



**WALK WHEEL  
WINDSOR**



**ACTIVE TRANSPORTATION MASTER PLAN**  
**DISCUSSION PAPER #4 | IMPLEMENTATION + MONITORING PLAN**







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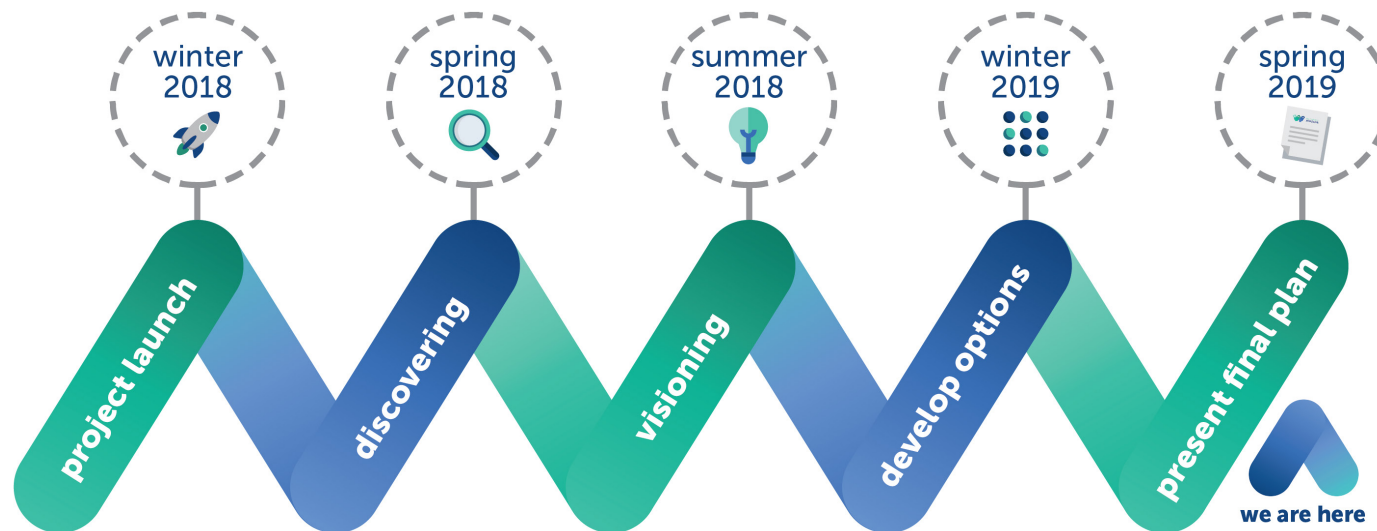
# 1.0 Introduction

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

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

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

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



The Active Transportation Master Plan provides a framework for making walking, cycling, and transit more safe, convenient, and comfortable modes of transportation in Windsor. This framework includes a series of five Themes along with Strategies and Actions that were presented in Discussion Paper #3 that together provide a comprehensive package of solutions to enable walking, cycling, and transit use, including engineering, policy, programming, and education initiatives.

The Strategies and Actions developed as part of the Active Transportation Master Plan are intended to guide Windsor's policy planning and capital investment decisions as well as on-going operations and maintenance activities to encourage and promote safe, comfortable, and convenient walking, cycling, and transit use. While the Active Transportation Master Plan has been developed as a long-term plan and vision for active transportation in Windsor, it has been recognized that to make this vision a reality, significant financial investment will be required and an implementation strategy will need to be developed to prioritize improvements over the short, medium, and long term.

This is the fourth and final Discussion Paper developed as part of the Active Transportation Master Plan process. The purpose of this Discussion Paper is to present an implementation and phasing strategy, identifying priority actions over the short-term (0 to 5 years), medium term (5 to 10 years), and long-term (10 years and beyond). In addition to the short-term initiatives, the implementation and phasing strategy also identifies a number of 'quick win' initiatives that the City should begin within the next two years. This Discussion Paper also presents a monitoring plan to measure the City's success in achieving the goals of the plan.



## 2.0 Implementation Strategy

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

### 2.1 Implementation Principles

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

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

towards achieving the vision, goals, and targets contained within the plan. An **Active Transportation Report Card**, detailed in **Section 3**, is one way that the City can report on progress made in implementing the Active Transportation Master Plan. Based on the results of the monitoring and reporting strategy, the Active Transportation Master Plan will need to be adapted to changing priorities and conditions over time. Reporting back on the indicators identified in the monitoring and reporting strategy outlined in this document is one of the ways the City will report on progress made in implementing the Active Transportation Master Plan. As the City moves forward with implementing the Active Transportation Master Plan, the document will need to be regularly updated to reflect the changing priorities and conditions over time.

- **The City should develop a yearly Active Transportation Action Plan and multi-year forecast** as part of the annual budgeting process to identify upcoming projects, initiatives, funding sources and implementation partners as part of its efforts to prioritize implementation of the Active Transportation Master Plan actions, monitor and communicate successes and to keep the Plan a living document.
- **The City should engage in further public consultation to implement many recommendations of the Active Transportation Master Plan.** Many of the initiatives in the Active Transportation Master Plan require more detailed input and technical work. The City of Windsor will work closely with partners, residents, and stakeholder groups to move forward with the priorities identified in the Active Transportation Master Plan.
- **Successful implementation of the Active Transportation Master Plan in order to achieve the vision, goals, and targets identified in Discussion Paper #2 will require significant changes in terms of:**

- Increased funding levels;
- Increased staff resources;
- Improved monitoring; and
- Continued collaboration with stakeholders.

## 2.2 Prioritizing Actions

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

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

- **Goals Addressed.** Each action is categorized based on its relative contribution to each of the Active Transportation Master Plan's five goals. Although some actions may only work to achieve one goal, many actions can help achieve multiple goals. The goals are numbered below for reference:
  1. Develop a complete **active transportation network** that connects all neighbourhoods
  2. Improve the **safety and accessibility** of vulnerable road users
  3. Support effective **land use planning** to build an environment that makes walking, cycling, and transit convenient and enjoyable
  4. Ensure that the active transportation network is **equitable and accessible** for all residents
  5. Foster a **culture** for active transportation





TABLE 1 - ACTIVE TRANSPORTATION MASTER PLAN THEMES AND ACTIONS

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

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

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
<b>Strategy 1E-Address Major Barriers</b>									
Action 1E.1: Improve existing grade separated crossings over major roads, interchanges, free flow ramps, watercourses, and rail.		Ongoing		✓	✓		PW Operations, Engineering		2, 4
Action 1E.2: Develop new pedestrian and cycling grade separated crossings over watercourses, rail, and major roads.		✓	✓	✓	✓		PW Operations, Engineering	Transportation Planning, Parks and Recreation	2, 4
Action 1E.3: Improve walking and cycling connections to grade separated crossings.		✓	✓	✓	✓		PW Operations, Engineering	Transportation Planning, Parks and Recreation	1, 2, 4
Action 1E.4: Identify additional pedestrian crossing locations where warranted, and provide a continuation to the active transportation network, in areas of high pedestrian activity or with a high concentration of vulnerable road users.	✓	✓		✓	✓		Transportation Planning	PW Operations, Traffic Operations, Engineering	2
Action 1E.5: Continue to regularly review pedestrian crossings to ensure they are well maintained, marked and painted to enhance visibility.		Ongoing			✓		Traffic Operations		2
Action 1E.6: Improve crossing treatments at locations where multi-use pathways intersect with a roadway in accordance with current best practices.		Ongoing		✓	✓		Transportation Planning, PW Operations, Traffic Operations, Engineering		2
Action 1E.7: Provide improvements to bicycle crossing treatments where bicycle facilities intersect with major streets at signalized intersections, including cross-rides, bike boxes, and/or directional paint.		Ongoing		✓	✓		Transportation Planning, PW Operations, Traffic Operations, Engineering		2
Action 1E.8: Install bicycle detection at traffic signals on bicycle routes.		Ongoing		✓	✓		Traffic Operations		2, 3
<b>Theme Two: Places for People</b>									
<b>Strategy 2A – Develop Complete Streets</b>									
Action 2A.1: Develop and adopt a Complete Streets policy and design guidelines.	✓					✓	Transportation Planning, Planning, Asset Planning, Engineering, Environmental Sustainability and Climate Change	Transit Windsor	2, 3
Action 2A.2: Follow Complete Street principles in all new development and road projects		Ongoing		✓	✓	✓	Engineering, Transportation Planning, PW Operations	Planning	2, 3
<b>Strategy 2B – Consider Pilot Projects</b>									
Action 2B.1: Pilot vehicle-free rights-of-way opportunities		Ongoing		✓			Transportation Planning	PW Operations	2, 3
Action 2B.2: Trial pilot projects for testing out proposed improvements		Ongoing		✓	✓		Transportation Planning, PW Operations		2, 5

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
Action 2B.3: Encourage urban vibrancy by exploring opportunities to temporarily utilize or repurpose vacant or underused City-owned space		Ongoing				✓	Legal, Parks, Recreation and Culture		3
Action 2B.4: Develop an Alleyways Revitalization Program to activate certain alleyways and improve pedestrian and cycling connections in the downtown through public art and tactical urbanism.	✓					✓	Asset Planning, PW Operations, Parks, Recreation, Planning, Transportation Planning, and Culture		3
<b>Strategy 2C – Improve the Pedestrian, Cycling, and Transit User Experience</b>									
Action 2C.1: Install public amenities including benches, street trees, lighting, drinking fountains, washrooms, and recycling bins, in the public right-of-way.		Ongoing		✓	✓		PW Operations, Parks, Engineering, PW Environmental Services		3
Action 2C.2: Work with Business Improvement Associations to improve the streetscape and public realm that recognizes the unique local identity consistent with district theming of each business area.		Ongoing		✓	✓		Planning	PW Operations & Engineering	3
Action 2C.3: Provide landscaping and public art in the right-of-way.		Ongoing		✓	✓		Engineering Culture, Planning		3
Action 2C.4: Encourage the use of patios within the public right-of-way.		Ongoing			✓	✓	Engineering	PW Operations	3
Action 2C.5: Work with Business Improvement Associations and other partners to activate public spaces.		Ongoing			✓	✓	Parks and Culture		3
Action 2C.6: Provide accessible detours for people walking, cycling, and using transit during construction and maintenance.		Ongoing			✓	✓	Traffic Operations, Transit Windsor	PW Operations, Engineering	2,3,4
<b>Strategy 2D – Land Use and Site Design</b>									
Action 2D.1: Ensure future population and employment areas are integrated with the existing and planned active transportation and transit network.		Ongoing			✓	✓	Planning	Transportation Planning & Transit Windsor	1, 2, 3, 4
Action 2D.2: Encourage new neighbourhoods to be designed with a mix of land uses to ensure destinations such as community centres, grocery stores, parks and schools are within walking distance.		Ongoing				✓	Planning		2, 3, 4
Action 2D.3: Implement design guidelines that encourage storefronts to face onto sidewalks in regional centres and develop similar guidelines for multi-family residential developments, to encourage parking lots that avoid large expanses in front.		Ongoing				✓	Planning		2,3
Action 2D.4: Continue to support higher density, mixed use infill development in regional centres that promote and encourage active transportation.		Ongoing				✓	Planning		3

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY		GOALS
	Short 0-5 yrs	Medium 5-10 yrs	Long-Term 10-20 yrs	Capital	Operations and Maintenance	Policy and Programming	Primary	Secondary	
<b>Strategy 2E – Improve Personal Safety</b>									
Action 2E.1: Provide lighting along sidewalks, bicycle routes, transit stops and pathways where appropriate.		Ongoing		✓	✓		Engineering, Parks and Recreation		2
Action 2E.2: Follow the standards of CPTED (Crime Prevention Through Environmental Design) to as appropriate.		Ongoing		✓	✓		Police Services, Engineering, Parks and Recreation		2
Action 2E.3: Address personal safety concerns on existing underpasses and other limited access routes with lighting improvements and/or design enhancements.		Ongoing		✓	✓		Engineering, Parks and Recreation	PW Operations	2
<b>Theme Three: Innovation and Integration</b>									
<b>Strategy 3A – Investigate Bike Share and New Technologies</b>									
Action 3A.1: Pursue a partnership with private operators to provide a public bike sharing program and consider the feasibility of an electric scooter sharing program.	✓					✓	Transportation Planning, Engineering and Licensing		4,5
Action 3A.2: Continue to promote the Transit App to live track buses, and to see wait and travel times for each bus. In addition, continue to promote the use of the online prediction portal, the call or text the bus stop feature, and real time display signs for route and schedule information		Ongoing			✓		Transit Windsor		2, 5
Action 3A.3: Work with partners to ensure sustainable trip planning information is widely accessible through an integrated transportation data system and innovative mobile applications		✓			✓		Engineering	Transit Windsor	5
Action 3A.4: Conduct a New Mobility study to ensure the City considers the impact of changing technologies and different users on the active transportation network.		✓				✓	Transportation Planning and Traffic Operations		2, 3, 5
<b>Strategy 3B: Provide Bicycle Parking and End-of-Trip Facilities</b>									
Action 3B.1: Develop and implement bike parking policy	✓	Ongoing		✓	✓	✓	Transportation Planning, Engineering, Planning, Facilities		
Action 3B.2: Conduct a Bicycle Parking Study to review and update requirements for short-term and long-term bicycle parking and end-of-trip facilities for new developments	✓					✓	Transportation Planning	Planning	3
Action 3B.3: Ensure bicycle parking and end-of-trip facilities are provided at all City of Windsor owned and operated facilities.		Ongoing		✓	✓		Facilities		3, 5
Action 3B.4: Develop and implement an on-street bicycle corral program(pending bike parking policy)		Ongoing		✓	✓	✓	Traffic Operations, Transportation Planning	PW Operations and Engineering	3
Action 3B.5: Work with event coordinators and partners to provide temporary bicycle parking at community events.		Ongoing			✓	✓	Parks and Recreation		3, 4
Action 3B.6: Implement bicycle repair and maintenance stations at key locations throughout the City of Windsor.		Ongoing		✓	✓		Parks, Recreation and Facilities		3, 5
Action 3B.7: Maintain and update a digital inventory of public bicycle parking locations as part of the "Mapp My City App" and promote use of the application.		Ongoing			✓	✓	Engineering		3, 5

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

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

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



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

## 2.3 Network Prioritization

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

An objective, systematic, GIS-based prioritization methodology was developed for the Active Transportation Master Plan. The prioritization methodology includes a Multiple Account Evaluation (MAE) that assesses each pedestrian and bicycle facility on each individual criterion. The MAE methodology includes ten criteria for each of the pedestrian and cycling networks as shown in **Table 1**. Wherever possible, the same or similar criteria were used for each of the pedestrian network and the cycling network.

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

TABLE 2 - NETWORK PRIORITIZATION CRITERIA

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

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

### 2.3.1 Methodology

The methodology for each criterion is described below. Each criterion was scored on a scale of 1 (low) to 10 (high). A summary of the methodology for the pedestrian network is provided in **Table 2** and a summary of the methodology for the cycling network is provided in **Table 3**. Detailed results of the evaluation of the pedestrian network are provided in **Appendix A** and detailed results of the evaluation of the cycling network are provided in **Appendix B**.

#### DESTINATION DENSITY (PEDESTRIAN AND CYCLING NETWORK)

This criterion measures the density of pedestrian and cycling destinations in proximity to the proposed pedestrian or bicycle facility. Destinations included in the analysis were schools, parks, community facilities, and commercial land uses. Improvements adjacent to a higher density of destinations are likely to result in a higher demand for walking and cycling.

#### MODE SHARE (PEDESTRIAN AND CYCLING NETWORK)

This criterion assesses current levels of walking and cycling activity in each census tract in which the proposed pedestrian or bicycle facility is located. This criterion is based on Statistics Canada 2016 Census Data, which provides data regarding the proportion of commute trips to work or school that are made by

walking or cycling in each census tract. Improvements in areas with higher existing levels of walking or cycling are likely to result in higher usage.

#### WALKING AND CYCLING POTENTIAL (PEDESTRIAN AND CYCLING NETWORK)

The Active Transportation Master Plan focuses on strategic investments in areas of the city with the highest potential for increased mode share for active transportation in the future. This criterion assesses the greatest potential to increase walking or cycling based on diverse and mixed land use patterns, population density, employment density, and road network characteristics. Neighbourhoods with the highest potential are those that are the most supportive of walking or cycling. In general, neighbourhoods with higher potential tend to be relatively dense with diverse land uses, are relatively flat, and have a dense and well-connected street network. Improvements in areas with these characteristics are likely to result in a higher demand for walking and cycling.

#### EQUITY (PEDESTRIAN AND CYCLING NETWORK)

The Active Transportation Master Plan also focuses on strategic investments in areas with traditionally underserved populations. This criterion assesses the greatest potential to improve access to traditional underserved populations with a high equity need, including areas with a high concentration of lower income people, children, seniors, indigenous populations, and new immigrants. Areas with the greatest equity need were given the highest score.

### PEDESTRIAN GENERATORS – COMMERCIAL AREAS (PEDESTRIAN AND CYCLING NETWORK)

Commercial areas are important destinations for people walking and cycling. This criterion examined whether proposed pedestrian and cycling facilities were located within 400 metres of Regional Centres or Neighbourhood Centres identified in the Official Plan. Pedestrian and cycling facilities located within a Regional Centre or Neighbourhood Centre scored highest, followed by those located within 400 metres of a Regional Centre followed by those within 400 metres of a Neighbourhood Centre.

