



CITY OF NORTH BAY

ACTIVE TRANSPORTATION MASTER PLAN

FINAL PLAN | JANUARY 2019

ACKNOWLEDGMENTS

The City of North Bay Active Transportation Master Plan was created under the direction of the Project Steering Committee, the members of which provided valuable insight and support.

Advisory Committee

At the request of the City of North Bay, a group of community volunteers came together to act as a Project Steering Committee to provide direction as well as feedback on the evolution of the master plan. The following individuals were willingly recruited to the task based on their individual or organizational experience and expertise related to the creation of an active transportation network within North Bay:

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- » Dr. Brenda Bruner; Associate Professor, Nipissing University
- » Beverley Hillier; Manager of Planning and Building Services, City of North Bay
- » Bryan Kimber; Community Development Facilitator, City of North Bay
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- » David Schroeder; Manager of Parks, City of North Bay
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Data Sources

Base mapping in this report is created from data provided by the City of North Bay.

Data Sources: City of North Bay GIS

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TABLE OF CONTENTS

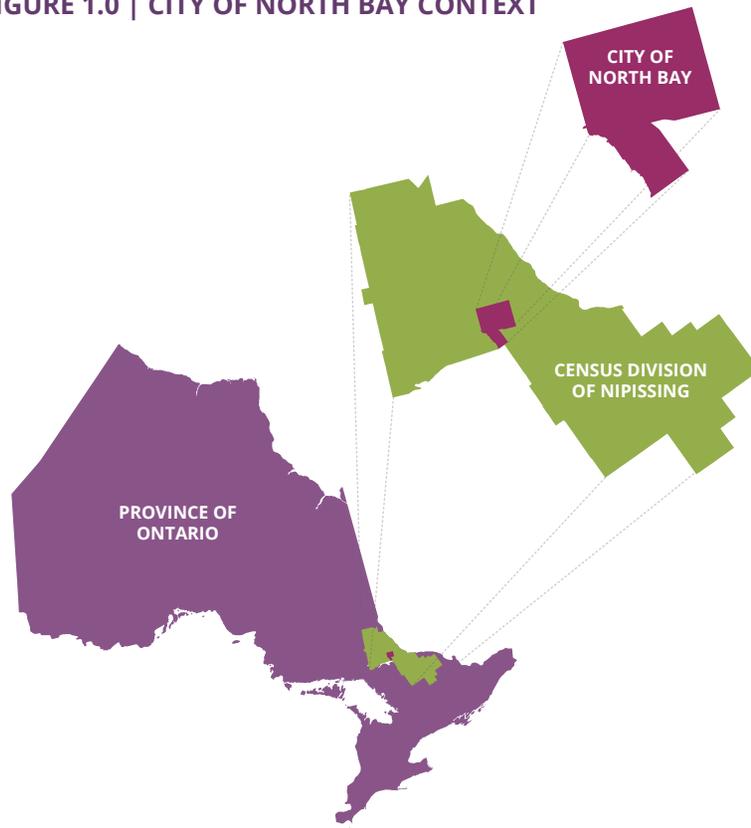
1.0 ACTIVE TRANSPORTATION IN NORTH BAY	02	5.0 CITY STRUCTURE	58
1.1 PLAN DEVELOPMENT PROCESS	02	5.1 CITY-WIDE TRAIL NETWORK.....	58
1.2 WHY ACTIVE TRANSPORTATION	04	5.2 CITY STRUCTURE - STREETS.....	61
1.3 PARTNERS AND COMPLIANCES	06	6.0 NEIGHBOURHOOD STRUCTURE	88
2.0 THE PLATFORMS	12	6.1 AIRPORT HEIGHTS NEIGHBOURHOOD	90
2.1 THE PEOPLE OF NORTH BAY	12	6.2 CEDAR HEIGHTS NEIGHBOURHOOD	91
2.2 CULTURAL PLATFORM	16	6.3 LAURENTIAN NEIGHBOURHOOD	92
2.3 NETWORK PLATFORM	25	6.4 CIRCLE LAKE NEIGHBOURHOOD	93
3.0 CONSULTATION AND CONCEPTS	28	6.5 OLD CITY NEIGHBOURHOOD	94
3.1 NETWORK BUILDING PROCESS	28	6.6 CBD NEIGHBOURHOOD.....	95
3.2 51 BIG IDEAS FOR NORTH BAY	31	6.7 WEST FERRIS NEIGHBOURHOOD	96
3.3 ACTIVE TRANSPORTATION EVOLUTIONARY THEMES	31	6.8 PINWOOD NEIGHBOURHOOD.....	97
3.4 NETWORK BUILDING PROCESS	33	7.0 IMPLEMENTATION PLAN	100
4.0 THE AT TOOLBOX	40	7.1 PHASE ONE - PLAN ADMINISTRATION AND COMMUNICATION	101
4.1 THE CLASSIFIED NETWORK MODEL	40	7.2 PHASE TWO - NEIGHBOURHOOD AND INNER-CITY CONNECTIVITY	105
4.2 STREET NETWORK COMPONENTS.....	41	7.3 PHASE THREE - SUBURBAN STREET RENEWAL	107
4.3 TRAIL NETWORK COMPONENTS	44	7.4 PHASE FOUR - URBAN RENEWAL.....	108
4.4 SIGNAGE COMPONENTS.....	45	7.5 LONG TERM PROJECTS	109
4.5 BICYCLE PARKING FACILITIES.....	48	7.6 BUDGET	110
4.6 EDUCATION AND AWARENESS.....	48		

1.0

ACTIVE TRANSPORTATION IN NORTH BAY



FIGURE 1.0 | CITY OF NORTH BAY CONTEXT



1.0 ACTIVE TRANSPORTATION IN NORTH BAY

The City of North Bay is home to powerful cultural heritage and landscape, located between world-class natural assets: the Laurentian Escarpment and Lake Nipissing. Founded in a rich industrial heritage that heavily influences the cultural footprint on the land, the City of North Bay is exploring alternative and active approaches to moving around the city for recreation, shopping, work, social gathering and any other reason residents have to commute. Expanding street or trail networks to support multi-modal connectivity will have significant impacts on resident health through the creation of city-wide lifestyle infrastructure. This document, the North Bay Active Transportation Master Plan, explores the benefits of the network and the network required to achieve these benefits.

1.1 PLAN DEVELOPMENT PROCESS

Creating this master plan required significant contributions from residents committed to achieving the plan's vision. This was evident in resident survey responses and the various work sessions that culminated in the concepts articulated in this master plan. Figure 1.1 describes the plan development process.

North Bay's residents envision a North Bay active transportation system that is welcoming, legible, and safe for all residents; inclusive of all ages and human-powered modes; accessible for people of all abilities; and integrated with public transit. Our AT system will connect neighbours, neighbourhoods, and the city overall, while supporting wellness through activity, facilitating connection to our world-class natural assets, respecting our heritage, and providing the foundation for smart municipal growth.

FIGURE 1.1 | PLAN DEVELOPMENT PROCESS



1.2 WHY ACTIVE TRANSPORTATION

Active Transportation (AT), defined, is any form of human-powered mode of mobility. Contemporary AT visions are broadened to include integration with various transit systems such as bus and rail networks. AT, as a planning movement in Canada, emerged in the late 1980s and early 1990s in combination with global environmental awareness and advocacy movements. Proponents understood that investing in an Active Transportation network, and its integration with public transit, also promotes a more equitable urban design for people of all ages, incomes, and locations within the city.

As AT evolved, local governments and advocates have begun to recognize that it is not enough to build infrastructure and expect a significant shift to human-powered modes; in most communities, local infrastructure and land use patterns are car-orientated. This, in combination with entrenched attitudes about automobile use, present a significant challenge; however, vehicle-dominant corridors present an opportunity to evolve into human-dominant corridors with physical and cultural change. This is a significant opportunity for North Bay.

GENERAL HEALTH BENEFITS

According to Health Canada research, one of the strongest contemporary Canadian drivers of AT is public health. Sixty percent of Canadian adults are considered overweight or obese, along with 26% of Canadian children and youth; the risk for obesity goes up 6% for every hour spent in a car each day, while the risk of obesity goes down by almost 5% for every kilometre walked a day. AT also benefits health by improving the safety of transportation through traffic calming, streetscape improving, speed reductions, vehicle restriction and road space reallocation.

Additionally, evidence-based research indicates that a lack of physical activity is associated with mental health issues including depression, but increasing participation in AT can have many positive impacts on overall community well-being and livability, such as social cohesion, increased community identity, increased equality, and improved well-being. Nineteen percent of AT network users report their commute as the most pleasant activity of the day, whereas only 2% of drivers felt the same. Similarly, the probability that a driver would enjoy their commute was only 37%, compared with 59% for cyclists and 46% for pedestrians. AT clearly provides benefit to the daily lives of network users.

GENERAL HEALTH COST BENEFITS:

Again, according to Health Canada, research indicates that 91% of Canadian children and youth, and 51% of Canadian adults are not getting the recommended levels of daily physical activity, as only 12% of home-based trips (e.g., grocery store, work, school) are on foot or bicycle. These low physical activity rates result in an estimated \$5.3 billion per year in direct and indirect health care costs. With increasing financial and environmental costs, the human-powered option of active transportation is an excellent alternative to vehicle use.

GENERAL ENERGY CONSUMPTION BENEFITS

While all forms of AT have benefits regarding energy consumption, cycling is the most efficient mode of urban transportation. In addition to requiring very little energy to operate a bike (three times less than walking), the life cycle energy cost of a bicycle is quite small (according to Transport Canada). Cycling also saves money as a bike can travel 423km on the equivalent energy of one litre of gas, not to mention manufacturing a bicycle consumes 100 times less energy than auto manufacturing.

Communities that are automobile dependent require land for roads and parking at the vehicular scale and create longer distances between major destinations such as recreational facilities and shopping areas. AT can help reduce transportation development and maintenance costs, promote positive local economic development impacts, and individual cost savings. Developing and maintaining bicycle and pedestrian facilities carries lower construction and maintenance costs. For example, the cost of creating a bike lane is approximately \$20,000/km if no road widening is needed, and \$150,000/km if widened. Comparably, it costs approximately \$1.3 million/km to widen a two-lane urban arterial road to four lanes.

Parking infrastructure for cycling is also more cost efficient as high-quality bike parking (secured and covered) typically costs \$100-500 per bike, whereas car parking costs \$10,000 per surface stall and up to \$50,000 per stall for structured parking. Benefits can be realized from reducing the presence of the automobile in urban core areas through AT or AT-Transit hybrid systems.

GENERAL ENVIRONMENTAL BENEFITS

According to Transport Canada, 25% of Canada's greenhouse gas emissions are produced by the transportation sector, with urban passenger travel being responsible for almost half of the transportation total. An average car releases about 0.85 kilograms of CO₂ per kilometre while AT releases virtually none. Thus, AT is virtually non-polluting and among the most environmentally friendly forms of transportation. Also, replacing short vehicle trips with AT could significantly reduce air pollution; emissions are highest when a car is first started. It is estimated that 90% of the emissions in a typical eleven-kilometre trip are generated in the first 1.6 kilometres before the engine warms up. AT keeps engines turned off.

BUSINESS RETENTION AND ATTRACTION

One of the most powerful benefits of AT is the ability to provide lifestyle-based living to residents. Health Canada suggests that residents living in neighbourhoods with "traditional" or "walkable" designs report about 30 minutes more walking for transportation each week, and more total physical activity compared to those who live in neighbourhoods with less walkable designs.

Companies looking to retain employees in an existing setting, or move employees to a new setting, look for lifestyle infrastructure that results in happier and healthier employees. Municipalities that provide lifestyle infrastructure use this infrastructure as a retention and attraction tool. The benefits to city economic health are vast.

1.3 PARTNERS AND COMPLIANCES

This master plan provides a structural and administrative foundation to build AT into the City of North Bay. Several partners will be required to achieve this plan's vision, with a few groups acting as key advisors and active participants through implementation.

In addition to this, liability-based compliances must be respected to ensure a safe system. The following describes these compliances and the key partnerships.

KEY PARTNERSHIPS

1. The City of North Bay is an amalgamated municipality that still retains its ‘assembly of neighbourhoods’ character. They will lead the planning, design, development and operation of the AT network proposed in this master plan. This plan requires multi-departmental, integrated implementation including, but not limited to: transit, public works, engineering, planning and building services, and parks.

2. Discovery Routes Trails Organization is a not-for-profit that promotes the use of the trails in Northeastern Ontario in support of better health, tourism, strong communities, and environmental appreciation and protection. The group, which includes the Cycling Advocates of Nipissing, is a volunteer partnership of community leaders, economic developers, environmental stewards and locally-based action groups. They provide programming for safe and responsible use of trails and routes through the Community Bicycle Education Program, are an agent of Trans Canada Trail (TCT) / The Great Trail, and are a coordinating agency for the Voyageur Cycling Route (VCR).

Discovery Routes can be an active partner in promoting the local use and regional connectivity of a North Bay AT network. They can also be a key participant in evaluating usage rates that support participation planning and development projects.

3. Nipissing University is an academic centre that delivers, among other programs, a Master of Science in Kinesiology. This presents an opportunity to capitalize on a great research program to provide key input and review data when developing plans and reviewing implementation results.

4. Founded in 1972 by the Province of Ontario, the **North Bay-Mattawa Conservation Authority** (NBMCA) is a community-based, not-for-profit environmental organization dedicated to conserving, restoring, developing and managing renewable natural resources on a watershed basis. The NBMCA is one of 36 Conservation Authorities who are members of Conservation Ontario.

Relative to this AT Master Plan, the NBMCA manages the Laurentian Escarpment Conservation Area, the Laurier Woods Conservation Area, the Kinsmen Trail, and parts of the Kate Pace Way. They are considering the development of a bike park (to be located adjacent to the base of the existing ski hill) as

well as the development of the Laurentian Escarpment Conservation Trails Network. This organization can be actively involved with the promotion of cycling as well as environmental review and approvals, city-wide maintenance of a trail-based AT network, and the planning and design of future AT trail routes.

5. *The North Bay Parry Sound District Health Unit* is a provincial entity that is deeply involved in the administration and delivery of direct and indirect health and wellness programs. Relative to this AT Master Plan, the Health Unit actively supports the creation of community-driven social and health programs that seek to improve community wellness.

6. *Creative Industries* is North Bay's arts and culture council. This organization boosts the growth of the creative sector while promoting North Bay as a livable community through supporting local creative businesses, organizations, and events.

7. *The North Bay & District Chamber of Commerce* has over 850 members and has championed business causes for over 100 years. The Chamber of Commerce can contribute to outreach and programming, providing opportunities for business buy-in in order to better integrate key North Bay businesses as destinations throughout the AT network.

8. *Invest North Bay* is comprised of the North Bay Economic Development Department and the related Invest North Bay Development Corporation. The AT network can serve as a retention and attraction tool, to be taken into account during Development Corporation asset packaging, planning, and development.

9. *Downtown North Bay* works to preserve and develop North Bay's Downtown Improvement Area, particularly concentrating on tourism, business retention and expansion, and promotion. The Downtown is an important AT destination in North Bay, which should be well connected by the network.

10. *Vision Zero / North Bay Road Safety Committee*. The North Bay Road Safety Committee has been working to achieve road safety excellence since 2003. The committee learned about Vision Zero in 2016, and in September 2018 Council endorsed the Vision Zero Strategy which focuses on the two goals of eliminating traffic violence and promoting active mobility. Enhancing North Bay's Active Transportation network will simultaneously contribute to the achievement of these two goals.

KEY COMPLIANCES

1. *The City of North Bay Subdivision Bylaw* dictates street section dimensions and material details that control lane dimensions for the various street classifications.

2. *The Transportation Association of Canada* (TAC) is a federal entity that develops and delivers detailed design guidelines and specifications for the creation of municipal-based trail and street networks. For this master plan, the TAC Bikeway Traffic Control Guidelines for Canada is used as a key specification source that all proposed regulatory signage and dimensional specifications for AT route design follow.

3. *The Province of Ontario Traffic Manual*. Specific to this master plan, the Province of Ontario Traffic Manual Book 12A (Bicycle Traffic Signals) and Book 18 (Cycling Facilities) are the master documents for the dimensional and signaled planning and design of all AT network intersections and routes leading into intersections. Together with the previously described TAC guide, dimensional and regulatory signage/signaling specifications are provided for future detailed design of the AT network.

4. *Ontario Trails Standards and Practices*. Specific to this master plan, this website (<http://www.ontariotrails.on.ca/learn/standards-and-practices>) provides information relevant to management practice, risk management, and trail design guidance. It is important to understand that trail design is highly contextual to location and should be designed by a landscape architect that considers these guidelines in association with several industry best practice procedures that accompany professional experience.

5. *The Accessibility for Ontarians with Disabilities Act*. The AODA requires compliance for newly constructed and redeveloped recreation trail development, outlining consultation requirements for recreational trails and technical requirements for trails more generally.

2.0

THE PLATFORMS





Photo: Discovery Routes

2.0 THE PLATFORMS

Meaningfully building an active transportation plan requires plugging into the city's evolution. This requires a basic understanding of history as well as the present-day physical and cultural settings to which AT components will be applied. This approach ensures relevance and continued evolution.

This chapter reviews the cultural and physical platforms upon which the master plan is built. History shapes the physical platform while evolving demographics speak about the people for whom the master plan is built.

2.1 THE PEOPLE OF NORTH BAY

The evolution of the City of North Bay is inextricably linked to its peoples' use and development of both natural and human-made transportation routes. Lake Nipissing served as the region's original 'highway', across which half of all furs were shipped to eastern Canada. North Bay's three railways (Canadian Pacific, Canadian National, and Ontario Northland) made it an important transportation centre and facilitated the development of regional lumber and other natural resource industries. The improvement of road connections between North Bay and Toronto in the early 20th century further opened the region to agricultural and mining development. In the mid-1950s, the North Bay bypass was completed, establishing an auto-dominated expressway that diverted traffic from the Downtown. The following timeline, Figure 2.0, outlines this interconnected evolution in greater detail, leading to North Bay's present day.

