users and motor vehicles decrease at the same time.

2.2 Master Plan and Strategy Context

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

The following is an overview of several overarching municipal plans and policies that will play a significant role in informing the development of the Active Transportation Master Plan.

WINDSOR AREA LONG RANGE TRANSPORTATION STUDY (1999)

WHAT IS IT?

The Windsor Area Long Range Transportation Study (WALTS) is a master plan focused on transportation demand needs for Windsor and surrounding communities based on growth and employment demands through to the year 2016. The study area included the City of Windsor as well as La Salle, Tecumseh, Townships of Sandwich South and Maidstone, and the Village of St. Clair Beach. The study projected an additional 50,000 residents in the area by 2016, 31% of which was expected to take place in Windsor. Several approaches were studied and evaluated to accommodate this growth. A strategy was selected that balanced structural roadway improvements while encouraging multi-modal transportation to reduce the demand on the roadways. This included policies that support mixed use development and greater

density, increasing transit usage by 6% and reducing peak travel times by decreasing home-work trips, and adjusting the level of service and capacity of roadways by maximizing existing infrastructure and making strategic improvements to roadways. The plan includes key recommendations for improvements to pedestrian mobility including design guidelines for sidewalks, crossings, school zones, and users with specialized mobility needs. Recommendations support continued development of on-road bikeways and off-road trails to support safety and increase cycling. Overall, the plan focuses on supporting “transportation systems that enhance physical mobility and better serve the economic and social needs of the community.”

WHY IS IT IMPORTANT?

- It outlines a strategy for supporting diverging needs of local mobility (neighbourhood level travel with strong walking/cycling/transit needs) and regional mobility (linking neighbourhoods and regional economic centres and communities together).
- It provides a strategy and supporting policies for alternatives to driving alone, including sub-division planning and urban design guidelines that support the use of alternative modes of transportation.
- It recommends important initiatives to increase multi-modal transportation such as long-term parking costs, employer initiatives for flex hours and ride-sharing, improvements to pedestrian and cycling needs including design guidelines and infrastructure development for improved safety and comfort.

BICYCLE USE MASTER PLAN (2001)

WHAT IS IT?

The City’s Bicycle Use Master Plan (BUMP) identifies a path to “develop a visible and connected cycling network that is easily accessible, safe and actively used by all types of cyclists.” This 20-year Plan focuses on cycling as a practical means of transportation, and identifies a roadway cycling network to complement the off-road trail system and demand for cycling from the previous Bicycle Use Development Study (1991). The plan also includes strategies for education and awareness, promotes cycling-transit links, and provides recommendations for end-of-trip facilities such as bicycle parking.

WHY IS IT IMPORTANT?

The BUMP provides an overarching vision for the City of Windsor to make cycling both a realistic and practical choice, by integrating recreational trails with the development of an on-street cycling network. The plan recommends that:

- Every road should be constructed to accommodate cycling.
- The City should commit annual funds to the implementation of the plan.
- Walking, cycling, and transit to key destinations and within the City Centre should be prioritized.
- Bicycle parking should be incorporated at transit stations, and bicycle racks should be mounted to the bus fleet.
- The City should support education of cyclists from children to adults to increase cycling awareness.

TRANSIT MASTER PLAN – 2006

WHAT IS IT?

The Way Forward, the City of Windsor's Transit Master Plan, provides both a short- and long-term plan (2006 – 2016) for improving public transit service within the City and to neighbouring municipalities with the objective to increase transit usage, and to work towards a convenient, affordable and attractive transit system.

The short-term 5-year plan is focused on ridership growth and asset management, while the long-term plan acts as a guide to planning, management and implementation of transit services over a 10-year period.

The vision of this plan is "to provide safe, reliable and affordable public transit for the community through continuous improvement in service levels, vehicle fleet, customer care, environmental stewardship and employee excellence so that all residents can have equal access to work, education, health care, shopping, social and recreational opportunities through convenient and affordable public transit services."

WHY IS IT IMPORTANT?

- It identifies updates to a transit system that had not been reviewed since 1977 and planned for the growth for the service required to get to the target of 6% transit use. The plan identifies ways to make transit affordable and attractive, ensuring it is a more practical transportation choice for more people through strategies such as Bus Rapid Transit, and various route improvements.
- It planned for key accessibility upgrades for persons with disabilities through the purchase of low-floor buses and

infrastructure improvements to bus stops, shelters and terminals, and through a close working relationship with Handi-Transit Windsor.

- It outlines the importance of a regional transit system, and includes the Town of Tecumseh, the Town of LaSalle, the Town of Amherstburg and the Town of Lakeshore as part of the network. This recognizes that the economies, employment and people are intertwined and need to be able to travel between centres sustainably.
- A new transit review is coming in 2018 which will set the stage for the next 20 years, planning to make transit a convenient and accessible mode of transportation for residents of Windsor, and support interconnections between walking, cycling, and transit.

CITY OF WINDSOR OFFICIAL PLAN (2012)

WHAT IS IT?

Windsor's Official Plan includes a vision that "Windsor is a quality city full of history and potential, with a diverse culture, a durable economy, and a healthy environment where citizens share a strong sense of belonging and a collective pride of place." The policies of this plan focus on practical and efficient land use management strategies that promote a compact pattern of development and balanced transportation system. Growth will be directed within existing and planned neighbourhoods to reduce development and infrastructure costs and provide opportunities to live, work and shop nearby. Mixed use developments will be encouraged with strong pedestrian orientations and to support public transit.

WHY IS IT IMPORTANT?

- It focuses on becoming a sustainable, and healthy community by promoting compact development, and making walking, cycling and transit play a more balanced role in the transportation system.
- It identifies several policies focused on providing more transportation options, including the establishment and maintenance of a City-wide walking and cycling network, and accessible transportation infrastructure.
- It identifies that school boards implement active transportation plans at new or refurbished schools to ensure the inclusion of pedestrian and cycling infrastructure.
- It identifies the need to maintain an efficient transit network, and to promote a land use pattern, density and mix of uses that reduces vehicle trips and supports alternative transportation modes including public transit.



WINDSOR 20 YEAR STRATEGIC VISION (2015)

WHAT IS IT?

Windsor's 20-year strategy includes a vision that it "is committed to continuous improvement, rests on the foundation of affordable, efficient, sustainable, and progressive service to the public". Three main goals help shape the future for the city: creating and maintaining jobs, focusing on development as a hub for innovation, and improving quality of life supported by sustainable growth and a vibrant, caring community. The vision builds on key strengths including the city's strategic location, diverse population, financial sustainability, and quality of life.

WHY IS IT IMPORTANT?

- It supports planning decisions that connect the city together, and support a vibrant downtown, and healthy environment.
- It promotes planning for integrated transit and transportation options that encourage walking and cycling for diverse needs in all stages of life.
- It encourages making infrastructure decisions that ensure long-term sustainability.

WINDSOR DOWNTOWN TRANSPORTATION STRATEGY (2016)

WHAT IS IT?

The Downtown Transportation Strategy presents a vision of Downtown Windsor as a vibrant and inviting place in which people want to work, play, and shop. The enhancement of a mixed-use environment will increase the opportunity to use transit, walk, and cycle modes. The strategy identifies places that have either the greatest need or best opportunity for placemaking and improving active transportation through the repurposing of existing areas to create space for all users and to achieve a more balanced transportation network focused on moving people.

WHY IS IT IMPORTANT?

- It identifies roadways with excess vehicle traffic capacity, that could be used for other purposes such as cycling facilities or improvements to the pedestrian environment.
- It identifies locations that are considered important 'people places' and contain key destinations that residents need to access, and ways to improve sustainable transportation to them.
- It complements recommendations from the BUMP and highlights key locations for dedicated cycling infrastructure improvements such as protected bicycle lanes, shared bus/cycling lanes, and newer treatments such as bike boxes that would help increase safety and space for cyclists.
- It provides a framework through to complement the City's efforts towards a Sustainable Parking Strategy and assesses the potential relocation of current on-street parking spaces to active transportation infrastructure.

- It identifies opportunities to improve the pedestrian environment through planning for improved crossing treatments, accommodations for sidewalk café's, as well as enhancements to urban forestry, and street furniture which will improve public spaces.

WINDSOR COMMUNITY ENERGY PLAN (2017)

WHAT IS IT?

Windsor's Community Energy Plan is a long-term plan with a vision to "create economic advantage, mitigate climate change, and improve energy performance. It strives to position Windsor as an energy centre of excellence that boasts efficient, innovative, and reliable energy systems that contribute to the quality of life of residents and businesses." The plan identifies ways to increase energy efficiency, improve security, and reduce GHG emissions while contributing to the quality of life in Windsor. The plan sets important targets to reduce both energy use and GHG emissions by 40% from the 2014 baseline by 2041. These targets are consistent with those set by the Province as part of the 2016 Ontario Climate Action Plan. This transportation sector is an integral component of this plan, accounting for 26% of the energy used, 36% of GHG emissions, and 46% of the energy costs.

WHY IS IT IMPORTANT?

- It outlines strategies for low carbon transportation systems include increasing capacity and use of active transportation and public transit to reduce the number of vehicles on the road. This is complemented by land-use goals that support the integration of neighbourhoods as complete communities that support multi-modal transportation options.
- It sets targets to achieve a doubling of transit ridership by 2041, achieving a mode shift of 6%.
- It encourages effective land use planning that supports "Complete Streets" which create a comprehensive and attractive active transportation network for all ages and abilities, and "Transit Oriented Development" which focuses community and neighbourhood density around transit infrastructure and supports public transit, walking and cycling.
- It identifies key strategies from the BUMP that support a low carbon transportation system and encourages GHG reduction targets to be identified in the Active Transportation Master Plan.

Other City plans and initiatives in place that will influence the Active Transportation Master Plan include:

- All Way Stop Policy (2005)
- Community Based Strategic Rail Study (2008)
- Transportation Impact Study Guidelines (2013)
- Road Safety Report (2016)
- School Neighbourhood Policy (2016)
- Snow Removal By-Law (1986)
- Windsor Transit Review (2018/19)
- Environmental Master Plan (2017)

2.3 What Are Others Doing

Communities of all sizes across North America have taken significant steps to promote active transportation in recent years, recognizing the significant benefits, as well as the need to provide safe transportation choices for all road users. This section summarizes lessons learned from several other peer and leading cities. Based on input from City staff, the following five municipalities were selected and researched in more detail.

- Victoria, British Columbia
- Lethbridge, Alberta
- London, Ontario
- Guelph, Ontario
- Detroit, Michigan

These cities were selected either because they have similar context and size to Windsor, they are leading cities for active transportation, and/or they are located in close proximity to Windsor. Each of these cities offer valuable lessons in policies and network development that can help inform the City of Windsor as it seeks to improve the health and safety of its citizens through increased rates of active transportation.

VICTORIA, BRITISH COLUMBIA

Though located furthest from Windsor with a smaller land area and milder climate, Victoria was selected for its very high levels of active transportation and its bold efforts to develop a city-wide All Ages and Abilities cycling network.

The City of Victoria's Official Community Plan has established impressive transportation mode share targets that include having 60% of all trips, and 70% of trips to work by Victoria residents take place by walking, cycling and public transit by the year 2041.

The City began developing their cycling network in 1995 with their first Bicycle Master Plan. Its 2012 Official Community Plan included transportation goals and led to the development of key policy areas to establish a multi-modal transportation system, prioritize pedestrian, cyclists and transit users, connect destinations and more efficient road use.

In 2015, the City developed a new plan to create a City-wide network of All Ages and Abilities bicycle facilities that would connect all neighbourhoods and destinations in the City by 2018. Since that plan was developed Victoria has begun implementation of this City-wide network, which a focus on starting with establishing a downtown grid.

In the past two years, the City has begun construction of their downtown All Ages and Abilities bicycle network. The first corridors have been constructed, with the final three corridors planned for construction in fall, 2018. Although these projects were initiated as cycling projects, the City has invested significantly in each project to ensure they provide benefits for all roads users, including people walking and using transit, and that they contribute to an attractive streetscape with high quality urban design treatments.

LETHBRIDGE, ALBERTA

Lethbridge was identified as a case study due to its similar population size, almost identical active transportation mode share, and similarly recent efforts to increase active transportation and transit usage. Because of the small population size, Lethbridge also faces the realities of smaller fiscal capacity as it seeks to increase active transportation rates.

The City of Lethbridge City Council adopted a comprehensive Cycling Master Plan in July 2017. The stated vision of Lethbridge's Cycling Master Plan is that "Lethbridge commits to make cycling a realistic transportation option for all ages and abilities, contributing to our sustainable future."

The Cycling Master Plan recognizes that funding limitations and required coordination with both existing and planned infrastructure projects means that the proposed cycling network contained within the plan may mean a gradual installation of this cycling network.

The plan identifies the need for "better design options that will safely facilitate an increase in cycling through safe, well designed and well-located infrastructure." The Cycling Master Plan is identified as supporting the goals of the City's Transportation Master Plan, the Integrated Community Sustainability Plan, and the Municipal Development Plan, with the stated goal that "Lethbridge will be a walkable and bicycle friendly city."

The Cycling Master Plan has six key goals and objectives:

- | | |
|-------------------------|---------------------------|
| 1. More People Cycling | 4. Cycling is Connected |
| 2. Cycling is Safe | 5. Cycling is Understood |
| 3. Cycling is Desirable | 6. Cycling is Implemented |

Since developing the Cycling Master Plan, the City has taken bold steps to implement high quality cycling infrastructure. In 2017, the City opened Alberta's first bicycle boulevard to provide an important east-west cycling connection for people of all ages and abilities. The design included several traffic calming and diversion features, including speed humps, traffic circles, and diagonal diverters as well as improvements at major intersections. More recently, the City is now developing the preliminary design for a downtown network of protected bicycle lanes. Through both projects, the City is demonstrating that a focus on developing a connected network of All Ages and Abilities facilities can be a practical solution, even for a smaller community.

In addition, in 2011 the City of Lethbridge applied for and received a grant to conduct a Walkability Audit. The top three priorities from this audit were:

1. To create logical connections and fill gaps in the existing system to develop longer connected portions of the bikeway and pathway routes, and to provide a balance of new trail development in all areas of the city.
2. Downtown Lethbridge was identified a high priority for both walking and cycling. This involved widening the sidewalks, and a designated part of the road for cycling. This was all part of enhancing pedestrian and cycling connections to improve access and connectivity to the wider city. It was recommended that this be accomplished by bridging barriers such as highways and connecting to Lethbridge's existing trail system along the river valley. The Audit recommended that streets be designed to enhance the walking experience and appeal to pedestrians by the installation of street trees, high quality street furniture, and crosswalks to ensure amenity, safety and convenience.

3. The Audit also referred heavily to the Integrated Community Sustainability Plan, recognizing that sustainable development leads to less motor vehicle transportation. These priorities included creating a well-designed city that incorporates transportation and movement, as well as making changes to the built environment that considers the needs of pedestrians, mobility challenged persons, and the elderly. Lastly, it recommends that priority be given to the creation of a more compact city to bring different activities closer together, in an effort to allow more people to use transit, bicycles and their feet to reach their destination.

The Walkability Audit also listed several “**quick wins**”: ideas that were designed to be implemented within a six month to one-year time frame. Most of these ideas are also applicable for the City of Windsor to consider as it seeks to increase pedestrian safety, comfort, and numbers.

- **Promote walking** by encouraging walking groups, social media, developing on-line resources to consolidate walking activities, and creating a walking calendar.
- **Mapping**, including improving neighbourhood maps using Google and involving elementary students in mapping and discussion of their neighbourhoods.
- **Safer Crossings**, including creating design guidelines for safer crossings from the pedestrian perspective, adjusting pedestrian crossing times, and using paint and planters to test changes on a temporary basis.
- **Bus stops**, including providing bus stop information signs with timetables and local area maps, and conducting art projects at intersections or bus stops.

LONDON, ONTARIO

London was selected as a case study due to its proximity to Windsor, similar population size, and recent efforts to encourage active transportation, including the development of a comprehensive Cycling Plan in 2016.

London completed a Transportation Master Plan in May 2013, which included five broad directions including a directive to “promote sustainable travel for all time periods.” The Transportation Master Plan is a guiding document for the City, and states that more active transportation infrastructure will be needed to support growth and improve access to transit. Specific initiatives include completing gaps in the sidewalk network, providing a more continuous and extensive network of on-street bicycle routes, and providing secure bicycle parking facilities at all key public destinations and employment concentrations.

There were also 21 short-term Transportation Demand Management initiatives identified, with the most important being the upgrading of on-street cycling routes. In this regard, four priority on-street cycling routes were identified for implementation within three years using bicycle lanes wherever possible. To increase usage, it was suggested that these routes should be named, well maintained in all seasons, very well marked on the pavement, and well signed.

GUELPH, ONTARIO

The City of Guelph was selected because it is located relatively close to Windsor, has a similar climate, and is only slightly smaller than Windsor with a population of 130,000 people.

The City’s Official Plan, consolidated in March of 2018, has a strong focus on active transportation, stating that “Active

transportation which includes pedestrian movement, cycling and any non-motorized modes of transportation, is a component of achieving the City's transportation, sustainability, community energy and healthy community objectives."

The Official Plan also supports this statement with formal policies, including supporting walking and cycling as priorities when designing the transportation system, with a focus on connecting land uses to meet the community's transportation needs. These policies also support the ongoing enhancement of a pedestrian and bicycle system that is "convenient, safe and pleasant, serves both commuter and recreational purposes, and provides access throughout the city."

The City has committed to preparing a Bicycle Transportation Plan that will identify a bicycle network of both off-road and on-road bicycle facilities as well as other network improvements. Further to this, the City has committed to implementing the Bicycle Transportation Plan through the development process, as well as City projects, and will consider the incorporation of improvements and expansions to the Bicycle Network when undertaking road infrastructure works or when development proposals are being considered.

The City has also committed itself (where possible) to installing bicycle and pedestrian paths along abandoned rail lines, or existing rail lines where multiple uses become available within the City limits.

Furthermore, these policies state that in new developments, including employment areas and where public transit service is intended, sidewalks shall be provided on both sides of all streets wherever feasible.

The City is also noted for possessing a cutting-edge transit system that provides local transportation around the city. In 2007, Guelph Transit launched a web-based system known as Next Bus. Utilizing global positioning satellites (GPS) technology and advanced computer modelling, this system provides riders (via the Internet or telephones) with accurate, real-time arrival and departure information.

DETROIT, MICHIGAN

Detroit was selected as a case study due to its location just across the Detroit River. Detroit is an important City to study due to both its extremely close proximity as well as recent efforts to more closely link these two cities, including a recent joint proposal to host Amazon's second headquarters. On a daily basis an average of nearly 7,000 Windsor-Essex residents cross into the United States for work, while an average of 615 Detroit residents come into Canada to work daily. In addition, another 11,000 trucks and 15,000 motor vehicles cross at the two border points joining Windsor and Detroit, intrinsically linking the transportation systems of these two border communities, requiring a collaborative approach to ensure the safe and efficient movement of goods and people.