### PEDESTRIAN GENERATORS – COMMUNITY FACILITIES (PEDESTRIAN AND CYCLING NETWORK)

Community facilities such as schools, parks, and community centres are also important destinations for people walking and cycling. This criterion examined whether proposed pedestrian and cycling facilities were located within 400 metres of these destinations. Pedestrian and cycling facilities located within 400 metres of these destinations scored highest, followed by those located within 800 metres of these destinations.

### TRANSIT (PEDESTRIAN AND CYCLING NETWORK)

The majority of transit trips begin or end by walking or cycling. One of the key directions of the Active Transportation Master Plan is to improve walking and cycling connections with transit. This criterion measures the degree to which the proposed improvement increases access to transit facilities. Improvements with the closest proximity to transit stops received the highest score.

### ROAD CLASSIFICATION (PEDESTRIAN NETWORK ONLY)

Safety is a key deterrent to walking. For pedestrians in particular, the need for sidewalks is closely related to traffic volumes and speeds on the adjacent street. On busier streets, there is a greater need for sidewalks. The City's existing street classification provides a proxy for traffic volumes and speeds. Proposed sidewalk improvements on arterial streets received the highest score, followed by collector streets and local streets.

### BICYCLE NETWORK CLASSIFICATION (CYCLING NETWORK ONLY)

The cycling network includes a classification system that is comprised of Regional Spine routes, a Downtown Protected Bike Lane network, and Connector routes. This classification of Regional Spines provides high quality connections from various parts of the City to the downtown protected bike lane network. Facilities located on routes that have been designated as Regional Spines scored the highest, followed by Downtown Protected Bike Lane routes, and Connector routes.

### NETWORK CONTRIBUTION (PEDESTRIAN NETWORK ONLY)

This criterion measures the degree to which the proposed improvement addresses a gap in the network. There is often a greater need for providing a sidewalk when it forms part of a network, as opposed to sidewalks that do not provide broader network connections. Proposed sidewalks that connect to existing sidewalks score higher in this criterion than those that do not connect to any sidewalks.

### LEVEL OF PROTECTION (CYCLING NETWORK ONLY)

The Active Transportation Master Plan focuses on developing a cycling network that is comfortable for people of all ages and abilities. As a result, proposed bicycle facilities that provide the greatest level of protection for people cycling were assigned the highest score.

### NETWORK NEED (PEDESTRIAN AND CYCLING NETWORK)

Similar to network contribution, this criterion assesses the degree to which a proposed improvement completes the network. For pedestrian facilities, proposed improvements where there is currently no sidewalk on either side of the street scored higher than cases where a sidewalk is already provided on one side of the street. For cycling facilities, the network need was assessed on a gap analysis that identified whether the proposed improvement filled a gap in the cycling network.



TABLE 3 - PEDESTRIAN NETWORK METHODOLOGY

<b>Destination Density</b>	Located in Area of High Density	10
	Located in Area of Moderate Density	5
	Located in Area of Low Density	1
<b>Walking Mode Share</b>	Located in High Walk Mode Share	10
	Located in Area of Moderate Walk Mode Share	5
	Located in Low Walk Mode Share	1
<b>Walking Potential</b>	Located in Area of High Potential	10
	Located in Area of Moderate Potential	5
	Located in Area of Low Potential	1
<b>Equity</b>	Located in Area of High Equity Need	10
	Located in Area of Moderate Equity Need	5
	Located in Area of Low Equity Need	1
<b>Pedestrian Generator - Commercial Areas</b>	Within a Regional Centre	10
	Within 400 metres of a Regional Centre	5
	More than 400 metres of a Regional Centre	1
<b>Pedestrian Generators - Community Facilities (School, Community Centre, Arena, or Library)</b>	Within 400 metres of a community facility	10
	Within 800 metres of a community facility	5
	More than 800 metres from a community facility	1
<b>Road Classification</b>	Arterial	10
	Collector & Scenic Parkway	5
	Local	1
<b>Transit</b>	On Bus Route	10
	Not on Bus Route but within 400 Metres of bus stop	5
	Not on Bus Route and more than 400 Metres From Bus Stop	1
<b>Network Contribution</b>	Connects to sidewalk on Both Ends	10
	Connects to Sidewalk on Only One Side	5
	Does Not Connect to Sidewalk	1
<b>Network Need</b>	No Sidewalk on Either Side	10
	Sidewalk Already on One Side	5

TABLE 4 - CYCLING NETWORK METHODOLOGY

<b>Destination Density</b>	Located in Area of High Density	10
	Located in Area of Moderate Density	5
	Located in Area of Low Density	1
<b>Cycling Mode Share</b>	Located in High Cycling Mode Share	10
	Located in Area of Moderate Cycling Mode Share	5
	Located in Low Cycling Mode Share	1
<b>Cycling Potential</b>	Located in Area of High Potential	10
	Located in Area of Moderate Potential	5
	Located in Area of Low Potential	1
<b>Equity</b>	Located in Area of High Equity Need	10
	Located in Area of Moderate Equity Need	5
	Located in Area of Low Equity Need	1
<b>Pedestrian Generator - Commercial Areas</b>	Within a Regional Centre	10
	Within 400 metres of a Regional Centre	5
	More than 400 metres of a Regional Centre	1
<b>Pedestrian Generators - Community Facilities (School Community Centre, Arena, or Library)</b>	Within 400 metres of a community facility	10
	Within 800 metres of a community facility	5
	More than 800 metres from a community facility	1
<b>Bike Network Classification</b>	Regional Spine	10
	Downtown Grid	5
	Connector	1
<b>Transit</b>	On Bus Route	10
	Not on Bus Route but within 400 Metres of bus stop	5
	Not on Bus Route and more than 400 Metres From Bus Stop	1
<b>Level of Protection</b>	Protected Bicycle Lane	10
	Off-Street Pathway	10
	Crossing	10
	Bicycle Boulevard	10
	Buffered Bicycle Lane	5

<b>Level of Protection</b>	Painted Bicycle Lane	1
	Multi-Modal Corridor	1
	Signed Route	0
<b>Network Gap</b>	Network Gap	10
	Area Gap	5
	Quality Gap	5
	Crossing Gap	1



### 2.3.2 Overall Results

Using the combined analysis scores created from the previous 10 criteria above, results were combined to general an overall score for each proposed pedestrian and cycling network improvement, as shown in **Figure 1**, **Figure 2** and **Figure 3**. Please note, these figures are intended to be viewed electronically to allow the reader to zoom into specific areas of the map.

FIGURE 1 - PEDESTRIAN NETWORK PRIORITIZATION RESULTS (MAJOR STREETS)

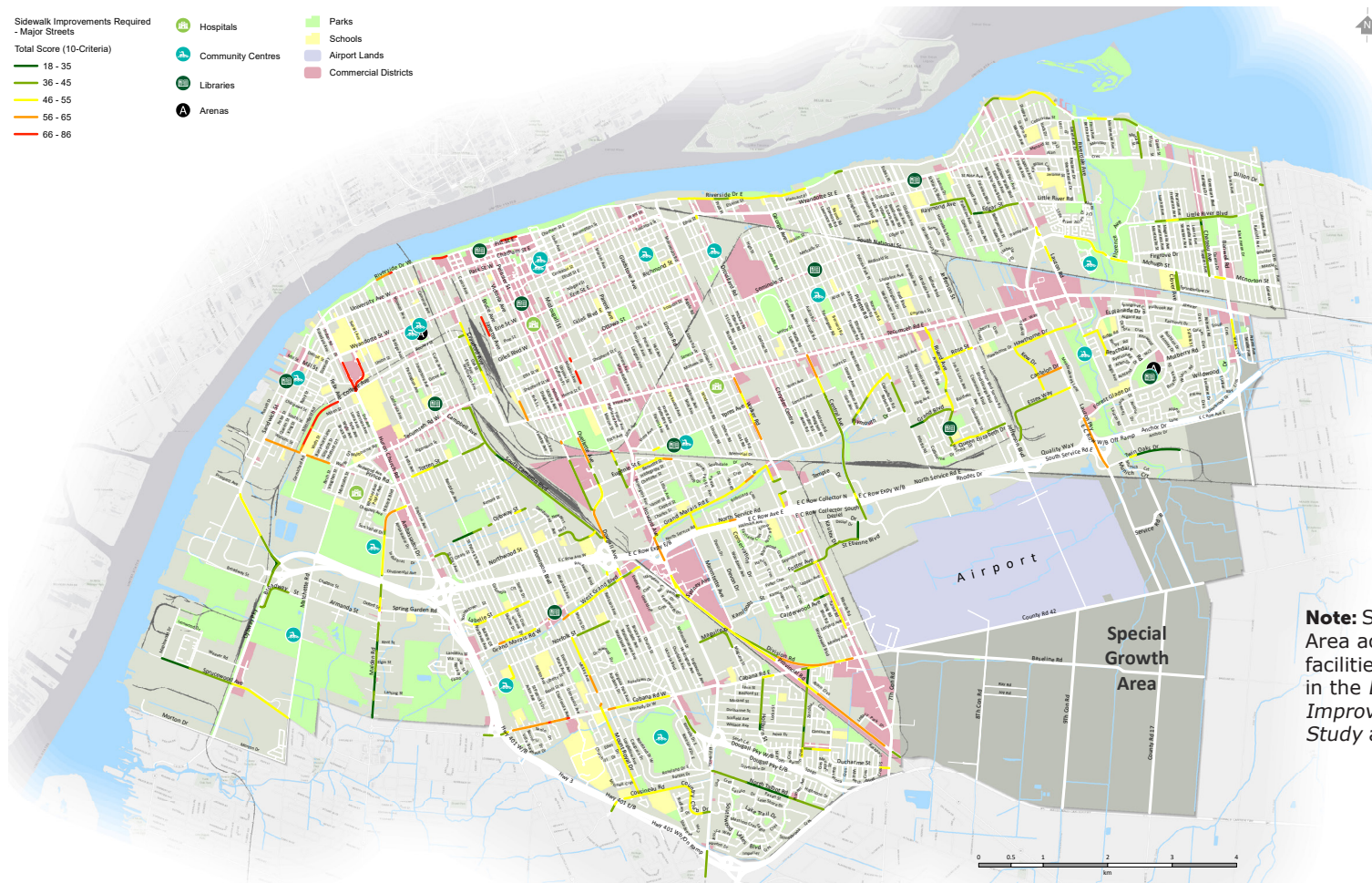
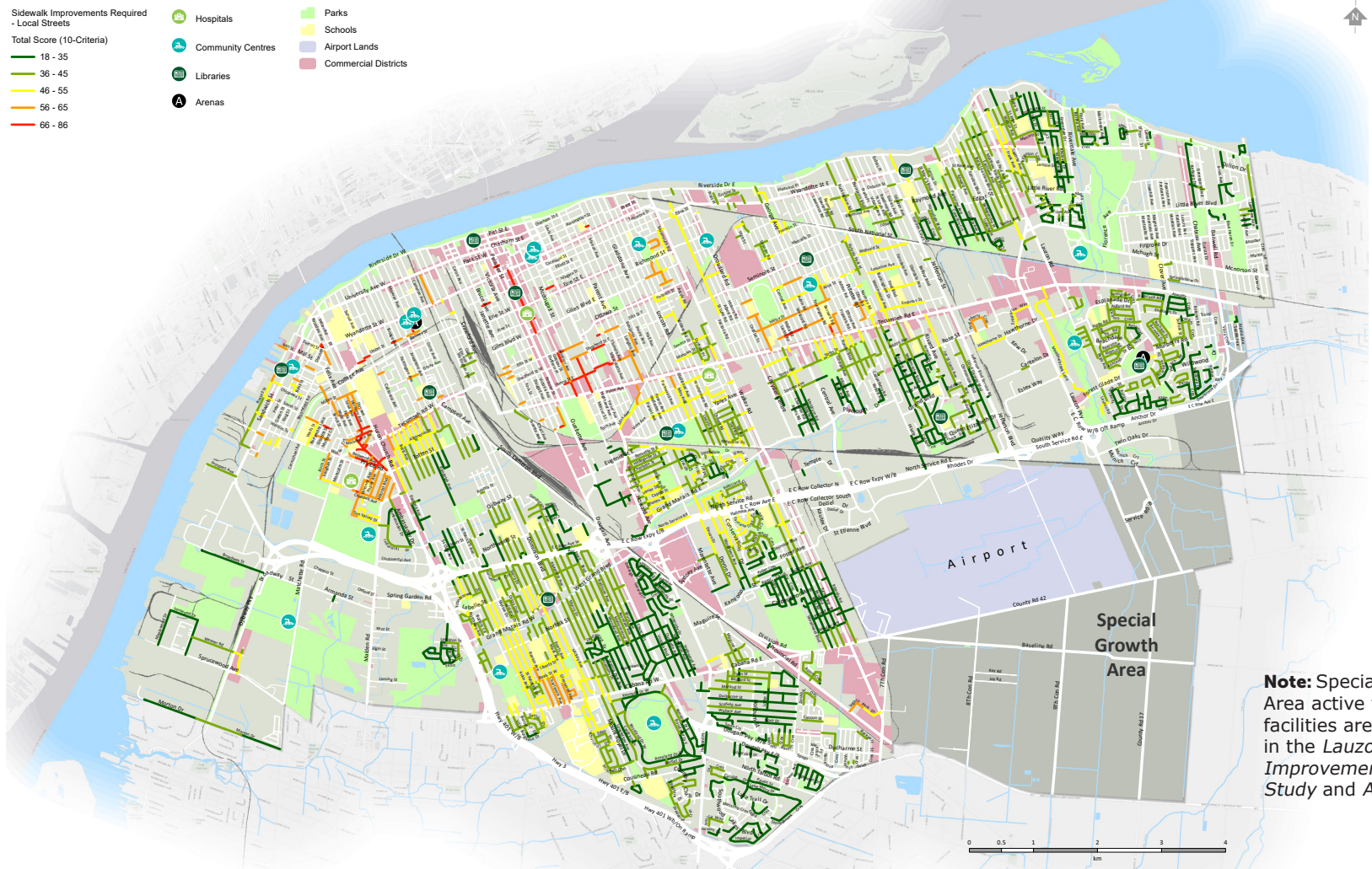
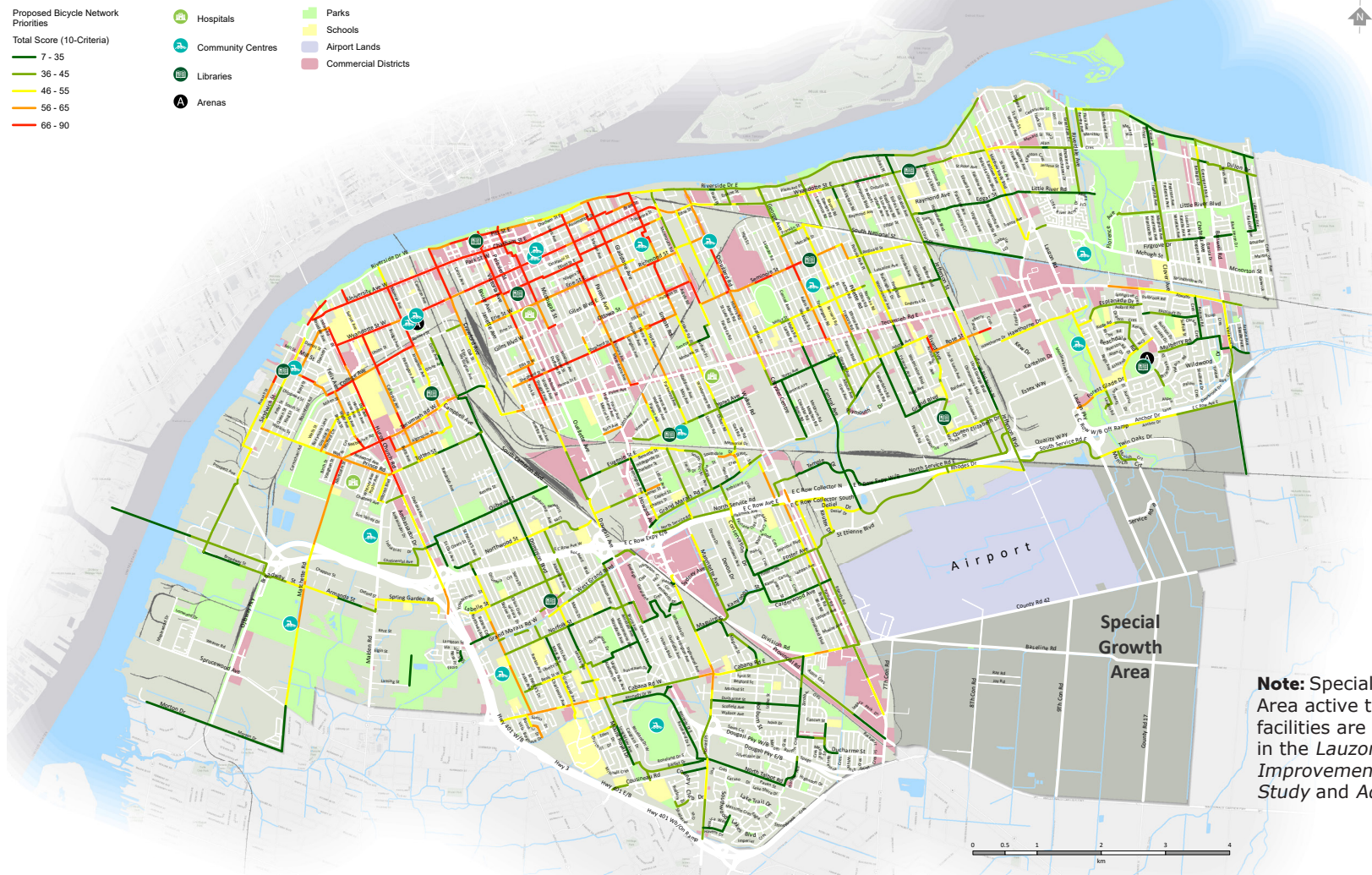