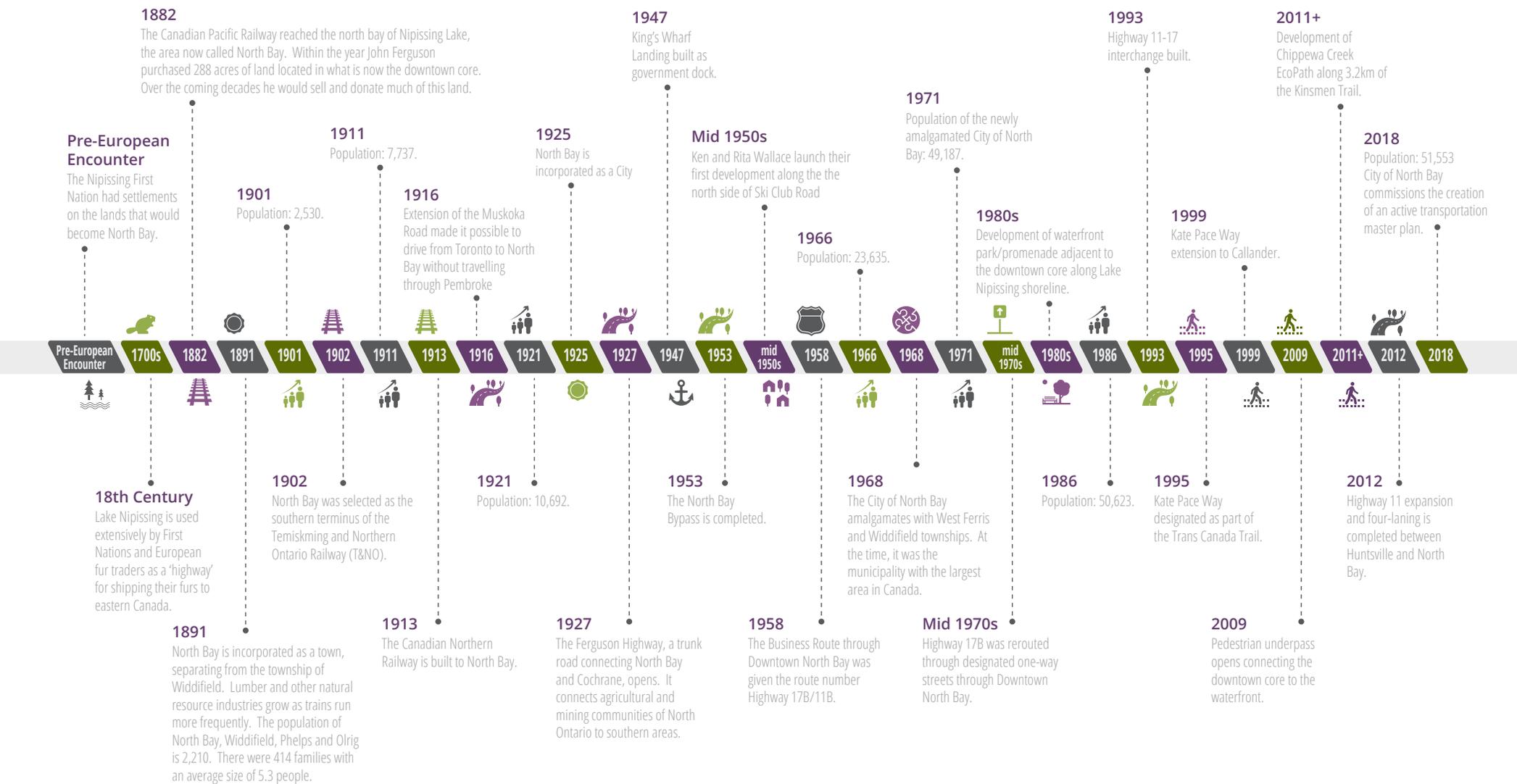
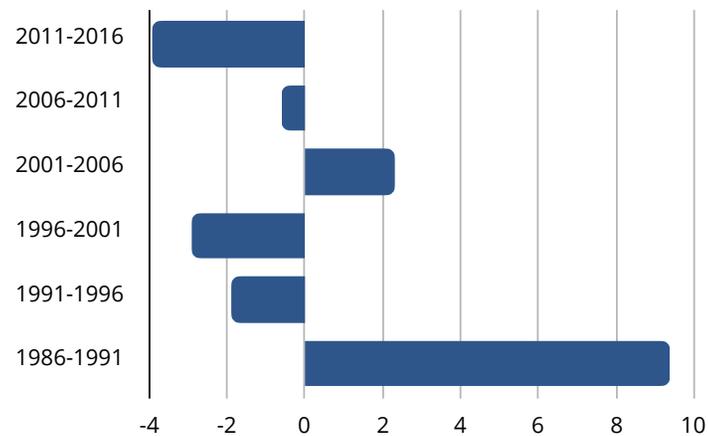


FIGURE 2.0 | INTERCONNECTED EVOLUTION

PRESENT DAY DEMOGRAPHICS

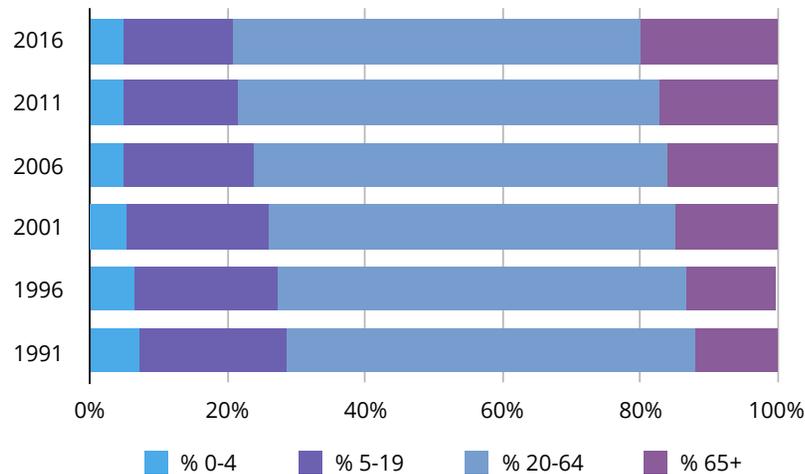
According to the 2016 Census, the City of North Bay's population is 51,553. The past two censuses reported population decline by 3.9% between 2011 and 2016, and by 0.6% between 2006 and 2011 (see Figure 2.1). The average age in North Bay is 42.7, slightly older than the Ontario and Canada averages of 41.0. Twenty percent of the population are seniors, and 21% are under the age of 19. Since 1991, the proportion of youth has steadily declined, while the proportion of seniors has increased (see Figure 2.2). The average household size is 2.2, down from 2.6 in 1991 (and 5.3 in 1891!). Similar to many other municipalities in Canada, North Bay has a diminishing population, decreasing family size, and a growing proportion of seniors. Consequently, retaining the existing population, attracting young families, and the provision of amenities promoting wellness for an aging population are important priorities; enhancing active transportation throughout the city addresses each of these challenges.

FIGURE 2.1 | POPULATION DECLINE IN NORTH BAY



Presently, much of the city’s existing built infrastructure lacks approachability, functionality, and safety for those traveling without a vehicle. As illustrated by North Bay’s development history, a major focus of infrastructure investment since its inception has been the efficient movement of goods for industry, connecting northern and western regions with southern and eastern ones. Furthermore, the neighbourhoods of North Bay are functionally divided by the design of infrastructure constructed since the 1950s. The North Bay Bypass redirected Highways 11 and 17 to the east and north of the city centre. Four to six lane arterial routes criss-cross the city core, extending outward to newer developments. The orientation of development shifted accordingly, outside of walking distance from the downtown, farther north. Transportation within and through the city became dependent on vehicles. An active transportation plan for the city must reflect these demographic shifts, as well as overcome infrastructure divisions, in order to re-orient focus from freight to people, creating a more integrated and inclusive network that unifies divided neighbourhoods and prioritizes people over vehicles.

FIGURE 2.2 | POPULATION BY AGE IN NORTH BAY



2.2 CULTURAL PLATFORM

The North Bay Active Transportation Master Plan is founded on the unification of eight neighbourhoods: Cedar Heights, Airport Heights, Pinewood, Old City, Central Business District (CBD), Laurentian, Circle Lake, and West Ferris (Figure 2.3). These neighbourhoods were identified during meetings with steering committee members and refined during public consultation sessions.

In order to study these neighbourhoods in greater detail, this section analyzes Statistics Canada 2016 Census Profile data for related Aggregate Dissemination Areas (ADAs). The closest match of ADA and neighbourhood is used to provide insight into demographic trends on a smaller scale than the city overall. These ADAs supply information on population size, age distribution, average household size, and population density, suggesting the composition of the people who live in each of these neighbourhoods.

North Bay neighbourhoods embody their own geo-social context; in each one, a common cultural understanding of what resident life 'is about' is shared, as well as unique active transportation opportunities and challenges based on their amenities, populations, geographies, and built and natural environments. However, taken together, this analysis reveals two overarching trends important for Active Transportation planning:

THE MATURE CENTRE. The ADA that corresponds with the Old City and Central Business District has the oldest average age, 45.1, the largest proportion of seniors (23%) and the smallest proportion of youth ages 5 to 19 (11%). The average household size in this area is by the far the smallest of all ADAs studied, 1.9 people (North Bay average = 2.2). This is a densely populated area, with 2,384 people per sq. km. Accordingly, within the Downtown Core ensuring accessibility and walkability is critical for meeting the needs of a large, aging population, composed of smaller families living closely together.

FAMILY DOMINANT ENVIRONS. Areas surrounding the city centre have a higher proportion of youth ages 5 to 19, in particular, those ADAs corresponding with Airport Heights (22%), Circle Lake (19%), Laurentian (18%), and West Ferris (17%) neighbourhoods. The areas outside the city centre also have the largest average household sizes; notably, the average household size of the ADA corresponding with Airport Heights is 2.9 people. The density of these areas varies; the southern areas outside the Old City and CBD have high densities, while families live much farther apart in northern areas. These family dominant neighbourhoods require strong Active Transportation connections to locations important to all members of the family, linking home to school, work, and recreation destinations throughout the city.

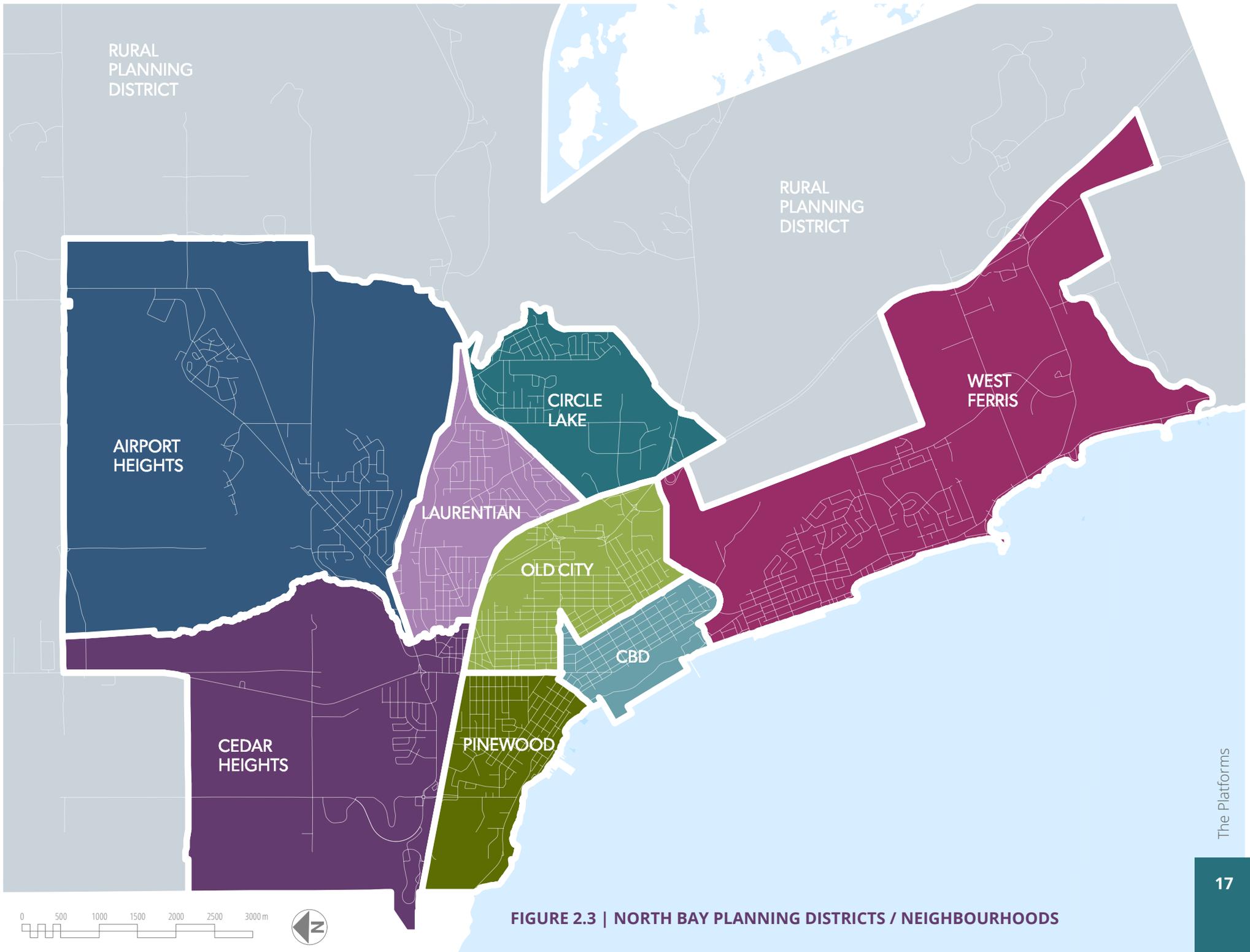
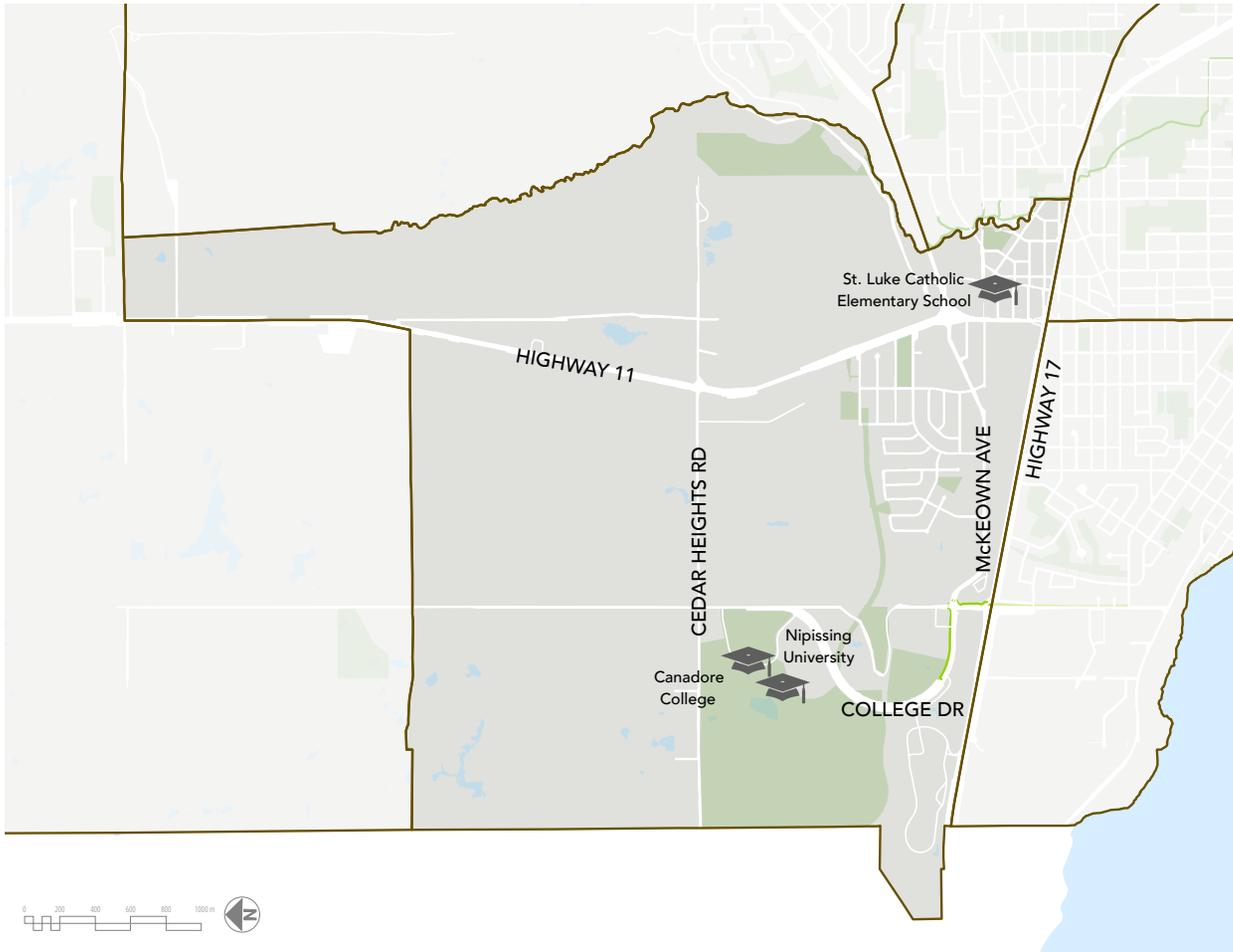


FIGURE 2.3 | NORTH BAY PLANNING DISTRICTS / NEIGHBOURHOODS



CEDAR HEIGHTS

Statistics Canada Aggregated Dissemination Area (ADA): 35480026

Relative to the other ADAs, this is the third most populous. Its distribution of ages is as follows:

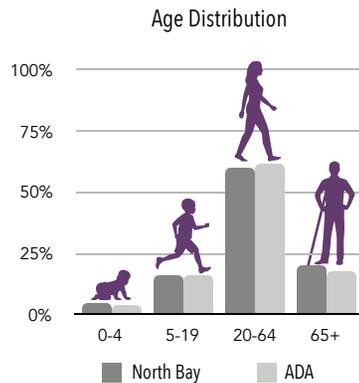
- 0-4: 4%
- 5-19: 16%
- 20-64: 62%
- 65+: 18%

It has a slightly higher proportion of people ages 20-64 than the city average (NB = 59%), as well as slightly lower proportion of seniors (NB = 20%).

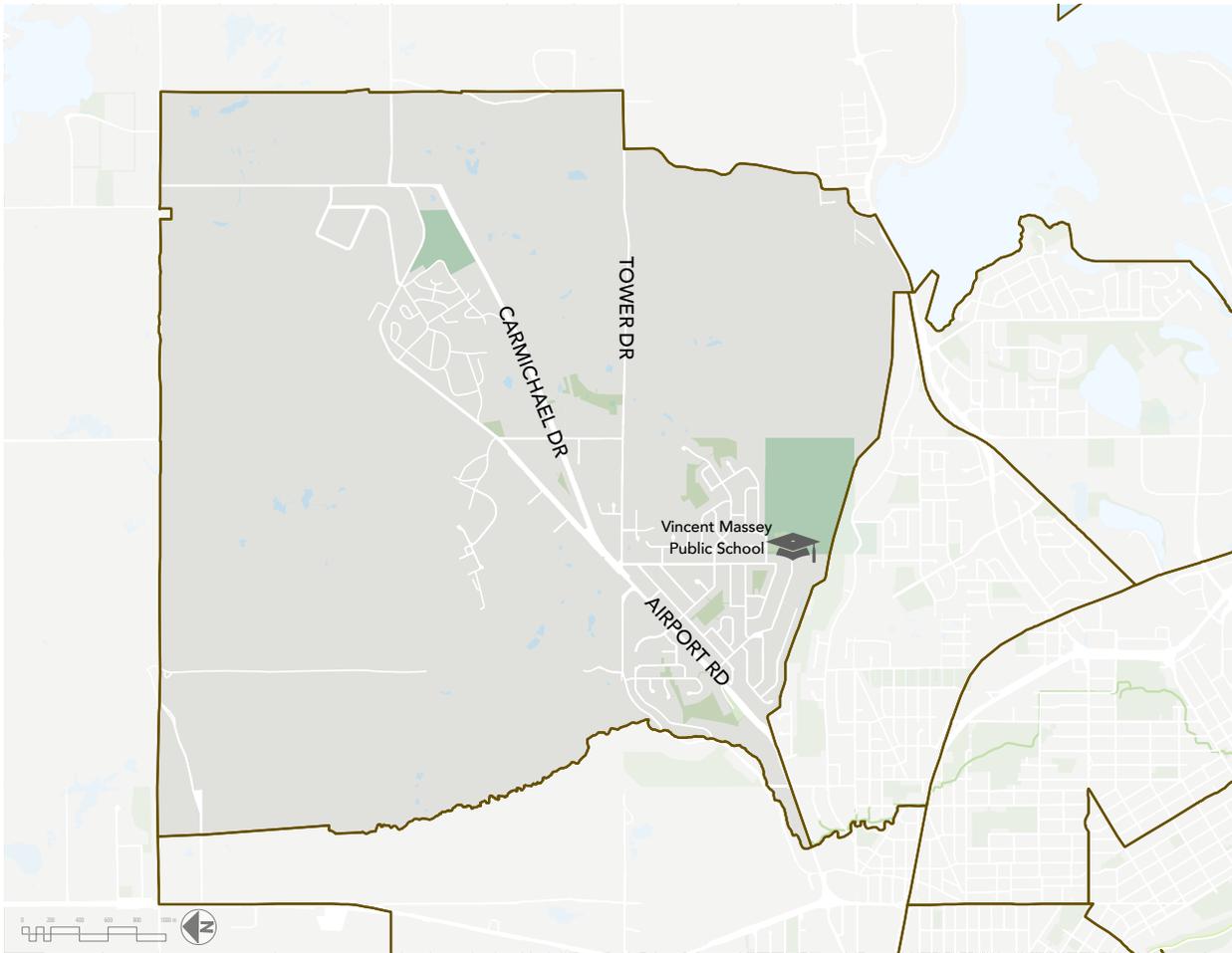
The average household size is slightly larger than the North Bay average (NB = 2.2).

The area of this ADA far exceeds the Cedar Heights neighbourhood boundary shown in the adjacent map (see map of ADA boundaries in Appendix #). It includes extensive rural areas with a very low population density; accordingly, the density of the Cedar Heights will be higher.

There is one primary school located in this neighbourhood, St. Luke Catholic Elementary School (JK-8), as well as Canadore College and Nipissing University.