Although traditionally known as "Motor City", the City of Detroit desires a world-class bicycle network with protected, connected, attractive and accessible infrastructure. In addition to improving public transportation, the City is choosing to invest in bicycling. Through a planning process that will be completed in Summer 2018, the City is working to update the City-wide Non-Motorized Plan, beginning with a greater downtown area bicycle network plan. Project objectives include creating connected mobility options that encourage the use of bicycles as a normal form of

transport, and protected infrastructure to support riders choosing to cycle throughout the greater downtown area. From 2007-2010, the City of Detroit saw bike mode share increase over 16 fold, from just 0.2 % of the population using bikes as their main mode of transportation in 2002 to over 3.3% of the population using Cycling as their main mode of travel in 2010.

There is no current means for bicycling between Detroit and Windsor. The Detroit-Windsor Tunnel does not allow bicycles, while the Ambassador Bridge was open to bicycles and pedestrians from its opening in 1929 but was closed to both modes in 2001. However, in the fall of 2017, Windsor Transit installed bike racks on its buses crossing the international border, allowing up to two bikes per bus to be carried across the border. In addition to this new service that allows people on bikes to cross the border, the Gordie Howe International Bridge is being designed with a separated pathway that will allow bicyclists and pedestrians to cross into the Delray area of Southwest Detroit. The Detroit Greenways Coalition has been advocating for years to have cycling and pedestrian facilities included in the new Gordie Howe International Bridge and are also supportive of recent efforts to see the creation of a ferry service between the two cities that would carry pedestrians and cyclists. The Detroit Greenways Coalition also created an online Detroit Bike and Parking Map, which is the local Google cycling map overlaid with bike parking locations.

Detroit is also seeking ways to increase pedestrian facilities, based upon the 2014 Non-Motorized Plan for Southeast Michigan that recognized that only 8% of Detroit's residents live within a quarter mile of a regional pedestrian facility, with long-term plans to increase these facilities to reach 15% of Detroit's population.

In terms of transit integration, all Suburban Mobility Authority for Regional Transportation (SMART) line haul buses are equipped with bike racks capable of holding two bicycles. Bike racks are installed on most Detroit Department of Transportation (DDOT) buses. The Detroit People Mover allows bikes to be brought on board and all stations are equipped with bicycle racks.

In May 2017, Detroit launched a successful Bike Share system called MoGo. The program exceeded initial projections with, 132,000 rides by more than 23,000 users in less than a year. The system launched with 430 red bicycles at 43 stations in 10 Detroit neighborhoods, and was funded through a \$1,000,000 federal grant, as well as a mix of corporate and foundation support. In May of 2018, MoGo added 13 specialized bicycles to its fleet to allow for persons with mobility issues to also ride their fleet of rental bikes. These new bikes included tandems, tricycles, hand tricycles, recumbents, and a front-loading trailer for rental.

In the Spring of 2016, the Detroit Greenways Coalition launched the US-Canada Greenways Vision Map in partnership with a long list of organizations, including the City of Windsor. The vision of this initiative is to "encourage stronger linkages between the emerging greenways of southwest Ontario and southeast Michigan via future dedicated bike lanes on the new Gordie Howe Bridge, as well as a possible future ferry system between Windsor and Detroit." This group hopes to connect the growing cycling and walking networks on both sides of the river through these linkages, and encourage the growth of active transportation tourism on both sides of the border.

	WINDSOR	LETHBRIDGE	VICTORIA	GUELPH	DETROIT	LONDON
Population	210,000	93,000	84,000	129,000	673,000	381,000
Weather celcius)	<ul style="list-style-type: none"> • Range: -7 to +28 degrees (rarely below -15 or above +32) • Average winter high: +5 degrees 	<ul style="list-style-type: none"> • Range: -10 to +27 degrees (rarely below -25 or above +33) • Average winter high: +5 degrees 	<ul style="list-style-type: none"> • Range: +3 to +19 degrees (rarely below -2 or above +22) • Average winter high: +9 degrees 	<ul style="list-style-type: none"> • Range: -11 to +25 degrees (rarely below -20 or above +30) • Average winter high: +3 degrees 	<ul style="list-style-type: none"> • Range: -7 to +28 degrees (rarely below -14 or above +33) • Average winter high: +5 degrees 	<ul style="list-style-type: none"> • Range: -9 to +26 degrees (rarely below -17 or above +30) • Average winter high: +3 degrees
Bike Share System	<ul style="list-style-type: none"> • Zagster Bike Share at University of Windsor • Fleet: 47 bikes • Feasibility Study underway by City 	<ul style="list-style-type: none"> • n/a 	<ul style="list-style-type: none"> • U-Bicycle dockless bike share launched September, 2017 • Fleet: 550 bikes 	<ul style="list-style-type: none"> • n/a 	<ul style="list-style-type: none"> • MoGo launched May, 2017. • Fleet: 430 bikes at 43 stations 	<ul style="list-style-type: none"> • Planned launch in 2020 of 300 bikes • \$1.6M in funding from Provincial & Federal Governments
Median Household Income	• \$59,000	• \$75,452	• \$69,995	• \$70,880	• \$73,036 \$54,962 USD)	• \$64,743
Mode Share 2016 Census)	<ul style="list-style-type: none"> • Auto: 91.5% • Transit: 3.4% • Walking or Cycling: 4.3% • Other: 0.7% 	<ul style="list-style-type: none"> • Auto: 90.7% • Transit: 2.9% • Walking or Cycling: 5.4% • Other: 0.9% 	<ul style="list-style-type: none"> • Auto: 69.8% • Transit: 10.9% • Walking or Cycling: 16.9% • Other: 1.4% 	<ul style="list-style-type: none"> • Auto: 85.9% • Transit: 6.4% • Walking or Cycling: 6.9% • Other: 0.7% 	<ul style="list-style-type: none"> • Auto: 92% • Transit: 2% • Walking or Cycling: 1% • Other: 5% 	<ul style="list-style-type: none"> • Auto: 85.1% • Transit: 7.2% • Walking or Cycling: 6.7% • Other: 0.8%
Transit Facilities 2018)	<ul style="list-style-type: none"> • Annual Ridership: 6.5 Million • 112 Buses • 14 Routes 	<ul style="list-style-type: none"> • Annual Ridership: 1.1 Million • 42 Buses • 14 Routes 	<ul style="list-style-type: none"> • Annual Ridership: 25.5 Million • 260 Buses • 58 Routes 	<ul style="list-style-type: none"> • Annual Ridership: 7.3 Million • 70 Buses • 28 Routes 	<ul style="list-style-type: none"> • Annual Ridership: 33.5 Million • 300 Buses • 35 Routes 	<ul style="list-style-type: none"> • Annual Ridership: 24.1 Million • 195 Buses • 42 Routes
Cycling Facilities 2018)	<ul style="list-style-type: none"> • Off-street pathways: 130.5 km • Bicycle lanes & paved shoulders: 51.1 km • Signed routes: 32.9 km 	<ul style="list-style-type: none"> • Paved pathways: 177 km • Natural or gravel trails: 57 km • On-street bike lane: One 	<ul style="list-style-type: none"> • Marked bike lanes: 41 km • Multi-use trails: 2.6 km • Buffered bike lanes: 2 km • Signed routes: 18 km 	<ul style="list-style-type: none"> • Off-street pathways: 100 km • Bike lanes: 101 km 	<ul style="list-style-type: none"> • Dedicated bike lanes: 224 km 	<ul style="list-style-type: none"> • Pathways: 40 km • Bike boulevards: 40 km • Bike lanes: 60 km • Sharrows: 8 km • Signed routes: 50 km
Pedestrian Facilities 2018)	<ul style="list-style-type: none"> • Sidewalks: 1030.7 km • Multi-use trails: 37 km 	<ul style="list-style-type: none"> • Sidewalks: 650 km • Multi-use pathways: 100 km 	<ul style="list-style-type: none"> • Sidewalks: 475 km • Multi-use pathways: 111 km 	<ul style="list-style-type: none"> • Sidewalks: 660 km 	<ul style="list-style-type: none"> • Sidewalks: 7242 km 	<ul style="list-style-type: none"> • Sidewalks: 1510 km

TABLE 1 - PEER REVIEW

COMMUNITY PROFILE

3.1 Land Use

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.

3.1.3 GROWTH AND DEVELOPMENT PATTERNS

Today, Windsor has a land area of almost 150 square kilometres. What was once the Huron Church Reserve, was established as a fur-trading post in the original town of Sandwich in 1797, the Essex County area quickly grew with additional communities. The current border of the City of Windsor is a result of amalgamations of these communities and land transfers that took place throughout 1930-1960, and Tecumseh in 2003.

The City's Official Plan provides several overarching goals to balance the environmental, social, and economics 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.

3.1.4 NEIGHBOURHOODS

Windsor is made up of diverse neighbourhoods that provide a range of living environments. For the most part, Windsor'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 1](#)).

3.1.5 KEY DESTINATIONS

[Figure 2](#) 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 1 - WINDSOR'S NEIGHBOURHOODS AND KEY LAND USES



FIGURE 2 - KEY DESTINATIONS

3.2 Demographics

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

3.2.1 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 Official Plan.

3.2.2 AGE DISTRIBUTION

In 2016, Windsor's population was 48.8% male and 51.2% female. Children under 15 years of age account for approximately 16% of the City's population compared to nearly 17% for the rest of Canada. Persons of age 65 years and over accounted for nearly 18% of the population in Windsor compared to 17% for Canada, and the median age in Windsor is 41.4 years compared to 41.2 years for Canada.

Over a third of the City's population (36%) are either too young to drive, or are senior citizens, both groups that utilize walking, cycling and public transit on a regular basis.

Age distribution data below is current as of the 2016 Canadian Census for the City of Windsor.

AGE COHORTS	TOTAL	MALE	FEMALE
	217190	106070	111120
0 to 14 years	35425	18130	17295
15 to 19 years	13230	6815	6415
20 to 24 years	16120	8455	7660
25 to 29 years	14670	7410	7265
30 to 34 years	12820	6110	6705
35 to 39 years	12625	5980	6645
40 to 44 years	13765	6630	7130
45 to 49 years	14850	7330	7520
50 to 54 years	16330	8175	8155
55 to 59 years	15500	7670	7835
60 to 64 years	13565	6530	7035
65 to 69 years	12040	5655	6385
70 to 74 years	8640	4075	4560
75 to 79 years	6840	3020	3820
80 to 84 years	5130	2185	2945
85 years and over	5640	1905	3740

TABLE 2 - WINDSOR AGE DISTRIBUTION DATA (SOURCE: 2016 CANADIAN CENSUS)

	WINDSOR TOTAL	ONTARIO TOTAL
TOTAL	59,405 (100%)	3,852,145 (100%)
Asia	28,715 (48%)	1,869,805 (49%)
Europe	19,460 (33%)	1,144,295 (30%)
Americas	7,650 (13%)	598,950 (16%)
Africa	3,580 (6%)	226,770 (6%)

TABLE 3 - WINDSOR'S IMMIGRANT POPULATION (SOURCE: 2016 CANADIAN CENSUS)

	WINDSOR TOTAL	ONTARIO TOTAL
Under \$5,000	21,905 (12.2%)	1,094,860 (9.9%)
\$5,000 to \$9,999	9,365 (5.2%)	635,305 (5.7%)
\$10,000 to \$19,999	16,345 (9.2%)	1,027,910 (9.3%)
\$20,000 to \$29,999	13,350 (7.5%)	827,805 (7.5%)
\$30,000 to \$39,999	12,225 (6.8%)	767,840 (7.0%)
\$40,000 to \$49,999	10,500 (5.8%)	709,775 (6.4%)
\$50,000 to \$59,999	7,850 (4.4%)	588,220 (5.3%)
\$60,000 to \$69,999	5,585 (3.1%)	465,670 (4.2%)
\$70,000 to \$79,999	4,790 (2.6%)	369,085 (3.3%)
\$80,000 to \$89,999	3,730 (2.0%)	307,660 (2.8%)
\$90,000 to \$99,999	3,090 (1.7%)	280,530 (2.5%)
\$100,000 and over	6,850 (3.8%)	716,015 (6.5%)

TABLE 4 - INCOME OF INDIVIDUALS IN 2015 (SOURCE: 2016 CANADIAN CENSUS)

3.2.3 IMMIGRANT POPULATION

Windsor attracts immigrants from around the world. The 2016 Census indicates that over a quarter (27.7%) of Windsor's population is 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. This number is 3.8% 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 (Table 3).

These numbers bear consideration since prior research on immigrants and transportation, including The Place for Immigrants in Toronto's Transit and Transportation City, found that due to financial constraints, new immigrants are heavily reliant upon active transportation – most often walking – as a way of getting around high fares or inaccessible transit, particularly for their grocery shopping. This research also found that where possible, immigrants rely heavily upon public transportation to move about, and that there is a strong link between housing choice and access to transportation for immigrants across Ontario.

3.2.4 INCOME

Looking at the 2016 Canadian census data on income (Table 4), the average annual income of Windsorites is \$34,794, with almost 74.8% of Windsorites earning less than \$50,000 per year. The Windsor Area Long-Range Transportation Study showed that 86 per cent of all area households have at least one car, and that 80% of all study area trips were by car. With the typical Canadian

paying an average of over \$10,000 per year to operate and maintain a motor vehicle, this represents a large financial burden for many, resulting in a sizable 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.

3.2.5 EMPLOYMENT

Residents of Windsor are employed in a variety of professions. Due to its history with automobile manufacturing, it is notable that approximately 1 in 5 Windsorites (20.4%) works in the manufacturing sector. Other notable employment sectors include personal and services, and wholesale and retail trade.

The City of Windsor's Urban Structure Plan (2011) indicated seven "Regional Employment Centres" where a large number of jobs are located. These employment centres include:

1. Windsor International Airport
2. Deziel/Rhodes Regional Employment Centre
3. Twin Oaks Industrial Park
4. Chrysler Plant
5. Ford Plant to Hawthorne Drive (lands bounded on the south by the E. C. Row Expressway, on the north by Hawthorne Drive, on the east by Lauzon Parkway, and on the west by Jefferson Boulevard)
6. Ojibway Regional Employment Centre
7. Sandwich South

SECTOR	2016*
Total Employment	160,000
Goods Sector	43,000
Manufacturing	32,700
Construction	8,100
Primary and Utilities	2,600
Services Sector	117,000
Transportation and Warehousing	8,800
Information and Cultural Industries	1,900
Wholesale and Retail Trade	24,300
Finance, Insurance and Real Estate	5,800
Business Services	11,800
Personal Services	24,400
Non-Commercial Services	35,200
Public Administration	4,800

*Forecast Data

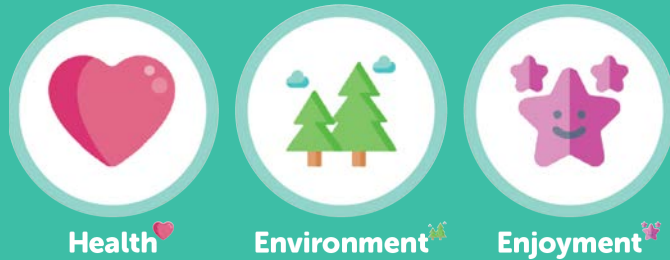
TABLE 5 - EMPLOYMENT IN WINDSOR
(STATISTICS CANADA; CONFERENCE BOARD OF CANADA | METROPOLITAN OUTLOOK 2:
ECONOMIC INSIGHTS INTO 15 CANADIAN METROPOLITAN ECONOMIES - 2015)

ACTIVE TRANSPORTATION IN WINDSOR TODAY

4.1 Interest in Active Transportation

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

Results from the interactive survey show that residents of Windsor think active transportation is important for many of these reasons, with health, environment, and enjoyment being the top reasons why walking and cycling is important to most respondents.



Survey respondents also indicated that they 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. 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.

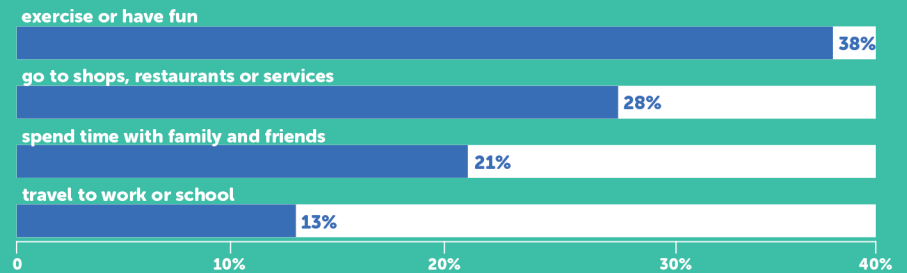


FIGURE 3 - WHY RESPONDENTS WALK

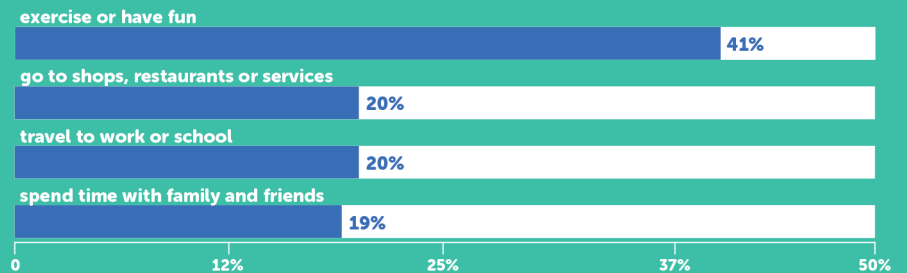


FIGURE 4 - WHY RESPONDENTS BIKE

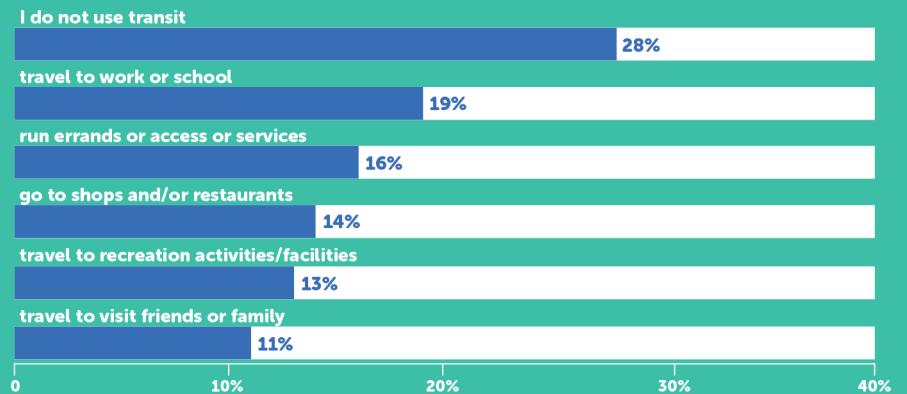


FIGURE 5 - WHY RESPONDENTS RIDE TRANSIT

4.2 The Market for Active Transportation

4.2.1 ACTIVE TRANSPORTATION POTENTIAL

An analysis was conducted to identify areas with the greatest opportunity to increase the number of walking and cycling trips. This analysis 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 6). It is also important to note that these neighbourhoods have several destinations that were identified by survey respondents.