FIGURE 2 - PEDESTRIAN NETWORK PRIORITIZATION RESULTS (LOCAL STREETS)



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

FIGURE 3 - CYCLING NETWORK PRIORITIZATION RESULTS



## 2.4 Quick Wins

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

- University Avenue protected bicycle lanes
- Victoria Road bicycle boulevard
- Shepherd Street bicycle boulevard
- Conduct a feasibility study to investigate the potential for providing bicycle facilities on Wyandotte Street between George Avenue to Clarview trail head – refer to report
- Ensure pedestrian and cycling facilities are considered as part of all roadway projects designated as part of the Pedestrian Network and Cycling Network currently included in the City’s 2019 Operating and Capital Budgets

### THEME 1: CONNECTING COMMUNITIES

- Improve process for implementing sidewalks for new developments based on Official Plan requirements
- Use sidewalk capital funding to identify and eliminate gaps in the sidewalk network on major roads
- The sidewalk infill program and budget to provide sidewalks on local roads in areas around schools, seniors centres, hospitals, and other key destinations.
- Develop a dedicated funding program for the Parks Department to maintain and develop new pathways and trails
- Install secure bicycle parking at high activity bus stops and transit exchanges
- Network improvements:
  - Develop a minimum grid downtown all ages and abilities bicycle network as a pilot project
  - Develop Regional Spine routes that connect directly to the downtown network and form important east-west and north-south connections in mature neighbourhoods, including:

### THEME 2: PLACES FOR PEOPLE

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

### THEME THREE: INNOVATION AND INTEGRATION

- Pursue a partnership with private operators to provide a public bike sharing program and consider the feasibility of an electric scooter sharing program
- Develop bicycle parking policy
- Conduct a Bicycle Parking Study to review and update requirements for short-term and long-term bicycle parking and end-of-trip facilities for new developments
- Develop a program that supports businesses and other partners to implement short-term bicycle parking and other end-of-trip facilities within public space

- Work with partners to develop an on-street bicycle corral program

#### THEME FOUR: CULTURE SHIFT

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

#### THEME FIVE: QUALITY OF LIFE

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

## 2.5 Cost Estimates

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

The capital cost to implement the Active Transportation Master Plan is approximately **\$120 million** over the long-term as seen in **Table 5**. This includes approximately \$11.6 million for the installation of new sidewalks on major street and \$46.3 million for the installation of new sidewalks on local streets. This also includes approximately \$51 million for new and upgraded on-street bicycle facilities, and \$10.5 million for new or upgraded off-street pathways. However, by prioritizing projects as high priority and identifying longer term priority projects, it is estimated that the highest priority projects for implementation over the short-term would cost approximately \$1.9 million for the installation of new sidewalks on major roads, and approximately \$22.7 million for new and upgraded bicycle facilities and off-street pathways (it is recognized that high priority sidewalks on local streets may be

funded through a separate program, including the Local Improvement Program). As such, the installation of priority projects is estimated to cost an average of approximately **\$5 million per year over the short-term**.

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

To put these numbers in context, the City has spent an average of at least \$2 million per year on the construction and maintenance of active transportation projects over the past five years (excluding active transportation projects implemented as part of other roadworks projects). In addition, the City's average annual investment in construction and maintenance in active transportation that is currently forecast in the current capital plan from 2019 to 2026 is approximately \$3 million. Although the implementation of this plan represents an increase in capital and operating funding, there are many funding strategies the City can consider to reduce the City's portion of these capital costs, as noted in the following section.

TABLE 5 - SUMMARY OF CAPITAL COSTS AND PRIORITIES

Priority	Sidewalks (Major Streets*)		Sidewalks (Local Streets)		On-Street Bicycle Facilities		Off-Street Path- ways		Total	
	Distance (km)	Capital Cost (\$M)	Distance (km)	Capital Cost (\$M)	Distance (km)	Capital Cost (\$M)	Distance (km)	Capital Cost (\$M)	Distance (km)	Capital Cost (\$M)
High Priority	17	\$1.90	40	\$4.20	69	\$21.80	5	\$0.90	131	\$28.80
Medium Priority	43	\$4.50	78	\$8.20	43	\$9.30	19	\$3.90	183	\$25.90
Low Priority	49	\$5.20	322	\$33.90	111	\$19.40	29	\$5.70	511	\$64.20
Total	109	\$11.60	440	\$46.30	223	\$51.00	54	\$10.50	825	\$119.40

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

## 2.6 Funding and Leverage Strategies

Although the Active Transportation Master Plan is estimated to cost approximately \$120 million over the next 20 years and beyond, these costs can be shared by pursuing external funding from other levels of governments, partnerships with other organizations and the development industry and integration of cycling and pedestrian projects with other plans and projects.

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

### CAPITAL PLANNING

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

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

### INTEGRATION

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

### EXTERNAL FUNDING SOURCES

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

- **Provincial Programs and Initiatives.** The Provincial Government administers the **CycleON Action Plan 2.0** program, which promotes new, safe and high-quality cycling infrastructure through cost-sharing with local governments. Some possible projects include new bicycle trails and bicycle lanes, improvements to existing cycling infrastructure, and providing for bicycle lockers and other equipment that makes cycling a safer and more convenient option for travellers. The **CycleON** program provides funding for infrastructure which forms part of a bicycle network plan adopted by an Ontario local government.
- **Federal Funding.** There are several programs that provide funding for environmental and local transportation infrastructure projects in municipalities across Canada. Typically, the federal government contributes one-third of the cost of municipal infrastructure projects. Provincial and municipal governments contribute the remaining funds, and in some instances, there may be private sector investment as well.
- **Green Municipal Funds.** The Federation of Canadian Municipalities manages the Green Municipal Fund, with a total allocation of \$550 million. This fund is intended to support municipal government efforts to reduce pollution, reduce greenhouse gas emissions and improve quality of life. The expectation is that knowledge and experience gained in best practices and innovative environmental projects will be applied to national infrastructure projects.
- **Carbon Tax Rebate.** Each municipality that has signed the Climate Action Charter received an annual rebated based on completion of the CARIP form. The City could allocate a portion of this funding towards sustainable transportation projects, such as funding bicycle and pedestrian infrastructure.
- **Developers.** The City should explore opportunities for road improvements to be constructed as development occurs within Windsor. This process could be formalized through an update to the City of Windsor Official Plan or through individual negotiations.
- **Private sector.** Many corporations wish to be good corporate neighbours — to be active in the community and to promote environmentally-beneficial causes. Bicycle and pedestrian routes and facilities are well-suited to corporate sponsorship and have attracted significant sponsorship both at the local level and throughout North America.
- **Service Clubs.** In many communities, service clubs have been involved in funding and building bicycle infrastructure and facilities including pathways and bicycle parking.
- **Advertising.** If the City is creating a bicycle route map it may want to work with local business who would be interested in providing advertising and therefore revenue to cover some or all of the cost of advertising.

#### STAFF RESOURCES

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

The City should start by hiring a dedicated full-time Active Transportation Coordinator position within the first year after adopting the Active Transportation Master Plan. This should



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

### COMMITTEE STRUCTURE

The City has a number of Committees of Council, including the Windsor Bicycling Committee. The Windsor Bicycling Committee is comprised of 10 members, including one City Councillor. The purpose of this committee is to enhance the safety and viability of bicycling in the City of Windsor. The committee acts as an effective advisor to Council and City departments on matters related to bicycling in Windsor. Although this committee is effective at advising on cycling issues in the committee, there is no similar committee tasked with dealing with pedestrian issues. There are other similar committees that address seniors, youth, and accessibility issues. As such, it is recommended that these committees (or representatives from each committee) meet twice a year or on a quarterly basis to discuss active transportation issue collectively. This collaborative committee will also include representatives from Transit Windsor.



## 3.0 Monitoring and Reporting Strategy

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

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

### 3.1 Monitoring

#### Measures of Success

The Active Transportation Master Plan monitoring program focuses on identifying 'measures of success' for two components: first, the degree of progress in implementing the plan, and secondly, the outcomes of the plan. Measures of success are described in the tables below, including general measures of success for the overall Active Transportation Master Plan, as well as specific measures of success related to each Theme. While targets have been identified for walking, cycling and transit mode

share, they haven't been identified for the other measures. It is recommended that targets be developed through a separate Active Transportation Monitoring Strategy.

TABLE 6 - OVERALL MEASURES OF SUCCESS

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

## THEME 1: CONNECTING COMMUNITIES

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

TABLE 7 - THEME 1 MEASURES OF SUCCESS

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

## THEME 2: PLACES FOR PEOPLE

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

TABLE 8 - THEME 2 MEASURES OF SUCCESS

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

### THEME 3: INNOVATION AND INTEGRATION

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

TABLE 9 - THEME 3 MEASURES OF SUCCESS

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

#### THEME 4: CULTURE SHIFT

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

TABLE 10 - THEME 4 MEASURES OF SUCCESS

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

## THEME 5: QUALITY OF LIFE

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

TABLE 11 - THEME 5 MEASURES OF SUCCESS

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

### 3.2 Reporting

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

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

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



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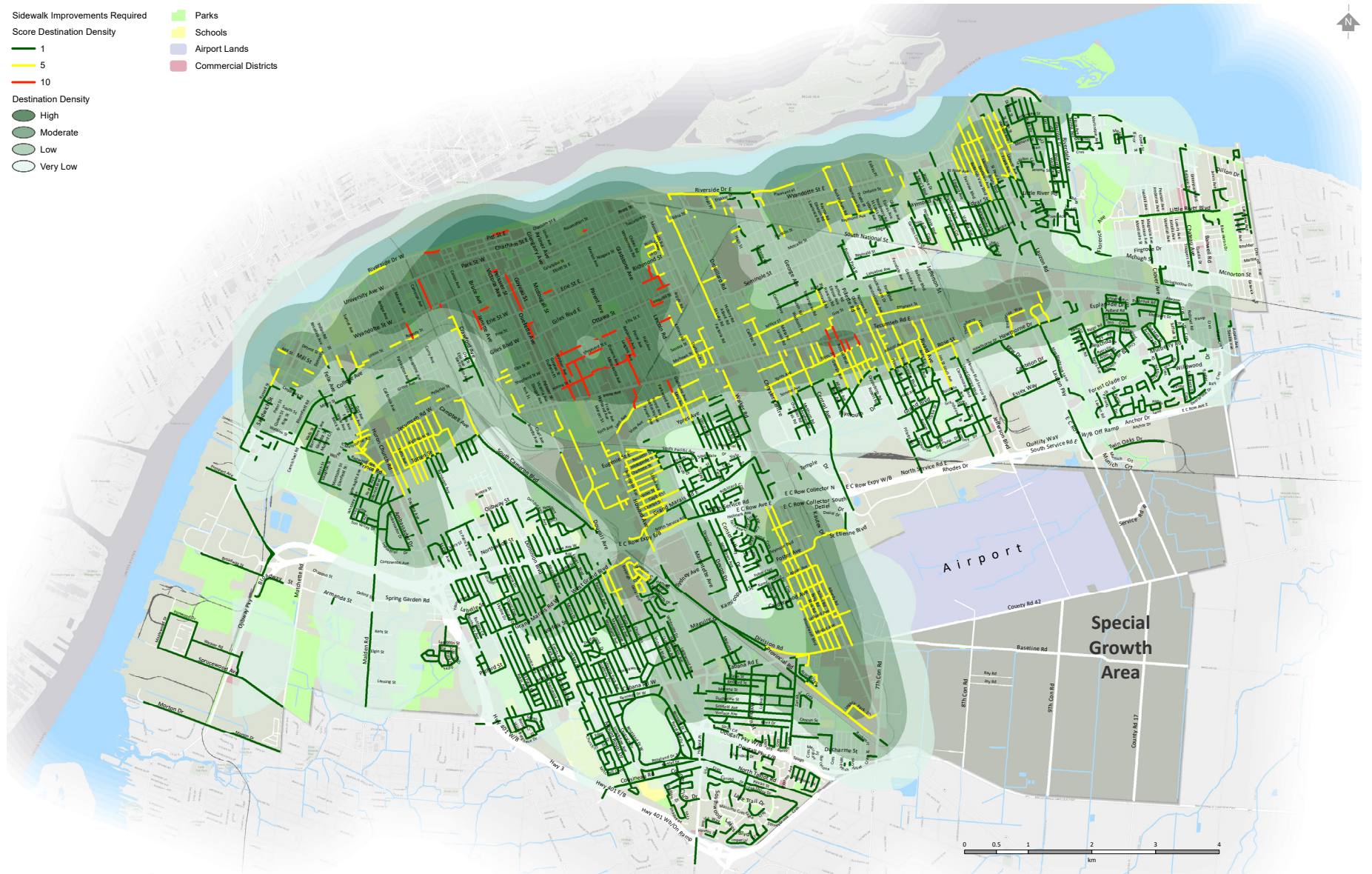




## Appendix A: Detailed Sidewalk Prioritization Results

- Sidewalk Improvements Required
- Score Destination Density
  - 1
  - 5
  - 10
- Destination Density
  - High
  - Moderate
  - Low
  - Very Low