Population Density per sq. km



AIRPORT HEIGHTS

Statistics Canada Aggregated Dissemination Area (ADA): 35480025

Relative to the other ADAs studied, this is the second least populous. Its distribution of ages is as follows:

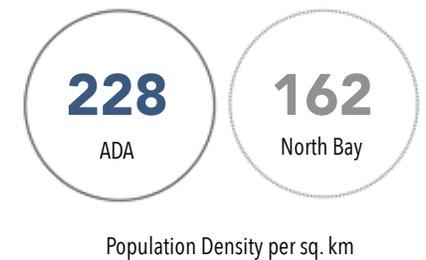
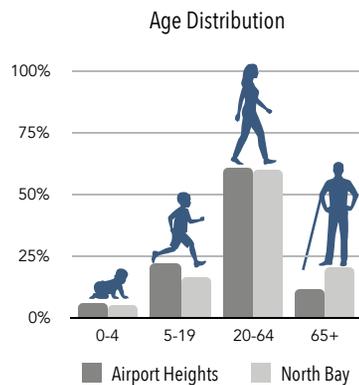
- 0-4: 6%
- 5-19: 22%
- 20-64: 61%
- 65+: 11%

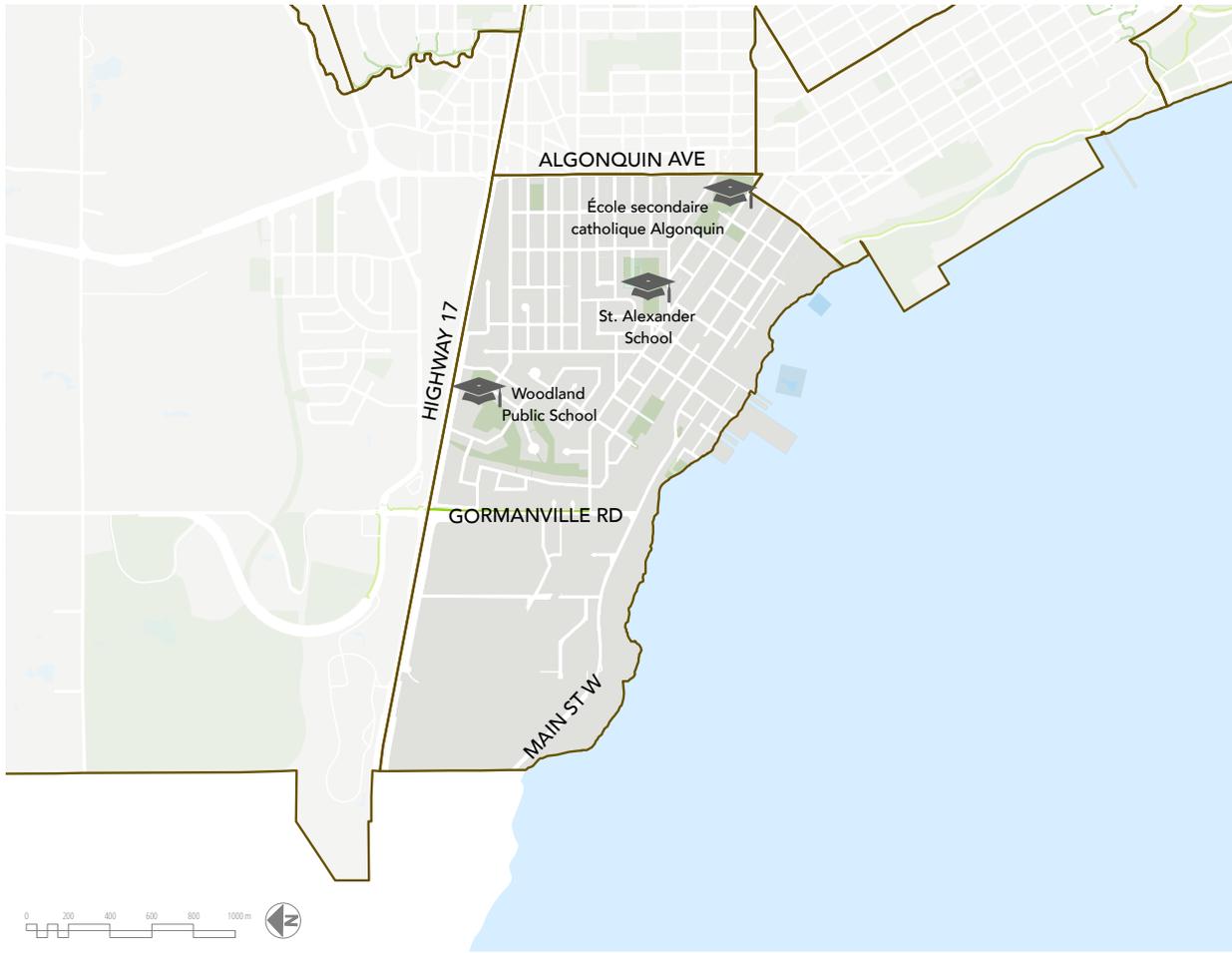
It has the youngest average age of any ADA, only 37.7. Relative to North Bay overall, it has a higher proportion of youth ages 0-4 (NB = 5%) as well as 5-19 (NB = 16%). This ADA has by far the lowest proportion of seniors (NB = 20%).

The average household size, 2.9, is the largest of all ADAs, surpassing the North Bay average of 2.2 people.

The population density of this ADA, relative to all other ADAs, is closest to the City of North Bay's.

There is one school located in this neighbourhood, Vincent Massey Public School (JK-8). Significant park spaces include the Laurentian Escarpment Conservation Area and Ski Hill, as well as Airport Lookout Park.





PINEWOOD

Statistics Canada Aggregated Dissemination Area (ADA): 35480011

Relative to the other ADAs, this is the third least populous. Its distribution of ages is as follows:

- 0-4: 5%
- 5-19: 16%
- 20-64: 59%
- 65+: 20%

This breakdown of age groups is the same as the North Bay distribution; consequently, the average age in this neighbourhood is also the same as the North Bay average.

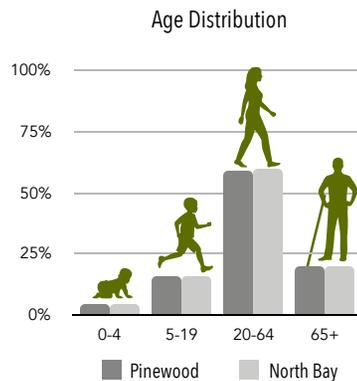
The average household size is nearly the same as the North Bay average of 2.2 people.

The population density of this ADA is far denser than that of North Bay overall, but is only the third most dense of all ADAs studied.

There are three schools in this neighbourhood: Woodland Public School (JK-6), St. Alexander School (JK-6), and École secondaire catholique Algonquin (7-12). Park spaces within this neighbourhood include Kinette Playground, Bourke Playground, and Kinsmen Beach.



ADA Population: 5,530



ADA = North Bay
42.7 = **42.7**
 Average Age



Average Household Size

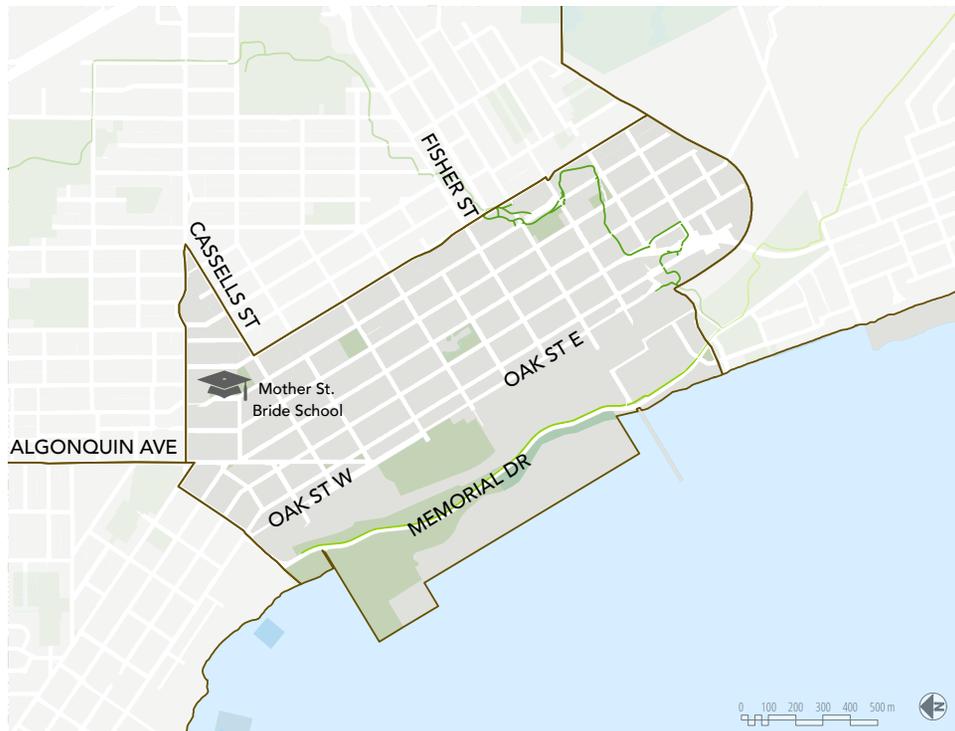
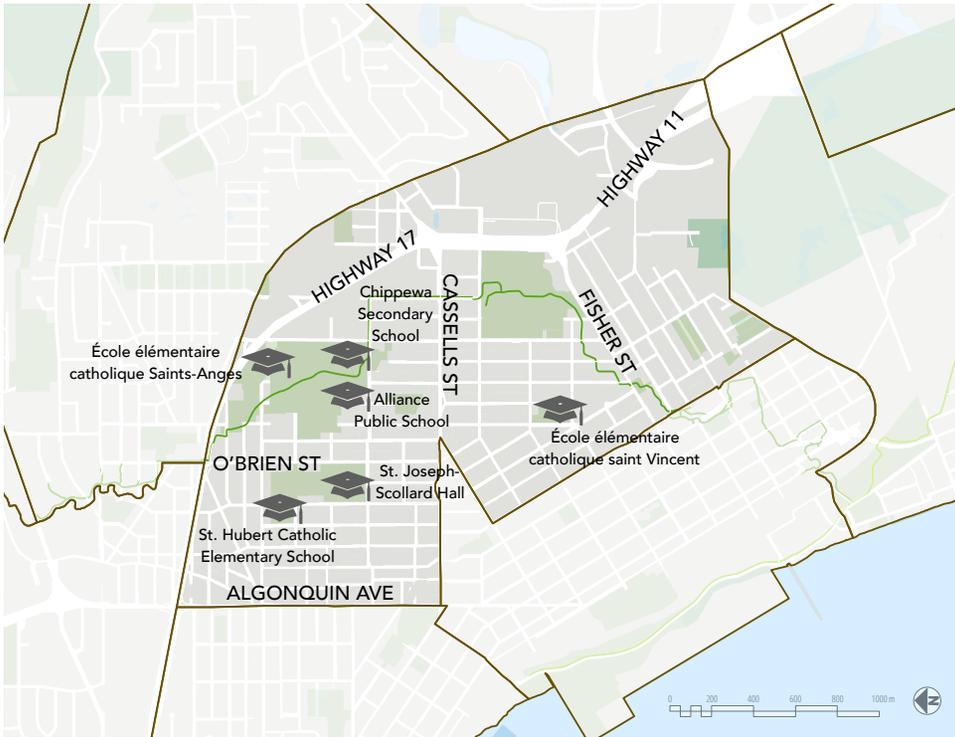


ADA



North Bay

Population Density per sq. km



OLD CITY + CBD

Statistics Canada Aggregated Dissemination Area (ADA): 35480024



ADA Population: 11,850

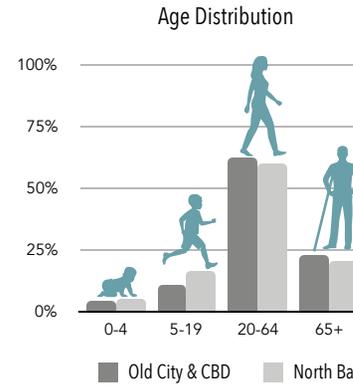


ADA



North Bay

Population Density per sq. km



Relative to the other ADAs, this is the second most populous. Its distribution of ages is as follows:

- 0-4: 4%
- 5-19: 11%
- 20-64: 62%
- 65+: 23%

This ADA's average age is by far the oldest of all studied, having a smaller proportion of youth ages 5-19 than North Bay (16%), and more adults (NB = 59%) and seniors (NB = 20%).

The average household size, 1.9, is the smallest of all ADAs; accordingly it is smaller than the North Bay average of 2.2 people.

The population density of this ADA is far denser than that of North Bay; it is also the most dense of all ADAs studied.

There are seven schools in this neighbourhood: École élémentaire catholique Saints-Anges (JK-6), École élémentaire catholique saint Vincent (JK-6), Alliance Public School (JK-6), St. Hubert Catholic Elementary School (JK-8), Mother St. Bride School (JK-8), Chippewa Secondary School (7-12), and St. Joseph-Scollard Hall (9-12). Park spaces include Thompson Park, Fisher Street Park, and Marathon Beach.

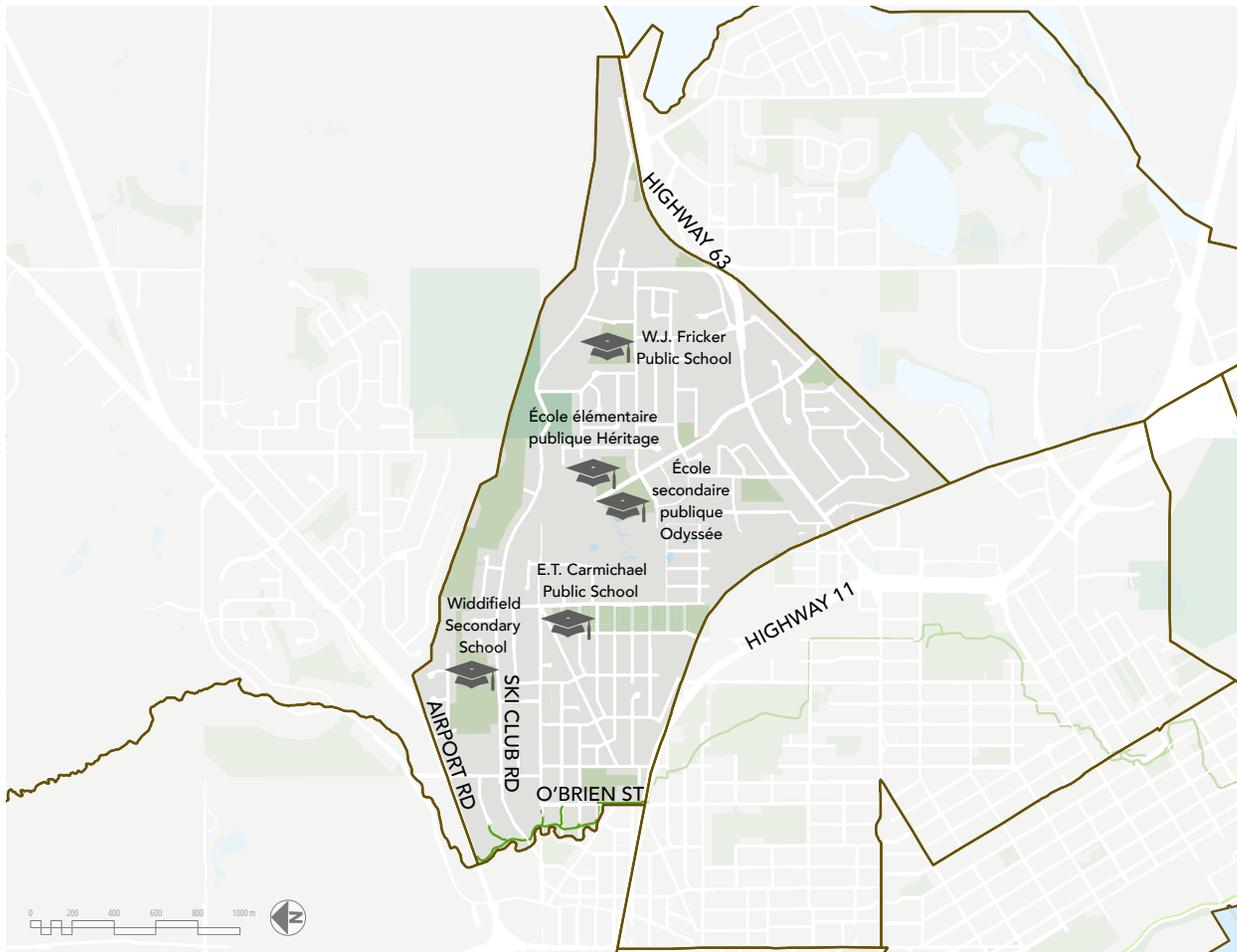
ADA North Bay

45.1 > 42.7

Average Age



Average Household Size



LAURENTIAN

Statistics Canada Aggregated Dissemination Area (ADA): 35480027

The distribution of ages in this moderately sized ADA is as follows:

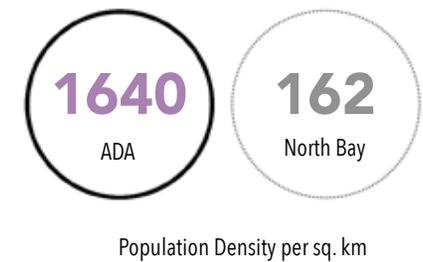
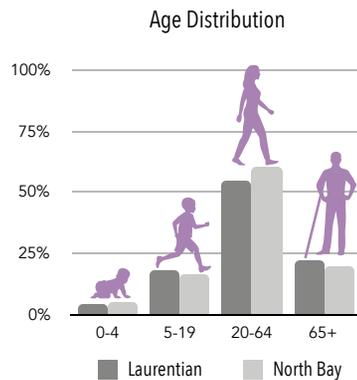
- 0-4: 4%
- 5-19: 18%
- 20-64: 55%
- 65+: 22%

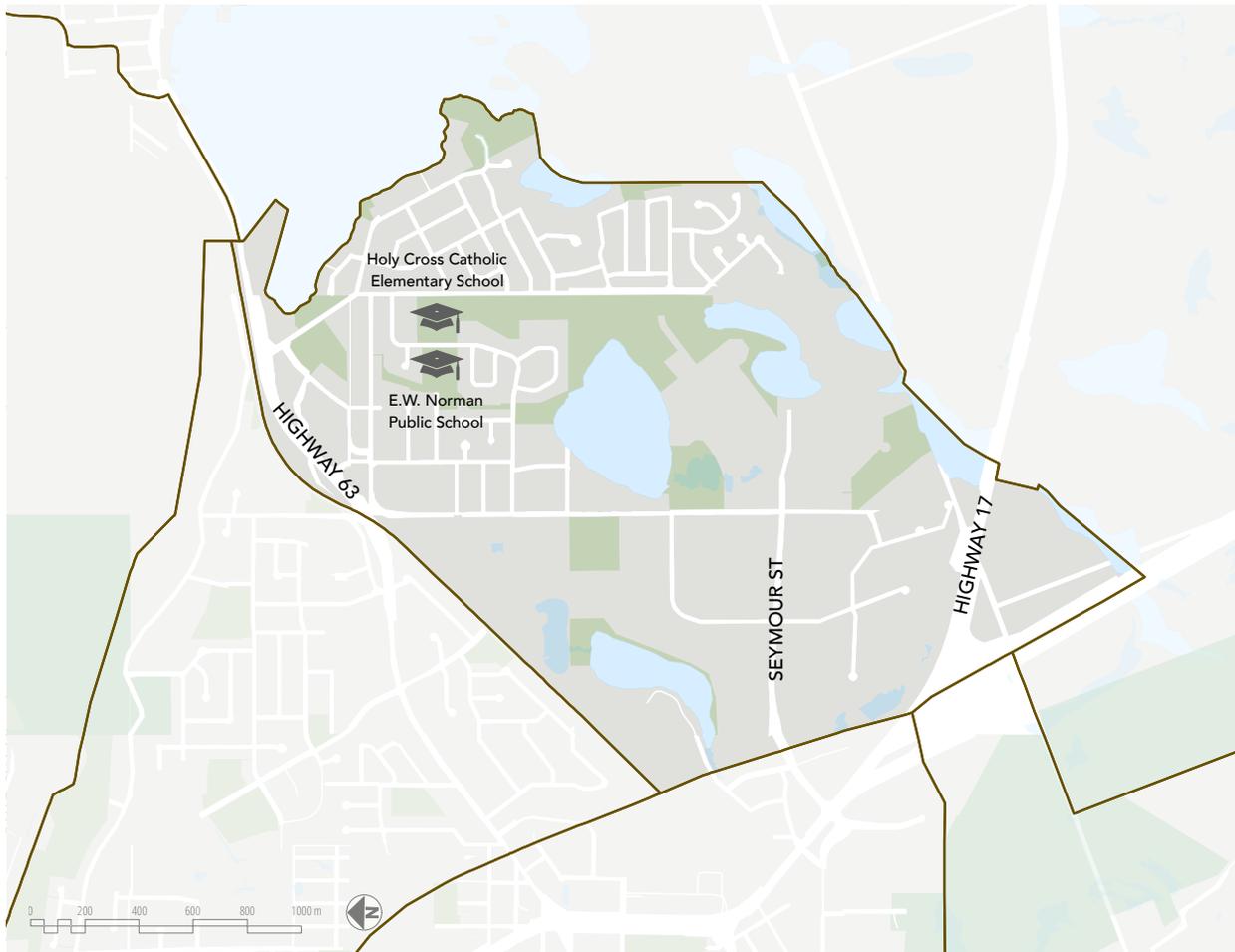
It has a slightly higher proportion of youth ages 5-19 relative to the North Bay average (16%), a lower proportion of adults ages 20-64 (NB = 59%), and a slightly higher proportion of seniors (NB = 20%).