4.2.1 EQUITY

One of the aims of the Active Transportation Master Plan is to develop a well-connected network for walking and cycling 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 (Figure 7).



- Cycling Potential
- Very High
 - High
 - Moderate
 - Low
 - Very Low

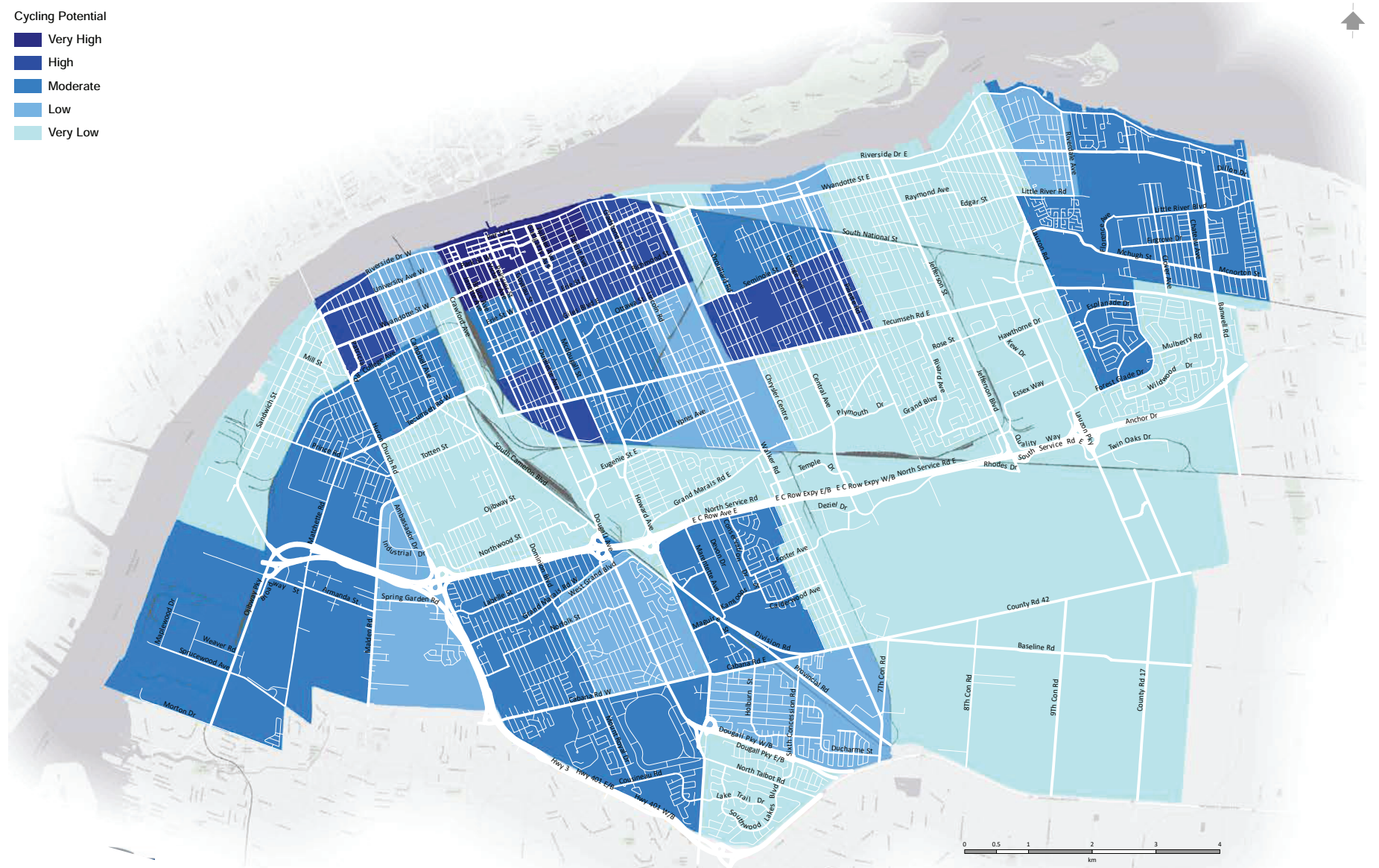


FIGURE 6 - ACTIVE TRANSPORTATION POTENTIAL

Percent Low Income Population

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

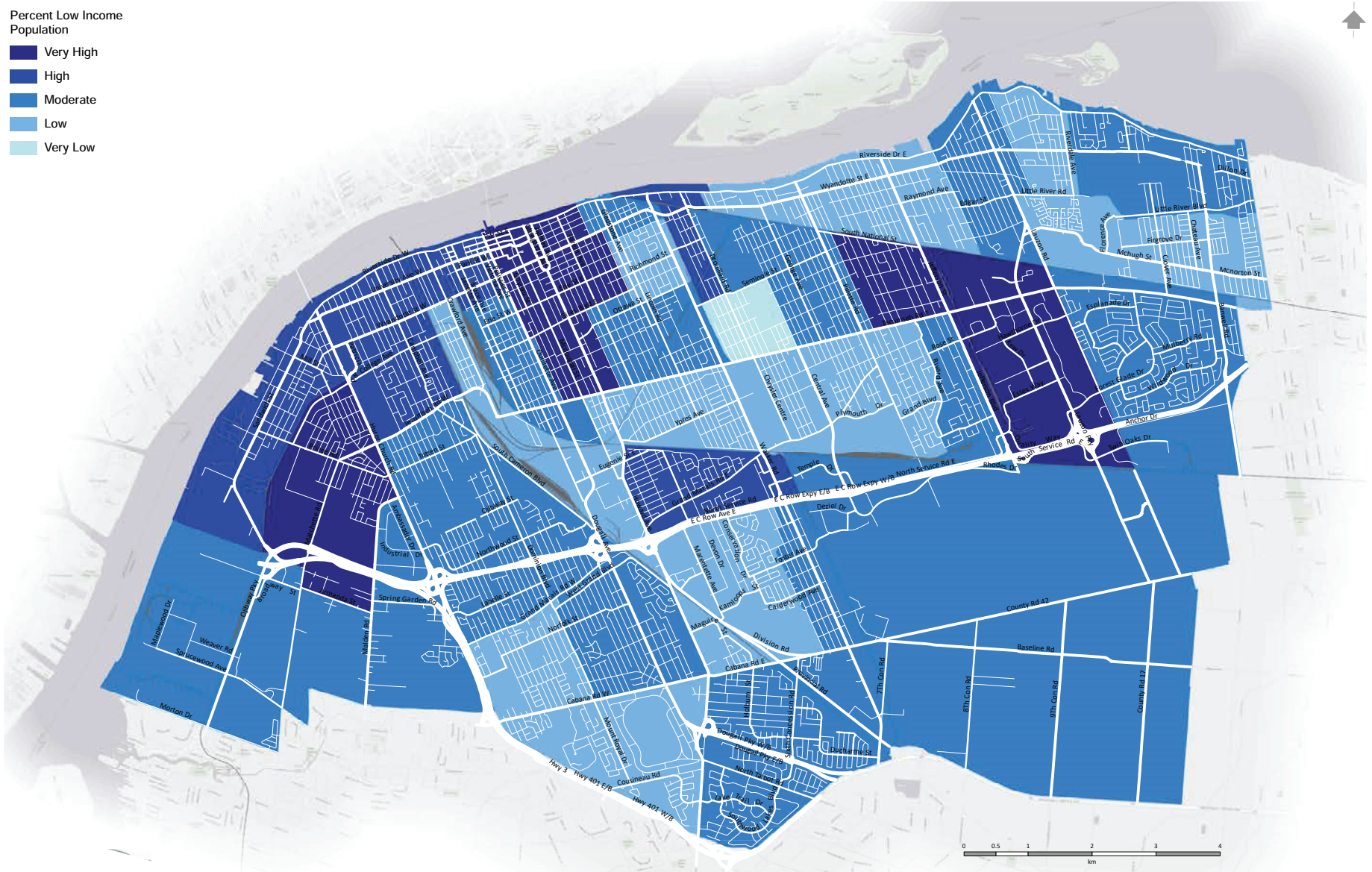


FIGURE 7 - EQUITY NEED

4.3 Travel Patterns

4.3.1 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, social purposes, 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 under-represents the actual amount of active transportation trips being made by Windsor residents.

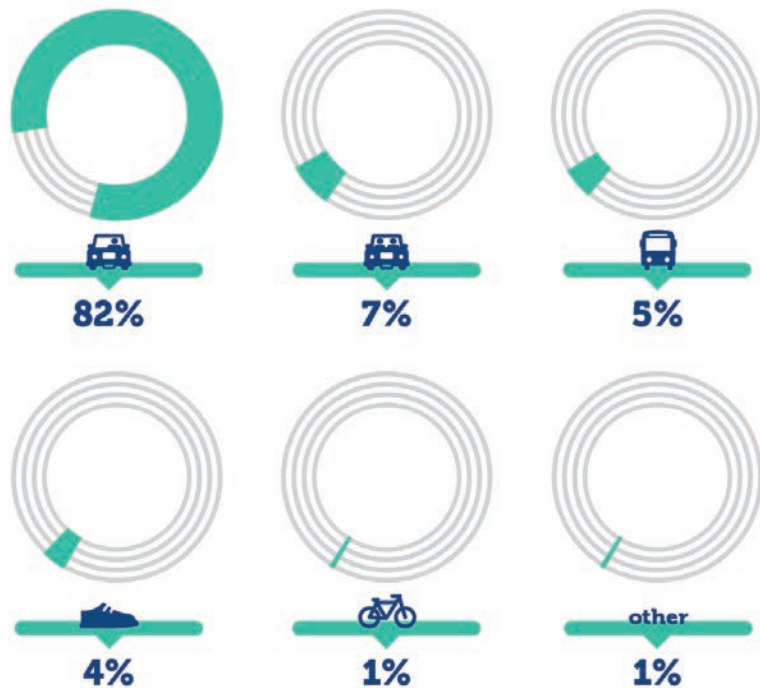


FIGURE 8 - MODE SHARE OF COMMUTE TRIPS TO WORK OR SCHOOL (SOURCE: STATISTICS CANADA, 2016 CENSUS)

COMPARISON WITH OTHER CITIES

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 9).

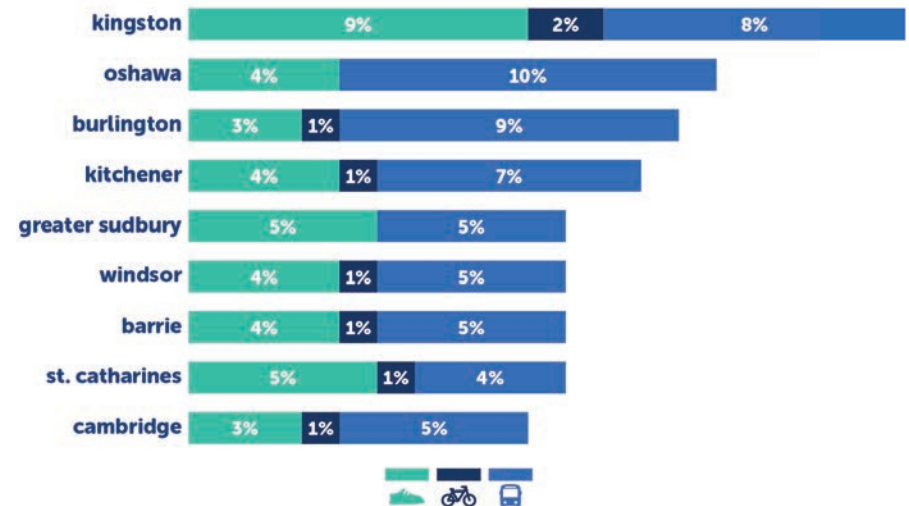


FIGURE 9 - MODE SHARE COMPARISON WITH OTHER PEER CITIES IN ONTARIO (SOURCE: STATISTICS CANADA, 2016 CENSUS)

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% today (Figure 10).

Transit has experienced a relatively steady mode share over the past twenty years, while walking and cycling have declined somewhat over this period.

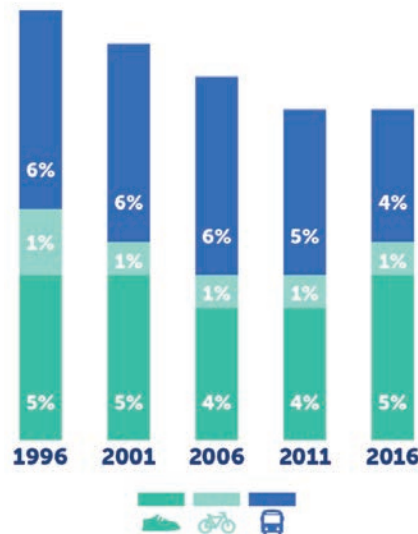


FIGURE 10 - HISTORIC TRENDS IN MODE SHARE OF COMMUTE TRIPS TO WORK OR SCHOOL (SOURCE: STATISTICS CANADA, 2016 CENSUS)

GEOGRAPHIC PATTERNS

The use of active modes of transportation varies throughout the City. In general, the more central neighbourhoods with higher levels of density and more destinations tend to have the highest active transportation mode shares.

The highest proportion of walking trips to work are found in the University, Walkerville, Ford City, Pillette, and Tecumseh-Lauzon neighbourhoods (Figure 12). The highest proportion of cycling trips to work are found in the Sandwich, University, Downtown, Walkerville, and South Central neighbourhoods (Figure 13). The highest proportion of transit trips to work are found in the Sandwich, University, South Central, Downtown, Walkerville, Ford City, and Tecumseh-Lauzon neighbourhoods (Figure 14).

Combined Mode Share

- > 10%
- 7.6% - 10.0%
- 5.1% - 7.5%
- 2.6% - 5.0%
- 1.1% - 2.5%
- 0% - 1.0%
- No Data

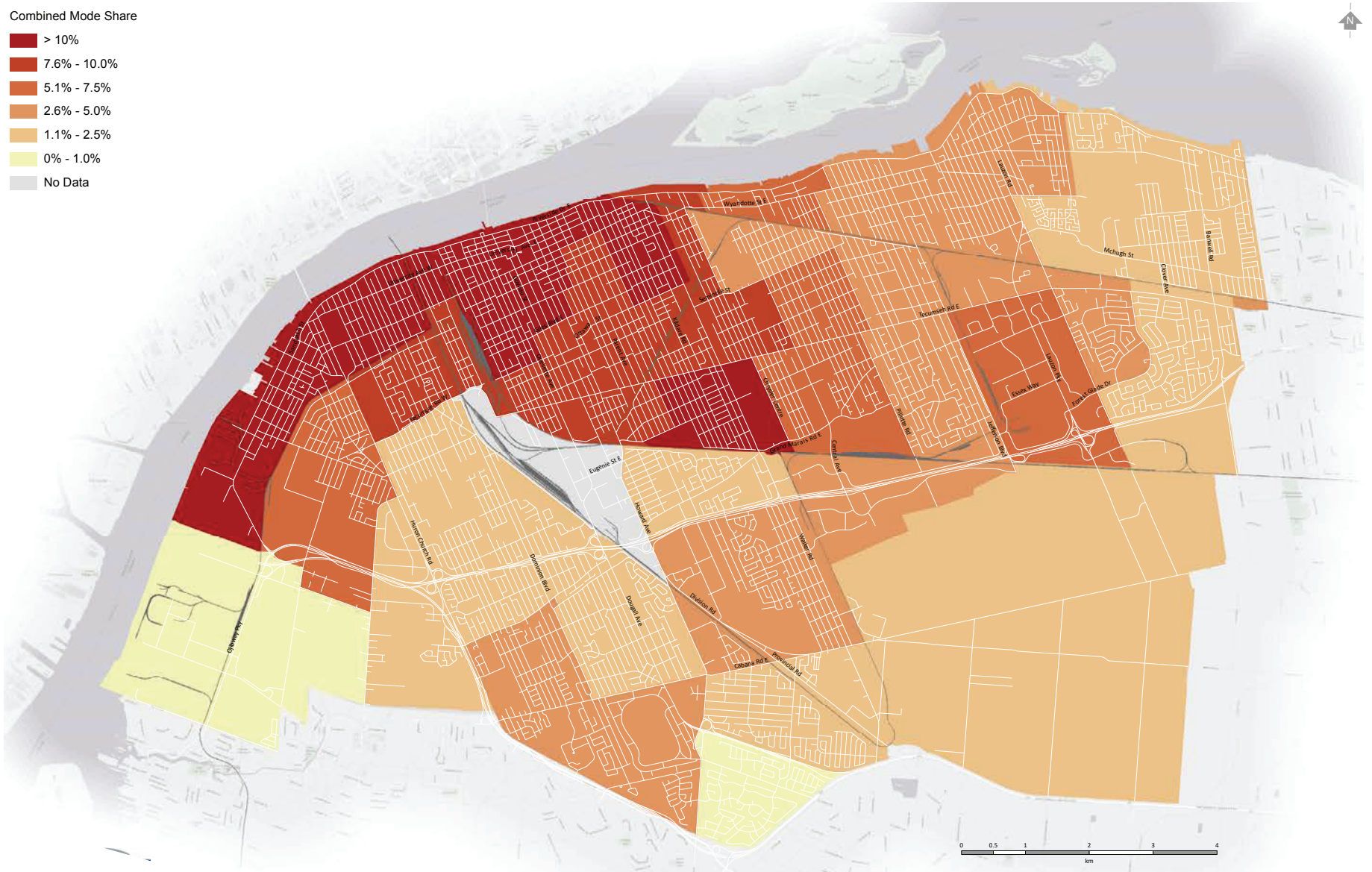


FIGURE 11 - ACTIVE TRANSPORTATION MODE SHARE

Bicycling Mode Share

- > 5%
- 4.1% - 5.0%
- 3.1% - 4.0%
- 2.1% - 3.0%
- 1.1% - 2.0%
- 0% - 1.0%
- No Data