- Parks
- Schools
- Airport Lands
- Commercial Districts



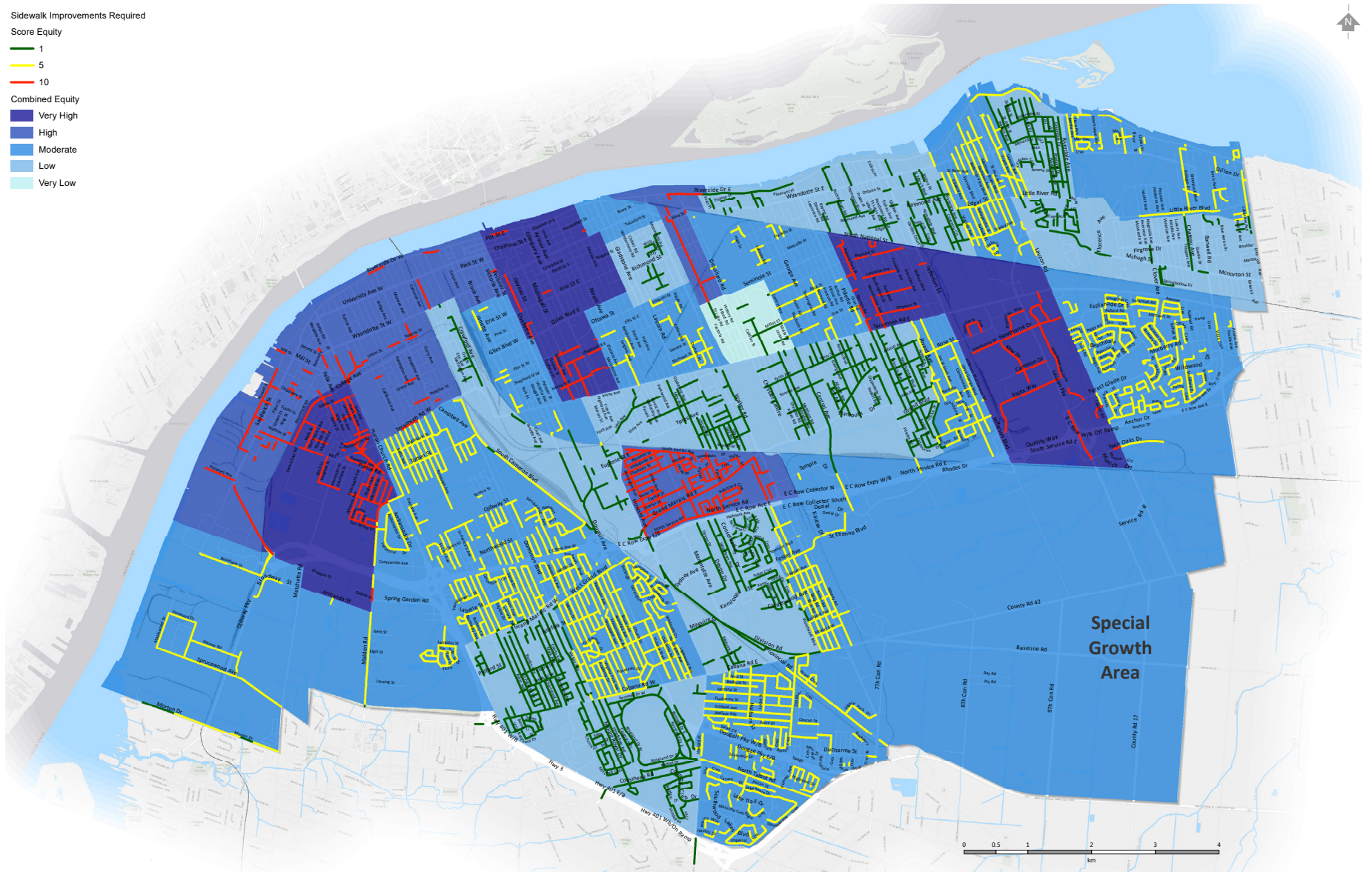
Sidewalk Improvements Required

Score Equity

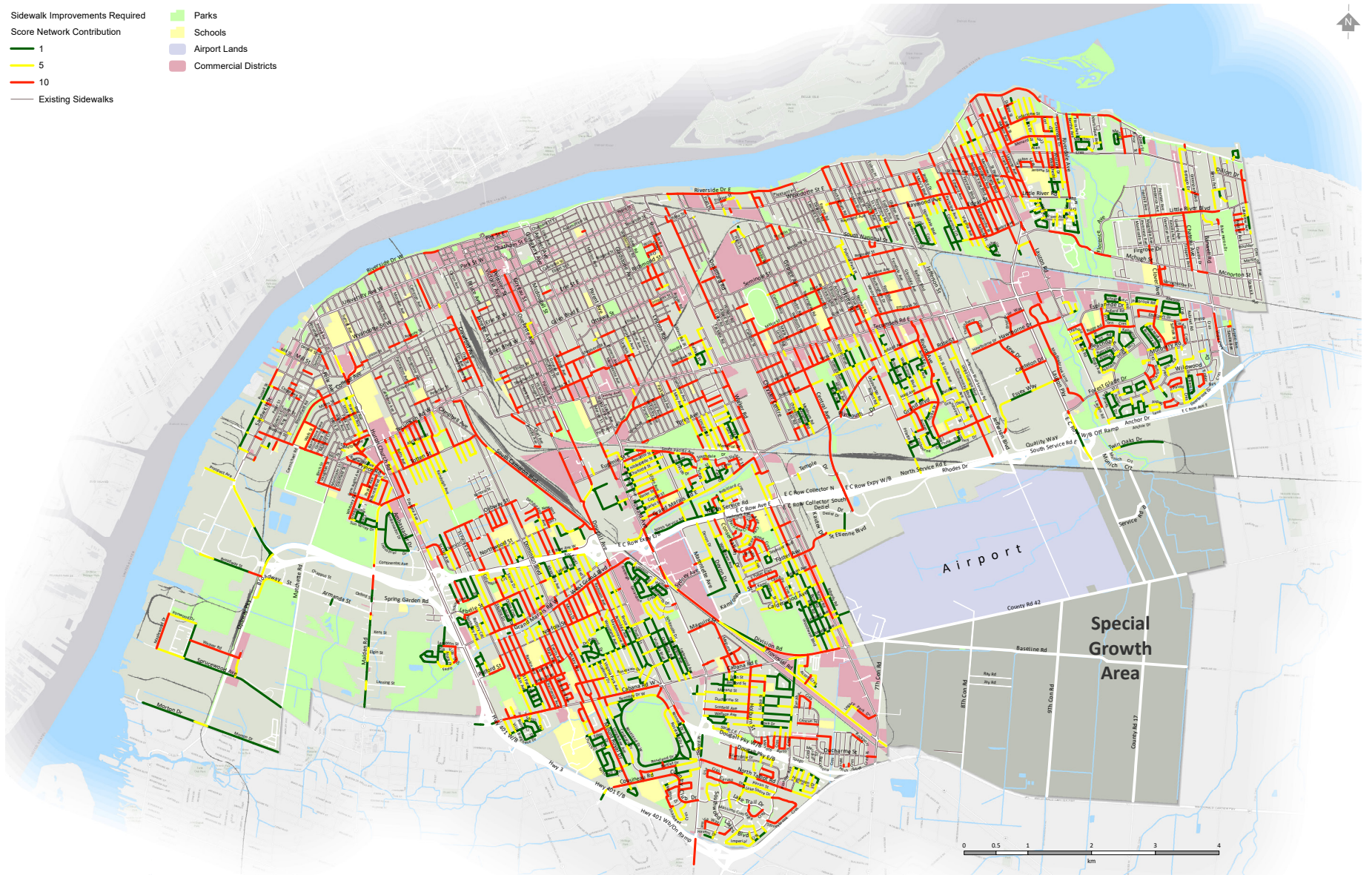
- 1
- 5
- 10

Combined Equity

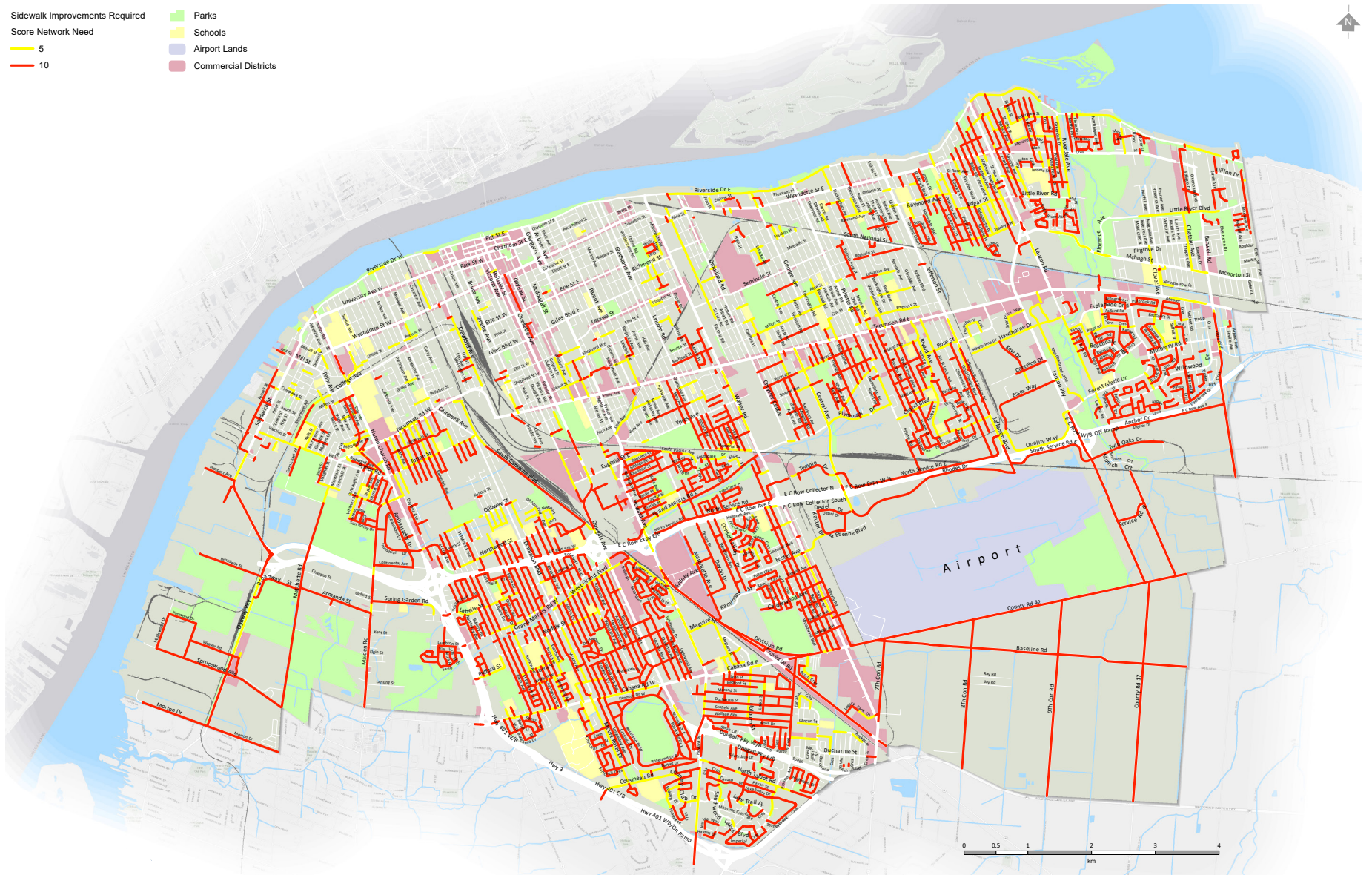
- Very High
- High
- Moderate
- Low
- Very Low



- Sidewalk Improvements Required
- Score Network Contribution
  - 1
  - 5
  - 10
- Existing Sidewalks
- Parks
- Schools
- Airport Lands
- Commercial Districts

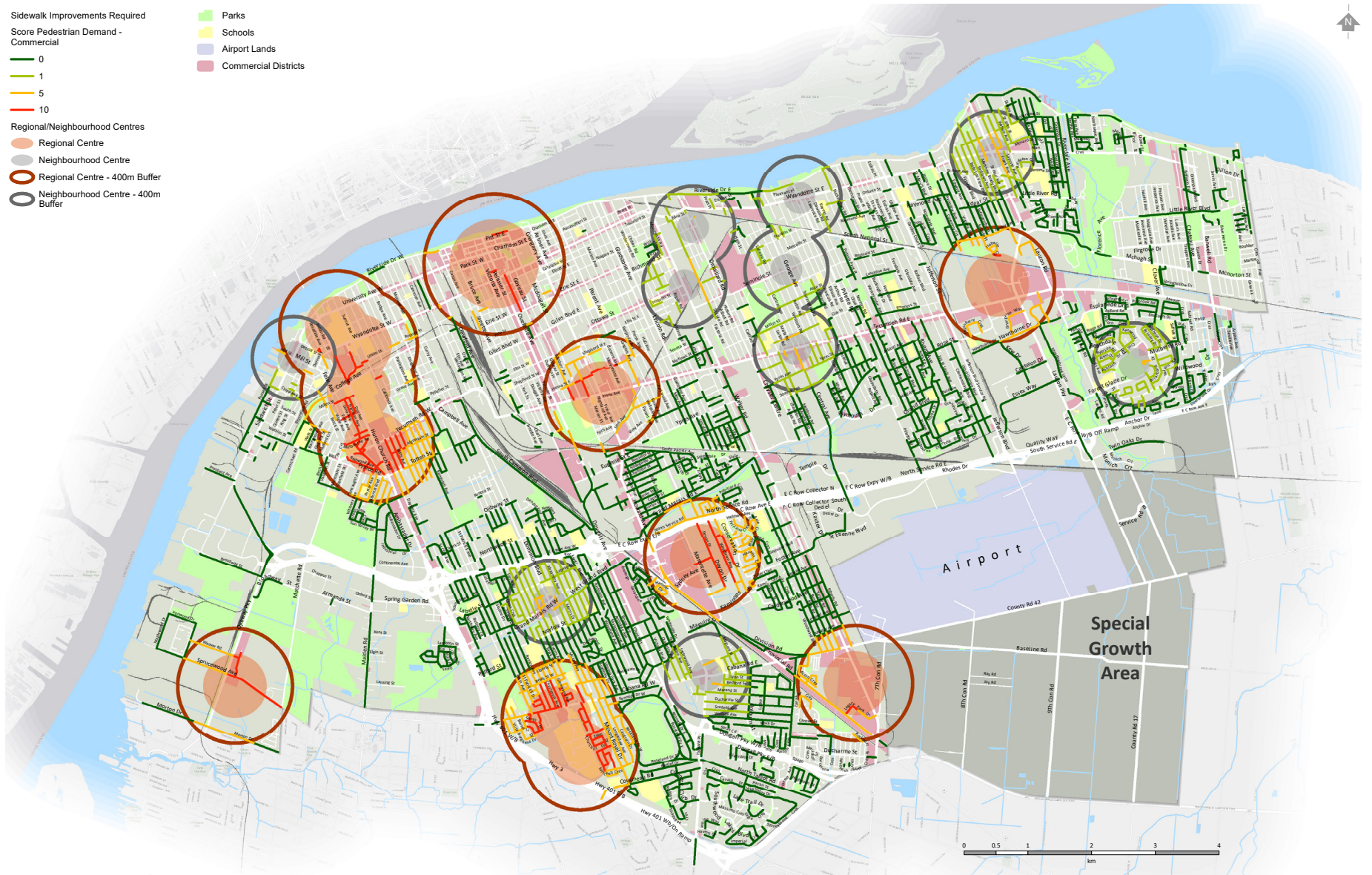


- Sidewalk Improvements Required
- Score Network Need
- 5
- 10
- Parks
- Schools
- Airport Lands
- Commercial Districts



- Sidewalk Improvements Required
- Score Pedestrian Demand - Commercial
- 0
  - 1
  - 5
  - 10
- Regional/Neighbourhood Centres
- Regional Centre
  - Neighbourhood Centre
  - Regional Centre - 400m Buffer
  - Neighbourhood Centre - 400m Buffer

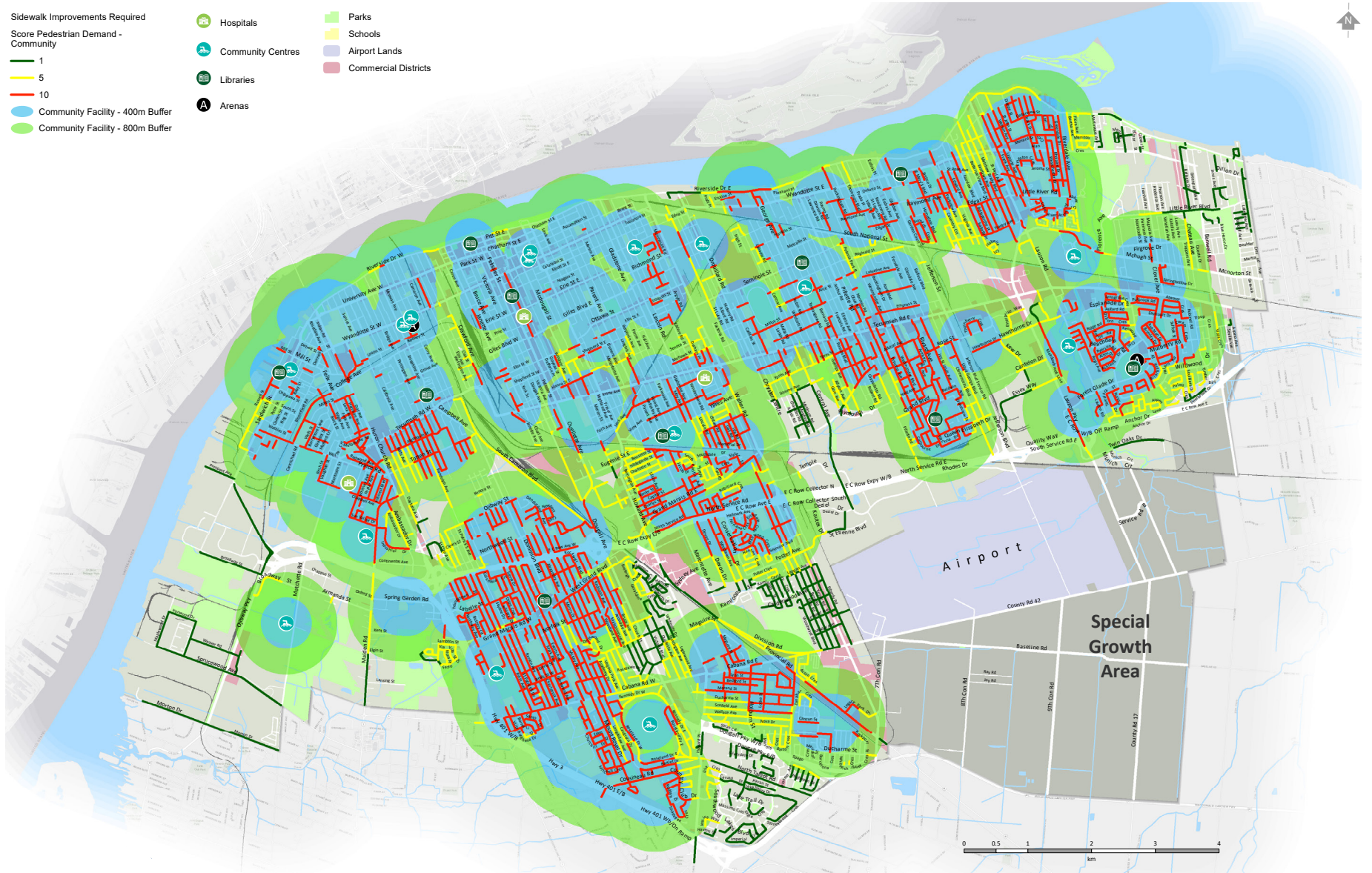
- Parks
- Schools
- Airport Lands
- Commercial Districts