The average household size is the same as the North Bay average.

The population density of this ADA is far denser than that of North Bay and the second most dense of all ADAs.

There are five schools in this neighbourhood: E.T. Carmichael Public School (JK-6), École élémentaire publique Héritage, École secondaire publique Odysée, W.J. Fricker Public School (5-8), and Widdifield Secondary School (9-12). Park spaces include the Laurentian Escarpment Conservation Area and Ski Hill, Laurentian Playground, and Veronica Park.





CIRCLE LAKE

Statistics Canada Aggregated Dissemination Area (ADA): 35480021

This ADA's population is the smallest of all ADAs studied. Its distribution of ages is as follows:

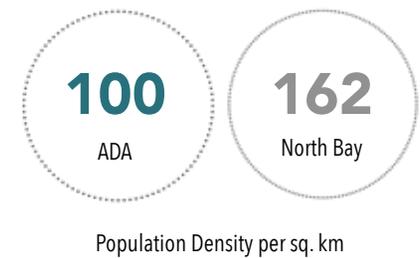
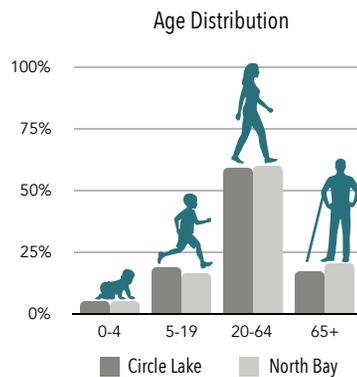
- 0-4: 5%
- 5-19: 19%
- 20-64: 59%
- 65+: 17%

It has a slightly higher proportion of youth ages 5-19 relative to the North Bay average (16%) and a slightly lower proportion of seniors (NB = 20%).

The average household size is nearly the same as the North Bay average (NB = 2.3).

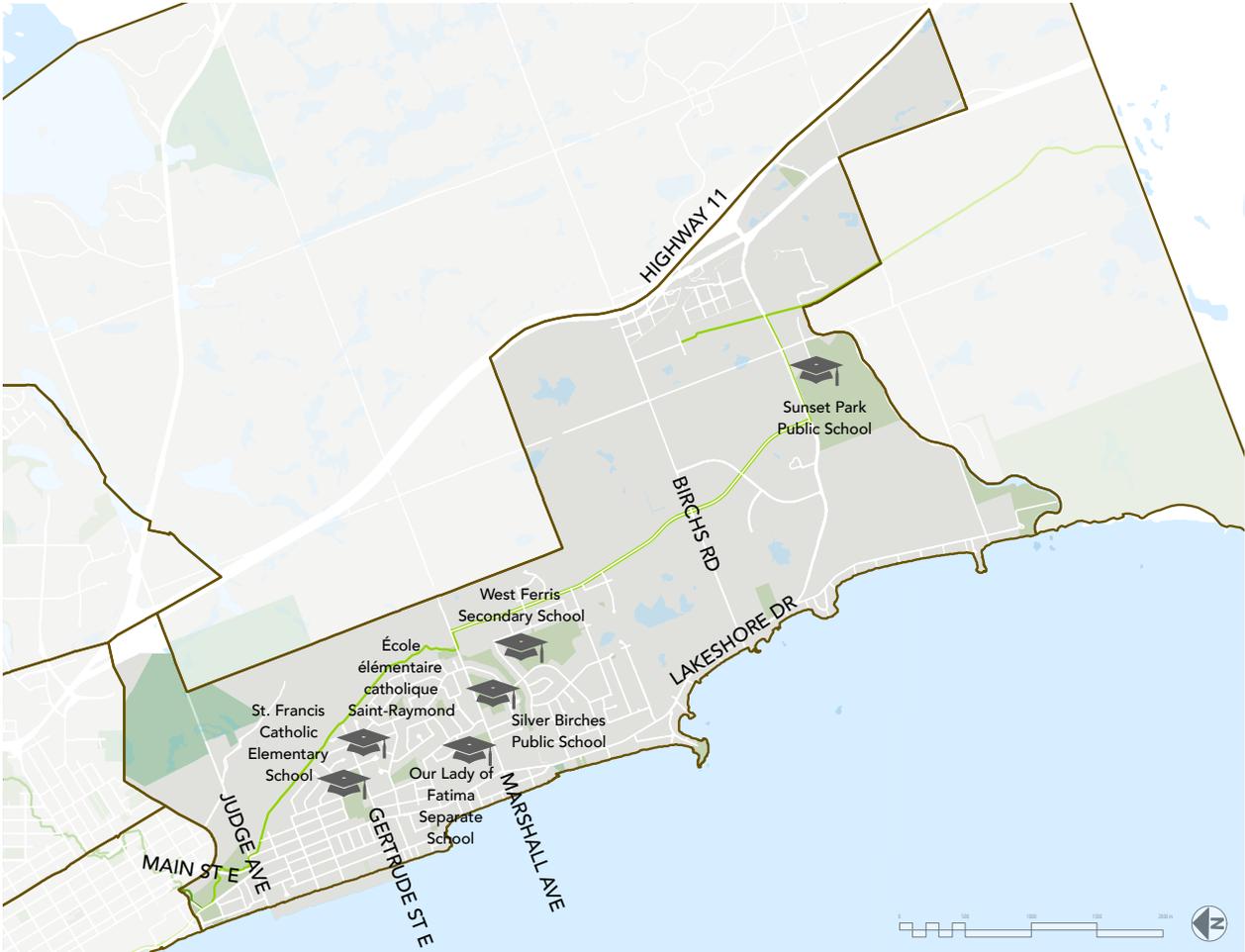
The population density of this ADA is less than that of North Bay as a whole, and the second least dense of all ADAs studied.

There are two schools in this neighbourhood: E.W. Norman Public School (JK-6) and Holy Cross Catholic Elementary School (JK-8). Park spaces include Circle Lake Park, Armstrong Park, Olmstead Beach, Pumphouse Playground, the Cove Public Beach, and Sage Park.



WEST FERRIS

Statistics Canada Aggregated Dissemination Area (ADA): 35480023



This ADA's population is the largest of all ADAs studied. Its distribution of ages is as follows:

- 0-4: 5%
- 5-19: 17%
- 20-64: 57%
- 65+: 21%

This is slightly different than the North Bay distribution, with a higher proportion of youth ages 5-19 (NB = 16%), a lower proportion of adults (NB = 59%), and a higher proportion of seniors (NB = 20%).

The population density of this ADA is much denser than that of North Bay as a whole, and the fourth most dense of all ADAs studied.

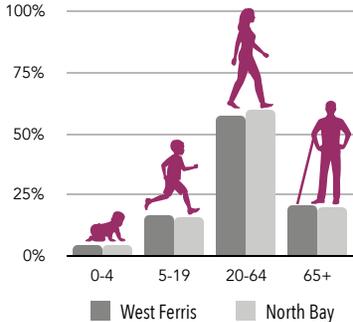
There are six schools in this neighbourhood: St. Francis Catholic Elementary School (JK-6), École élémentaire catholique Saint-Raymond (JK-6), Silver Birches Public School (JK-6), Sunset Park Public School (JK-6), Our Lady of Fatima Separate School (JK-8), and West Ferris Secondary School (7-12).

Park spaces include the Laurier Woods Conservation Area, Lee Park, Superior Crescent Park, Ike Bowness Field, Sunset Park, a dog park, the Eva Wardlaw Conservation Area, and Silver



ADA Population: 12,585

Age Distribution



ADA Average Age: **42.9** > North Bay Average Age: **42.7**



Average Household Size: 2.3



Population Density per sq. km: 1071 (ADA)



162 (North Bay)

2.3 NETWORK PLATFORM

North Bay's present physical setting is evolved from a rich industrial and rail heritage, and an amalgamation of neighbourhoods that are still apparent when viewed from above. Within this setting, the platform upon which the Active Transportation Network is built, is composed of approximately 130 km of trails (20 km of which are urban municipal trails), 500 km of streets, and a public transit route that follows 250 km.

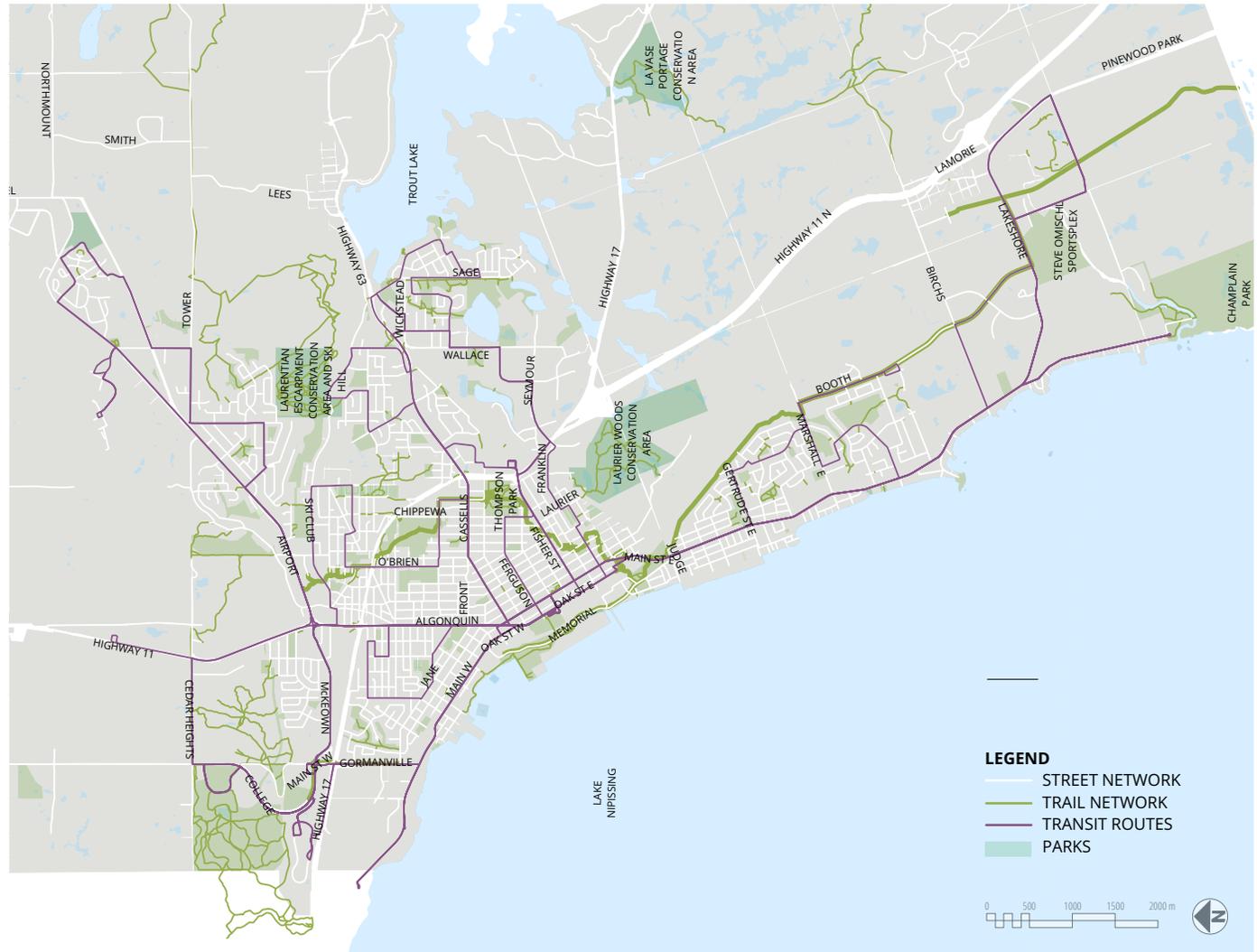


FIGURE 2.4 | EXISTING NETWORK PLATFORM

3.0

CONSULTATION AND CONCEPTS





3.0 CONSULTATIONS AND CONCEPTS

Any great municipal master plan is built upon the needs and desires gathered from residents throughout the plan development process. This master plan is fully built upon the destination, route corridor and various programmatic concepts explored by North Bay residents. The structural foundation of this master plan, as well as the various neighbourhood and growth area linkages, result from the iterative and collective resident contribution during information gathering and review sessions. This chapter reviews the results of these processes.

3.1 NETWORK BUILDING PROCESS

The consultation process included a ground-up approach to plan building. Early work included ‘micro-sessions’ with urban cyclists and pedestrians to develop baseline network mapping that described the ‘well known’ route corridors as well as the ‘local knowledge’ linkages that have special meaning to North Bay’s various neighbourhood districts. This mapping and associated cultural data were given greater meaning, and physical scope as the consultation process evolved and expanded. The following describes the various sessions.

- » **Micro-Sessions.** Introductory small sessions (1-7 people) with varied age groups to discuss present AT infrastructure and network(s), as well as safety, comfort and barriers to access important destinations.
- » **Student Sessions.** Classroom sessions to talk about how students and their families move around neighbourhoods and the community, where this movement takes them, what type of infrastructure is required to support that movement, as well as an exploration of material and spatial criteria that should be applied to street and trail routes.
- » **Stakeholder Sessions.** Invited data-gathering sessions with residents who represent various user-group segments (walkers, runners, hikers, in-line skaters, cyclists) to collectively discuss the notion of an integrated and inclusive AT network.

- » **Public Survey.** A qualitative survey issued to residents to collect information related to important destinations.
- » **Network Building Session.** Public workshop to review the results of the previous sessions, and to build a criteria-based network that utilizes commuter-based street and trail corridors to connect neighbourhoods to important city destinations.
- » **Review Session.** Multi-modal corridor and destination mapping, as well as the infrastructure required to create the network, reviewed to ensure compliance with resident intent.



FIGURE 3.1 | 51 BIG IDEAS FOR NORTH BAY AT

CORE IDEAS

1. Our multi-modal network is built for commuters, school kids, active residents, nature seekers, dog owners, visitors, seniors, cyclists, runners, transit users, stroller walkers, motorists, and people with mobility challenges
2. Create awareness of permitted shared-uses of streets between drivers and cycling / small wheel mobility modes
3. Ensure cyclists understand traffic laws
4. Create a culture of shared-use mobility corridors for all streets
5. Develop and deliver grassroots shared mobility strategies such as walking school buses and neighbourhood wheel activity programs
6. Explore city-wide route sharing programs as a means of connecting neighbourhoods to other neighbourhoods and civic destinations
7. Ensure residents follow traffic laws (cyclists, pedestrians, and drivers)
8. Develop programs that encourage cultural attitude change from vehicle dominant streets to multi-modal corridors
9. Develop green streets program that turns significant arterial and collector streets into tree lined parkways
10. Develop and deliver a one meter cycling setback program

PEDESTRIANS

11. Develop street and pathway networks that are well-lit and have plenty of eyes on the corridors
12. Increase pedestrian permeability throughout the downtown
13. Post shared route maps online and develop use-supporting apps
14. If possible, create continuous pedestrian sidewalk linkages along urban core streets
15. Explore ways to improve the pedestrian environment along the bypass
16. Develop a well-connected pedestrian network that ensures vehicle networks are fully multi modal
17. Ensure an accessible multi-modal network

CYCLING

18. Explore second bypass overpass at McKeown Shopping area; develop multi-modal route through shopping area to eastern neighbourhoods
19. Expanding residential areas around the airport requires multi-modal street thinking for O'Brien and Ski Club roads
20. Develop expansion of Kinsmen Trail and Kate Pace Way to hospital and university
21. Develop urban renewal projects on major corridors that improve lifestyle of supported residents (Lakeshore, Main, Memorial, Algonquin, Cassells, and Gormanville)
22. Improve readability of urban streets through clear separation of street and pedestrian environments
23. Identify safe and/or above-grade crossing of bypass along routes such as O'Brien, Fisher and Trout Lake

TRAILS

24. Comprehensive way-finding system that directs and reassures network users
25. Ensure pedestrian and dog walker use of trails is safe and comfortable with cyclists and other wheel-based users
26. Expand Kinsmen Trail to neighbourhoods located to the north and east
27. Develop complete system that connects all neighbourhoods to the Kinsmen Trail and Kate Pace Way
28. Modify existing asphalt trail network to function as school commuter network
29. Modify Kinsmen Trail and Kate Pace Way to provide good connectivity to the Waterfront
30. Expand Kinsmen Trail and Kate Pace Way in the same beautiful manner they were originally created
31. Explore North Bay Hydro line and natural gas corridors as possible connector trails
32. Reopen Reopen Oak Street Bridge
33. Explore integration of asphalt trail pathways at complex intersections such as Seymour and the bypass
34. Expand bike trails to pick up important loops east and south of the city
35. Colour code trail network relative to permitted trail corridor users
36. Provide shelters, washrooms, benches, bike racks, dog waste stations, and trash cans at important intersections or frequency intervals along trails and streets.

MAINTENANCE

37. Explore snow removal programs that provide all-season access to trail network
38. Pedestrian and cycling-only intersection crossing as part of intersection light timing
39. Identify potential bike lane corridors and shared use corridors through signage and street markings
40. Major multi-modal corridors should be built and maintained to a high quality standard
41. Storm sewer grates turned in proper direction to avoid cycling incidents
42. Along major city arterial and collector routes, explore asphalt trail as alternative to concrete sidewalks

TRANSIT

43. Ensure multi-modal and transit networks work as one
44. Explore approaches to ensuring cost sensitive fares
45. Explore convenient integration of neighbourhoods, the commuter trail network, and multi-modal streets
46. Identify important and convenient bus stop locations relative to a city wide network of streets and trails
47. Explore bike rack program for bus stops and buses
48. Ensure important destinations have transit interfaces with bus network (i.e., bus stops, bike racks)
49. Ensure bus routes provide connection to important resident services (such as medical offices)
50. Explore network connectivity to adjacent communities (Mattawa and Sturgeon Falls)
51. Create enough demand to expand transit service hours and frequency

3.2 BIG IDEAS FOR NORTH BAY

Consultation sessions resulted in three significant outcomes. First, a series of '51 Big Ideas' direct or influence the physical and programmatic actions proposed in this master plan (see Figure 3.1). Second, key development themes and street/trail route criteria guide the proposed master plan creation. Finally, the master plan is based on this chapter's AT Concept, which responds to resident desires to ensure a North Bay AT network becomes a mobility option for everyday life. This section reviews the Big Ideas while the following two sections speak to development themes and criteria, as well as the concept plan.

3.3 ACTIVE TRANSPORTATION EVOLUTIONARY THEMES

The City of North Bay is well positioned to move forward with AT education, programming and infrastructure development. Residents are engaged and enthusiastic; municipal infrastructure is positioned for timely change. This is an exciting time to live in North Bay.

Setting a platform for meaningful cultural and physical evolution requires establishing themed statements that serve as a guide. The following resident-created statements comprehensively and thematically guide this evolution.

CELEBRATING THE POSITIVE. The Kate Pace Way and Kinsmen Trails are wonderful AT assets and a great starting point from which to build an AT plan. The Kate Pace Way is

part of the developing Voyageur Cycling Route, a section of the province-wide cycling network, and is also designated as part of The Great Trail (formerly Trans Canada Trail), making it a trail of national significance. Very few municipalities host trail assets that function as both recreational and commuter asset; this is something worth celebrating.