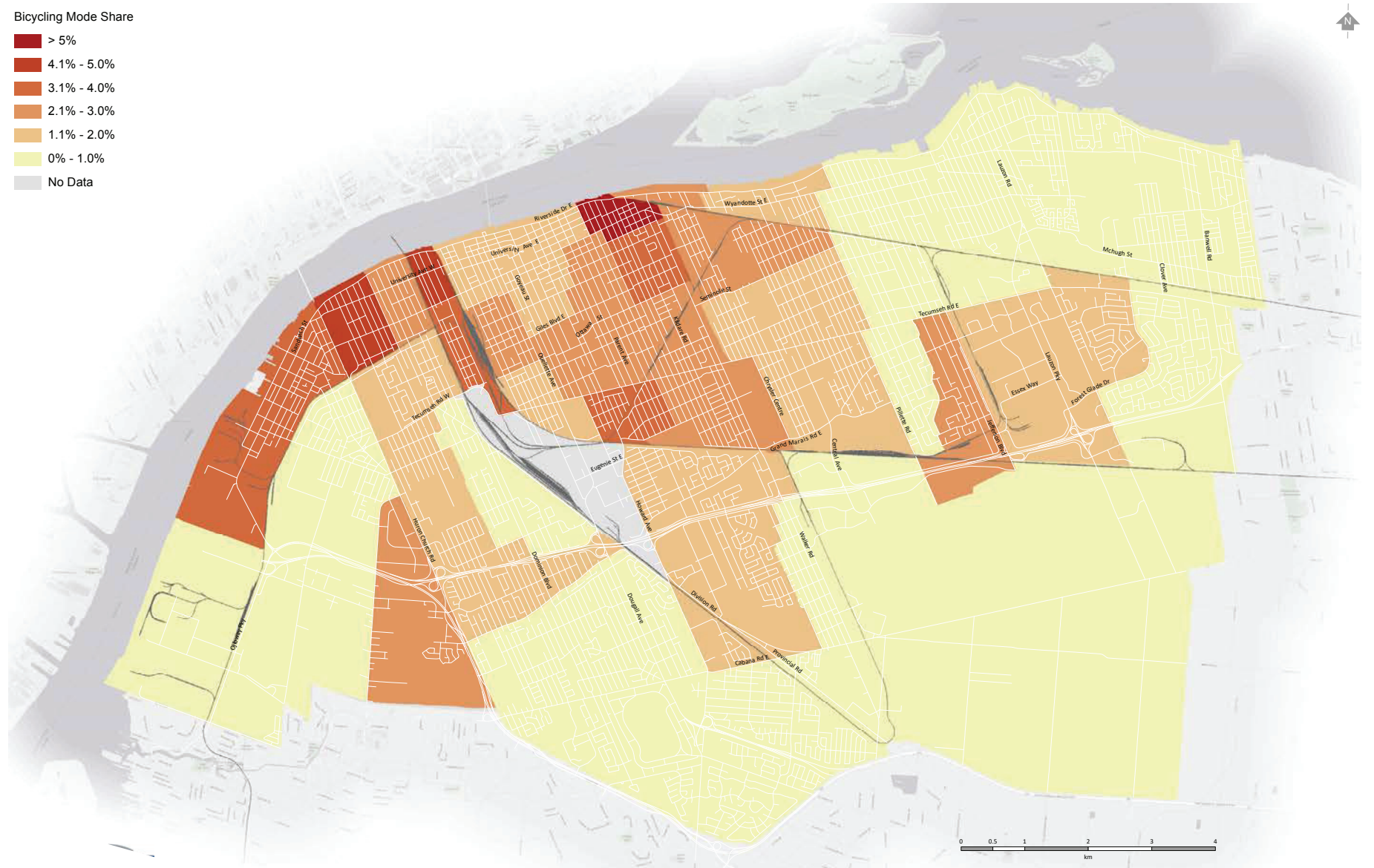


FIGURE 13 - BIKING MODE SHARE

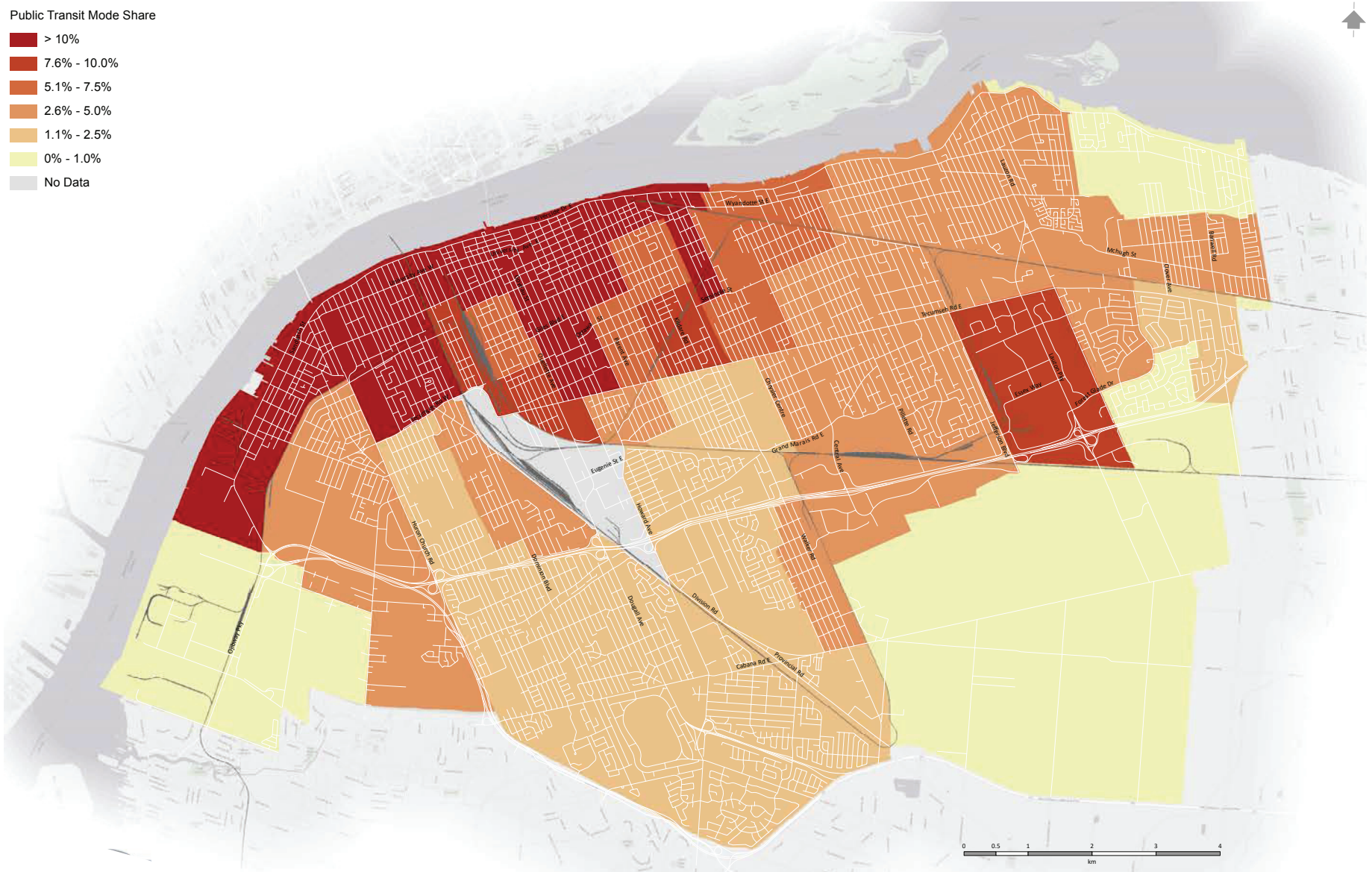


FIGURE 14 - TRANSIT MODE SHARE

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 15). 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 protected bicycle facilities, the proportion of female riders does increase. Transportation gender equity is important from economic, accessibility, and health perspectives.

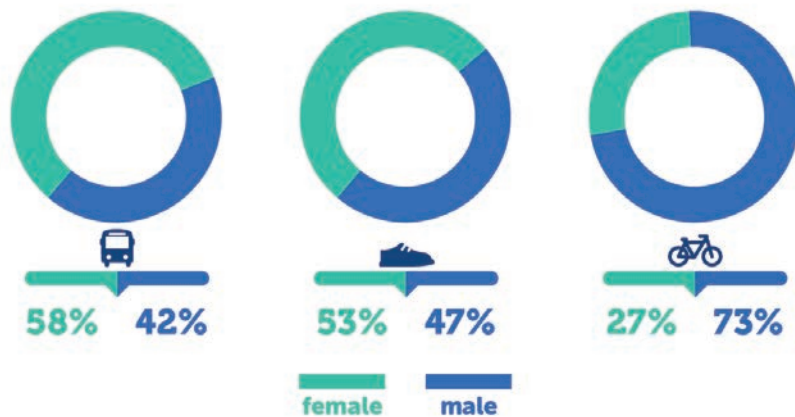


FIGURE 15 - GENDER SPLIT FOR ACTIVE MODES OF TRANSPORTATION (SOURCE: 2016 CENSUS)

WEATHER

To provide a greater understanding of travel patterns and how they vary based on weather conditions, respondents to the interactive survey were asked to indicate how often they travel by each mode of transportation on days when it is sunny or mild, as compared to days when it is rainy or cold.

On days when it is sunny or mild, over half (53%) of the interactive survey respondents indicated that they travel by walking, cycling, or transit. On days when it is rainy or cold, this dropped to 37% of respondents, as more people indicated that they choose to travel by motor vehicle, either alone or by carpooling (Figure 16).

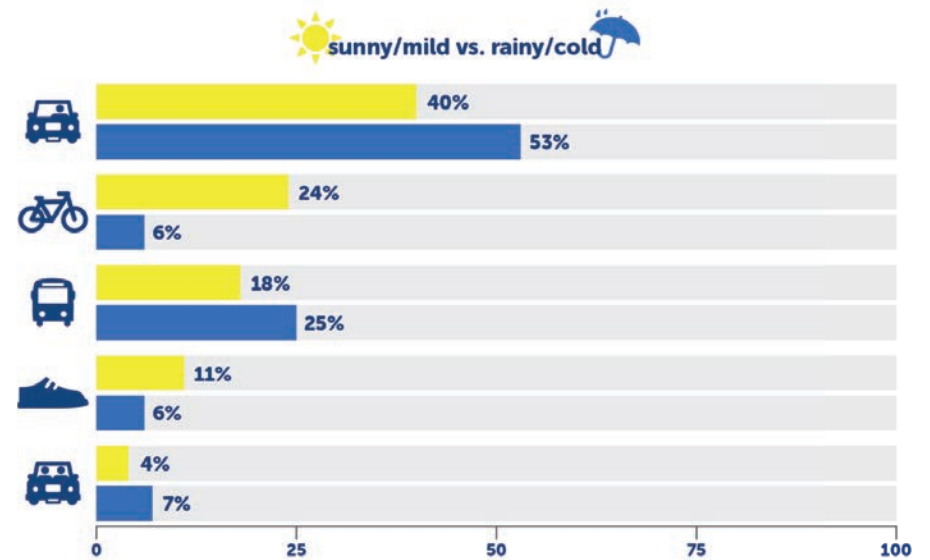


FIGURE 16 - MODE SHARE BASED ON WEATHER CONDITION (SOURCE: ONLINE SURVEY, 2018)

4.3.2 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. **Figures 17 to 22** show the distribution of these trips.

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, 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

FAVOURITE PLACES

Respondents to the interactive survey were asked to identify some of their favourite places to travel to in Windsor. These are important to identify destinations as the active transportation network is developed. The most popular places in Windsor are the waterfront, Downtown, Walkerville, Ojibway Prairie Nature Reserve, and Malden Park (**Figure 23**).



I Travel Here - All Modes

- Very High
- High
- Moderate
- Low
- None / Very Low

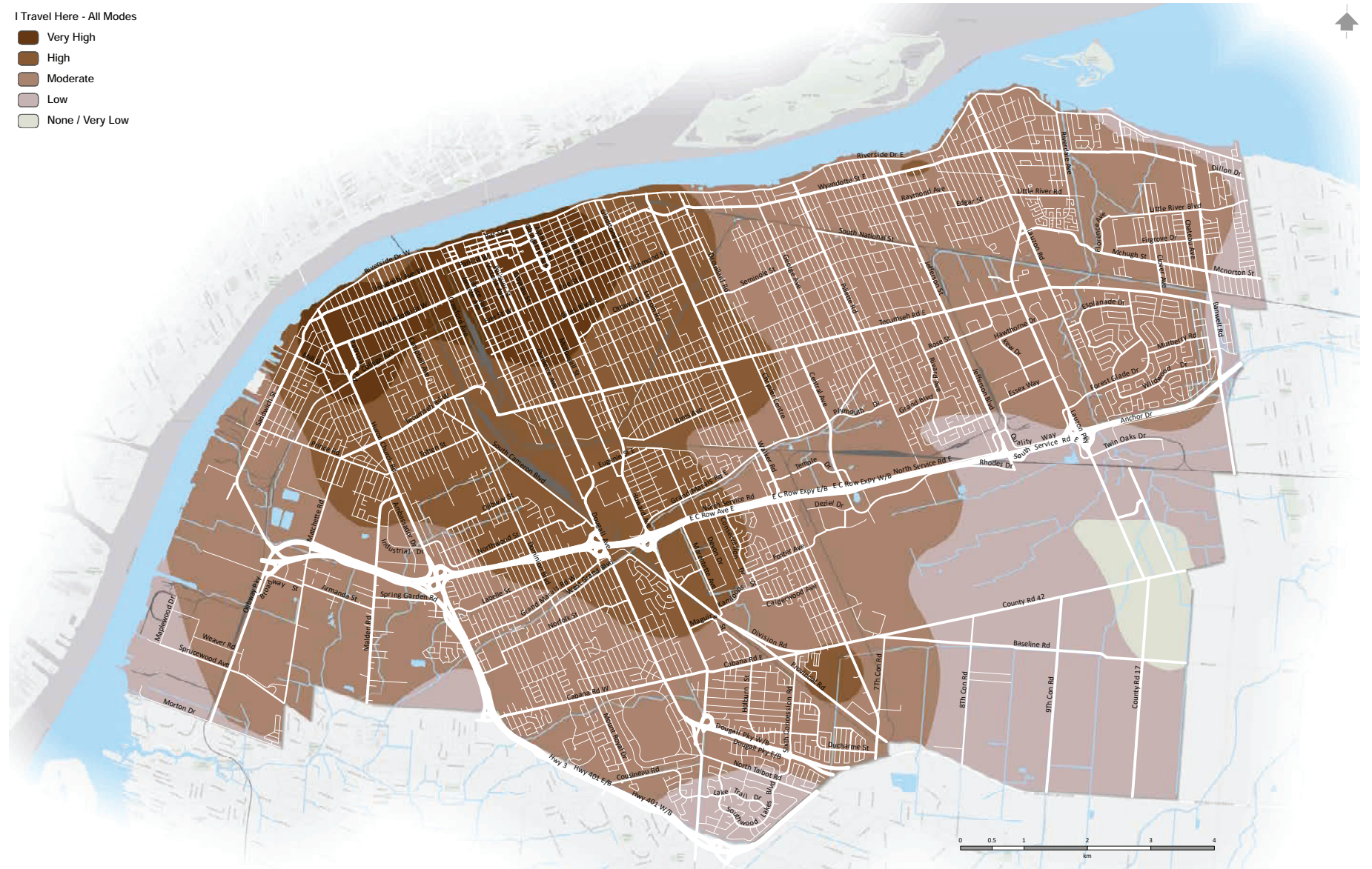


FIGURE 17 - FREQUENT DESTINATIONS (ALL)