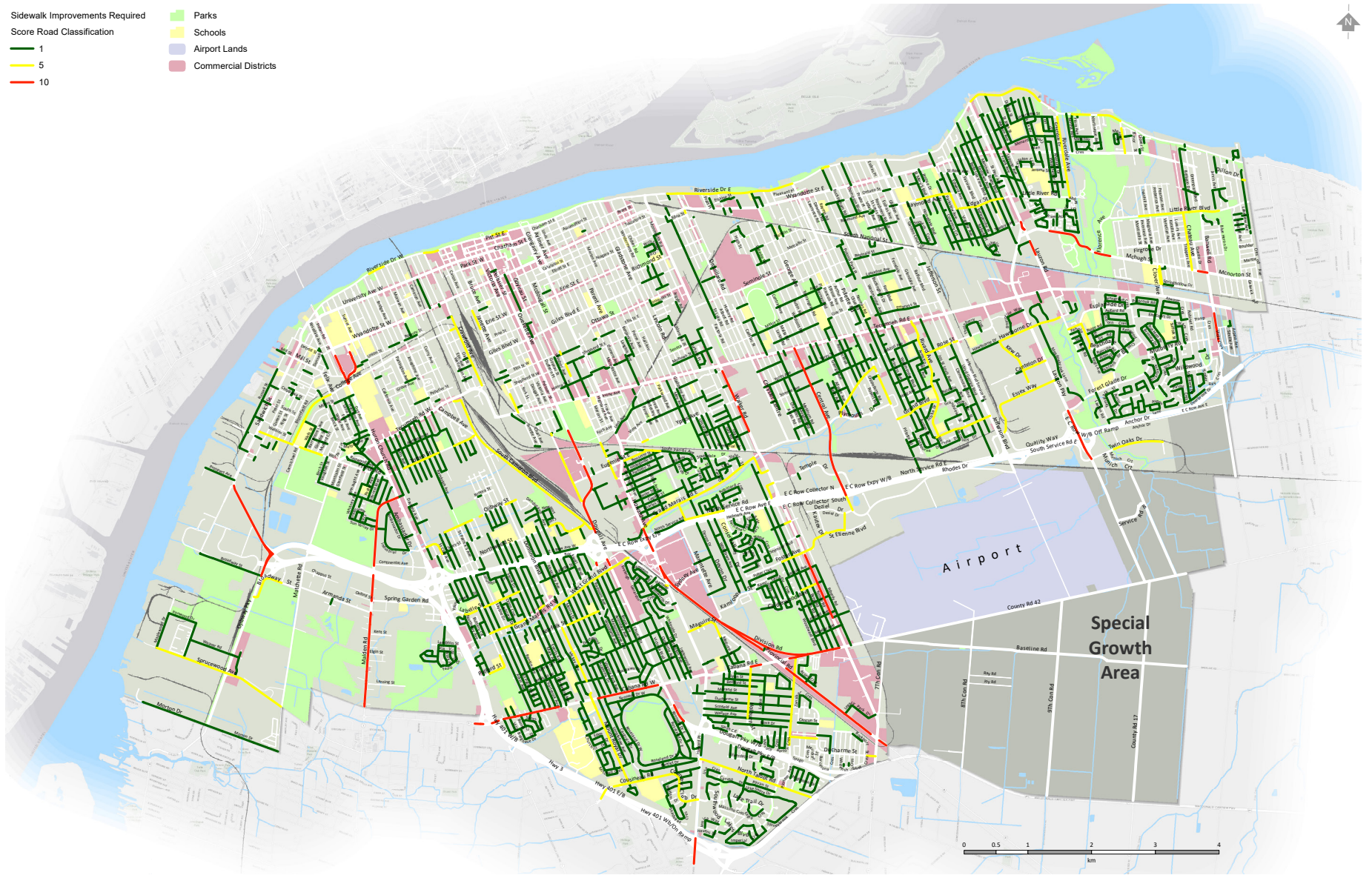


- Sidewalk Improvements Required
- Score Pedestrian Demand - Community
- 1
  - 5
  - 10
  - Community Facility - 400m Buffer
  - Community Facility - 800m Buffer

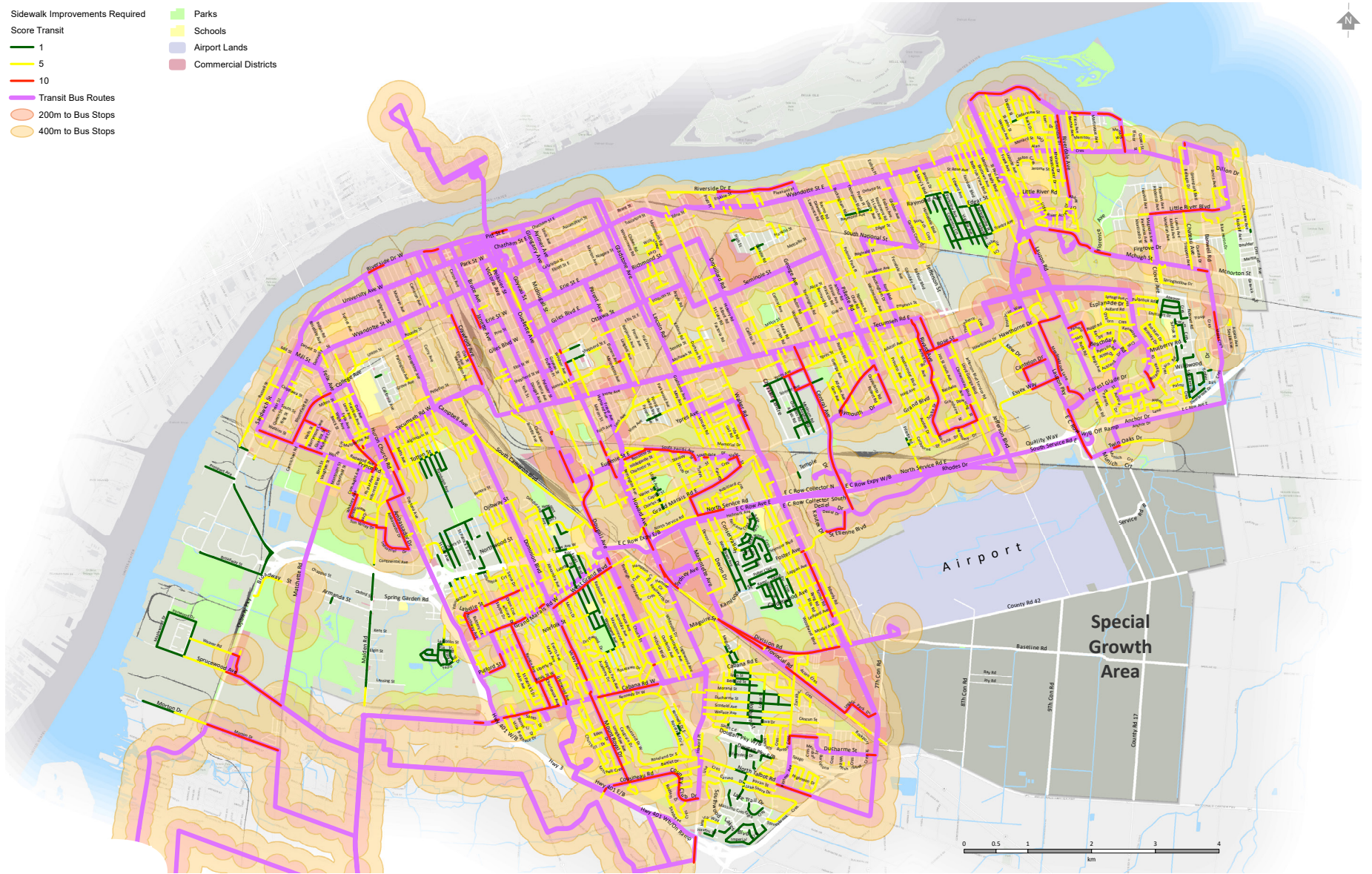
- Hospitals
- Community Centres
- Libraries
- Arenas
- Parks
- Schools
- Airport Lands
- Commercial Districts



- Sidewalk Improvements Required
- Score Road Classification
- 1
- 5
- 10
- Parks
- Schools
- Airport Lands
- Commercial Districts



- Sidewalk Improvements Required
  - Score Transit
    - 1
    - 5
    - 10
  - Transit Bus Routes
  - 200m to Bus Stops
  - 400m to Bus Stops
- Parks
  - Schools
  - Airport Lands
  - Commercial Districts