PROGRAMMATIC AWARENESS. North Bay, like many North American cities, is founded upon an industrial and transportation heritage. This baseline position heavily influences municipal transportation networks, which is apparent in North Bay's inner city four and six-lane arterial routes.

Residents understand that these routes are challenging from a multi-modal point of view. Both cultural and physical evolution is required to 'humanize' the streets. Residents are not defeated by this notion. In fact, they are energized by youth and young adults who wish to start the evolutionary process to ensure North Bay's street network is in keeping with North Bay's unique and special outdoor lifestyle. Thus, shared-use education and promotion programming are required to support cultural evolution as a lead-in to physical evolution.

PHYSICAL AWARENESS. Extending from the previous thematic statement, creating visibility and presence within the proposed and evolving network will support awareness and education programs. Shared route, wayfinding, vehicle-bicycle offset bumper stickers and strategically placed bike rack systems create this visibility and consistent shared-use awareness.

CONNECTIVE COMMUTER STRATEGY. AT in North Bay is about using human-powered transportation modes to access the destinations visited on a daily, weekly and/or monthly basis. Work and school are accessed daily; other destinations may be accessed at varied frequencies. To function meaningfully in this context, networks must be accessible when desired, and well connected to ensure commuter ease and enjoyment.

As mentioned above, street evolution away from vehicle dominant corridors requires both cultural and physical change, as well as available budget. This is possible over time; however, meeting short to medium-term commuter needs requires establishing an alternative network that allows street evolution to occur.

LIFE BEGINS AT MY FRONT DOOR. For residents, an AT network presents itself at your personal front door. For planners and administrators, networks are conceived on a city-wide basis. For North Bay's active population, the network must reach into their homes through the use of promotion and technology to form a multi-modal option for intra-city commuting and regional recreation connectivity.

This type of thinking supports increased demand in a city-wide network over time. Creating meaningful and well-connected shared route and accessible trail linkages will generate new users that grow into commuters over time. Thus, starting at the neighbourhood level serves to support increased demand that challenges street evolution. Thus, demand and budgets may meet over time.

INTEGRATED AND INCLUSIVE. Any North Bay AT network must be well integrated into the fabric of each neighbourhood with shared routes and multi-modal streets and trails and must be fully accessible for varied abilities.

SIMPLICITY. AT networks that propose complex corridors inclusive of components such as hard-to-understand crossings and mixed-lane treatments are to be avoided. The network must be designed to function as simply as possible and be understood by all ages.

LANDSCAPE CONTEXT. North Bay hosts powerful cultural and natural assets. The lakeshore and escarpment are national-class assets that clearly define a local sense of place. The industrial setting formed under railway influence and expanded under mining and military presence has left a legacy of powerful built form.

These contexts should be respected where AT infrastructure becomes integrated with existing assets. For example, shoreline and escarpment trails should utilize natural materials, irrespective of hierarchical role. Trails in the built form settings can be either granular or asphalt relative to hierarchical role.

STREET UPGRADES AND URBAN RENEWAL. Streets such as Trout Lake and Airport Road can be modified to support improved walking and cycling environments through broadened street corridor infrastructure such as continuous sidewalks and bike lanes. Other streets such as Lakeshore Drive will require urban renewal thinking relative to land-use planning and related street corridor role refinement that improves multi-modal use.

AT-TRANSIT NETWORK INTEGRATION. The City of North Bay provides a well-planned transit network to which an AT network should provide linkage. This can include alternative connections to varied city destinations where challenging streets or barriers such as the Highway 11/17 bypass have not evolved to support comfortable multi-modal use.

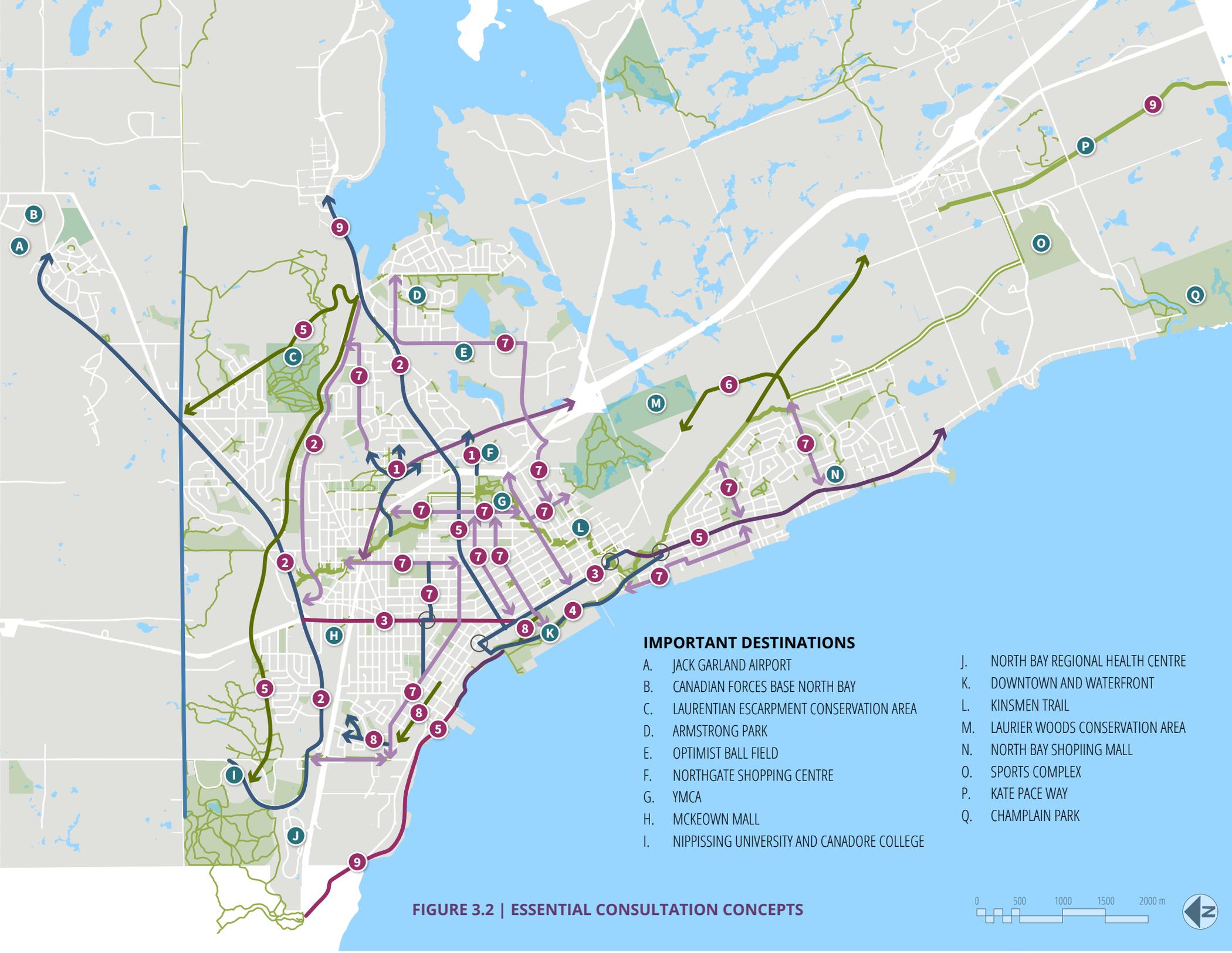
ALL DAY - ALL SEASON. Network users seek expanded day and seasonal use of trails; however, they understand that capital and operational budgets do not presently support components such as lighting and all-season maintenance.

3.4 NETWORK BUILDING PROCESS

This section describes the foundation of a resident-proposed AT network. It is important to note that the following describes this concept; however, only at the city level. Residents also propose intra-neighbourhood shared-route and trail connectivity based on criteria that links front doors to parks, conservation areas, schools, transit stops, and localized retail.

The following describes the projects illustrated on Figure 3.2.

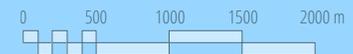
1. ESSENTIAL KINSMEN COMMUTER TRAIL NETWORK CONNECTIONS. As illustrated at two locations, the existing Kinsmen Trail requires two eastern extensions to create an intra-city commuter network that functions at both the neighbourhood and city-wide levels. Significant neighbourhood populations, schools, parks and shopping areas are linked through the proposed extensions.



IMPORTANT DESTINATIONS

- A. JACK GARLAND AIRPORT
- B. CANADIAN FORCES BASE NORTH BAY
- C. LAURENTIAN ESCARPMENT CONSERVATION AREA
- D. ARMSTRONG PARK
- E. OPTIMIST BALL FIELD
- F. NORTHGATE SHOPPING CENTRE
- G. YMCA
- H. MCKEOWN MALL
- I. NIPISSING UNIVERSITY AND CANADORE COLLEGE
- J. NORTH BAY REGIONAL HEALTH CENTRE
- K. DOWNTOWN AND WATERFRONT
- L. KINSMEN TRAIL
- M. LAURIER WOODS CONSERVATION AREA
- N. NORTH BAY SHOPPING MALL
- O. SPORTS COMPLEX
- P. KATE PACE WAY
- Q. CHAMPLAIN PARK

FIGURE 3.2 | ESSENTIAL CONSULTATION CONCEPTS



At the north extension, the existing bypass trail crossing supports commuter linkage to downtown and shoreline areas. The southern extension, at the shopping mall, provides linkage to shoreline and downtown areas, as well as reciprocal mall and neighbourhood connection; however, a new bypass crossing is required. Although this is an expensive proposal, the neighbourhood, city and assets located on either side of the bypass become connected with a commuter linkage that directly joins neighbourhood and shopping assets to Thompson Park, The YMCA of North Bay, Memorial Gardens and downtown, a very powerful AT asset.

2. ESSENTIAL SUBURBAN ROAD CORRIDORS. The 'beyond the bypass' McKeown Avenue/Airport Road, Ski Club Road and Trout Lake Road Corridors are essential linkages throughout continually developing suburban areas. These street corridors require continual sidewalks and multi-use asphalt lane or bike lanes at street's edge.

3. ESSENTIAL URBAN STREET CORRIDORS. The essential 'inner bypass' street corridors include Algonquin Avenue, Cassells Street, Main Street and Lakeshore Drive; they are important destination and transportation streets that require long-term thinking that diversifies multi-modal usability. These corridors provide essential linkage between suburban and urban neighbourhoods and host many of the assets residents use on a daily basis.

4. MEMORIAL DRIVE. This street is, simultaneously, an important transportation corridor and recreation destination. The drive supports the north-south traffic movement that eases pressure on urban core streets while attracting residents who use the shoreline, Kate Pace Way, and various recreational amenities located adjacent to the corridor. Residents would like to explore retaining the existing Kate Pace Way trail in this shoreline location as a passive recreational asset and directing active recreational or 'training'-based cycling on the street as part of a bike lane test.

5. SIGNIFICANT NATURAL ASSET TRAIL CONNECTIONS.

The shoreline and the escarpment are essential community character and natural assets that require sustainable approaches to trail development (to ensure limited character impact). The illustrated shoreline trail proposal extends from an existing south corridor to the University trails through beautiful aquatic habitats. This trail, if upgraded and extended, must respect the aquatic plant life that sustains the shoreline along this corridor.

Similarly, the proposed escarpment trail that extends the shoreline trail to the Laurentian Escarpment Conservation Area, Laurentian Ski Hill, the former NORAD site and the Ski Club and Trout Lake Road trail underpass requires sustainable, low impact development strategies to ensure minimal habitat and geological disturbance, respecting the ecological sensitivities identified on the escarpment.

6. KATE PACE WAY OFF-ROAD TRAIL (I.E., BOOTH ROAD).

All consulted residents understand the complexity of extending the Kate Pace Way (#6 in Figure 3.2); however, residents would like to explore moving the on-street portions between Marshall Avenue and Birchs Road to the easterly naturalized landscape where generally illustrated. Issues with visible water bodies, rail infrastructure and environmental permitting must be addressed as part of this investigation.

7. ESSENTIAL INTEGRATED STREET CORRIDORS. Residents identified several streets that are essential corridors for multi-modal linkage. These are located on the plan and should be explored for 'maximum adaption' where possible.

8. ESSENTIAL SMALL TRAIL CONNECTIONS. The consultation-based network concept illustrates two small but essential trail connections at John Kennedy Memorial Park and under the rail corridor between Oak Street and Memorial Drive. These resolve small connections that improve inner neighbourhood connectivity to a city-wide network and increase connectivity between downtown and the shoreline.

9. ESSENTIAL REGIONAL CONNECTIONS. It is important to residents that the connection to Callander is maintained, and that the North Bay active transportation network links regional systems (i.e., the Voyageur Cycling Route) and national systems (i.e., The Great Trail / Trans Canada Trail). The connection west of North Bay to Sturgeon Falls and Sudbury is important for the continuity of the TCT and VCR. The Highway 63 connection to Quebec is also a popular regional cycling route.

10. OBSERVE THE FAT BIKE. The fat bike represents a significant and very interesting evolution in trail use. Users of this bike are the fastest growing user of winter-season trails who prefer to use groomed trails (however, they can groom for themselves) and are above-average earners (on average). This represents an opportunity to expand seasonal use of trails by promoting groomed trails with which groups may be willing to help, reducing operational costs.

11. HIGHWAY 11/17 REALIGNMENT. The Ministry of Transportation of Ontario (MTO) has a plan to realign the through-city provincial highway, using a combination of elevated and at-grade route corridors that remove the complex and high-traffic (speed/volume) relationship between North Bay and provincial routes. This presents a significant opportunity to establish multi-modal linkages between neighbourhoods and important lifestyle assets on either side of the provincial route.

This realignment is not planned for immediate implementation; therefore, this master plan must contemplate linkages between important assets that can evolve relative to the future highway relocation.

4.0

THE AT TOOLBOX





Photo: Discovery Routes

4.0 THE ACTIVE TRANSPORTATION TOOL BOX

Tools that improve walk and roll-ability will be applied to a classification-based network of street and trail corridors that create desired connectivity throughout North Bay. The tools combine in varied formats, at varied locations, to create shared-use awareness and education, improve connectivity, and evolve the nature of North Bay's streets from vehicle habitat to human habitat.

4.1 THE CLASSIFIED NETWORK MODEL

North Bay's Active Transportation Plan delivers physical products at two levels: the city and the neighbourhood. A city-wide arterial AT network delivers commuter-based, multi-modal street and trail corridors that link significant lifestyle destinations. These destinations, illustrated in Chapter Three's Figure 3.2, include parks, conservation areas, waterfront, downtown, shopping and work areas, as well as academic and health destinations. A city-wide network is formed by the designation of AT street and trail corridors that extend through neighbourhoods to connect these destinations. It is important to note that the arterial network overlays with the city transit system to ensure broad mobility options on network corridors.

The neighbourhood networks are formed by designated AT shared-use streets and trails that function as collector linkages between resident front doors and local destinations such as schools, parks, corner stores and the arterial network transit stops and commuter routes (see Figure 4.1 network concept). Although all streets by law and by nature are shared-use, not all streets require designation as a neighbourhood collector route. Intra-neighbourhood streets that feed residents to the collector streets will be influenced by shared-use delivery, while collector routes will be articulated as such through graphic influence. Also, intra-neighbourhood streets do not carry traffic counts sufficient to warrant designation; awareness programming is a better tool at this level.

4.2 STREET NETWORK COMPONENTS

The North Bay streets are the most established and well-connected network that, although heavily vehicle dominant, provides an available corridor system to attach multi-modal infrastructure. The following describes these North Bay AT Street components.

It is important to note that not all streets will be able to host specified components for the entire corridor due to spatial constraints. In constrained cases, the City of North Bay will choose from the component list in a manner that ensures continuity of multi-modal corridor flow.

The Sidewalk. This 1.5 meter (+/-) sectioned concrete surface provides minimal walking surface for all North Bay street types. All designated AT Collector Streets are planned with sidewalks on both sides of the street, located immediately adjacent to the back-of-curb for existing streets and 1.5 meters from the back-of-curb for new streets. All designated AT Arterial Streets are planned with sidewalks on both sides of the street, set back 1.5 meters from the back of curb unless the street corridor hosts an asphalt walk or trail. In these cases, the sidewalk is located on one side only.



The Urban Plaza Sidewalk. This component is reserved for urban centre corridors such as Main Street. The Urban Plaza Sidewalk is a 6.0 meter (minimum) paving unit corridor that hosts 3.0 meter walkways, seating, shade, bike racks, trash receptacles, patio spaces and other urban core amenities. In all cases, the walkway is located immediately adjacent to building edges while all other amenities are located on the street side of the sidewalk. All paving units within the walkway portion of the corridor are to be smooth with no greater than 3mm of variation over a 3.0m straight edge and no brick seam greater than 5mm in width/depth.

Two-Way In-Boulevard Shared-Use Facility. This 3.5 meter wide, two-lane asphalt trail extends along one side of 4+ lane streets where controlled access allows for minimal trail interruption. Wherever possible, the trail should be set back from back-of-curb by 1.5 meters with a comfort strip. Signage along this trail is to TAC and OTM specification.





Comfort Strip. This 1.5 meter wide (minimum) grass or paving-unit strip (also referred to as a “boulevard”, “verge”, or “splash strip”) creates a comfort set back from street corridors. The strip also hosts trees, street lighting, signage and other regulatory tools required for traffic control. All planting within Comfort Strips must respect TAC and CPTED view plane guidelines.

The Transit/Bicycle Lane. This shared-use lane combines human power and transit within a dedicated surface. Cyclists can interface with bus service where desired or share the corridor linking urban core and neighbourhood spaces.

The shared lane requires a minimum of 3.5 meters (from interior edge of asphalt, or street edge of curb and gutter concrete, to centre of painted lane line). Markings include painted lane line, “ONLY BUS” text and cyclist icon as well as various regulatory markings to TAC and OTM specification. Regulatory shared-route signage is placed at intersections and at 200 meter intervals. All other regularly signage is as per TAC and OTM specification.

In addition to transit and cyclists, AT users in this lane, although not legally permitted, often include in-line skaters, skateboarders and scooter riders.

Bicycle Lanes. Contemporary bicycle lanes serve two purposes. First, they provide a dedicated street space that increases the sense of user safety and comfort. Second, and as important, the bicycle lane promotes the notion of multi-modal use of public streets.

The bicycle lane is between 1.2 and 1.5 meters (from interior edge of asphalt, or street edge of curb and gutter concrete, to centre of painted lane line). Markings include painted lane line, and cyclist icon as well as various regulatory markings to TAC and OTM specification. Regulatory bicycle lane signage is placed at intersections and at 200 meter intervals. All other regularly signage is as per TAC and OTM specification.

Like the Transit/Bicycle Lane, users in this lane, although not legally permitted, often includes in-line skaters, skateboarders and scooter riders (in addition to cyclists).

The Shared Roadway. This is a designated route marked by painted bike and sharrows at 200 meter intervals. No independent lane is marked; however, regulatory shared route signage is placed at intersections and at 200 meter intervals. All other regularly signage is as per TAC and OTM specification.





4.3 TRAIL NETWORK COMPONENTS

The City of North Bay is home to great trail assets that inform this master plan. The Kate Pace Way and Kinsmen Trails are world-class assets that, as previously mentioned, provide an ideal platform from which to work. For this AT Master Plan, the starting point of developing a commuter system is these trail assets. The following describes the North Bay AT trail components.

Commuter Asphalt Trail. As both commuter route and recreational destination, these should be 3.5 meter-wide asphalt trails with a solid centre line. Users of this trail include cyclists, roller bladers, skateboarders, scooter riders, runners, walkers and other forms of non-motorized mobility commonly found on the Kate Pace Way and Kinsmen Trails.

As extensions of these trails, entrance gates and intersection signage should remain as per the existing specification. All existing and future routes will include regulatory signage as per TAC and OTM specification.

Commuter Granular Trail. Nature prominent settings such as the Laurentian Escarpment Conservation Area are not viewed as contextually appropriate for asphalt trail; however, they will require commuter connectivity in this plan. Therefore, integrated commuter routes that bring commuters through significant natural assets will meet the dimensional specification of the asphalt commuter route; however, the surface will be granular and should meet AODA accessibility standards.

This trail is a 3.5 meter wide gravel surface. Users of this trail include cyclists, runners, walkers, hikers and other forms of non-motorized mobility. As a contextually appropriate extension of these trails, entrance gates and intersection signage should remain as per the existing specification. All existing and future routes will include regulatory signage as per TAC and OTM specification.