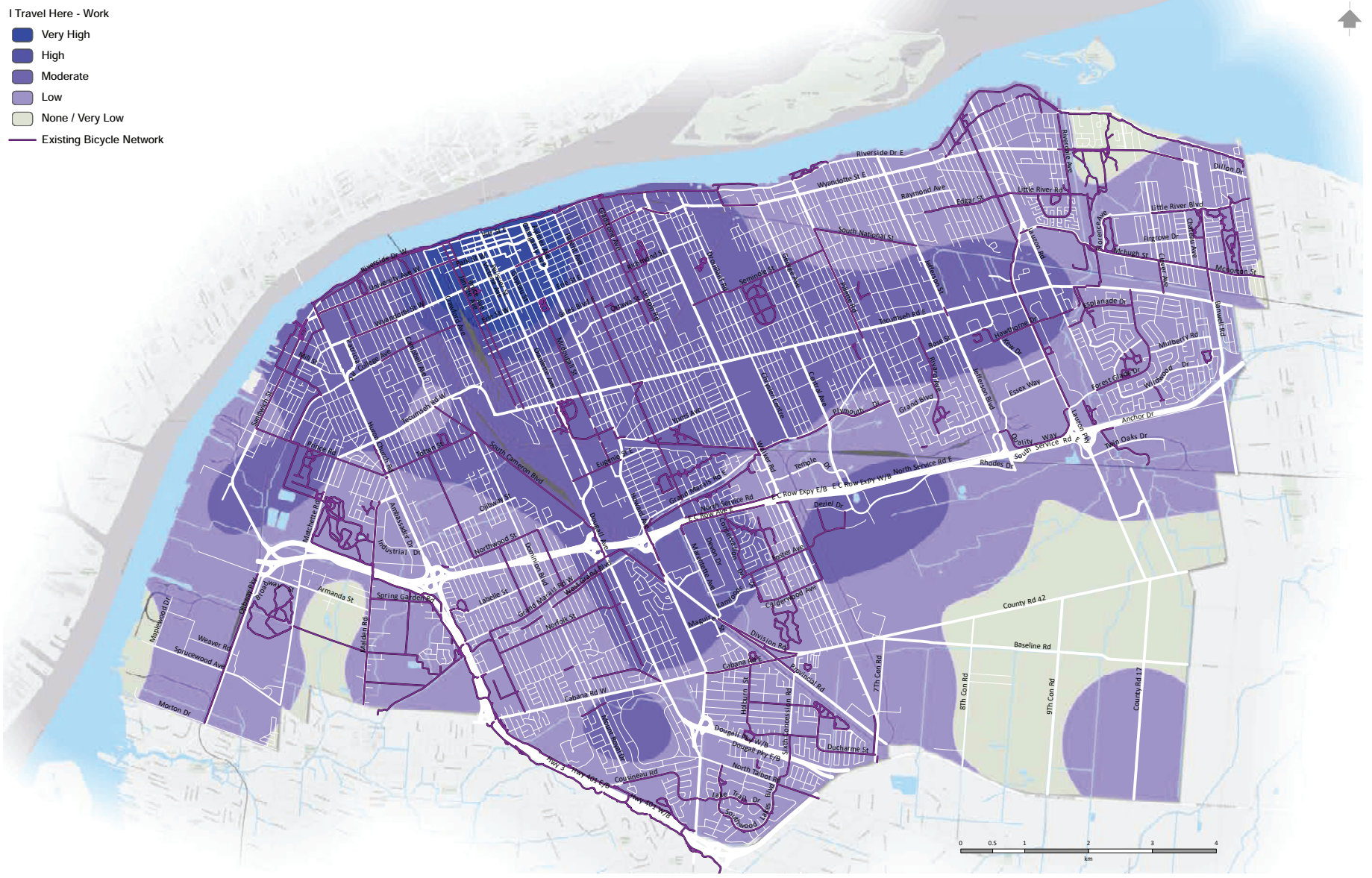


FIGURE 18 - FREQUENT DESTINATIONS FOR WORK

I Travel Here - School

- Very High
- High
- Moderate
- Low
- None / Very Low
- Existing Bicycle Network

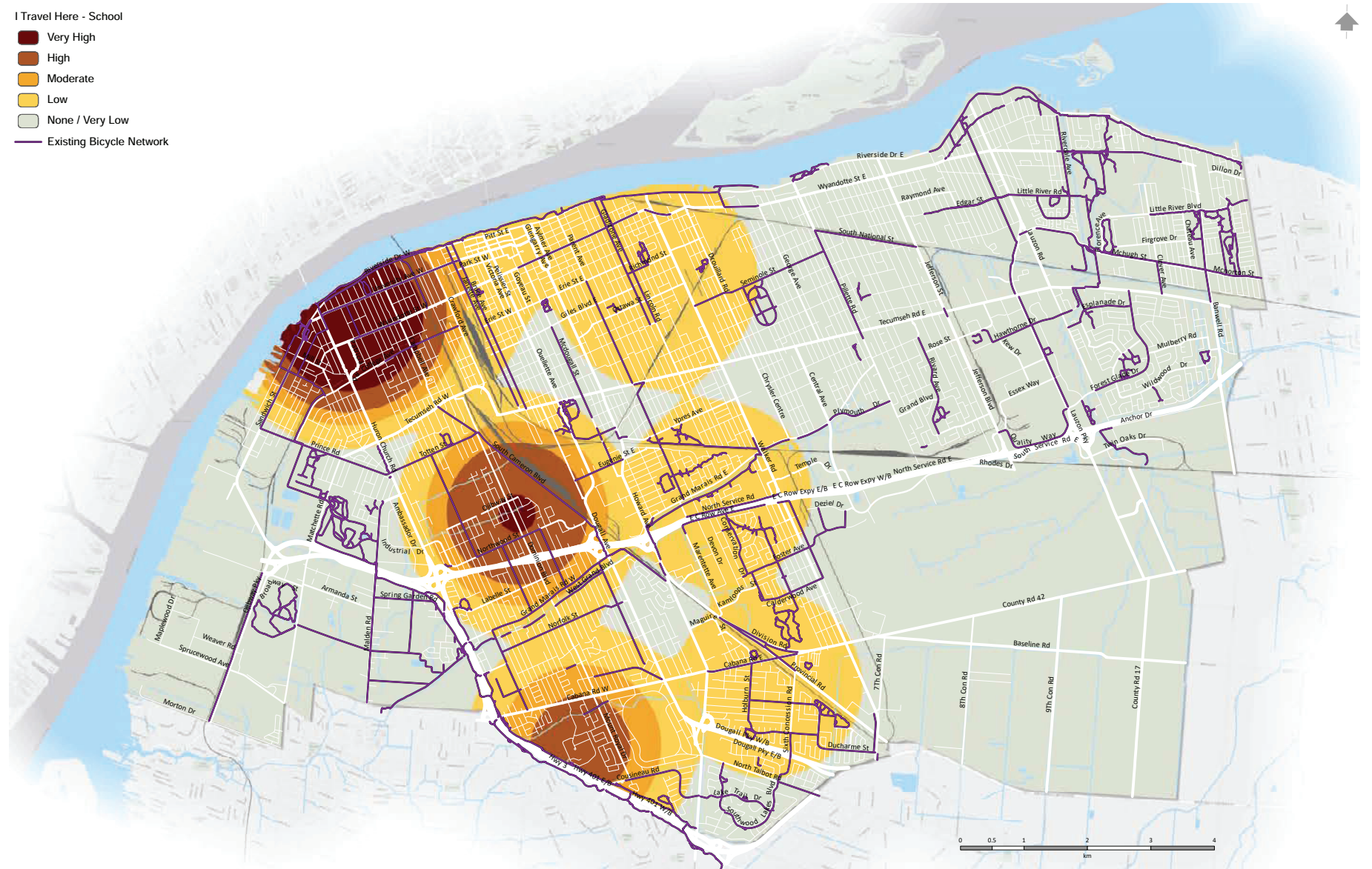


FIGURE 19 - FREQUENT DESTINATIONS FOR SCHOOL

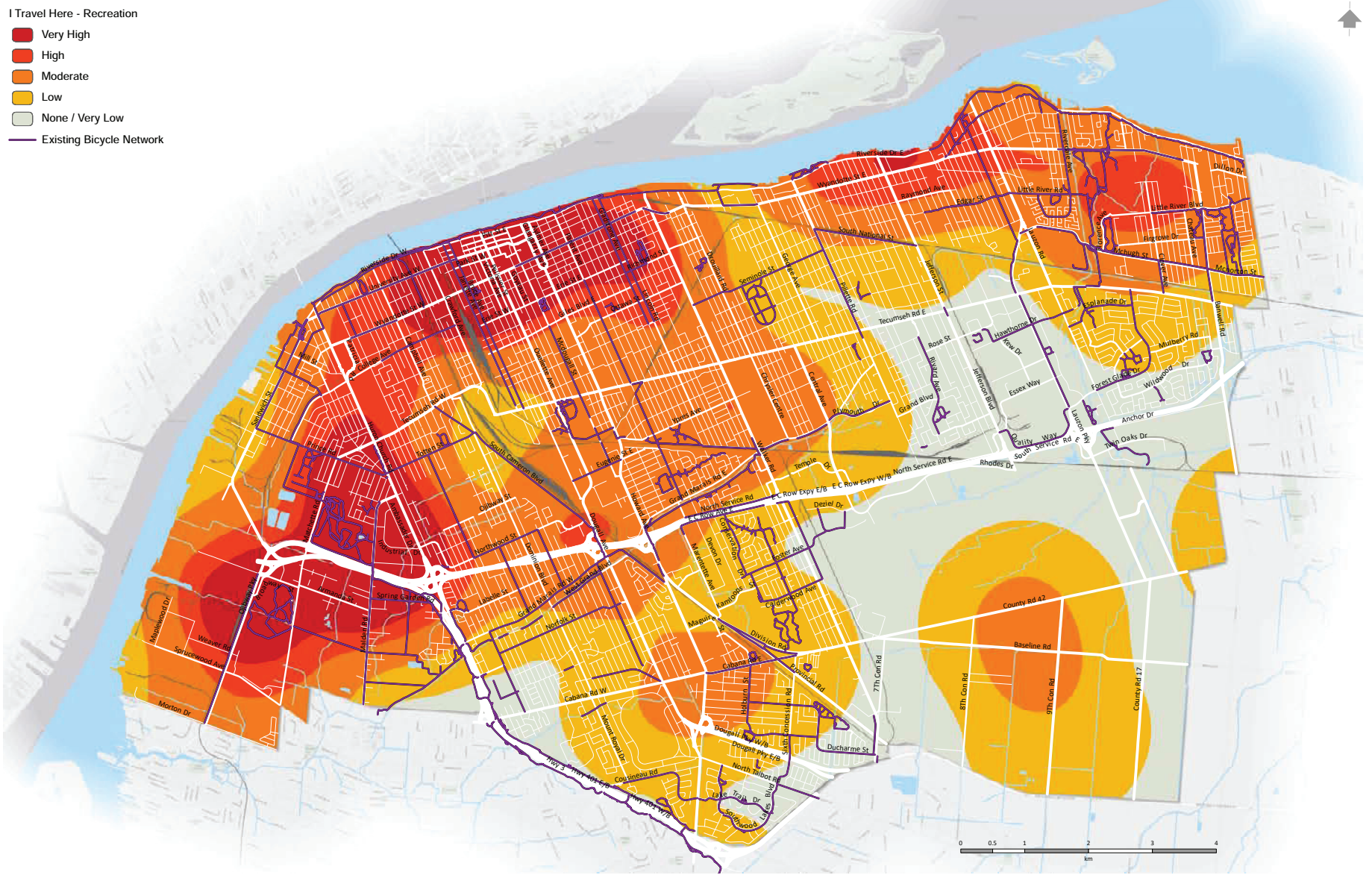


FIGURE 20 - FREQUENT DESTINATIONS FOR RECREATION

I Travel Here - Shopping

- Very High
- High
- Moderate
- Low
- None / Very Low
- Existing Bicycle Network



FIGURE 21 - FREQUENT DESTINATIONS FOR SHOPPING

- I Travel Here - Services
(Medical, Banking, etc)
- Very High
 - High
 - Moderate
 - Low
 - None / Very Low
 - Existing Bicycle Network

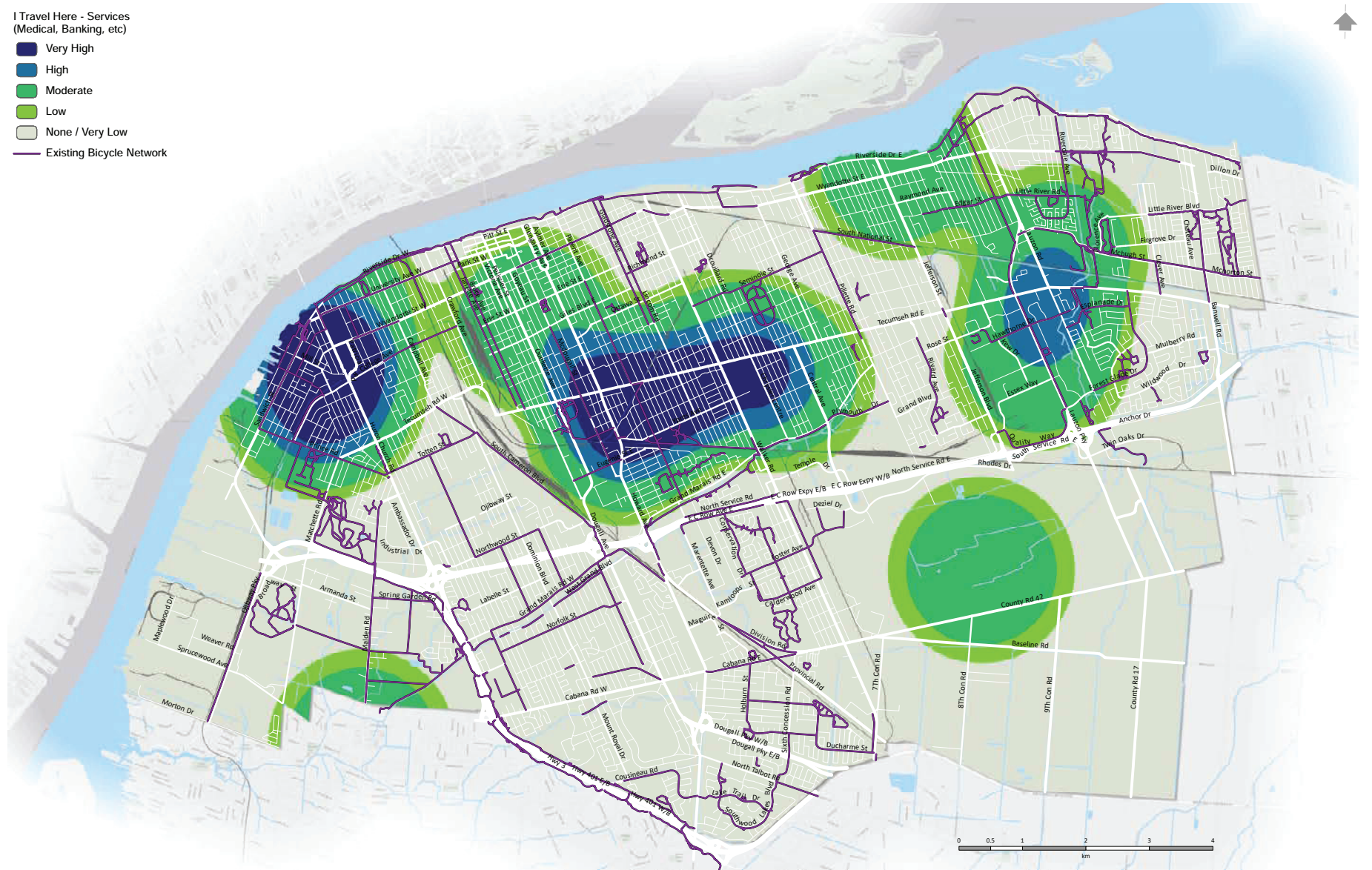


FIGURE 22 - FREQUENT DESTINATIONS FOR SERVICES (MEDICAL, BANKING, ETC)

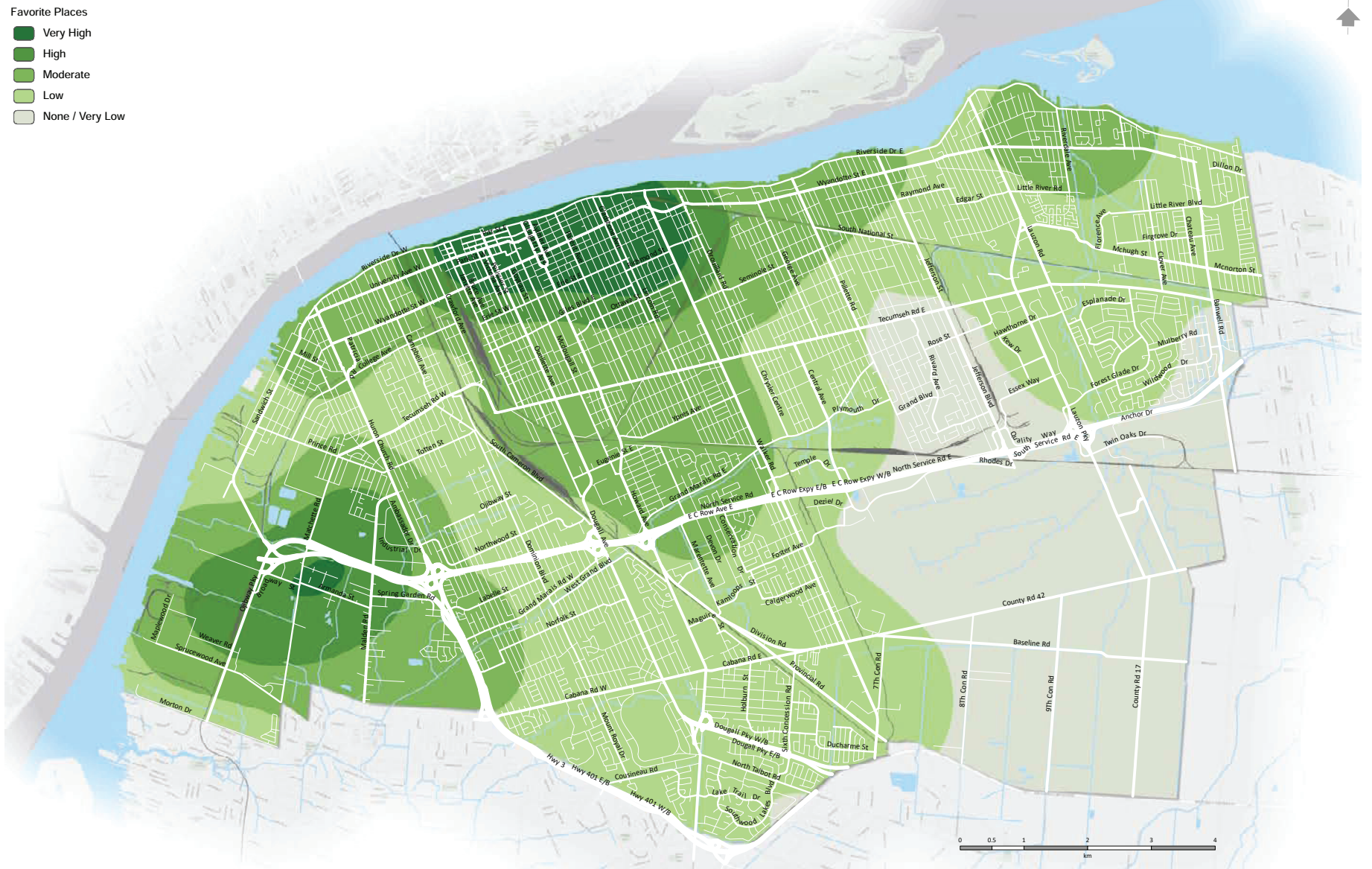


FIGURE 23 - FAVORITE PLACES

4.4 Walking in Windsor

Walking is the most common form of transportation, as every trip begins and ends by foot. When a suitable network exists within a community – such as having a complete and connected sidewalk network, safe crossings, and major destinations close to where people live – walking can be a practical and attractive form of transportation for almost all short trips throughout the year.

One of the key components of the Active Transportation Master Plan will be to outline the City of Windsor’s next steps for improving the environment for walking, including enhancing safety, creating and connecting walkable neighbourhoods, and promoting walking as part of an everyday routine. The following sections summarize key facts and observations for walking in Windsor.

4.4.1 EXISTING AND COMMITTED WALKING FACILITIES

Sidewalks form the backbone of a well-connected walking network for users of all ages and abilities. There are approximately 1,031 km of sidewalks within the city. As shown in [Table 6](#) and [Figure 24](#), sidewalks are located on one or both sides of many streets within Windsor. Nearly 38% of streets have a sidewalk on both sides of the street, with a further 21% of streets with a sidewalk on one side of the street. However, this leaves approximately 41% of Windsor’s streets which do not have sidewalks on either side of the street. The majority of streets without sidewalks are local streets. It should be noted that there are 12.4 km of sidewalks committed under the responsibility of developers.

The walking network also includes signalized crossings, pedestrian crosswalks, and accessible infrastructure at many intersections.

In addition, Windsor has an extensive network of multi-use trails with over 130 km of trails, including 37 km of which are located parallel to the roadway. These trails increase access to parks, greenspaces, and other places for recreation. They are often considered more of a destination than a transportation route, though this is not always the case.

	ARTERIAL STREETS	COLLECTOR STREETS	LOCAL STREETS	ALL STREETS
Total	138 km	177 km	742 km	1,057 km
No sidewalks	41 km 4%)	37 km 4%)	352 km 33%)	430 km 41%)
Sidewalk on one side of the street	17 km 2%)	45 km 4%)	160 km 15%)	224 km 21%)
Sidewalk on both sides of the street	80 km 8%)	95 km 9%)	229 km 22%)	404 km 38%)

TABLE 6 - EXISTING SIDEWALK COVERAGE



FIGURE 24 - SIDEWALK COVERAGE

4.4.2 SIDEWALK REQUIREMENTS

The City of Windsor’s Development Manual requires that concrete sidewalks be provided on both sides of all new collector and arterial roads, and at least one side of new residential roads (Table 7). The Development Manual also requires that their design conform to accessibility standards. 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.

There are several different types of sidewalks and walking facilities that offer a range of comfort in Windsor (Figure 25). These can range from multi-use pathways and unpaved pathways to a variety of sidewalk types.

4.4.3 CROSSINGS

Crossing treatments allow people walking to confidently and safely cross busy roads and play an important role in creating facilities that are accessible for people of all abilities. There are over 22 pedestrian crosswalk locations, and 264 signalized intersections within Windsor. These include both intersection and mid-block crossings.

There are also several existing and planned pedestrian crossovers, tunnels, overpasses, and corridors which accommodate people walking and cycling.