Sidewalk Improvements Required

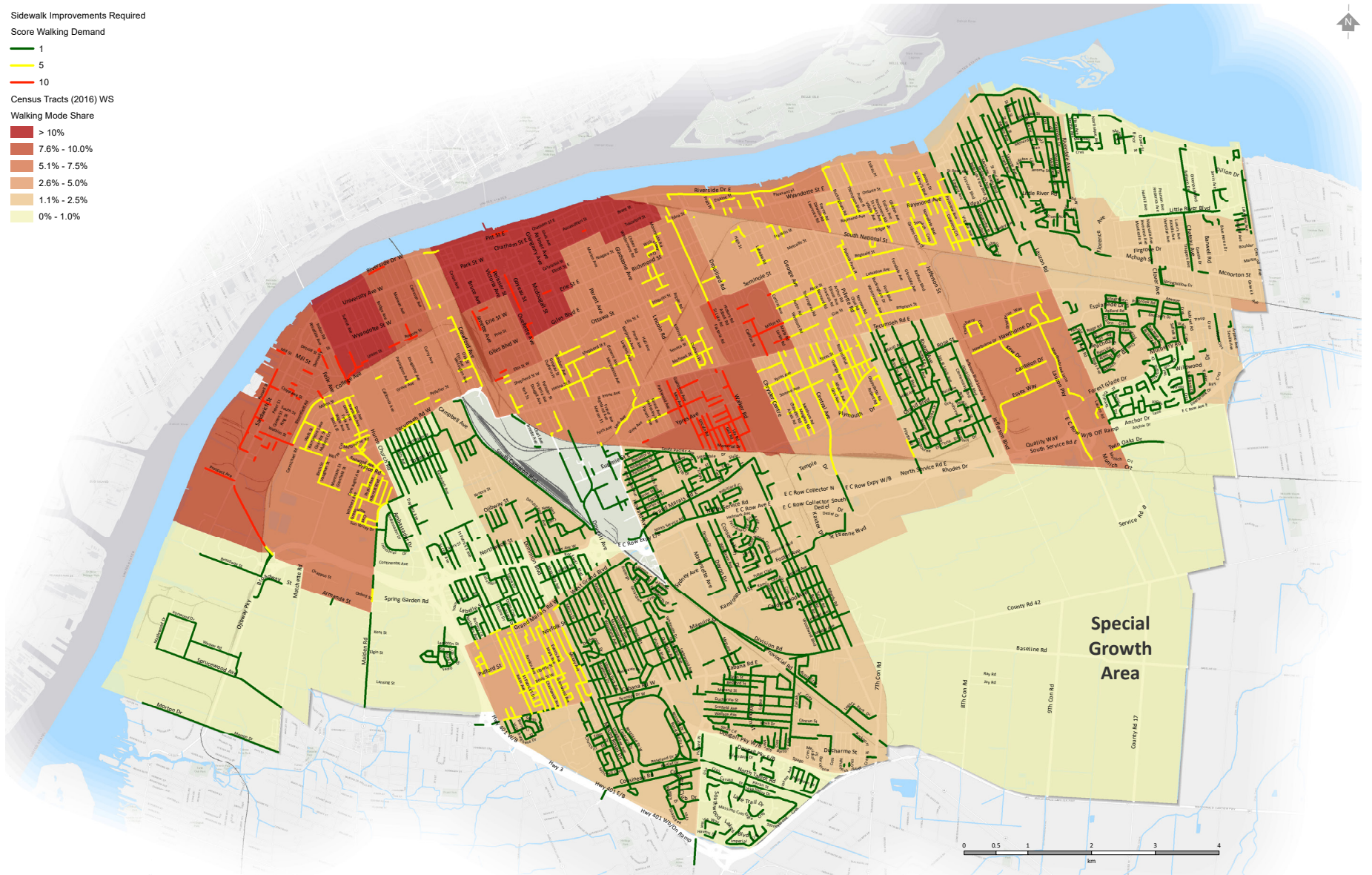
Score Walking Demand

- 1
- 5
- 10

Census Tracts (2016) WS

Walking Mode Share

- > 10%
- 7.6% - 10.0%
- 5.1% - 7.5%
- 2.6% - 5.0%
- 1.1% - 2.5%
- 0% - 1.0%



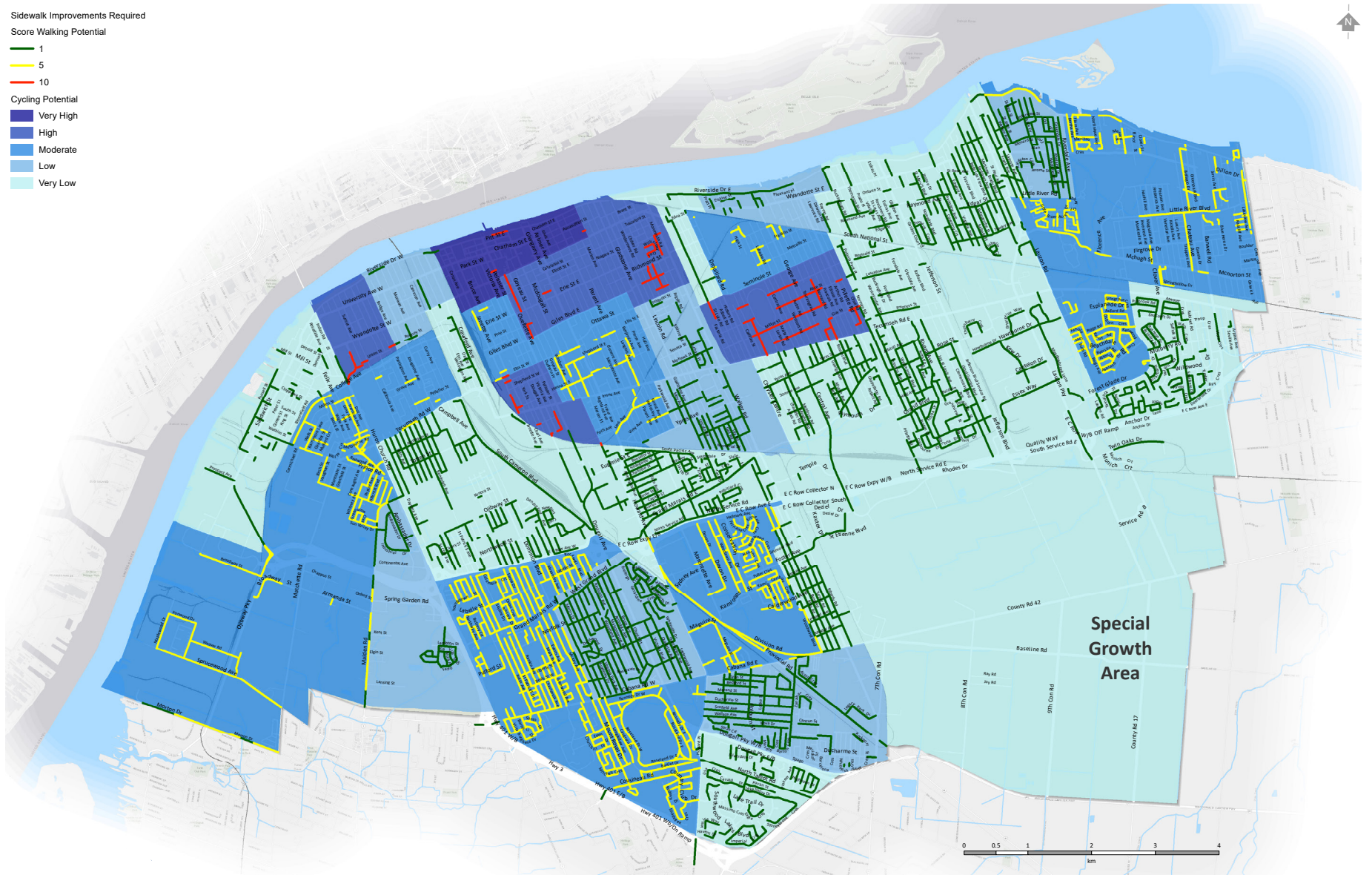
Sidewalk Improvements Required

Score Walking Potential

- 1
- 5
- 10

Cycling Potential

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

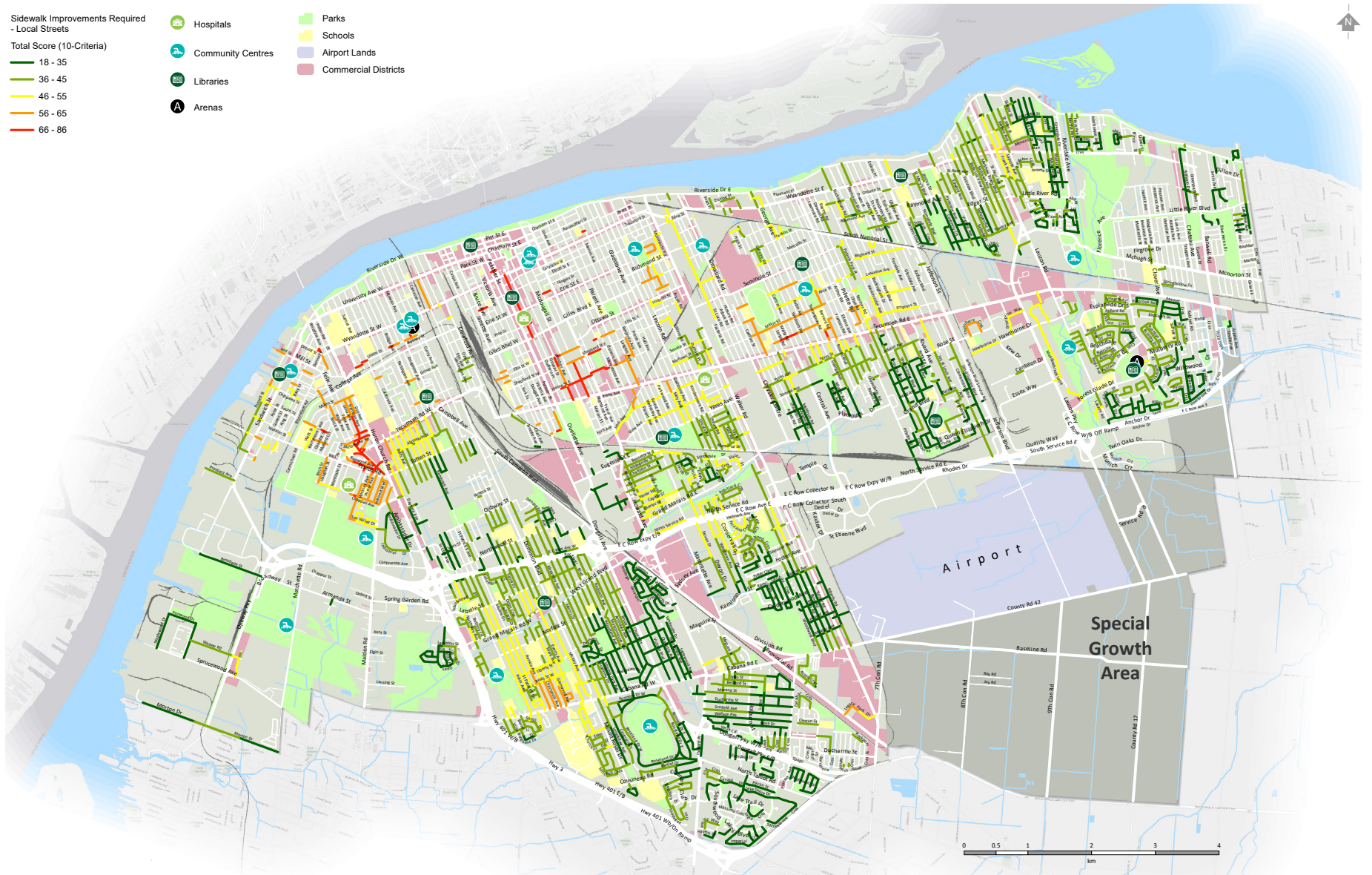


Sidewalk Improvements Required - Local Streets

Total Score (10-Criteria)

- 18 - 35
- 36 - 45
- 46 - 55
- 56 - 65
- 66 - 86

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

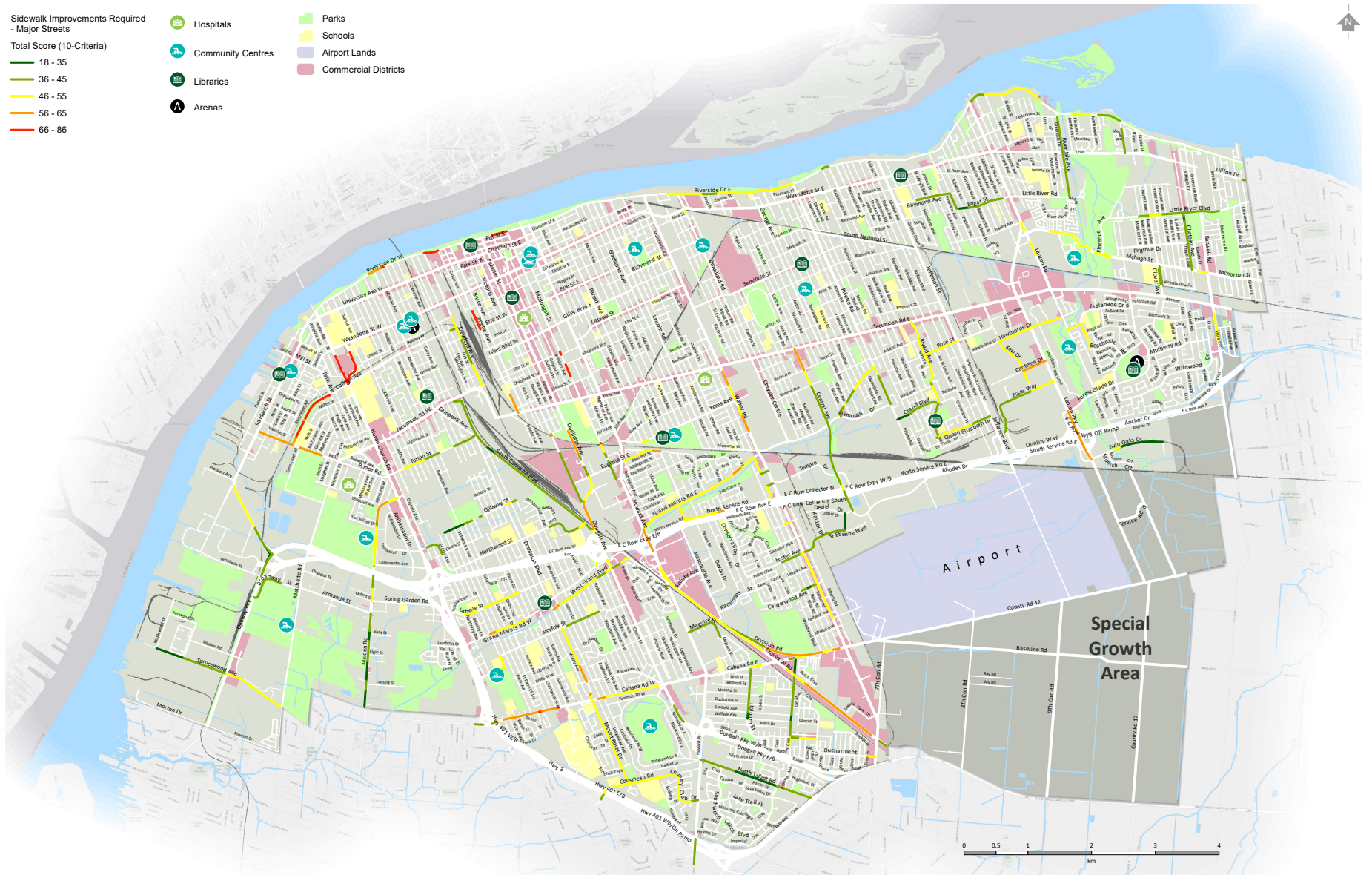


Sidewalk Improvements Required - Major Streets

Total Score (10-Criteria)

- 18 - 35
- 36 - 45
- 46 - 55
- 56 - 65
- 66 - 86

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

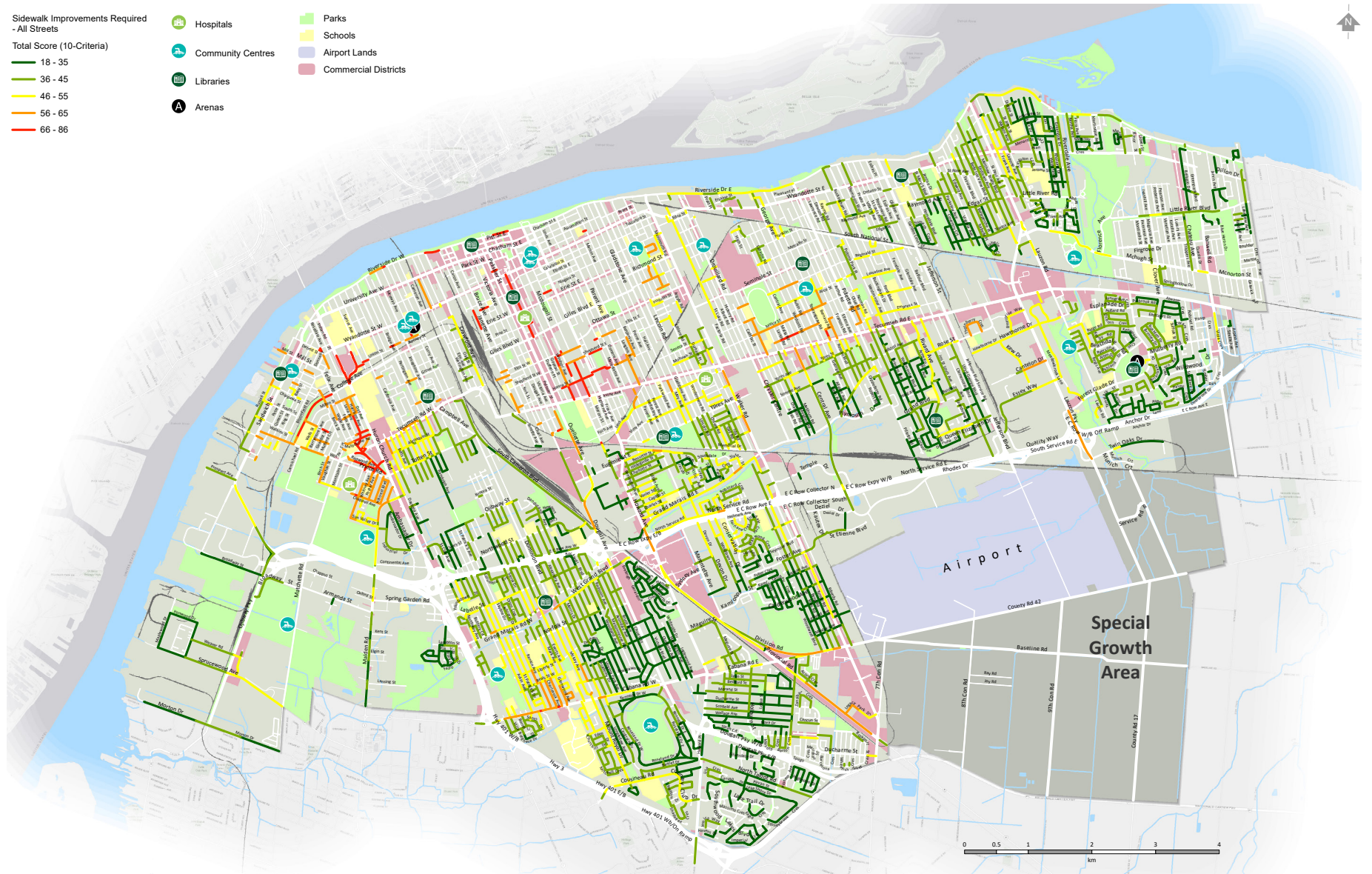


Sidewalk Improvements Required - All Streets

Total Score (10-Criteria)

- 18 - 35
- 36 - 45
- 46 - 55
- 56 - 65
- 66 - 86

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





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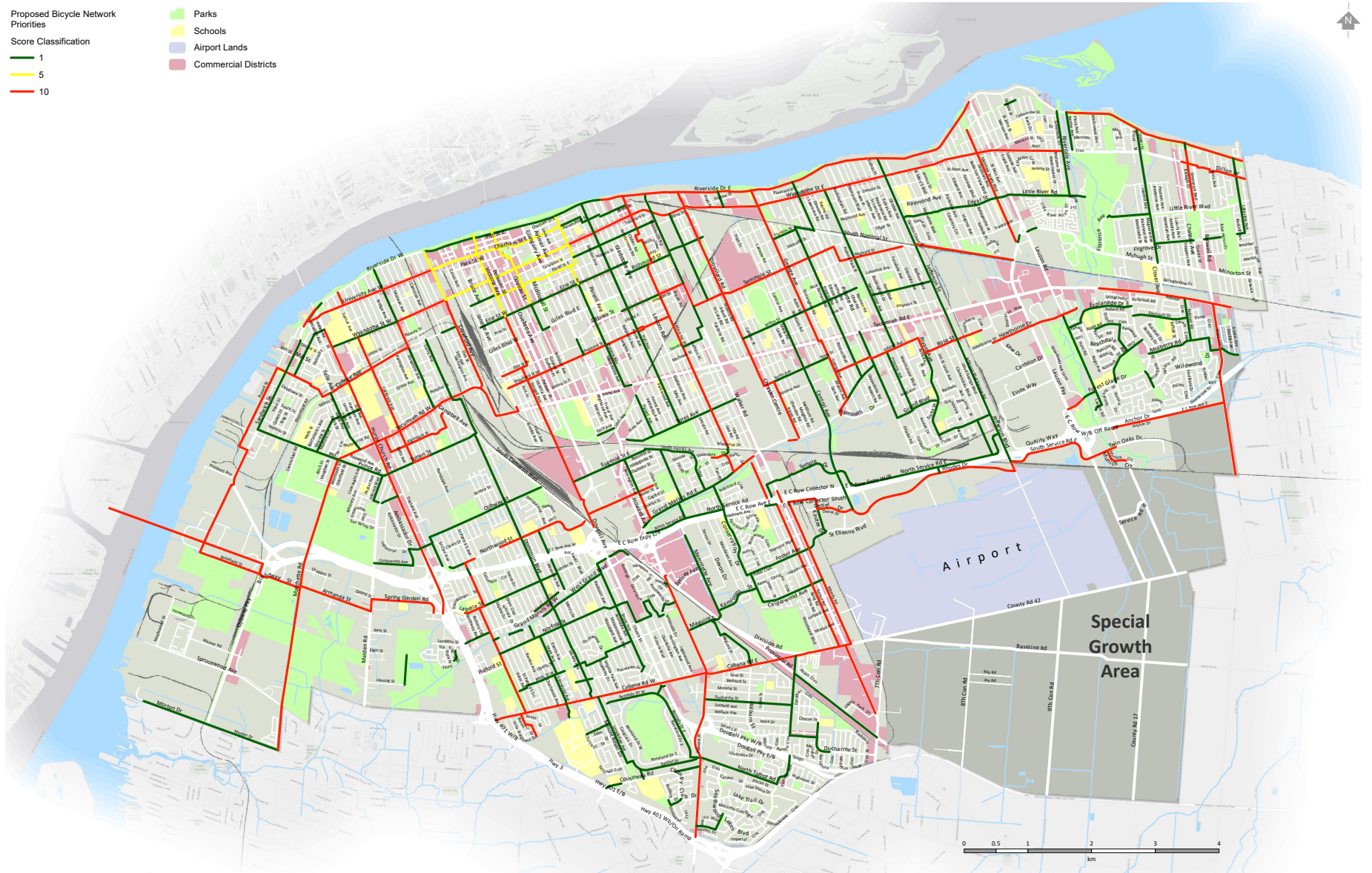