Local Neighbourhood Granular Trail. Small in-neighbourhood and urban walkways are critical to making connections between important places. This includes the small trail connections between residential neighbourhoods, walkways between buildings within the downtown, and secondary entries into parks and other recreation facilities.

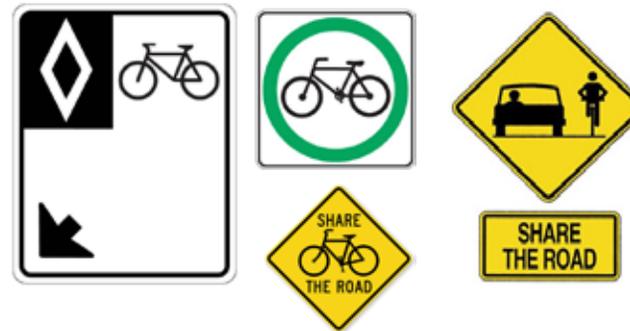
North Bay presently hosts several of these linkages and should expand developing residential and urban neighbourhoods inclusive of these components as they provide micro-connectivity to other residents and access to the greater commuter system.

No particular specification is applied to this trail component. For renovating existing or expanding residential neighbourhoods, the linkage should be a 2.5 meter wide granular trail. Finding and using these trails are based on local knowledge; therefore, signage or gateways are not required.



4.4 SIGNAGE COMPONENTS

Two signage programs will combine to provide general route information, direction and network promotion. Together, these systems will raise network awareness and user comfort.



THE REGULATORY SYSTEM

Often called TAC signage, this system relies on the regulatory panels applied under the Bikeway Traffic Control Guidelines for Canada Manual (latest edition) for both street and trail networks. This guideline manual describes the design, location planning, installation and maintenance for all signage, intersection control and ground markings related to bike and bike-vehicle related corridors.

This is an important and immediately understood system. All regulatory signage presently utilized on Canada's street, road and highway systems relies on TAC guidelines and is immediately recognizable as traffic regulatory information to all corridor users. The addition of bikeway control signage

within existing corridors that presently host vehicle traffic and pedestrian signage will instantly expand and institutionalize biking within the street network.

THE BRANDED SYSTEM

Branded signage provides an opportunity to personalize your network, supplementing regulatory systems by providing user information that speaks specifically to North Bay as a place. Components within this system include gateway network maps at trail entries, bike rack locations, civic plaza and park entries, as well as directional and reassurance panels along trail corridors that direct users to important AT components or important network addresses. Signs can also encourage walking (and use of other AT modes) by showing walking times to popular destinations (e.g., walkyourcity.org).

Like the regulatory system, the branded system should be graphically and structurally uniform to ensure relationship to the AT network. The entire system should be based on a custom design brand and catalogue of products that express the brand.

There are opportunities for co-branding along portions of trails that are co-owned and/or managed. For example, the North Bay-Mattawa Conservation Authority has signage on the Kate Pace Way, Kinsmen Trail, Laurier Woods, and Laurentian Trails. Parts of the trail system are also part of a broader provincial (i.e., Voyageur Cycling Route) and national system (i.e. The Great Trail / Trans Canada Trail).

THE OFFSET BUMPER STICKER

Interestingly, one of the most contemporary and powerful multi-modal promotional tools is the 1.0 meter vehicle-bike setback bumper sticker. It reminds motorists of the requirement under Bill 31 (Transportation Statute Law Amendment Act) that 1.0 meter must be given when passing a cyclist. Unfortunately, this sticker results from the loss of life; however, it has raised shared-use awareness significantly. The bumper location of the sticker creates high visibility while the regulatory nature of its design sends an authoritative message to all drivers. This is a great product and program that should be capitalized upon; however, it is important to note that this is a regulatory, not a promotional tool.



THE OFFSET BILLBOARD

The North Bay Cycle Safe campaign (www.cyclesafe.ca) spreads awareness about the 1.0 meter requirement and the sharing of roadways among cyclists, pedestrians, and motorists on billboards. Billboards are common throughout the region and a familiar mode of on-road communication in North Bay.

THE INTEGRATED AT TRANSIT STOP

This component can be placed at locations where the commuter trail network meets the transit network. These transit stops should be branded as integrated AT-Transit Stops where multi-modal commuters can access transit services. The stop should be universally accessible, include weather cover, seating, branded network and transit information as well as a bike rack that can be used for parking until transit arrives. It is important to note that transit buses will require bike carrier systems to support this stop as well as easily available bike racks at the Oak Street Transit Hub.

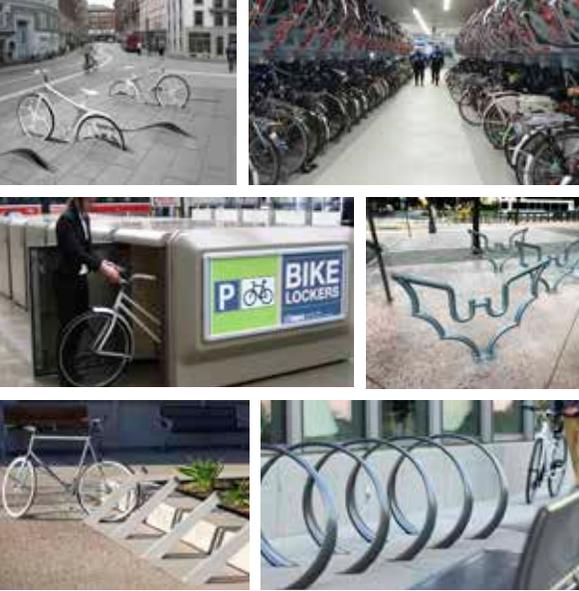
THE INTEGRATED AT TRANSIT HUB

The City of North Bay presently hosts a transit hub on Oak Street (between Main Street and Memorial Drive). This is a well-

located and well-designed facility that is capable of supporting expanding user services with the addition of an AT transit hub on this site. It is a monthly membership-based facility that includes bike locker parking, personal locker, shower and change rooms as well as branded AT network information.

It is important to note that this facility is not exclusive to bicycle use. Residents wishing to use any mode to access the facility can purchase a monthly membership. It serves as an interface between actively getting to the urban core, and working or accessing services within the urban core. The facility is an architectural branding of the AT network. Other opportunities exist for integrated transit hubs, including the YMCA, a semi-public space that is strategically located and hosts amenities similar to those found at the Oak Street transit hub (i.e., lockers, showers, change rooms).





4.5 BICYCLE PARKING FACILITIES

One of the strongest communications and functional pieces of AT infrastructure is the bike rack. This is a piece of infrastructure similar to a trail, bike lane, or wayfinding sign, and must be strategically located for these reasons.

This master plan proposes to develop and deliver a bike rack design and fabrication contest that solicits bike rack concepts from residents. Skilled professionals can convert a winning concept into a bike rack system that can be placed in city parks, downtown areas, schools, civic facilities, etc.

In addition to this, significant public addresses that can function as an AT hub should host bike storage systems that provide secure and weather-proof bike parking. At a minimum, destinations include secondary school facilities, city hall, the downtown transit hub, the hospital, and the YMCA. A facility such as City Hall should host bike lockers while a transit hub should host a storage room.

4.6 EDUCATION AND AWARENESS

There are numerous examples of Active Transportation programs that successfully promote physical activity through the delivery of cycling skills and outreach, walking programs, school travel planning, commuter challenges, and road sharing outreach. A collection of the most relevant programs for North Bay are reviewed and discussed in this chapter. The City of North Bay will wish to work with its partners to personalize and deliver similar programs.

This chapter also describes two programs specially designed to work within the context of the development themes and implementation strategy. These programs will also be modified and delivered with various program partners.

CYCLING PROGRAMS

Cycling Canada's CAN-BIKE

<http://canbikecanada.ca>

Cycling Canada's CAN-BIKE program offers a series of courses taught on all aspects of cycling, in order to ride safely, effectively, and enjoyably on the road. Cycling Canada coordinates program development, with help from National Examiners/Instructors and course delivery and administration takes place through CAN-BIKE Delivery Agents, such as community associations, municipal departments, service groups, independent instructors. Courses cover topics such as: the Fundamentals of Cycling, Cycling Basics & Bike Rodeo, Core Cycling Skills, Advanced Cycling Skills, and Instructor Training.

Discovery Routes, with support from the North Bay Parry Sound District Health Unit, coordinates a Community Bicycle Education Program which includes CAN-BIKE courses with Cycling Canada certified instructors. Support from partners to provide capacity and funding for the continued facilitation of these programs is an important requirement for continued coordination.

Share the Road Cycling Coalition - Bicycle Friendly Communities Award

<https://www.sharetheroad.ca/bicycle-friendly-communities-p138264>

The Bicycle Friendly Community Award (BFC) Program provides incentives, hands-on assistance, and award recognition for communities that actively support bicycling. A few years ago,

the City of North Bay applied for this award and received Honourable Mention. Upon master plan completion, the city may re-apply. Share the Road also has a bicycle-friendly business award for businesses encouraging their employees to ride to work. These initiatives have the potential to raise awareness as the city and its residents improve their capacity to facilitate commuter cycling.

Ontario by Bike!

<https://www.ontariobybike.ca>

The Ontario by Bike Network runs a program that certifies and promotes bicycle friendly businesses and cycle tourism. These destinations include: accommodations, food services, attractions, cycling related businesses, and organizations interested in cycle tourism. Touring cyclists know that these businesses provide the types of services and facilities for which they look, and local residents are inspired to do more by bike; three North Bay businesses are already registered with this program.

Ottawa's Cycling Safety Awareness Program

<https://ottawa.ca/en/residents/transportation-and-parking/road-safety/cycling-safety/cycling-safety-awareness-program#>

The Cycling Safety Awareness Program (CSAP) is an educational outreach program focused on cycling safety. Ottawa City Council has a Cycling Safety Improvement Program, which recommended the CSAP. The CSAP complements cycling infrastructure improvements by delivering key messages on dooring, sharrows, sidewalk cycling and the bike box. It also provides promotional material such as posters and information cards.

Bike Winnipeg

<http://bikewinnipeg.ca>

Bike Winnipeg is a cycling advocacy organization that provides best practice research and informed recommendations to government agencies and related organizations. Their position statements cover topics such as: mandatory helmet legislation, taxi cabs in diamond lanes, traffic control measures, neighbourhood greenways and Vision Zero. They also offer cycling skills courses, professional development, and a collaborative community events calendar. Their courses combine classroom presentations with practical on-road advice and mentoring to build critical cycling skills and confidence.

The Bike Dump

<http://bike-dump.ca>

The Bike Dump is a volunteer-run community bicycle education space that strives to make knowledge of bicycle repair accessible to everyone. They offer tools and space to fix bicycles, a stock of recycled bike frames and parts from which people can build a bike, bike repair workshops, and volunteers to help guide repairs and bike building projects, and sell refurbished and recycled bicycles on a sliding scale.

The Wrench

<http://thewrench.ca>

The Wrench is a non-profit organization in Winnipeg working to make the use of bicycles for transportation more accessible, with a particular focus on youth cycling education. They offer

youth programming through formal educational programs with schools and other community organizations. Earn-a-Bike is one program that teaches youth participants how to build their own bike from the ground up, as well as bicycle safety skills. They also offer support and advice to those who wish to start a community bike shop.

Sprockids

<https://www.sprockids.com>

Sprockids is a mountain biking program oriented toward youth ages 6 to 18 that teaches off-road skills, safety, etiquette, bike maintenance, progress tracking, and leadership skills.

Chicago Complete Streets' Bicycling Ambassadors

<http://chicagocompletestreets.org/safety/education/>

Bicycling Ambassadors travel all over the City of Chicago educating people about pedestrian and bicycling safety. They offer presentations, safety literature, and bike actives at parks, schools, block parties, street festivals, and many more locations and events. Safe Routes Ambassadors also work in Chicago's public and private schools, offering educational presentations about walking and bicycling safety.

Cycle Kids

<http://www.cyclekids.org>

Cycle Kids is committed to strengthening the emotional and physical health of children by giving them the skills to lead active and healthy lifestyles through riding a bike. The two-year program's curriculum for 4th and 5th-grade students can

be implemented in physical education and academic classes. Schools are provided with bikes and a curriculum, training for teachers and local police officers, and program assessments. Each student is also provided with a textbook.

They cite the following positive impacts as a result of their program: 52% improvement of physical activity, 71% improvement of nutritional intelligence, 48% personal growth, and 48% social growth.

Wheel Kids Bicycle Club

<http://wheelkids.com>

This organization focuses on hands-on learning that gets children ages 5-15 excited about cycling and establishes a lasting appreciation for health and fitness. The organization has a variety of programs, camps, classes and events such as Adventure Riding Camp, Coach in Training, one-day camps, private lessons, preschool lessons, and a bicycle academy.

Kids on Bikes

<https://kidsonbikes.net>

Kids on Bikes offers an Earn a Bike program in Colorado Springs; children earn points for accomplishing milestones so they may eventually earn a working bike of their own. Kids on Bikes also run bike libraries out of re-purposed shipping crates; they are mini-hubs for refurbished bikes, tools, parts and an outdoor repair station. They also host rides from May to September, a bike maintenance mobile repair station, and a bicycle carnival.

WALKING PROGRAMS

Green Communities Canada's Ontario Active School Travel

<http://ontarioactiveschooltravel.ca/about-us/>

For over 20 years, Green Communities Canada has promoted active travel to school through research, advocacy, training, educational resources, events, partnerships and on-the-ground programming. Their goal is to make walking, cycling and other forms of active, safe, and sustainable transportation the norm for trips to and from school. Their comprehensive approach, using the community-based School Travel Planning model, generates significant and sustained increases in active school travel.

WALK Friendly Ontario

<http://walkfriendly.ca>

WALK Friendly Ontario offers a recognition program, Walk Friendly Communities, that provides a framework of measurable and trackable indicators that helps municipalities to create and improve spaces and places to walk. It raises the profile of walking in community planning and design and encourages municipal governments to set targets for ongoing improvements.

Action for Healthy Kids

<http://www.actionforhealthykids.org>

This program's mission is to mobilize school professionals, families and communities to take actions that lead to healthy eating, physical activity and healthier schools where kids thrive.

It provides tips on how to motivate students to walk more and start a walking program. It recommends people talk to their school's administrators, identify teachers who will support the program, encourage parents to participate, recruit participation from older students (e.g., a high school football team can walk kids home once a week), promote the club to students and parents, and ask students for feedback.

We Count! Walking Program

<https://peacefulplaygrounds.com/we-count-student-walking-program/>

This program provides a kit that includes 12 student pedometers, 1 teacher fomenter, progress charts, certificates, logs, newsletters and motivational stickers. The program's design is based on research that indicates inexpensive step-counting devices motivate and educate kids to walk and be active. Their slogan is "Get Fit, Don't Sit".

Advocates for Health in Action

http://advocatesforhealthinaction.org/wp-content/uploads/2012/06/Startin_a_School_Walking_Program.pdf

This organization provides a packet on how to start a school walking program, including a walking log sheet template.

Walk In Shape!

<http://www.walkbc.ca/walk-programs>

Walk BC delivers a three-month-long competition that aims to help friends, family, colleagues and community members

encourage each other by challenging one another in a fun and friendly way. The free downloadable kit enables participants to compete to walk the farthest distance, walk the most steps, walk at a moderate pace for the longest amount of time, and lose the most weight. After participants download the log, they are asked to determine their monthly goals, for distance, steps, time and or weight loss on the log.

Glenmore Footprint Days

<http://glenmorepac.ca/event/foot-print-days/>

The Glenmore Footprint Days is inspired by a Danish program, which encourages school children and their siblings, grandparents and friends to walk and have fellowship. Local businesses sponsor this event so that each participant gets a free t-shirt and participates in a daily trek of 5km, for four days in a row.

COMMUTER PROGRAMS

Green Action Centre's Commuter Challenge

<http://greenactioncentre.ca/module/commuterchallenge/participate-in-commuter-challenge/>

Every year in June, the Green Action Centre presents a free week-long event that encourages workplaces and individuals to explore green transportation options. All participants need to do is register and log their green commutes during the week. The Green Action Centre works with businesses and employers to make active and green types of commuting both appealing and accessible. Over 20,000 Canadians participate each year.

Sustrans

<https://www.sustrans.org.uk>

Sustrans is a UK charity with programming dedicated to helping young people travel actively and safely to school or college. They created a new Active Schools guide in partnership with Nike outlining simple steps to make schools more active. The program runs multiple national competitions each year in schools. They also provide a free online challenge in which entire schools, individual classes, or grades can participate.

Dash BC's Walk and Wheel to School

<https://dashbc.ca/what-we-do/programs-initiatives/walk-and-wheel/>

Dash BC's Walk and Wheel to School program hosts an annual event as part of the International Walk to School Month (iWalk) that encourages students, parents, staff and community members to celebrate the many benefits of walking to school. This program celebrates active transportation, encourages daily physical activity, promotes opportunities to practice safe walking and biking skills, identifies safe routes to school, enhances the connection between students, parents, schools and communities in a fun and interactive way, and reduces school traffic congestion and vehicle emissions.



Living Streets' WOW Year-Round Walk to School Challenge

<https://www.livingstreets.org.uk/what-we-do/projects/wow>

Living Streets is a UK charity advocating for everyday walking since 1929; in the early days, their campaign led to the introduction of the UK's first zebra crossing and speed limits. The mission of their WOW challenge is to enable every child that can, to walk to school year-round. There is also a five-day secondary school challenge. The website provides free resources for download.

CUSTOM NORTH BAY PROGRAMS

The following North Bay specific programs will be delivered in conjunction with a partnering stakeholder (e.g., Discovery Routes Trails Organization, the North Bay Parry Sound District Health Unit). The mission of these programs is to promote education and awareness that empower residents to use AT in North Bay, thereby shifting cultural demand to match municipal AT goals and infrastructure investments. The Block Walk takes place at the neighbourhood scale and is a daily walking program geared toward kids and families designed to function within the existing geo-social framework of the North Bay neighbourhoods. The second, Putting Down Routes, takes place at the city scale and focuses on increasing cycling uptake, particularly as a form of commuting, and offers education regarding shared-use infrastructure.

The Block Walk

Scale: Neighbourhood

The Block Walk is a simple, flexible walking program that brings kids outside for a daily neighbourhood walk. At a minimum, it aims to get families and/or friends to form a habit of walking together around the 'block' (or reasonable equivalent depending on neighbourhood design), encouraging the creation of a culture of regular activity.

Delivered annually during the international walk to school month (iWalk), students will learn about this initiative during presentations in school and will bring a pledge home for all members of their family to sign. Students will receive a log sheet, and those that complete the sheet and submit it after a month's time will be entered to win an AT related prize (e.g., pedometer, bike, etc.).

The block walk can be coordinated with neighbours to capitalize on the benefits of socialization and neighbourhood cohesion that come with active transportation. It can be organized to function as part of the day's schedule (e.g., the morning commute to school, walking) or as a recreational pursuit (e.g., an after-dinner stroll). A component of this program could evolve into a walking 'school bus' program as neighbourhood shared routes are established, and safe routes to school are

identified. While some family members walk, some may choose to use other forms of active transportation like bikes, skateboards, scooters, or roller blades. A walk around the block is an approachable starting point for people of all ages, including families with young kids, and people of all abilities, during all seasons.

A simple walk around the block can grow into much more, as people explore the farther reaches of their neighbourhoods, as well as trails and connections crossing into other areas, searching out new and/or longer routes. The goal of a month's participation is enough time to form a habit and will contribute to continued active living practice after the delivery of the program. The concept of the block walk can also be expanded in scope, resulting in outdoor neighbourhood block parties, parades, or games.

Encouraging people to get outside, moving within their neighbourhoods provides the neighbourhood with a more park-like atmosphere, familiarizes neighbours, increases eyes on the street, and re-orientes street dominance toward people over vehicles. It is a simple introduction to active living that brings immediate benefits in terms of physical and mental health, social cohesion, and connection to place.

Putting Down Routes

Scale: City-Wide

From their front doors, residents have access to an AT network composed of shared streets and trails that unifies the City of North Bay. This network will expand as the city evolves its

present infrastructure, literally putting down (AT) routes. This physical investment in built infrastructure must be matched by a physical investment by people, who will also put down 'roots' by using this AT infrastructure to commute from home to the destinations where they work and play. Creating a well 'rooted' culture of AT to match the well 'routed' infrastructure in which the city invests is the mission of this program.