ARTERIAL (CLASS 1 & 2)		COLLECTOR (CLASS 1 & 2)/SCENIC DRIVES		RESIDENTIAL/ LOCAL ROADS	
# of sides	min width	# of sides	min width	# of sides	min width
2	1.2m	2	1.2m	1	1.2m*

TABLE 7 - CITY OF WINDSOR SIDEWALK STANDARDS

Note: The values shown above are contained in Windsor’s Official Community Plan and the Development Manual

* 1.5m if adjacent to curb on residential streets. It is generally recommended that sidewalks for local streets be placed on the opposite side of the street from the streetlights to minimize conflicts.



FIGURE 25 - CONTINUUM OF PEDESTRIAN FACILITIES

4.4.4 AMENITIES

Amenities improve the comfort and usability for people walking by providing places to stop and rest, see interesting views, and create an environment where people want to stay and linger. These types of amenities exist throughout the city in the form of benches, street art, trees, garbage bins, public washroom and other fixtures. These amenities are typically concentrated in areas with high numbers of people walking such as heavily used parks and playgrounds and along the trails systems. This includes the recently upgraded St. Rose Park which is completely accessible.

The City has also been working on a variety of streetscaping improvements on Ouellette Avenue, Maiden Lane, Pelissier Street, and Wyandotte Street to improve the quality of the pedestrian experience.

4.4.5 WALKING SAFETY

As vulnerable road users, people walking are disproportionately impacted by traffic collisions. A total of 425 collisions involving motor vehicles and people walking took place between 2013 and 2017. This translates to 85 collisions involving people walking in an average year. [Figure 26](#) shows the locations of pedestrian collisions between 2013 and 2017. These types of collisions are seen in greater concentrations in the areas of Downtown, University, and Walkerville.

The top ten pedestrian collision locations are summarized in [Table 8](#).

RANK	INTERSECTION	NUMBER OF COLLISIONS
1	Wyandotte Street West at Ouellette Avenue and Wyandotte Street East (Signalized)	11
2	Erie Street East at Goyeau Street (Signalized)	6
3	Wyandotte Street East at Marentette Avenue (Unsignalized)	5
4	Park Street West at Ouellette Avenue and Park Street East (Signalized)	4
4	Wyandotte Street East at McDougall Street (Signalized)	4
4	Tecumseh Road East at Annie Street (Signalized)	4
7	Wyandotte Street West at Campbell Avenue (Signalized)	3

TABLE 8 - TOP LOCATIONS OF REPORTED COLLISIONS INVOLVING PEOPLE WALKING (2013 – 2017)

Pedestrian Collisions - Intersections (2013-2017)

- 1
- 2 - 5
- 6 - 11

Pedestrian Collisions - Midblock (2013-2017)

- 1
- 2

- Parks
- Schools
- Airport Lands
- Commercial Districts



FIGURE 26 - REPORTED COLLISIONS INVOLVING PEOPLE WALKING (2013 – 2017)

4.4.6 SUPPORTIVE PROGRAMS AND POLICIES

The City of Windsor has several programs and policies to educate and inform residents and visitors about walking 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. A recent example includes Little River Road.
- **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 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 biking 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.

- **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.
- **The Windsor Police Auxiliary Bike Team** supports pedestrian safety by accessing off-street facilities that are not easily accessible to motorized police vehicles. The bike team also has more direct and frequent interactions with pedestrians and serve as a visible reminder to people walking of the presence of police in the areas.
- **Local improvement policies** focus on projects that have an impact in a specific area of the city as opposed to the entire city. These projects are often funded in part or wholly through a tax imposed on the properties affected by the proposed project.

4.4.7 ISSUES AND OPPORTUNITIES

Through the input received from over 1,000 survey responses and public engagement events, several key issues and opportunities for walking in Windsor have been identified.

ISSUES

Survey respondents were asked to identify key walking issues in the City, including both on-street environments (sidewalks and intersections), and off-street environments (trails and pathways).

The three issues most commonly reported in the interactive

survey for both on-street and off-street environments are seen in [Figure 27](#), followed by a complete summary of the issues identified ([Tables 9 and 10](#)).

The survey included an interactive map of the City for respondents to identify specific challenges or areas for improvements. Respondents could drag and drop ‘topic pins’ onto



FIGURE 27 - TOP THREE WALKING ISSUES (SOURCE: ONLINE SURVEY, 2018)

WALKING CHALLENGE	# OF RESPONSES
Intersection safety	62
No sidewalk	56
Traffic volumes and speeds	35
Poor lighting	31
Sidewalk ends or discontinuous	30
Sidewalk condition	18
Sidewalk is too narrow	12
Other	43

TABLE 9 - ON-STREET WALKING ISSUES | ALL RESPONSES (SOURCE: ONLINE SURVEY, 2018)

TRAIL CHALLENGE	# OF RESPONSES
Lack of amenities	39
Pathway is in poor condition	18
Conflicts with other users	13
Intersection safety	10
Poor lighting	8
Pathway is too narrow	6
Other	39

TABLE 10 - OFF-STREET WALKING ISSUES | ALL RESPONSES (SOURCE: ONLINE SURVEY, 2018)

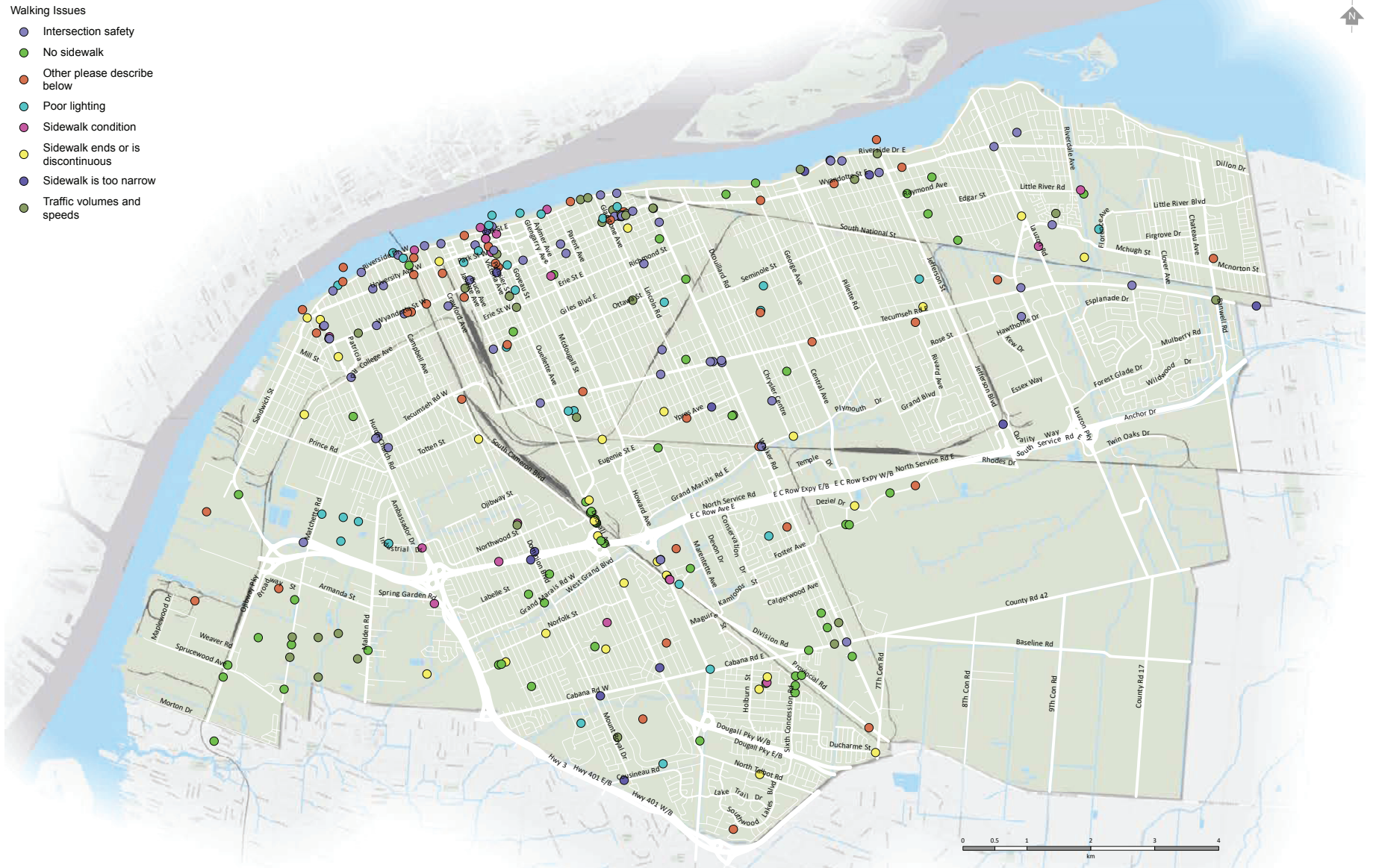


FIGURE 28 - LOCATION AND TYPE OF WALKING ISSUES REPORTED

- Issues - Walking
- Very High
 - High
 - Moderate
 - Low
 - None / Very Low

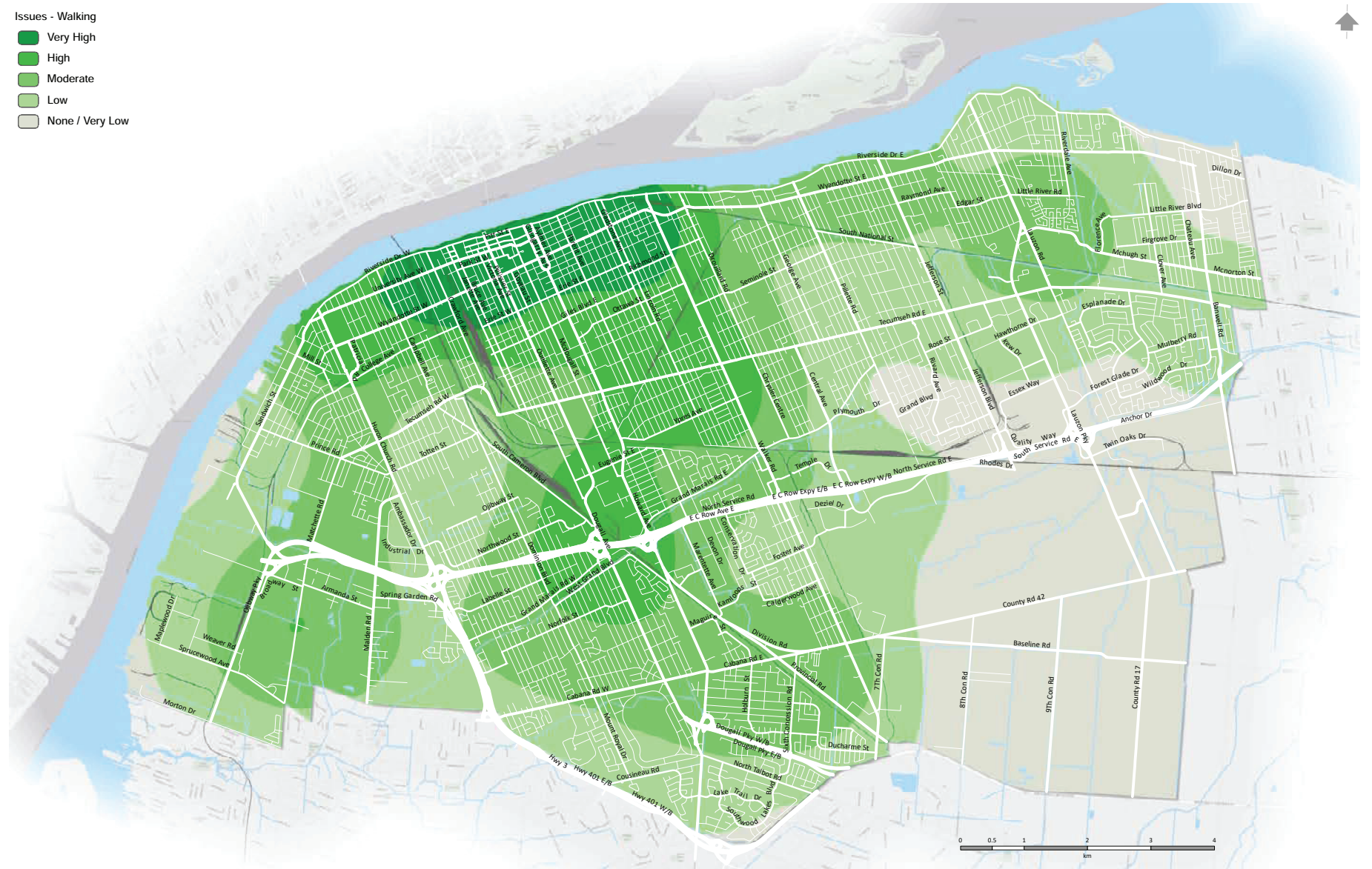


FIGURE 29 - FREQUENCY OF WALKING ISSUES REPORTED

Trail Issues

- Conflicts with other users
- Intersection safety
- Lack of amenities
- Other please describe below
- Pathway in poor condition
- Pathway is too narrow
- Poor lighting
- Existing Multi-Use Trails

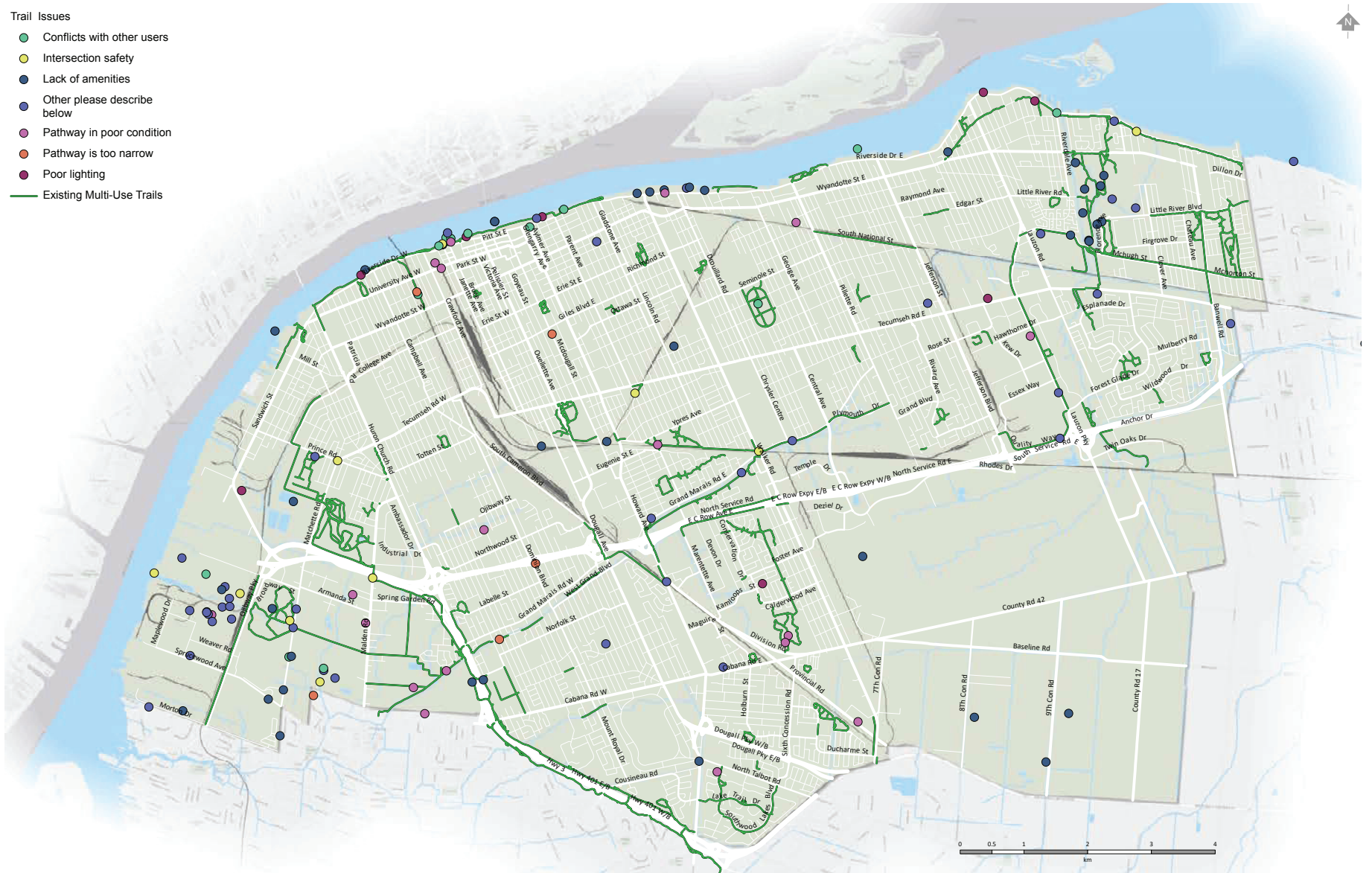


FIGURE 30 - LOCATION AND TYPE OF TRAIL ISSUES REPORTED

- Issues - Trails
- Very High
- High
- Moderate
- Low
- None / Very Low
- Existing Multi-Use Trails



FIGURE 31 - FREQUENCY OF TRAIL ISSUES REPORTED



specific locations and provide comments to help explain what challenge they have experienced or to suggest improvements. **Figures 28 and 29** show the location and density of issues reported by survey respondents for on-street environments, while **Figures 30 and 31** show the location and density of issues reported by survey respondents for off-street pathways and trails.

OPPORTUNITIES

Many residents have cited the scenery and views, trails and



FIGURE 32 - TOP 3 OPPORTUNITIES FOR WALKING (SOURCE: ONLINE SURVEY, 2018)

OPPORTUNITY	# OF RESPONSES
Build more trails and pathways	566
Ensure sidewalks and pathways are well-lit	341
Widen and improve existing sidewalks	299
Build more sidewalks	293
Provide more crosswalks	232
Provide more benches and places to sit	183
Better access to bus stops	145
Improve accessibility	109

TABLE 11 - ON-STREET WALKING OPPORTUNITIES | ALL RESPONSES
(SOURCE: ONLINE SURVEY, 2018)

pathways, and the access to different amenities as some of the key features that make Windsor an enjoyable place to walk.

Survey respondents were asked what they felt would help them walk more. The top opportunities were to build more trails and pathways, ensure sidewalks and pathways are well-lit, and widen and improve existing sidewalks (Figure 32 and Table 11).

4.5 Cycling

Cycling is an attractive transportation option, as it is convenient, reactively low cost, and for shorter trips can be a practical alternative to vehicle travel. Cycling is already a popular activity for both residents and visitors in Windsor. Windsor’s natural beauty, great climate, and strong off-street pathway network encourages residents to bicycle as a form of exercise and as a practical transportation choice. A variety of factors influence an individuals’ decision to bicycle, such as network connectivity, quality of facilities, and distance between destinations.

The following sections summarize key facts and observations for cycling in Windsor.