# Appendix B: Detailed Bicycle Network Prioritization Results

Proposed Bicycle Network  
 Priorities  
 Score Classification

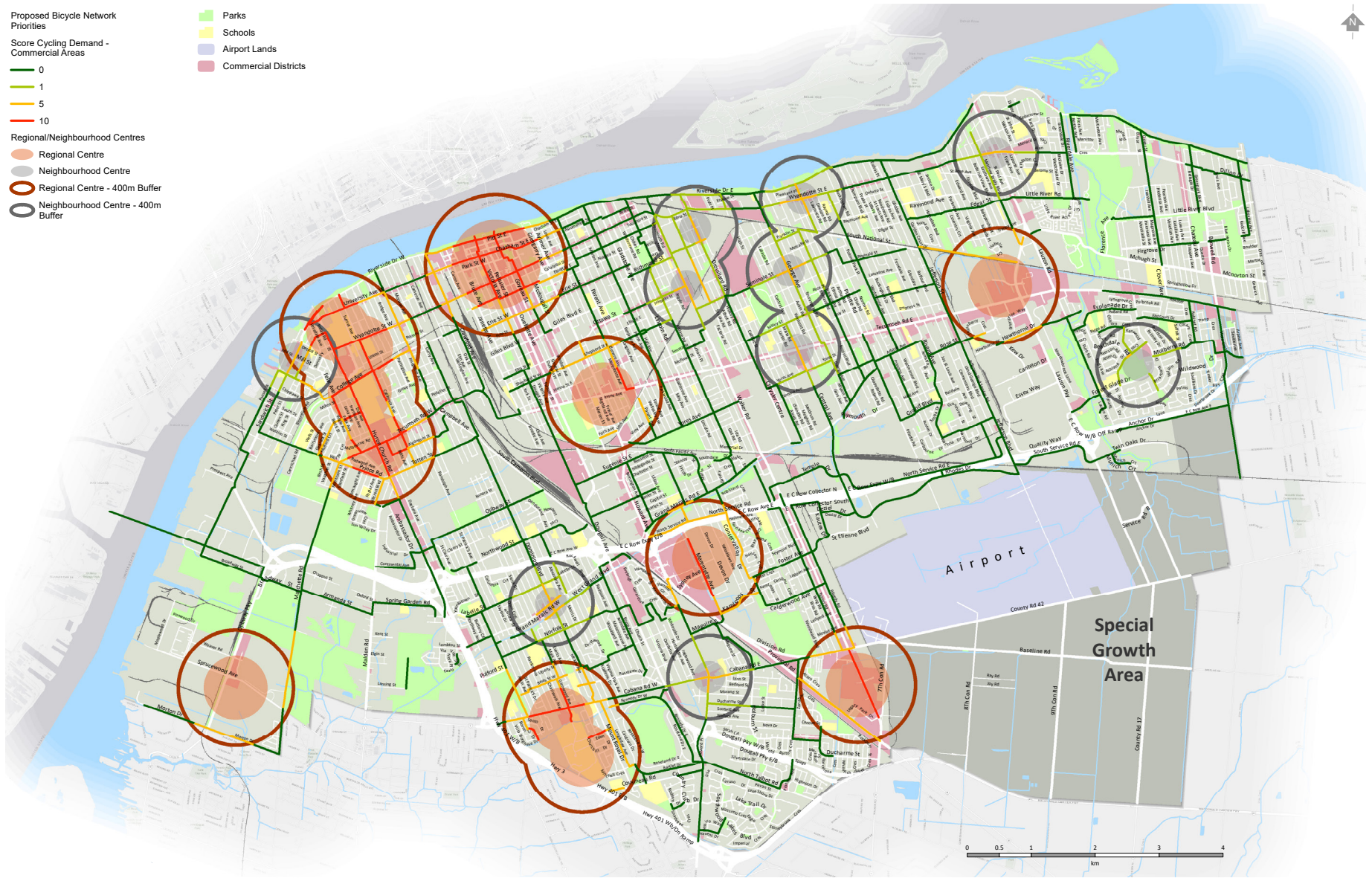
- 1
- 5
- 10

- Parks
- Schools
- Airport Lands
- Commercial Districts



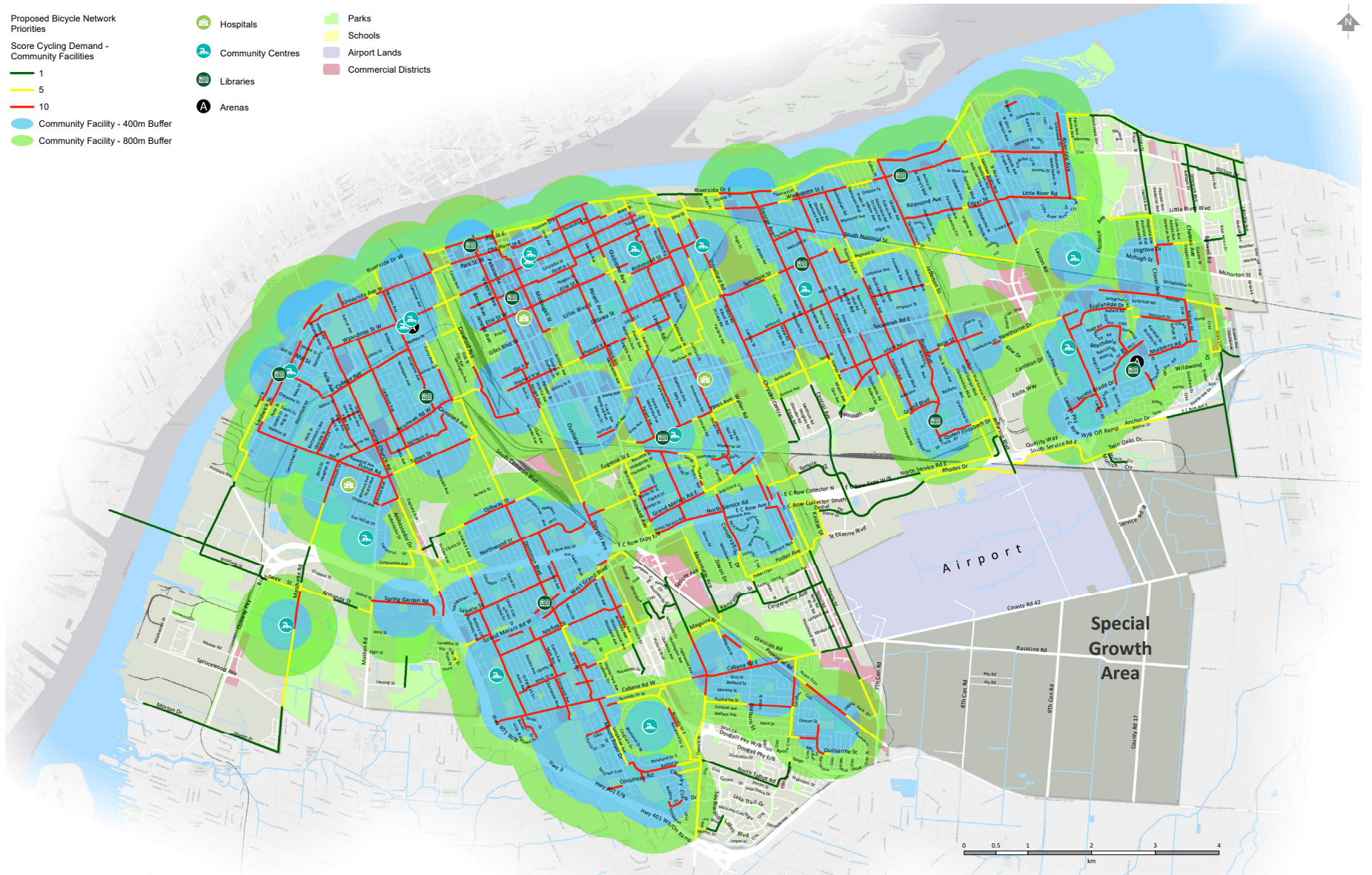
- Proposed Bicycle Network  
Priorities
- Score Cycling Demand -  
Commercial Areas
- 0
  - 1
  - 5
  - 10
- Regional/Neighbourhood Centres
- Regional Centre
  - Neighbourhood Centre
  - Regional Centre - 400m Buffer
  - Neighbourhood Centre - 400m Buffer

- Parks
- Schools
- Airport Lands
- Commercial Districts



- Proposed Bicycle Network Priorities
- Score Cycling Demand - Community Facilities
- 1
  - 5
  - 10
  - Community Facility - 400m Buffer
  - Community Facility - 800m Buffer

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



Proposed Bicycle Network  
Priorities

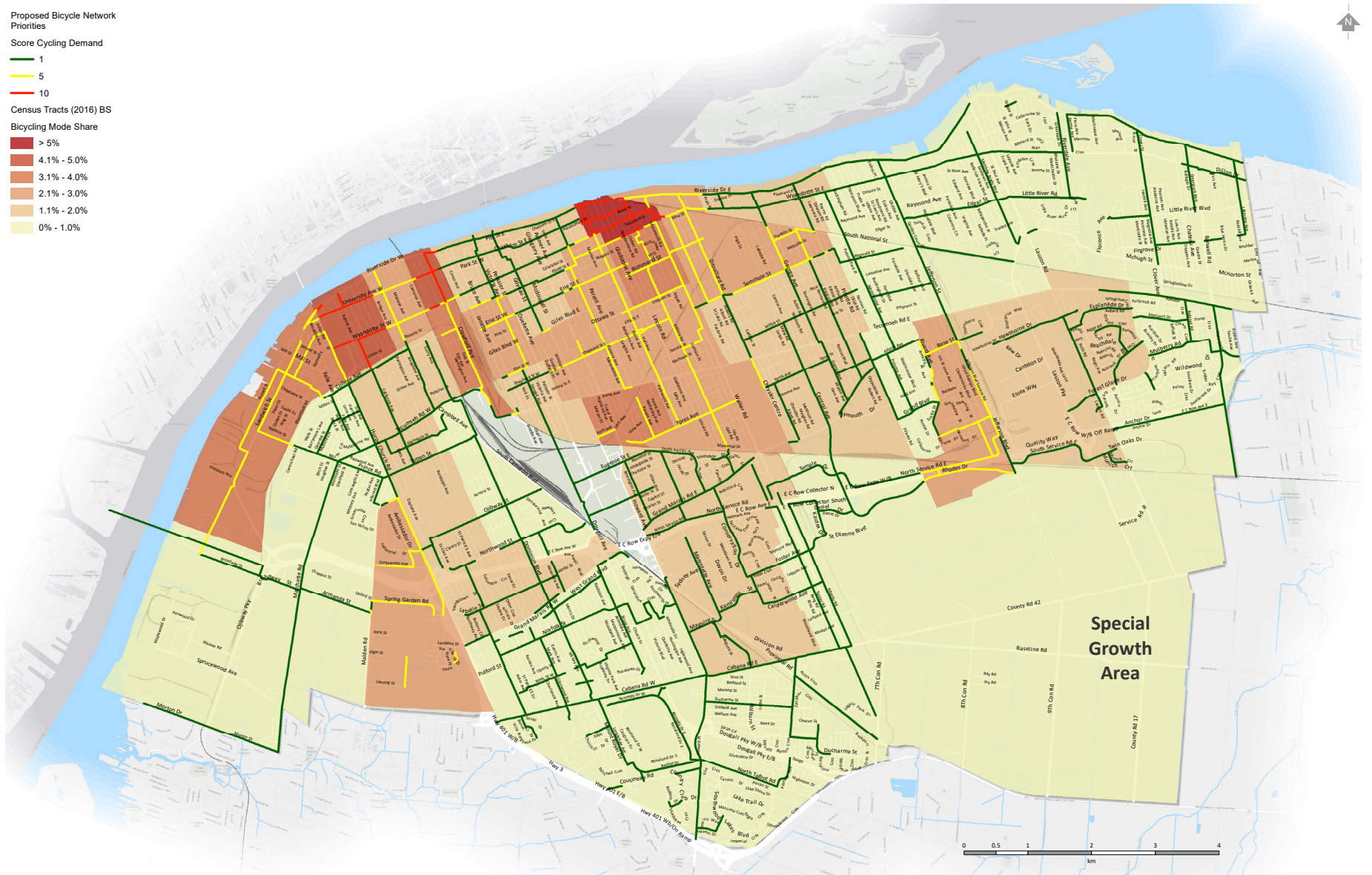
Score Cycling Demand

- 1
- 5
- 10

Census Tracts (2016) BS

Bicycling Mode Share

- > 5%
- 4.1% - 5.0%
- 3.1% - 4.0%
- 2.1% - 3.0%
- 1.1% - 2.0%
- 0% - 1.0%



Proposed Bicycle Network  
Priorities

Score Cycling Potential

1

5

10

Cycling Potential

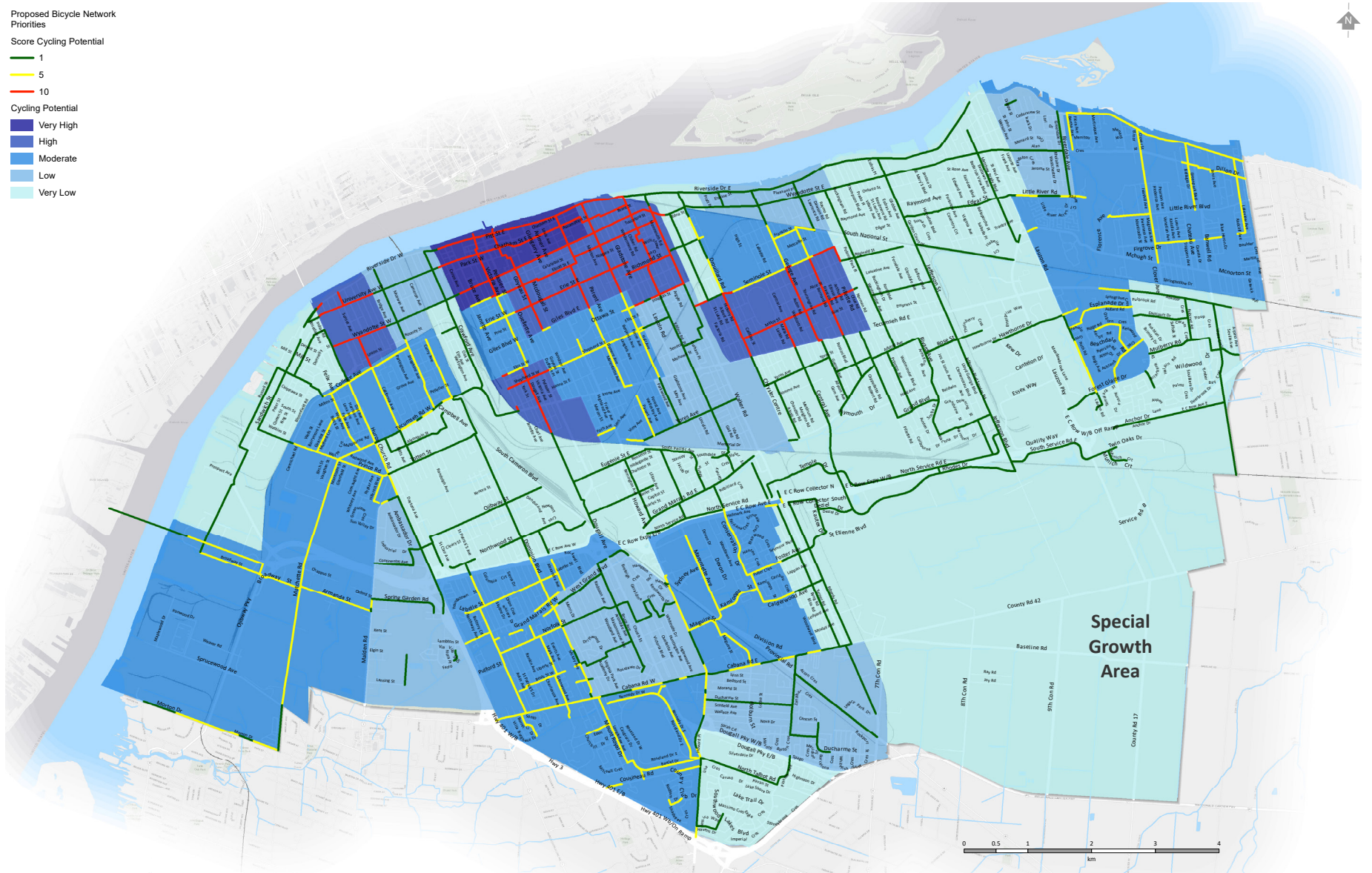
Very High

High

Moderate

Low

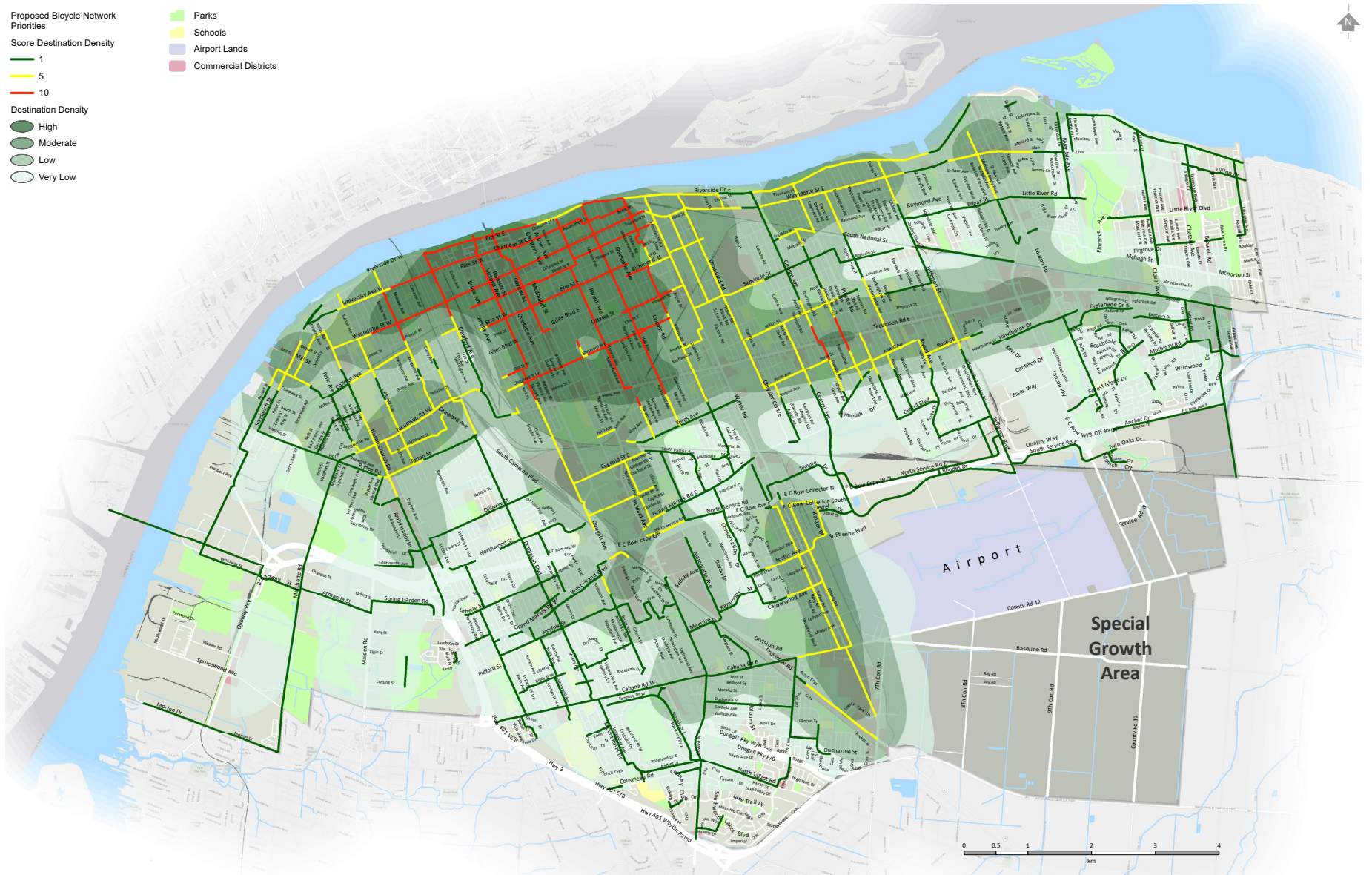
Very Low





- Proposed Bicycle Network  
Priorities
- Score Destination Density
- 1
  - 5
  - 10
- Destination Density
- High
  - Moderate
  - Low
  - Very Low