This program will kick-off with a week-long commuter challenge. Program deliverers will reach out to local businesses to encourage employee participation, as well as sponsorship. Brightly coloured t-shirts that AT commuters can wear will help raise awareness, en-route!

In order to increase the number of commuters using AT and public transit, this program will also provide education focused on improving the interactions among cyclists, vehicles, and public transit. In order to do this, it will provide outreach and resources regarding shared uses of roads and trails:

- » Road rules (e.g., relevant laws, responsibilities, liabilities)
- » Trail etiquette (e.g., speed, interactions with walkers)
- » Transit integration (e.g., which buses have bike racks, bus stops easily accessed by trails and neighbourhoods, bus stops with bicycle racks or lockers).

5.0

CITY STRUCTURE





Photo: Steve Pitt:

5.0 CITY STRUCTURE

The North Bay Active Transportation Plan delivers multi-modal connectivity at two levels; city-wide and individual neighbourhood networks (see Figure 5.1). The geographically larger city-wide network is built upon the resident notion of multi-modal connectivity throughout municipal boundaries and beyond. Within these boundaries, the plan connects the essential destinations with a commuter-based multi-modal corridor street and trail network. Two-way trail and street connectivity to exterior connections ensures recreational and commuter linkages between North Bay and its neighbours.

This chapter describes the trail network components required to commence AT product delivery within North Bay. The city-wide street network will require evolution; however, the trail network can expand over a shorter time period to provide essential linkages to schools, parks, working areas and recreation destinations. The following describes the projects that accomplish this intent.

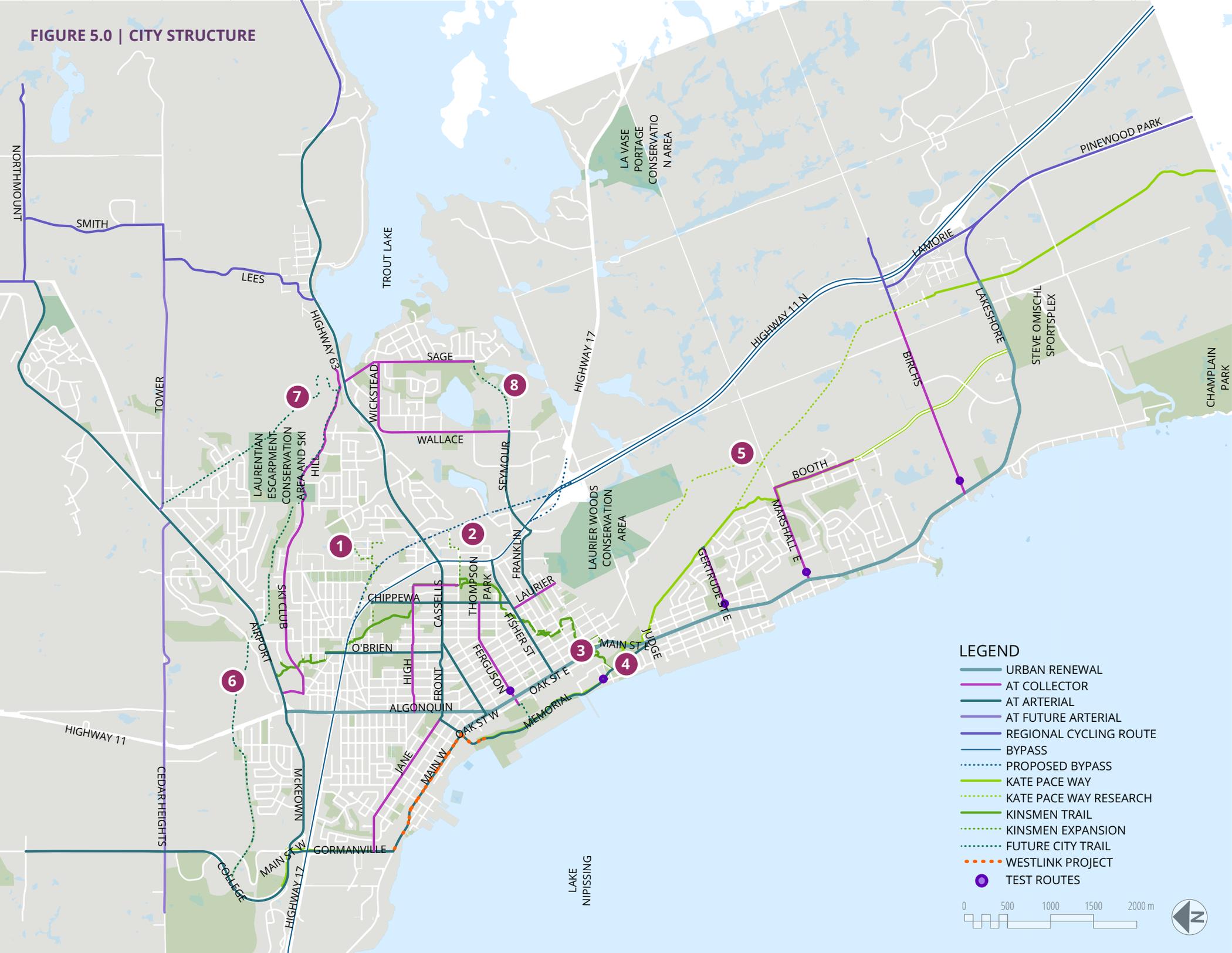
5.1 THE CITY-WIDE TRAIL NETWORK

THE KINSMEN TRAIL EXPANSION

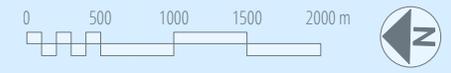
The existing trail provides linkage from the shoreline to inner-city destinations adjacent to the bypass. If planned properly, this trail can expand to the neighbourhoods located to the east side of the bypass using an existing and future overpass.

1. Kinsmen Expansion Project One capitalizes on the existing overpass located adjacent to the Chippewa Secondary School. A new trail extends from the east side of the bypass onto lands that bridge the gap between several schools and residential areas. The new commuter asphalt trail follows existing pathways to provide inner-city connectivity for residents that live in the adjacent neighbourhoods as well as the Laurentian Escarpment Conservation Area (through the Trout Lake Road rail underpass).

FIGURE 5.0 | CITY STRUCTURE



- LEGEND**
- URBAN RENEWAL
 - AT COLLECTOR
 - AT ARTERIAL
 - AT FUTURE ARTERIAL
 - REGIONAL CYCLING ROUTE
 - BYPASS
 - PROPOSED BYPASS
 - KATE PACE WAY
 - KATE PACE WAY RESEARCH
 - KINSMEN TRAIL
 - KINSMEN EXPANSION
 - FUTURE CITY TRAIL
 - WESTLINK PROJECT
 - TEST ROUTES



2. Kinsmen Expansion Project Two. This is proposed as a research project that explores the feasibility of a new Highway 11/17 overpass at the Northgate Shopping Centre and a multi-modal corridor through the centre's parking area to the neighbourhoods (located to the east). This linkage provides a connection from eastern neighbourhoods to parks, the Gardens, YMCA as well as city-wide destinations on the Kinsmen and Kate Pace Way Trails. Therefore, to understand this further, the City of North Bay should commission a feasibility study that explores the cultural benefits and cost implications within the context of a Highway 11/17.

3. Kinsmen Expansion Project Three reinstates an essential linkage at the Oak Street extension bridge (that previously linked to the Kinsmen Trail and ensures city-wide connectivity). Therefore, the Oak Street extension bridge should be re-established as an essential linkage in this Master Plan.

This bridge should be replaced with a structurally and graphically relevant piece of trail infrastructure. The bridge provides linkage over an active and attractive stream; however, the existing concrete structure conflicts with the setting's important natural character. Therefore, a trail-dominant corten steel bridge should replace the existing span.

THE KATE PACE WAY TRAIL EXPANSION (SOUTH)

This trail extends south from the city core and combines commuter and recreation purpose within a single corridor. Under this master plan, two projects are required to complete full commuter connectivity.

4. Kate Pace Way Expansion Project One. The intersection of Lakeshore and Memorial Drive is an important traffic and active transportation connection that will link a future street's edge two-way trail to the Memorial Drive component of the Kate Pace Way Trail. This is also an important city gateway with the North Bay Arch and Fighter Jet at Lee Park.

This project proposes to extend the Kate Pace Way from the northern portion of Memorial Drive, through Lee Park to the Lakeshore/Memorial Drive intersection. The North Bay Gateway moves from a parking lot entry position to a prominent intersection position that incorporates the Kate Pace Way extension. Thus, a new gateway is presented at this intersection that celebrates North Bay history and contemporary active living lifestyle.

5. Kate Pace Way Expansion Project Two. This long-term study project replaces on-road sections of the Kate Pace Way with extensions of the existing trail. Figure 5.1 illustrates the locations of these trail extensions.

Due to wetlands and open water landscape, as well as a rail line, this project will require significant environmental and suitability analysis to identify a route that extends the trail, and a route that links the Kate Pace Way to the Laurier Woods Conservation Area.

NORTH ESCARPMENT TRAIL

This trail has been studied by Discovery Routes to determine the natural inventories along the proposed corridor. Two projects are required as residential areas continue to develop along the top of the escarpment.

6. North Escarpment Trail Project One. This 3.5 meter wide trail extends along the existing power line, parks and street's edge to create a nature-dominant granular corridor from the University/College lands to the rail underpass that links Ski Club and Trout Lake Roads. This trail will cross several roads as area build-out continues, and will be a highly valuable recreation and commuter asset that links the hospital and academic assets to the recreation and conservation lands of the North Bay-Mattawa Conservation Authority. As part of the trail system extending into University lands, this plan recommends that the Monastery Trail, an off-road trail parallel to College Drive, remain open to the public.

It is important to note that this trail section requires a corridor through the university trail network. The university's Monastery Trail provides this linkage; therefore, the city must work with the university to ensure this important connection is retained.

7. North Escarpment Trail Extension. This 2.5 meter wide trail connects the Ski Club and Trout Lake Roads underpass with a corridor that extends the North Escarpment Trail to the residential neighbourhoods adjacent to Airport and Tower Roads (where indicated on Figure 5.1).

It is important to note that, although this trail follows an existing utility corridor, the trail must extend down the escarpment on federal lands over the former NORAD base. This will require significant routing research that will result in land requirement greater than the utility corridor to create an accessible slope.

8. Seymour Extension Trail. This 3.5 meter wide granular trail extends the proposed multi-modal nature of Seymour Street, across vacant and wetlands to McLean Road. This challenging trail section will require additional environmental and feasibility research to determine suitability; however, this link provides a valuable connection between the industrial lands adjacent to Seymour and the residential lands adjacent to McLean.

5.2 CITY STRUCTURE - STREETS

This larger city-wide network is built upon resident notions of multi-modal connectivity within the existing and expanding street network. Proposed street changes are designed to fit as closely as possible within existing street widths. It is important to note that the City of North Bay will investigate OTM compliant on-street cycling facilities prior to their detailed construction. Ideally, components such as bike lane buffers and other barriers will be implemented where additional street corridor can be acquired.

It is important to understand that the streets classified as city-wide arterial and collector streets require the addition of the AT components for the entire length of the street. This will require investment and time to evolve the indicated streets to AT classification. This master plan proposes to upgrade these corridors within the context of City of North Bay capital upgrade planning and final design may differ from the proposed sections due to the variation of the available land base or budget. The following describes and illustrates these classified street corridors while Figure 5.0 locates the corridors on the master plan.

ACTIVE TRANSPORTATION ARTERIALS

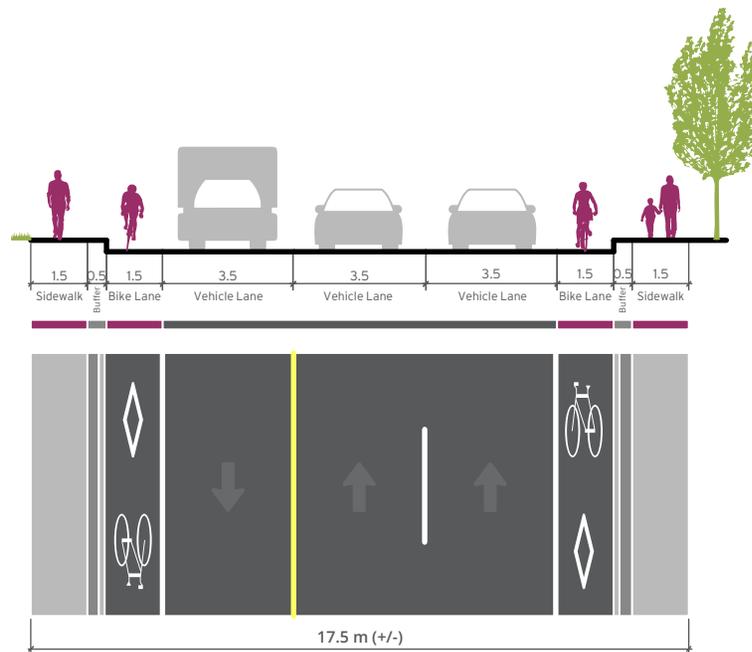
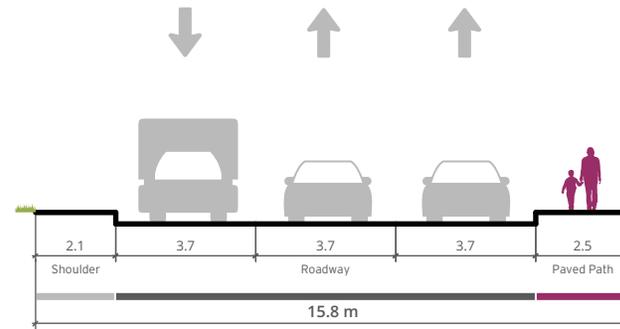
These essential streets are the primary movement routes that host pedestrian and wheel AT components. The following streets are classified as AT Arterials.

AIRPORT ROAD

This existing 15.8 meter-wide street section occupies a 34.4 meter right-of-way (R.O.W.). The proposed upgrade moves the street from existing to a corridor inclusive of a 1.5 meter setback strip and 1.5 meter wide sidewalk (on both sides of the street), a 1.5 meter-wide bike lane on both sides of the street, and three 3.5 meter-wide traffic lanes. Vehicle surfaces and AT infrastructure move the street to a 17.5 meter wide street section within the existing R.O.W. (1.7 meter wider section than existing).



EXISTING STREET SECTION



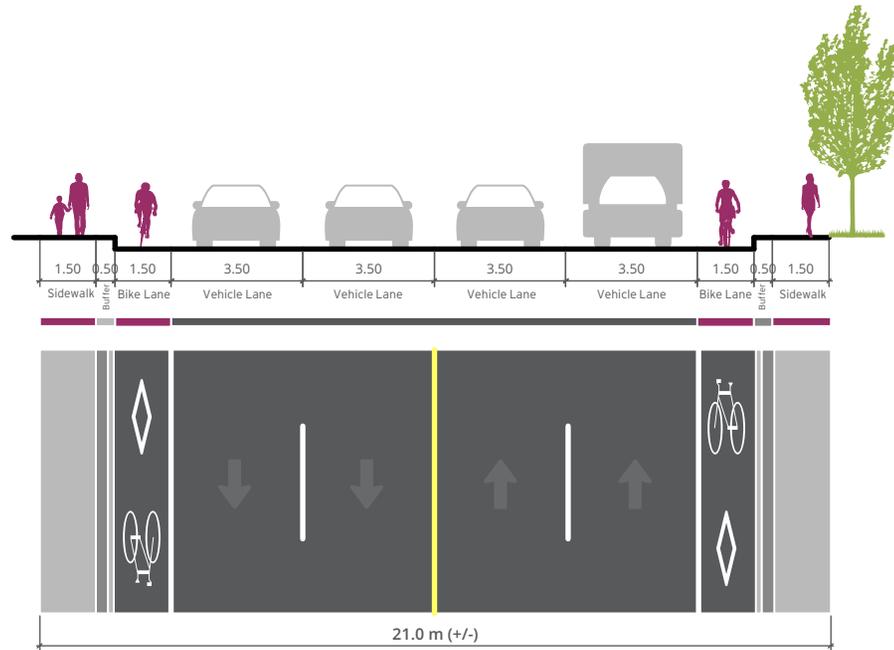
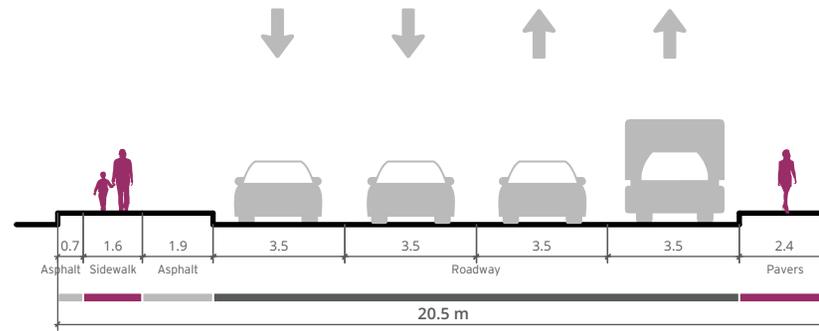
PROPOSED STREET SECTION

CASSELLS STREET

This existing 20.6 meter-wide street section occupies a 20.35 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of a 0.5 meter buffer strip and 1.5 meter wide sidewalk (on both sides of the street), a 1.5 meter-wide bike lane on both sides of the street, and four 3.5 meter-wide traffic lanes. Vehicle surfaces and AT infrastructure move the street to a 21.0 meter wide street section within the existing R.O.W.



EXISTING STREET SECTION



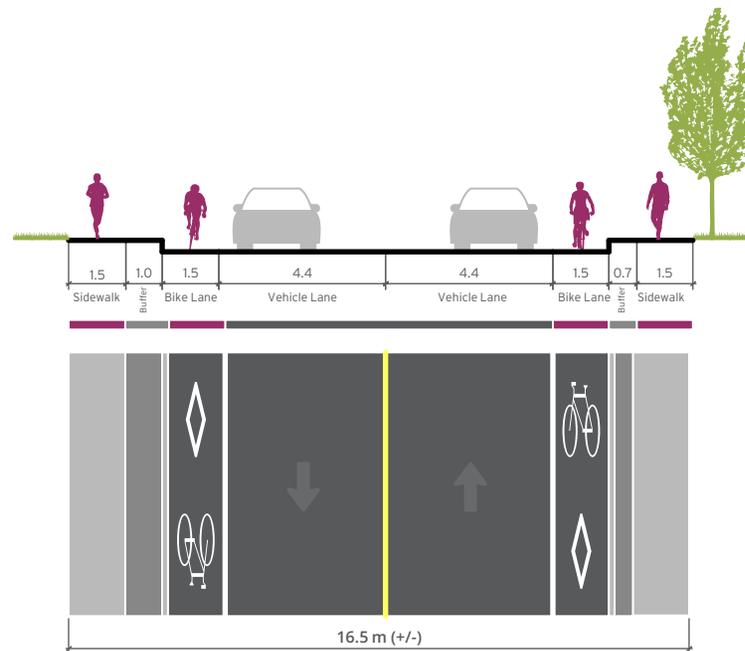
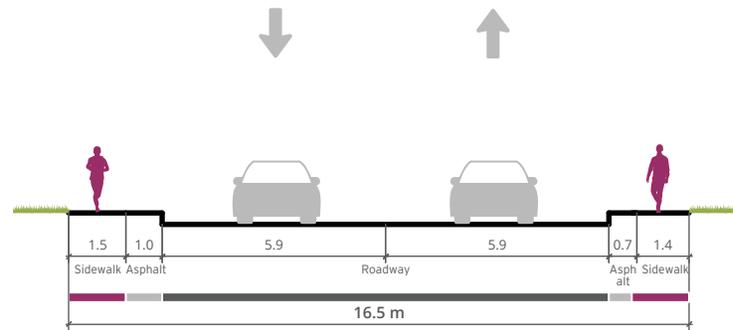
PROPOSED STREET SECTION

CHIPPEWA STREET

This existing 16.4 meter-wide street section occupies a 20.1 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of a setback strips and 1.5 meter wide sidewalk (on both sides of the street), a 1.5 meter-wide bike lane on both sides of the street, and two 4.4 meter-wide traffic lanes. Vehicle surfaces and AT infrastructure move the street to a 16.5 meter-wide street section within the existing R.O.W. (same as the existing section).