4.5.1 EXISTING CYCLING FACILITIES

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 (Table 12 and Figure 34).

BICYCLE FACILITIES		KM
Total		214.5 km
Off-street pathways		130.5
Bicycle lanes and paved shoulders		51.1
Signed Route		32.9

TABLE 12 - EXISTING SIDEWALK COVERAGE



FIGURE 33 - CONTINUUM OF PEDESTRIAN FACILITIES



FIGURE 34 - EXISTING BICYCLE NETWORK

There are a range of facilities that should be considered in Windsor's bicycle network, including facilities that range from being more comfortable for people of all ages abilities, such as off-street pathways, separated bicycle lanes, and local street bikeways; to those that are less comfortable, such as bicycle lanes and shared use lanes (Figure 33).

4.5.2 NETWORK CONNECTIVITY

A well-connected bicycle network will ensure users can quickly and safely arrive at their final destinations. Windsor's street network is generally made up of a strong grid network, which provides opportunities to create a bicycle network using this grid network. Windsor's existing bicycle network provides several north-south and east-west route options, including both on-street and off-street facilities. However, the network is incomplete with many unconnected facilities. Feedback from Windsor residents indicates that gaps in the cycling network are an important issue.

4.5.3 NETWORK COVERAGE

Figure 35 illustrates a 200 meter and 400 meter buffer around existing city bicycle routes. These buffers represent network coverage, locations not within the buffer indicate the location is more than 400 metres away from a bicycle route. For a mature, built-out network, ideally these buffers would overlap to cover the entire city, ensuring all residents are within 400 metres of a designated bicycle facility. However, there are several areas where residents are not within close proximity of an existing route.

4.5.4 END-OF-TRIP FACILITIES AND AMENITIES

End-of-trip facilities encourage people to cycle as a primary mode of transportation by providing a secure place to leave their bicycle and a place to change upon arriving at their destinations. Short-term and long-term bicycle parking is provided at various locations throughout Windsor including community centres and along the riverfront (Figure 36). Long-term bicycle lockers are available at the Downtown Transit Terminal.

Windsor's Zoning Bylaw determines the minimum dimensions of bicycle parking spaces, the surface requirements and some location and signage requirements depending on its placement on a sidewalk, on private property or within a building.

Windsor's zoning by-law determines that each bicycle parking space should have a minimum dimension of 0.6m by 2.5m. That they should be on the same lot they are intended to serve. That each spot shall be paved and maintained with hard surface in an area that will not conflict with people walking or driving. When on a sidewalk each bicycle parking space shall be a minimum of 2m from a building entrance or an accessible parking space. Spaces inside a building should be identified by a sign.

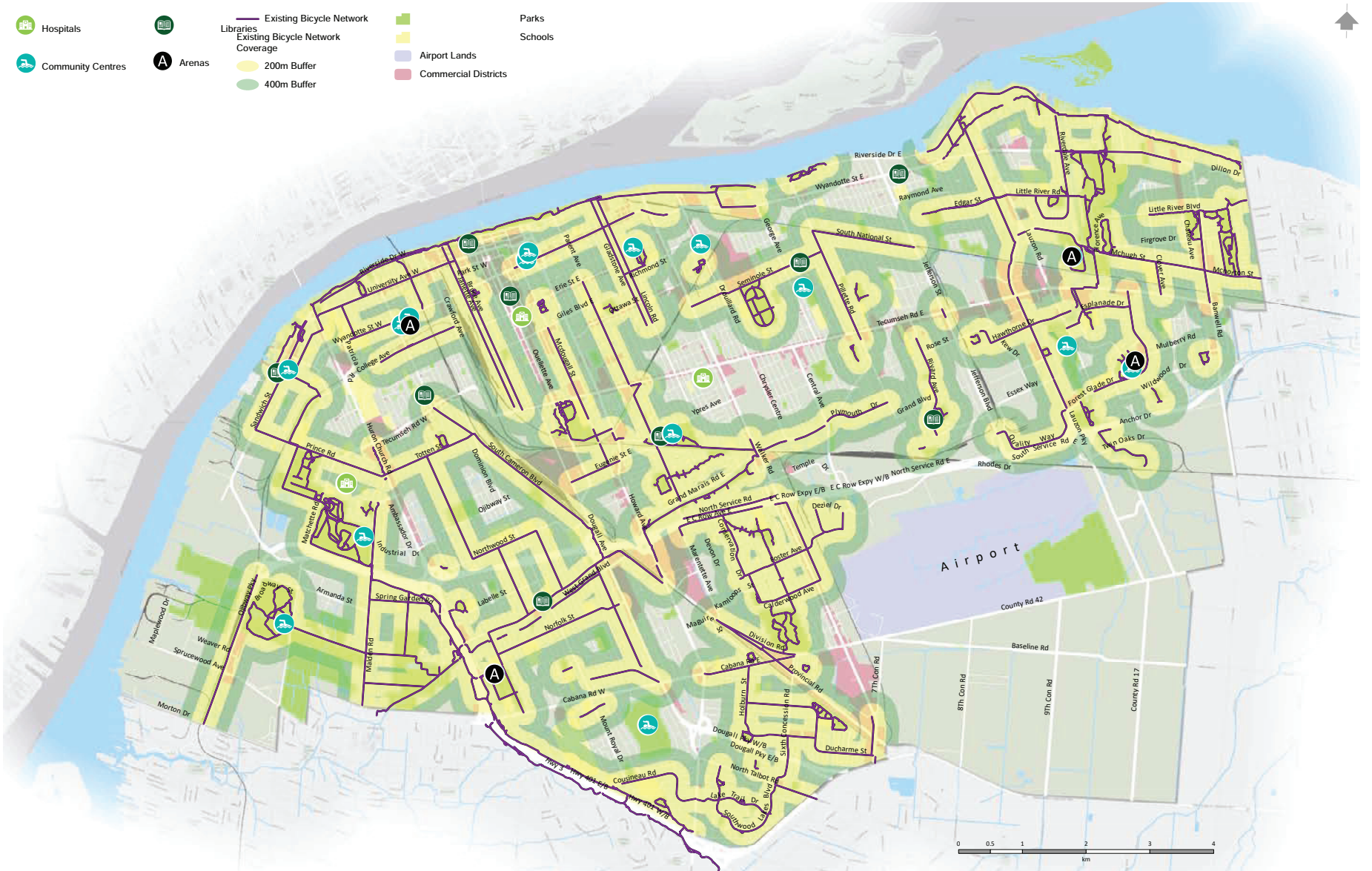


FIGURE 35 - BICYCLE NETWORK COVERAGE

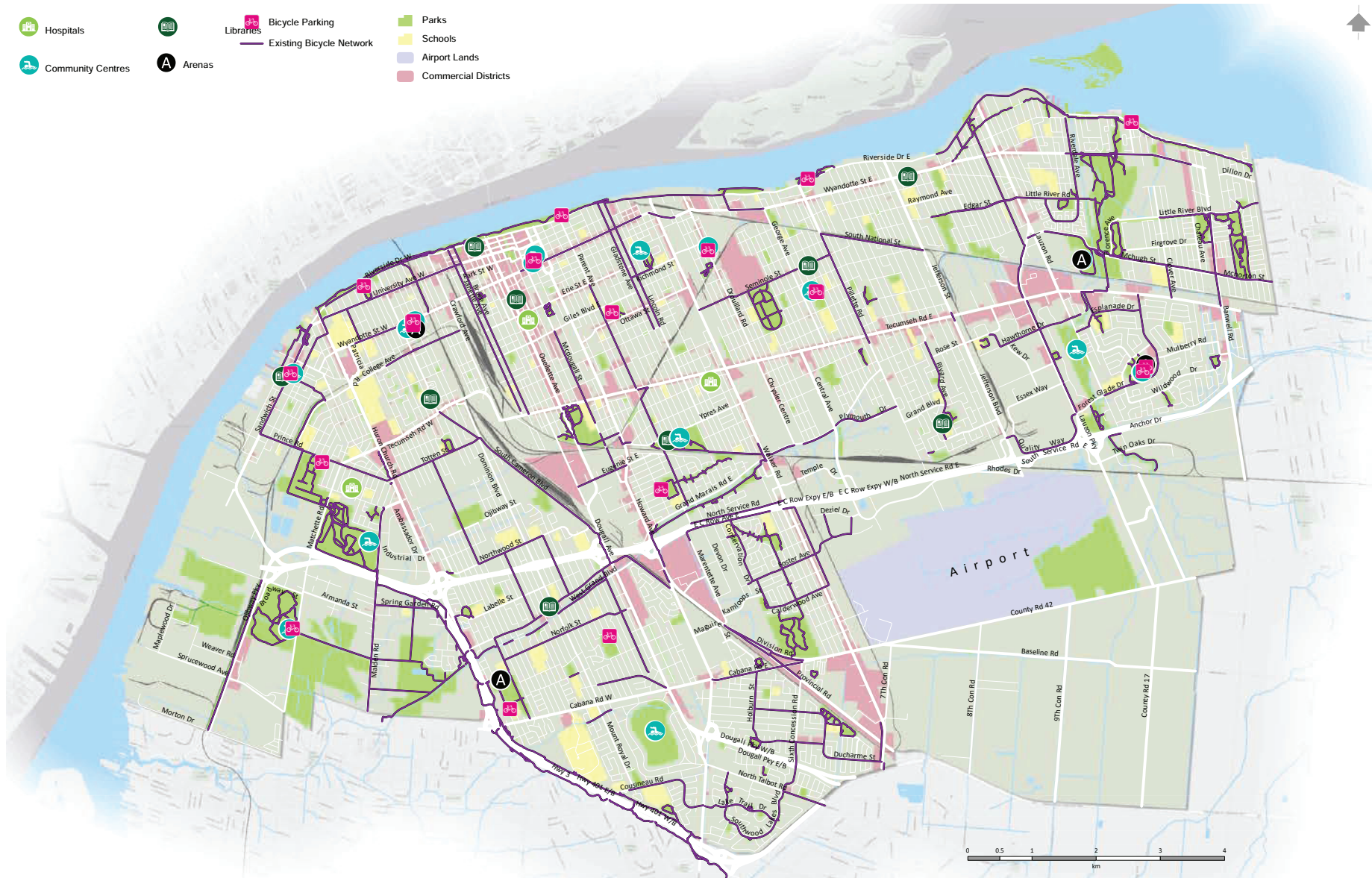


FIGURE 36 - BICYCLE PARKING LOCATIONS



throughout the City (Figure 37). The data collected from the City was compared with bicycle incident data from BikeMaps.org, a web application that allows individuals to report bicycle collisions, near misses and thefts. In this comparison it was noted that both sources show a concentration of incidents with the University, Downtown and Walkerville neighbourhoods. The City data also shows higher concentrations in the Billette and Riverside neighbourhoods.

4.5.6 CYCLING SAFETY

People cycling are also vulnerable road users and are subject to greater exposure to traffic collisions. A review of bicycle related collisions from 2013 to 2017 found that there were 440 collisions

RANK	INTERSECTION	NUMBER OF COLLISIONS
1	Lauzon Parkway at Tecumseh Road East (Signalized)	5
2	Tecumseh Road East at Windsor Avenue (Unsignalized)	4
2	Hanna Street East at McDougall Street (Unsignalized)	4
2	Tecumseh Road West between South Pacific Avenue and Municipal Lane (Mid-Block)	4
3	Wyandotte Street West at Campbell Avenue (Signalized)	3
3	Tecumseh Road West at McKay Avenue (Unsignalized)	3
3	Tecumseh Road West at Crawford Avenue	3

TABLE 13 - TOP LOCATIONS OF REPORTED COLLISIONS INVOLVING PEOPLE CYCLING (2013 – 2017)

Cyclist Collisions - Intersections (2013-2017)

- 1
- 2 - 5

Cyclist Collisions - Midblock (2013-2017)

- 1
- 2 - 4
- Existing Bicycle Network

- Parks
- Schools
- Airport Lands
- Commercial Districts



FIGURE 37 - COLLISIONS INVOLVING PEOPLE CYCLING (2013-2017)

4.5.7 PROGRAMS AND POLICIES

Programs and policies create an environment that encourages and supports cycling as a convenient and attractive mode of transportation. The City of Windsor is committed to continuing to improve cycling facilities and increase ridership through policies, programming, and support of initiatives throughout Windsor, as described below. The City regularly partners and supports cycling encouragement from other agencies and organizations.

- **Bike Month** is declared for the Month of June; consistent with the Provincial bylaw.
- **Bike to Work Day** is an annual City-wide event the City of Windsor supports through the Windsor Bicycling Committee in partnership with Bike Windsor-Essex to promote cycling as an option for commuting to work. Through this event, free workshops on bicycle handling and maintenance are offered, free t-shirts to commemorate the event, as well as group rides to a free breakfast on the waterfront.
- **Bike to Fireworks** is an annual City-wide event supported by the City of Windsor and hosted by the Windsor Bicycling Committee encouraging attendees to choose their bicycle by providing monitored bike parking at Charles Clark Square.
- **Active and Safe Routes to School (ASRS)** is a program focused on ensuring safe and accessible routes for school children to increase the number of children biking and walking to their respective schools. As noted this program is led by the Windsor Essex County Health Unit.
- **Bicycle Recovery Service** is a bicycle recovery 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** classes are offered to youth and adults through Community Services, providing education on 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 Safety Village where they can practice important riding skills. The City also offers adult indoor and outdoor cycling classes through its activity guide.
- **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 offered by Windsor Eats 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. The City of Windsor also offers self-guided Heritage walking tours of the Walkerville, Victoria Avenue, Ford City, and Sandwich areas. In addition, an "Art Cart" (an electric golf cart that seats up to 5 people) provides tours of Windsor's waterfront parks and sculptures. Recently, local BIAs and the City partnered to offer "Stroll Windsor" events, whereby participants tour the Ford City and Walkerville neighbourhoods of the City. These events include free samples from local businesses, tastings, tours, art, installations, demos, historical tidbits, casual conversation, all along with kids activities.

- **The Windsor Police Auxiliary Bike Team** helps to demonstrate the City's commitment to encouraging and supporting cycling by patrolling along existing cycling facilities. These officers also assist cyclists with mechanical issues, monitor and enforce safe riding behaviour and help ensure the safety of vulnerable road users.
- **Windsor's safety village**, operated by a non-profit community organization, provides safety and injury prevention education programming to local residents. These programs serve thousands of school aged children every year, and includes cycling safety education that cover proper helmet fit, rules of the road and bicycle maintenance.

4.5.8 ISSUES AND OPPORTUNITIES

Through the input received from over 1,000 survey responses and public engagement events, several key issues and opportunities for cycling in Windsor have been identified.

ISSUES

Survey respondents were asked to identify key cycling issues in the City, including both on-street facilities, and off-street trails and pathways (as discussed previously). The top three issues most commonly reported in the interactive survey are seen in [Figure 38](#), followed by a complete summary of the challenges identified in [Table 14](#).

The survey included an interactive map of the City for respondents to identify specific challenges or areas for improvements. Respondents could drag and drop 'topic pins' onto specific locations and provide comments to help explain what challenge they have experienced or to suggest improvements. [Figures 39 and 40](#) show the location and density of issues reported by survey respondents.



FIGURE 38 - TOP THREE CYCLING ISSUES (SOURCE: ONLINE SURVEY, 2018)

CYCLING CHALLENGE	# OF RESPONSES
No bike lanes	324
Bike lane ends or is discontinuous	147
Traffic volumes and speeds	70
Intersection safety	70
Lack of bike parking	26
Poor lighting	2
Other	104

TABLE 14 - CYCLING ISSUES | ALL RESPONSES (SOURCE: ONLINE SURVEY, 2018)

Biking Issues

- Bike lane ends or is discontinuous
- Intersection safety
- Lack of bike parking
- No bike lanes
- Other please describe below
- Poor lighting
- Traffic volumes and speeds
- Existing Bicycle Network

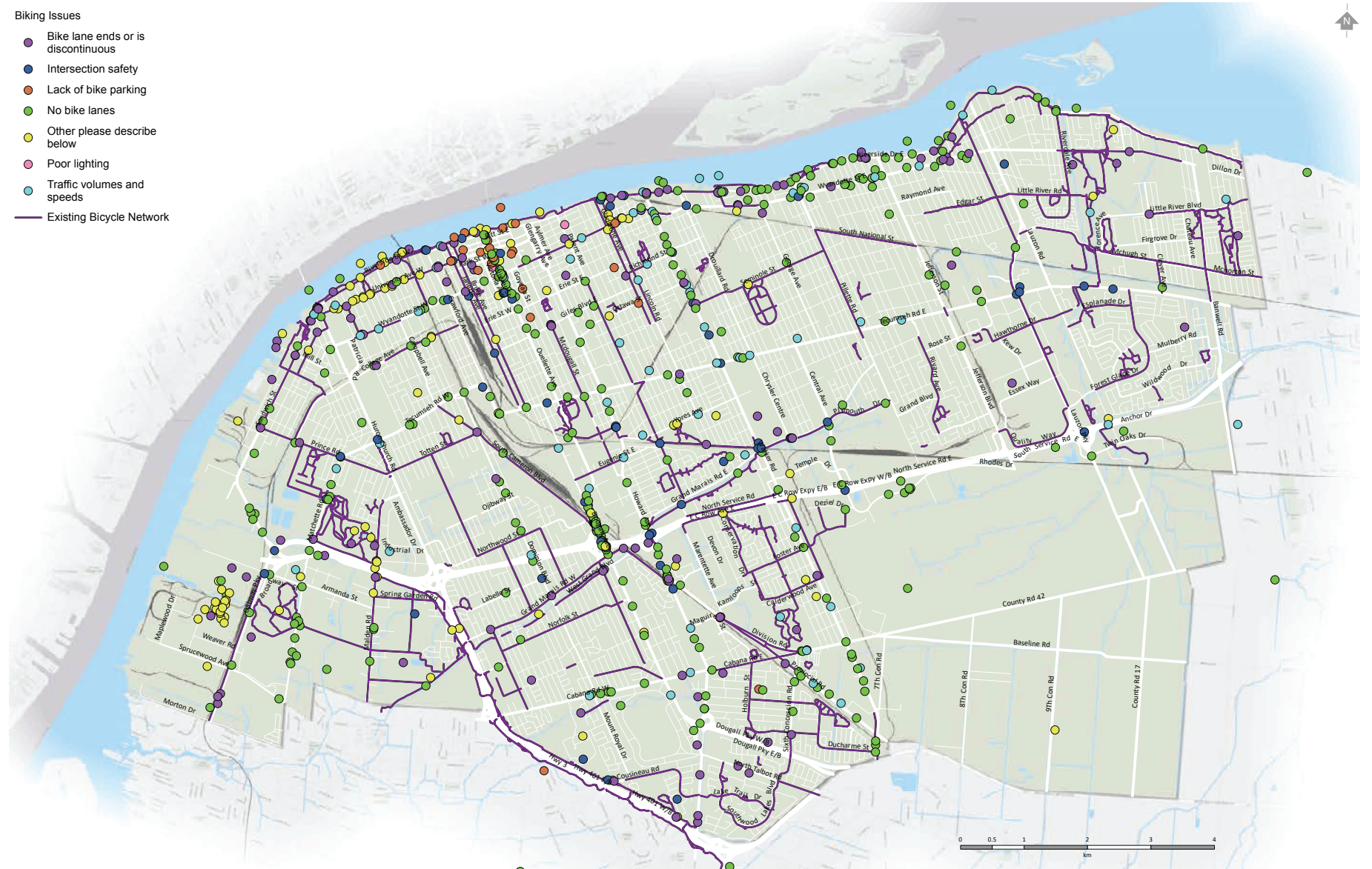


FIGURE 39 - LOCATION AND TYPE OF BIKING ISSUES REPORTED

- Issues - Biking
- Very High
- High
- Moderate
- Low
- None / Very Low
- Existing Bicycle Network