- Parks
- Schools
- Airport Lands
- Commercial Districts



Proposed Bicycle Network  
Priorities

Score Equity

1

5

10

Combined Equity

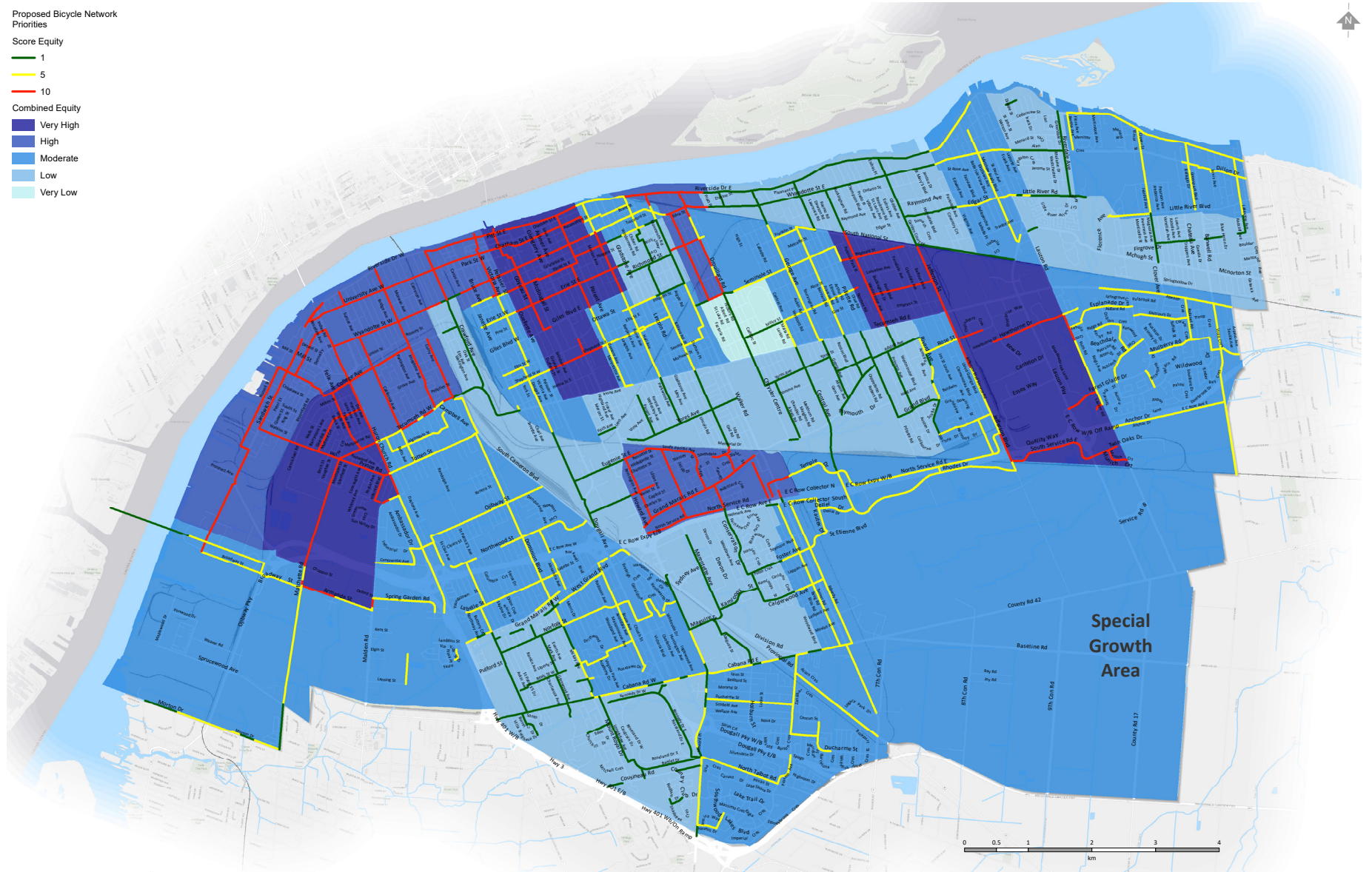
Very High

High

Moderate

Low

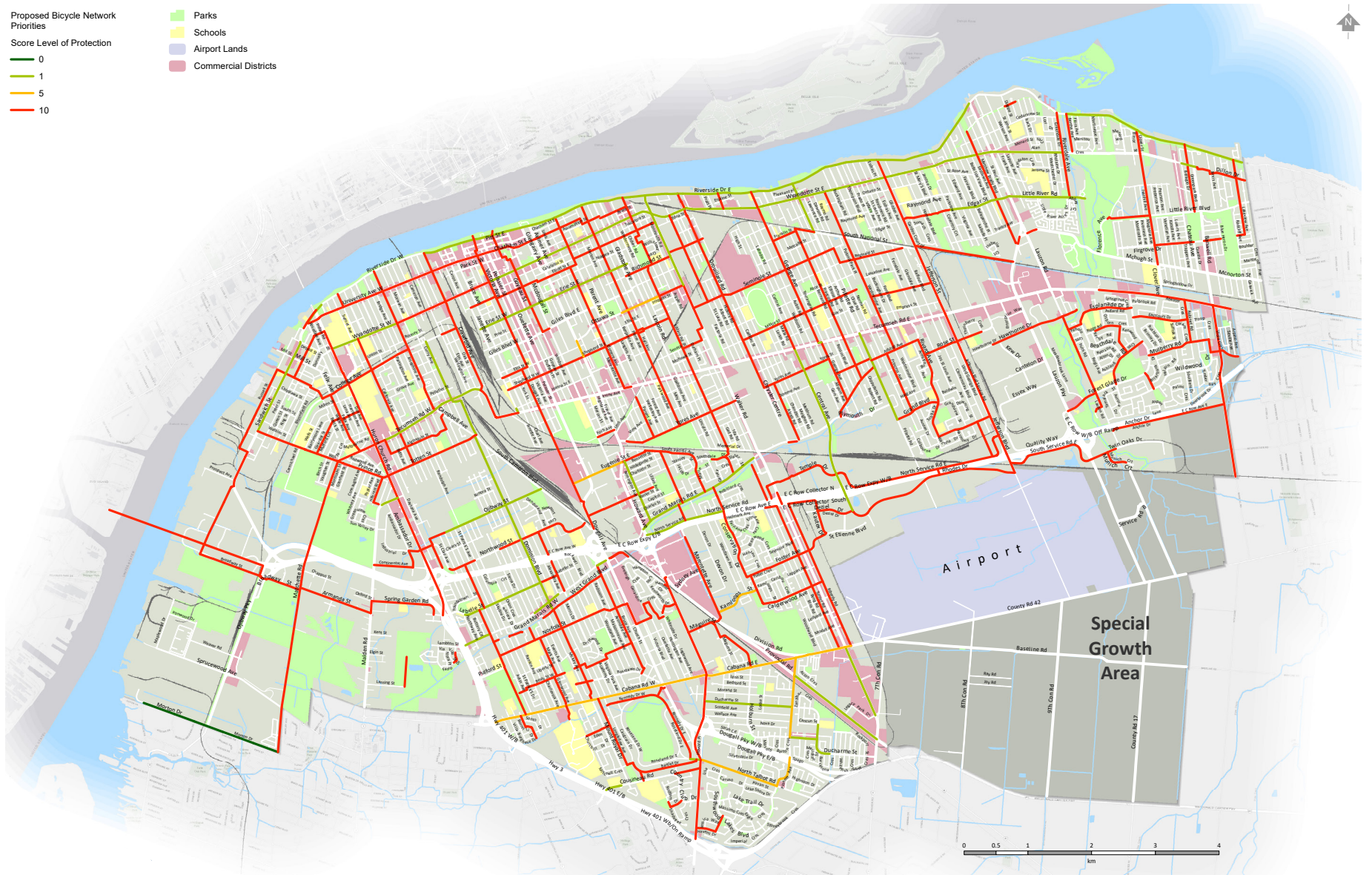
Very Low



Proposed Bicycle Network  
 Priorities  
 Score Level of Protection

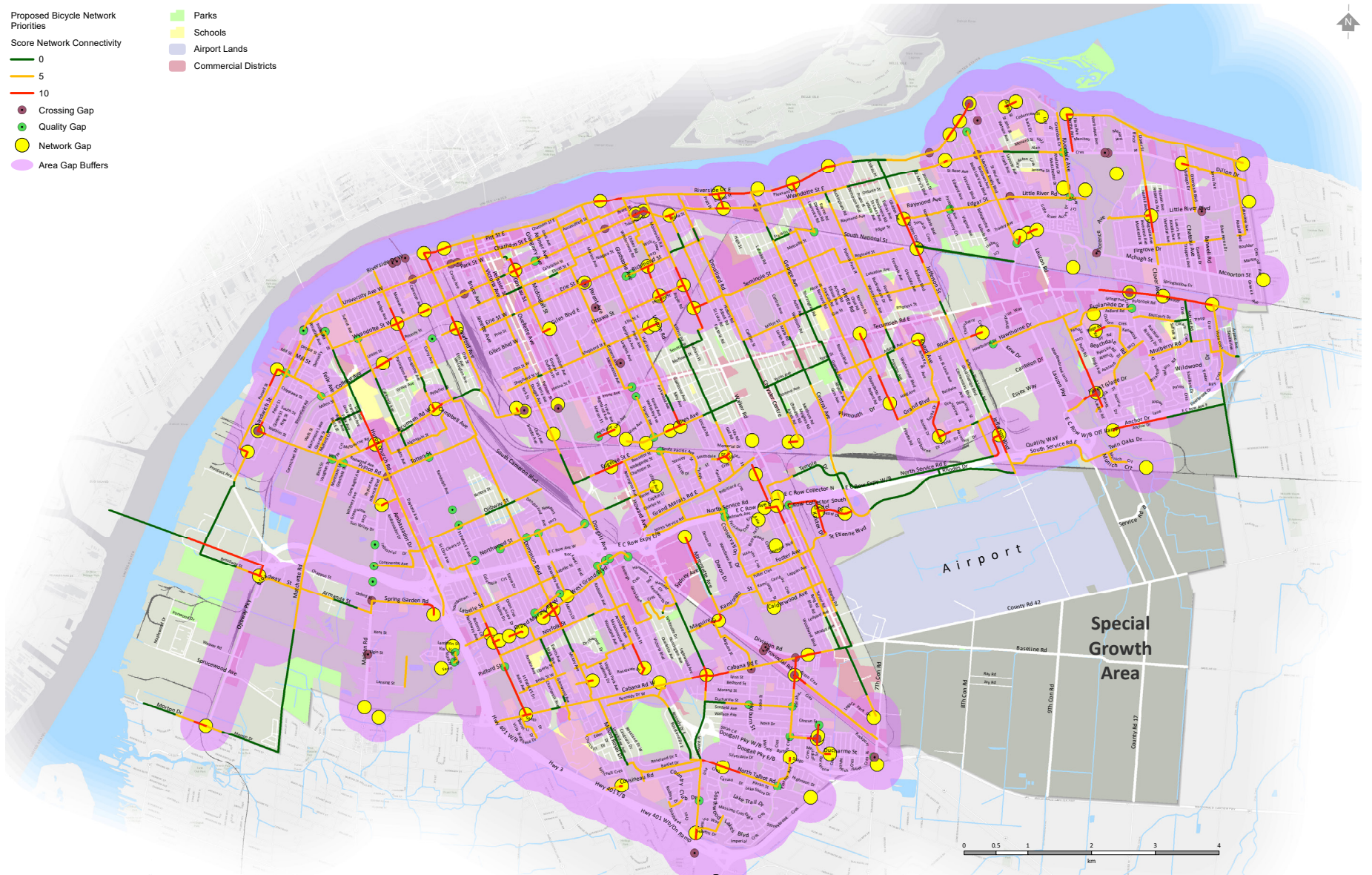
- 0
- 1
- 5
- 10

- Parks
- Schools
- Airport Lands
- Commercial Districts



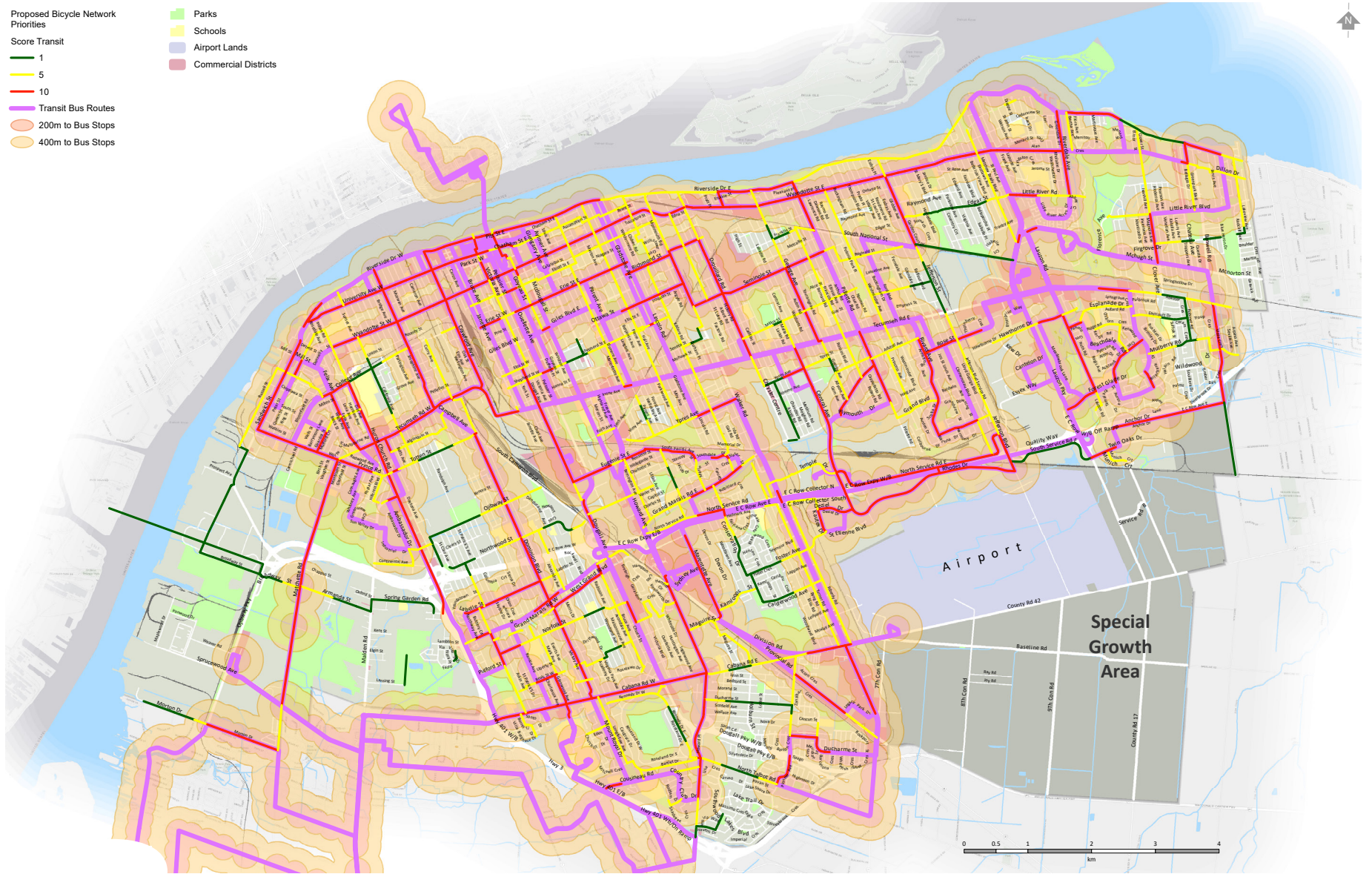
- Proposed Bicycle Network  
Priorities
- Score Network Connectivity
- 0
  - 5
  - 10
- Crossing Gap
  - Quality Gap
  - Network Gap
  - Area Gap Buffers

- Parks
- Schools
- Airport Lands
- Commercial Districts



- Proposed Bicycle Network  
Priorities
- Score Transit
- 1
  - 5
  - 10
- Transit Bus Routes
- 200m to Bus Stops
  - 400m to Bus Stops

- Parks
- Schools
- Airport Lands
- Commercial Districts



Proposed Bicycle Network  
Priorities

Total Score (10-Criteria)

- 7 - 35
- 36 - 45
- 46 - 55
- 56 - 65
- 66 - 90

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