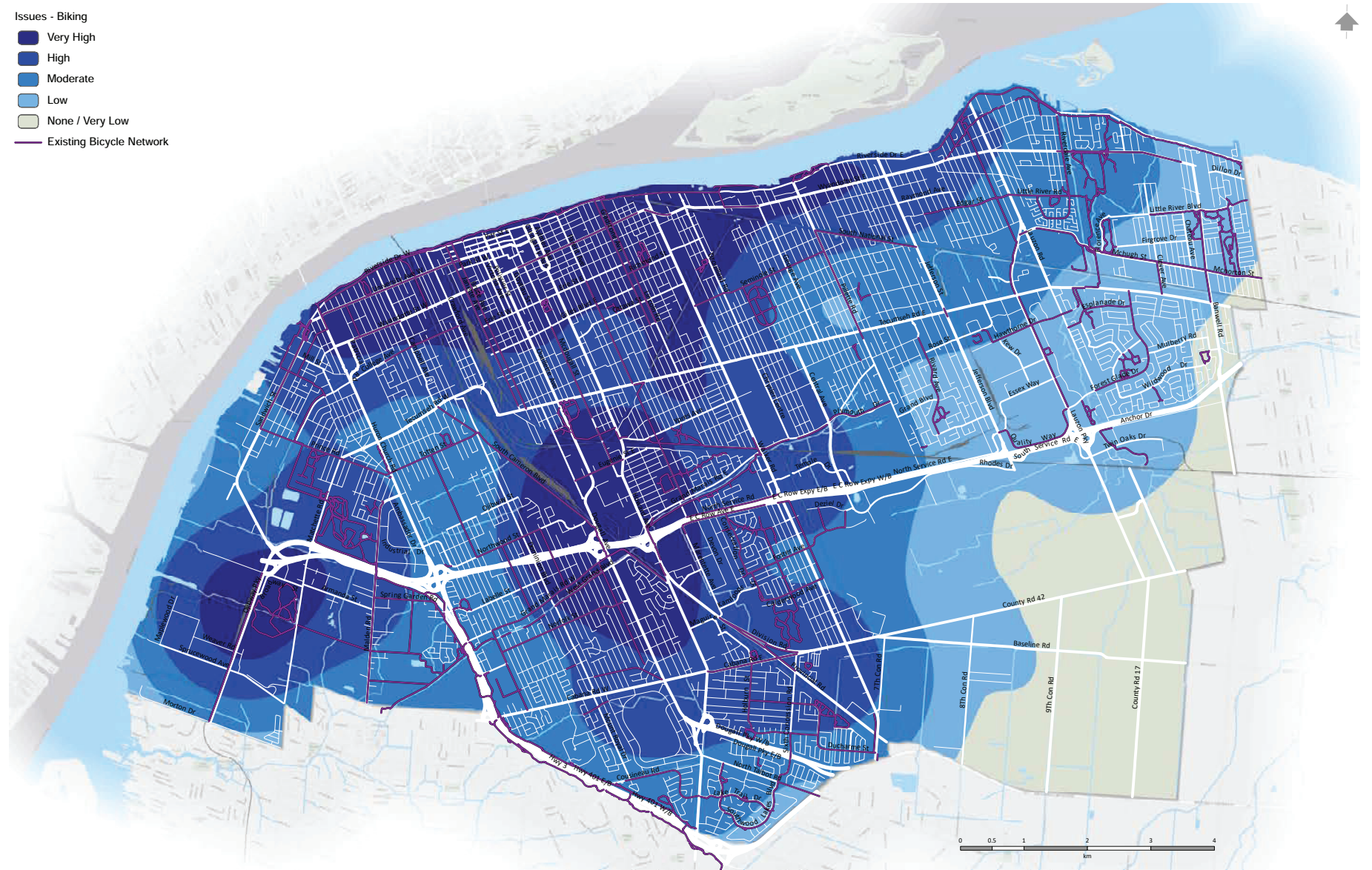


FIGURE 40 - FREQUENCY OF BIKING ISSUES REPORTED



OPPORTUNITIES

Many residents have noted that similar to walking, the trails, pathways, scenery, and views are some of the key features that make Windsor an enjoyable place to cycle.

Survey respondents were asked what they felt would help them cycle more. The top opportunities were to build bike lanes physically protected from traffic, build more trails and pathways, and build more painted bike lanes (Figure 41 and Table 15).



FIGURE 41 - TOP 3 OPPORTUNITIES FOR CYCLING (SOURCE: ONLINE SURVEY, 2018)

OPPORTUNITY	# OF RESPONSES
Build bike lanes physically protected from traffic	599
Build more trails and pathways	499
Build more painted bike lanes	436
Build more bike routes on quiet streets	182
Provide more bike parking	172
Ensure bike routes are well-lit	154
More education about cycling	77
Provide secure bike parking at bus stops	75

TABLE 15 - CYCLING OPPORTUNITIES | ALL RESPONSES (SOURCE: ONLINE SURVEY, 2018)

4.6 Transit

Public transit is the primary alternative to automobile travel in Windsor, as well as within the Town of La Salle 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 recreational centres.

In an effort to both retain current users and support increased ridership within existing and new services areas, Transit Windsor is embarking on a service delivery review. The focus for transit in this study is in updating to a more functional system which will improve the customer experience. The service delivery review will look at new service schedules and routes to ensure faster service and travel times to the downtown. The service delivery review will support Transit Windsor to accommodate to the changing demographics in the city, including many international students and the recent addition of the U-Pass program.

4.6.1 TRANSIT SERVICES AND FACILITIES

There are a variety of transit services throughout Windsor. Services currently provided by Transit Windsor include local bus service, regional bus service to La Salle, and international bus service through the Tunnel Route to Detroit. Other Transit Service providers include local service provided by Handi-Transit, and regional/international service provided by Greyhound Canada.

Transit Windsor operates 14 routes, 12 of which fall within city boundaries and provide access to key destinations throughout Windsor (Figure 42). Within the city, two-thirds of residents live within 450 meters of a transit stop (Figure 43). Additionally, there are two routes that provide critical connections to neighbouring communities. These connections include:

- **Route 25 La Salle:** There is one new regional route to La Salle that operates 6 days a week with a 45 minute frequency in the peak periods and 90 minutes in the off peak periods. The ridership on this route has been building steadily since it began in September 2017. The route visits key destinations in La Salle including Vollmer Centre and Sandwich Secondary High School before traveling through South-West Windsor where riders can access destinations such as St. Clair College or shopping at Windsor Crossing. This route connects with other key transit routes (5, 6, 7) which provide access to Downtown and Devonshire Mall.
- **Tunnel Bus:** There is one international route that travels between the Downtown Windsor Transit Terminal through the tunnel to downtown Detroit, and includes service to Cobo Hall/ Joe Louis Arena, and the Rosa Parks Transit Centre. The bus service operates 7 days per week with a 30 minute frequency. Special event service is also provided to Little Caesars Arena, Comerica Park, and Ford Field for sporting events and concerts.

Handi-Transit is a non-profit service operating in Windsor and La Salle that provides a fee-based service for those that are unable to use public transit due to their disability. Appointments are booked by telephone, and the service can be used for any purpose (employment, education, medical, or personal). The service operates 7 days a week, and requires a minimum of 2 hours notice for a trip.

Greyhound Canada operates out of the Downtown Transit Terminal and provides daily bus service to North-East Ontario, as well as South-West Service internationally into Detroit with connections to the larger Greyhound network throughout the United States.

- Hospitals
- Libraries
- Community Centres
- Arenas
- Transit Windsor Bus Stops
- Transit Bus Routes
- Parks
- Schools
- Airport Lands
- Commercial Districts



FIGURE 42 - BUS ROUTES AND STOPS



FIGURE 43 - TRANSIT STOP NETWORK COVERAGE

4.6.2 TRANSIT RIDERSHIP

By looking at where users board and disembark transit, we can get a better understanding of ridership trends, which are shown below as weekday average ridership (Figure 44). Areas with heavy ridership, can demonstrate where walking and cycling networks can be integrated to support transit use. These areas also highlight which destinations might be most amenable to enhanced bus stop amenities such as benches and shelters, as well as end-of-trip facilities such as bicycle parking, lockers and showers.

From the map, high ridership on several routes and key destinations:

- **Route 1A:** Between Pitt Street and Tecumseh Road West
- **Route 1C:** Tecumseh Road East to University of Windsor
- **Crosstown 2:** University of Windsor to Downtown
- **Tecumseh Mall:** 4 Routes (1C, 2, 4 and 10)
- **Devonshire Mall:** 3 Routes (14, 1A, and South Windsor 7)
- **St. Claire College:** 4 Routes (Dominion 5, South Windsor 7, Dougall 6, and La Salle 25)

4.6.3 TRANSIT ACCESSIBILITY

Several measures have been made to ensure transit trips are made accessible to as many users as possible. As of 2017, Transit Windsor's Fleet is 100% accessible. With 50% of residents over the age of 55, increased accessible transit solutions are required.

Currently, accessibility measures in Windsor include:

- **Priority Seating:** Priority seating occupies the front accessible area of the bus. Passengers are asked to defer to the needs of passengers with disabilities who require these seats.
- **Courtesy seating:** Courtesy seating occupies the front accessible area of the bus. Passengers are asked to defer to the needs of seniors, expectant mothers, adults traveling with infants, small children, or other passengers who may benefit from the seat.
- **Courtesy stops:** If through injury or age, you have difficulty walking you can request an alternate stop along the route at the discretion of the bus driver who will determine if it is safe and does not impact the schedule greatly.
- **Low-Floor and Lift Equipped Buses:** The buses at Transit Windsor have kneeling capabilities which kneels within four inches of the curb and eliminates the large step up to enter the bus. These buses also have an electric ramp controlled by the driver which allows level boarding for people with mobility devices.
- **Service Animals:** Working animals that assist persons with disabilities are allowed on board as long as they have a harness or vest, and that the person has a letter available from a physician verifying that the animal is required.
- **Stop Announcements:** The ITS system on board the bus will call out bus stops through the audio system onboard the bus. If the ITS system isn't working, then the driver of the bus will call out the bus stops.



FIGURE 44 - DAILY BOARDINGS AND ALIGHTINGS

4.6.4 TRANSIT AMENITIES

Amenities such as bus shelters, benches, and bicycle parking ensures comfort and ease of access for those walking and cycling. Bicycle racks and long-term bicycle parking encourages those who may bike part of the distance and use transit to access further distances. **Figure 45** demonstrates the distribution of transit stops throughout Windsor. Transit Windsor has a network of transit stops, including 153 sheltered transit stops, and 1054 non-sheltered transit stops. This includes four transit terminals located Downtown (serves 9 routes), College Avenue Community Centre (4 routes), Devonshire Mall (4 routes), and Tecumseh Mall (4 routes). There are benches located at many transit stops throughout the city, as well as two long-term bicycle lockers which are available for rent at the Downtown Transit Terminal.

4.6.5 ACTIVE TRANSPORTATION AND TRANSIT INTEGRATION

All transit trips begin or end with a walking or cycling trip. As a result, it is important to consider how well the walking and cycling network is integrated with transit services and facilities. Although the City has an extensive transit network with over 1,200 bus stops, lack of sidewalk access to bus stops is an important issue. Ensuring active transportation connections to key network routes will be key, as will ensuring transit route efficiency along priority corridors.

To ensure integration between cycling and transit, bicycle racks are available on all buses which allows two bicycles to be transported at any time. The provision of long-term bicycle parking is also available at the Downtown Transit Station. Residents and stakeholders noted that ensuring bicycle parking options are available at bus stops is important if people need to quickly lock up their bikes if racks on the bus are full.

4.6.6 PROGRAMS AND POLICIES

Programs and policies create an environment that encourages and supports transit as a convenient and attractive mode of transportation. The City is committed to continuing to improve transit facilities and increase ridership through policies, programming, and support of initiatives throughout Windsor, as described below.

- **U-Pass & School Extra Pass:** Implemented in 2016, the post-secondary transit pass program encourages students to travel using transit by making a pass available at \$66 per semester. The high school pass offers a discount to encourage youth to use transit and costs \$66 per month.
- **Affordable Pass Program:** City funds an affordable pass program which provides passes to those living with disability, low-income, or receiving support through social programs.












-  Hospitals
-  Libraries
-  Community Centres
-  Arenas
-  Sheltered Transit Stop (198)
-  Non-Sheltered Transit Stop (878)
-  Transit Bus Routes
-  Parks
-  Schools
-  Airport Lands
-  Commercial Districts



FIGURE 45 - BUS STOP AMENITIES



4.6.7 ISSUES

Survey respondents were asked to identify key transit issues, with the top three most commonly reported issues illustrated in [Figure 45](#). The survey included an interactive map for respondents to identify specific challenges or areas for improvements. Respondents could drag and drop 'topic pins' onto specific locations and provide comments to help explain what they find challenging or to suggest improvements. [Figures 47 and 48](#) show the location and density of issues reported by respondents.



FIGURE 46 - TOP THREE TRANSIT ISSUES (SOURCE: ONLINE SURVEY, 2018)

TRANSIT CHALLENGE	# OF RESPONSES
Bus doesn't come frequently enough	92
Transit routes don't service my destination	58
No shelter	18
No bench	4
No sidewalk at bus stop	3
No crosswalk to access bus stop	3
Other	34

TABLE 16 - TRANSIT ISSUES | ALL RESPONSES (SOURCE: ONLINE SURVEY, 2018)

Transit Issues

- Bus doesn't come frequently enough
- No bench
- No crosswalk to access bus stop
- No shelter
- No sidewalk at bus stop
- Other please describe below
- Transit routes don't service my destination
- Transit Bus Routes



FIGURE 47 - LOCATION AND TYPE OF TRANSIT ISSUES REPORTED

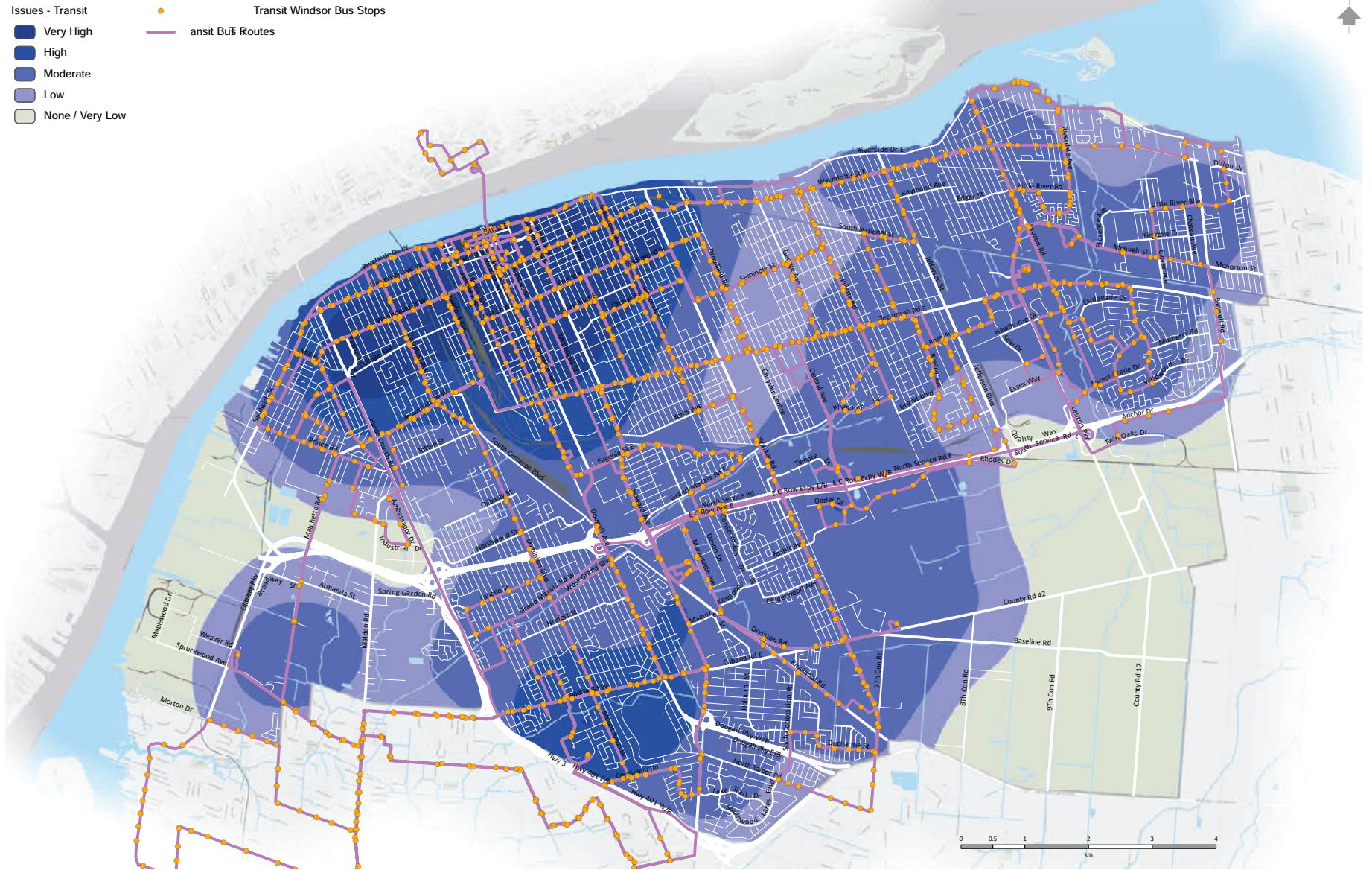


FIGURE 48 - FREQUENCY OF TRANSIT ISSUES REPORTED



NEXT STEPS

This is the first Discussion Paper prepared as part of the Walk Wheel Windsor process, and summarizes existing conditions for walking, cycling, and transit in Windsor today based on technical analysis and public input received to date.

The next phase of work will focus on charting the course for the future of active transportation. Based on input received from the public and stakeholders, a future vision will be developed along with supporting goals, objectives and targets. These vision, goals, objectives and targets will form the foundation for developing the Active Transportation Master Plan.