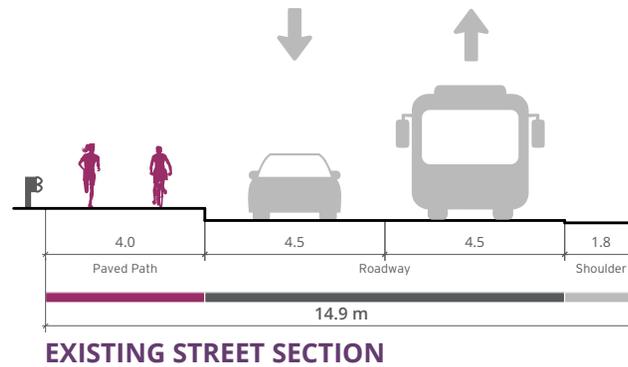
EXISTING STREET SECTION



PROPOSED STREET SECTION

COLLEGE DRIVE

This street should expand to the west under its present format from where the asphalt trail terminates adjacent to the College/University entrance.

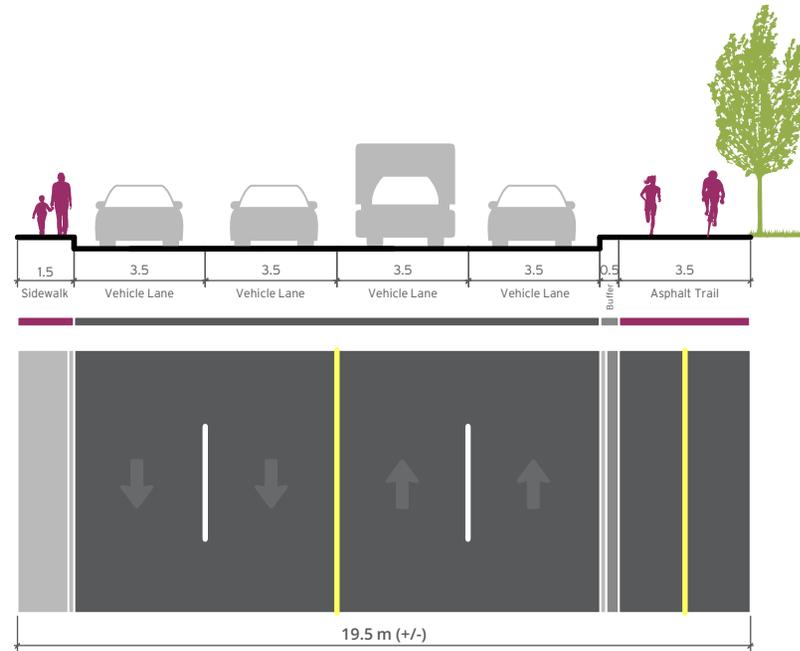
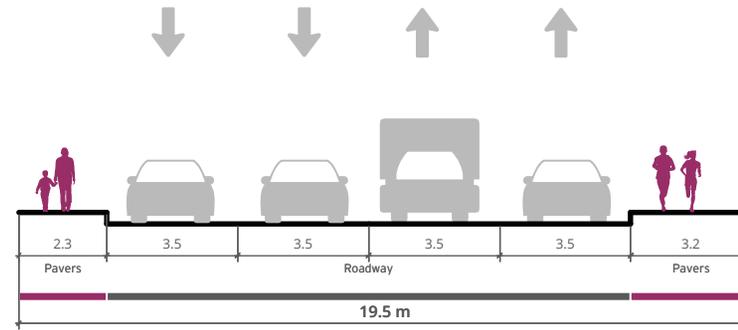


FISHER STREET

This existing 19.5 meter-wide street section occupies a 21.1 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of a 1.5 meter-wide sidewalk on one side, a 0.5 meter-wide buffer and 3.5 meter-wide asphalt trail on the opposite side, and four 3.5 meter-wide traffic lanes (as existing). Vehicle surfaces and AT infrastructure move the street to a 19.5 meter-wide street section within the existing R.O.W. (same as the existing section).



EXISTING STREET SECTION



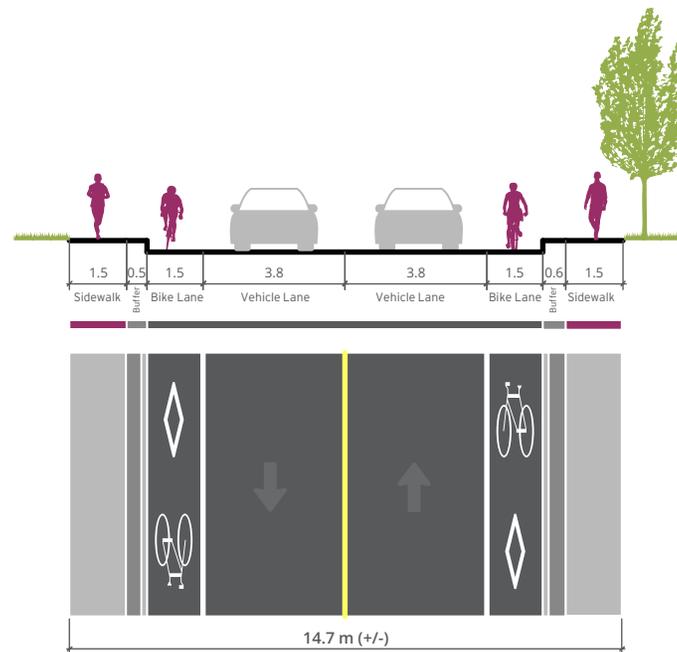
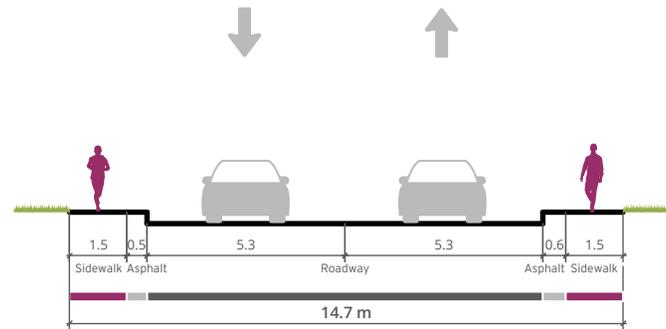
PROPOSED STREET SECTION

FRONT STREET

This street extends Trout Lake Road through Cassells Street to the urban core. The existing 14.7 meter-wide street section occupies a 19.29 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of the existing sidewalks and setbacks, a 1.5 meter-wide bike lane on both sides of the street, and two modified 3.5 meter-wide traffic lanes. Vehicle surfaces and AT infrastructure keep the street to a 14.7 meter-wide corridor, fitting within the existing R.O.W.



EXISTING STREET SECTION



PROPOSED STREET SECTION

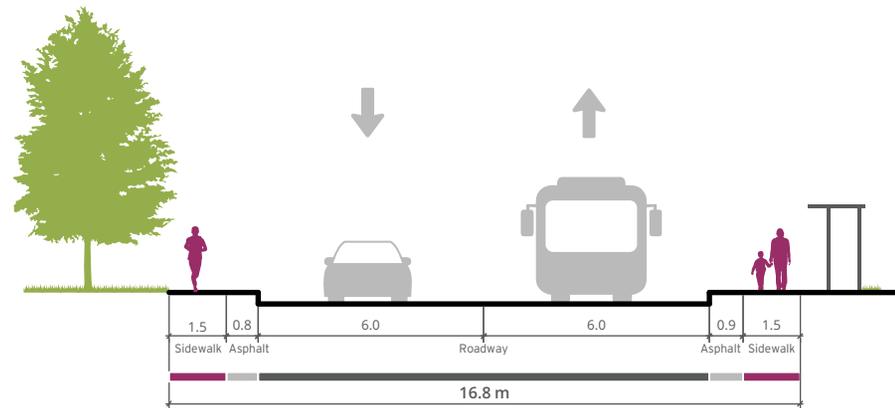
MAIN STREET (WEST)

This section of Main Street is essential to city-wide multi-modal movement due to the expansion of the street section to host the West Link portion of the Kate Pace Way Trail.

This important section connects the downtown to Gormanville Road which provides linkages to areas such as the hospital, the university and college, as well as to thousands of residents on the west edge of the city.

The existing street section includes two asphalt driving lanes as well as sidewalks (in some sections). The upgrade consists of the addition of bike lanes or a Kate Pace Way-style asphalt trail to communicate that this street is an important active transportation arterial street, and to support user comfort when cycling within the corridor.

The West Link project is highly prioritized in this master plan. The proposed modifications to Memorial Drive are designed to work with this link to improve city-centre access as well as regional movement throughout the city.



EXISTING STREET SECTION

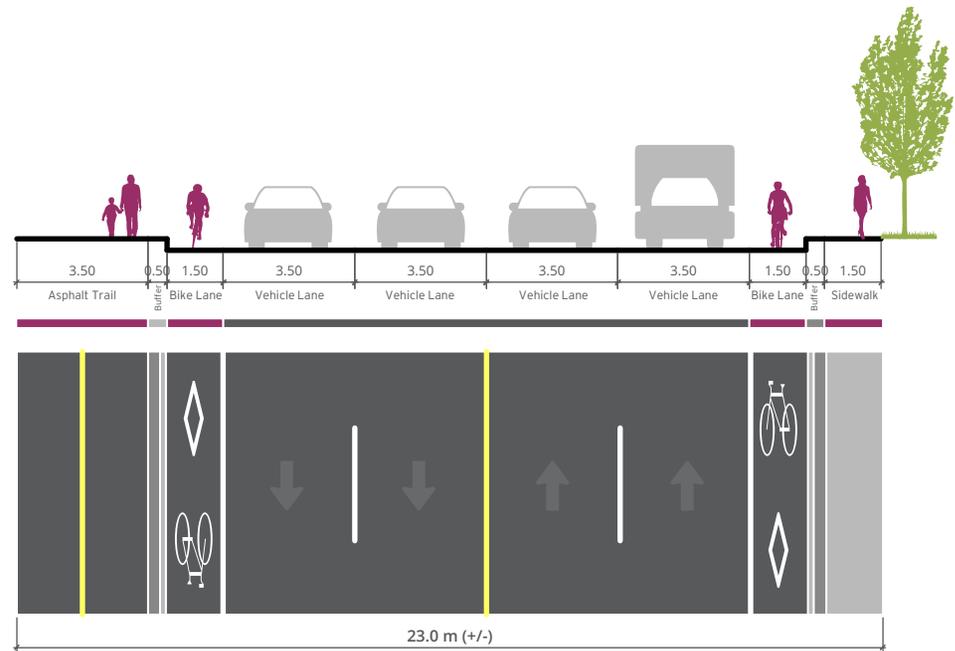
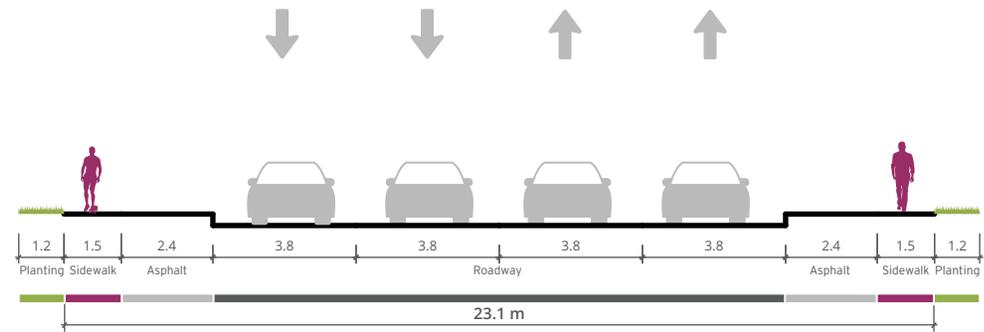
MCKEOWN AVENUE

This street varies substantially in size along its short corridor. The existing 23.1 meter-wide street section occupies an XX meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of a 3.5 meter-wide asphalt trail on one side of the street, 0.5 meter-wide setback strip, a 1.5 meter-wide sidewalk on the opposite side of the street, a 1.5 meter-wide bike lane on both sides of the street, and four 3.5 meter-wide traffic lanes. Vehicle surfaces and AT infrastructure move the street to a 23.0 meter wide street section.



Image capture: Aug 2018 © 2019 Google

EXISTING STREET SECTION



PROPOSED STREET SECTION

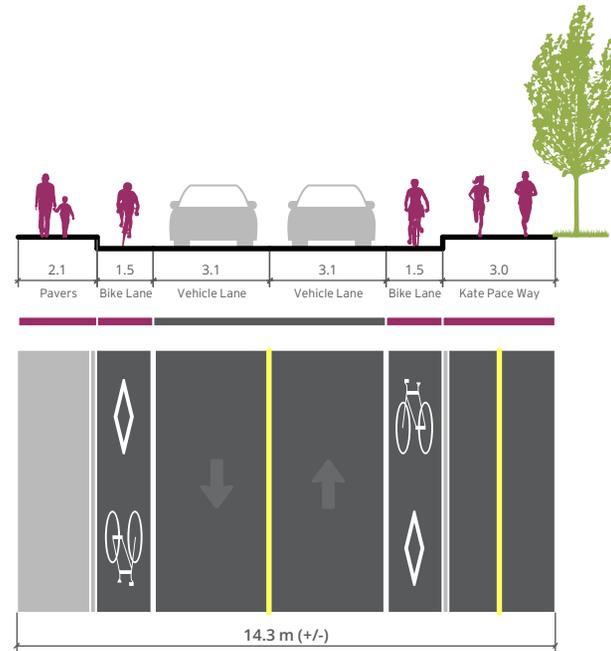
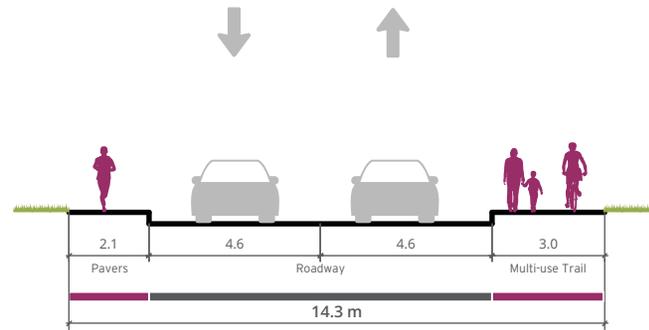
MEMORIAL DRIVE

This existing 14.3 meter-wide street and amenity edges remain physically the same; however, the two driving lanes are reduced to 3.1 meters each to constrain driving speed and to permit the addition of 1.5 meter-wide bike lanes on both sides of the street.



Image capture: Sep 2015 © 2019 Google

EXISTING STREET SECTION



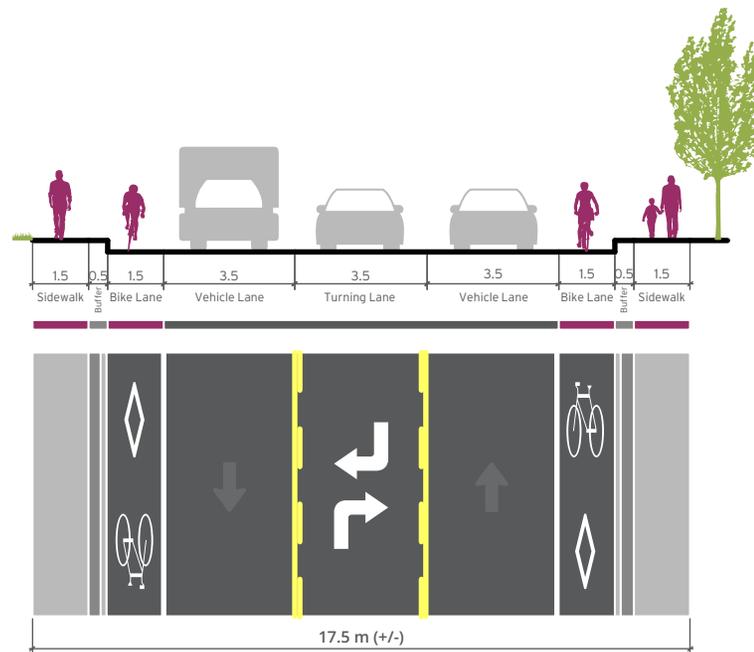
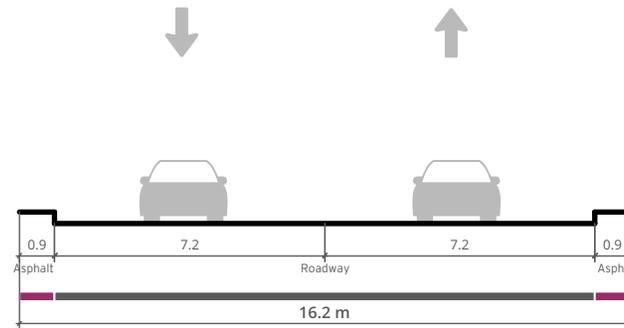
PROPOSED STREET SECTION

SEYMOUR STREET AND FRANKLIN STREET

This existing 16.2 meter-wide street section occupies a 27.1 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of a 0.5 meter-wide setback strip, a 1.5 meter-wide sidewalk, and a 1.5 meter-wide bike lane on both sides of the street, two 3.5 meter-wide traffic lanes with a 3.5 meter-wide central turning lane. Vehicle surfaces and AT infrastructure move the street to a 17.5 meter-wide street section within the existing R.O.W. (4.2 meter wider section than existing).



EXISTING STREET SECTION



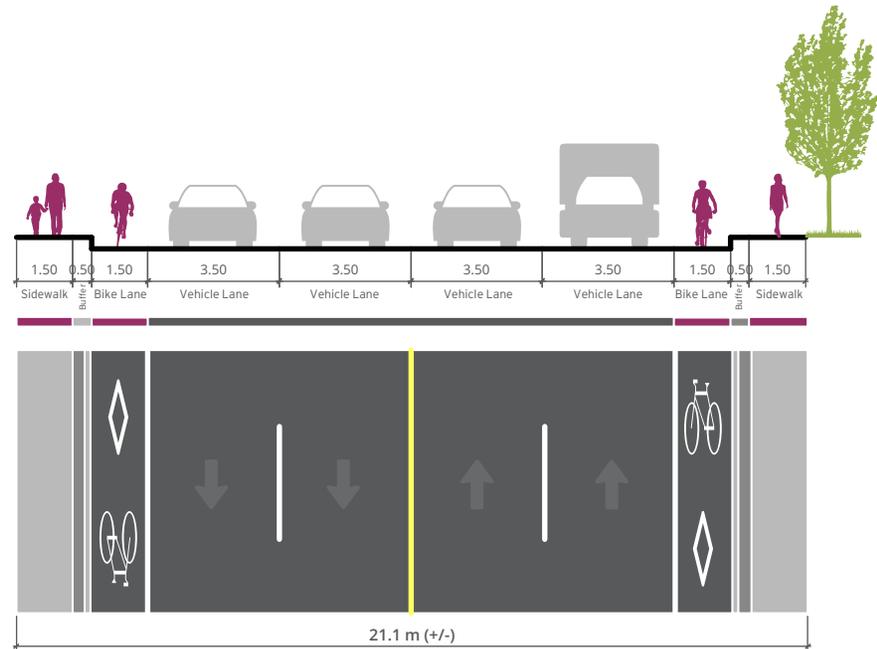
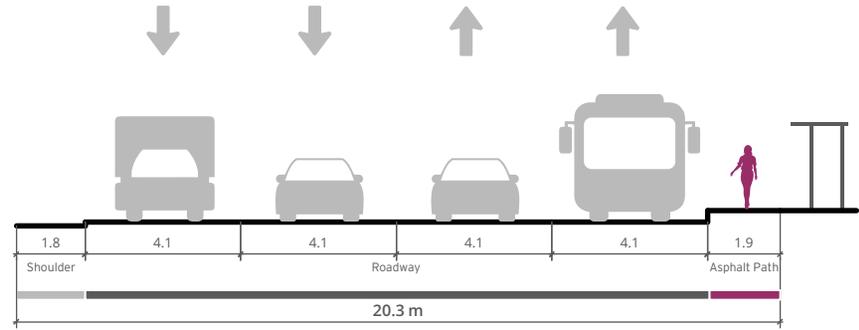
PROPOSED STREET SECTION

TROUT LAKE ROAD

This existing 20.1 meter-wide street section occupies a 44.7 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of a 0.5 meter-wide setback strip, a 1.5 meter-wide sidewalk, and a 1.5 meter-wide bike lane on both sides of the street, and four 3.5 meter-wide traffic lanes. Vehicle surfaces and AT infrastructure move the street to a 21.0 meter-wide street section within the existing R.O.W. (0.9 meter wider section than existing).



EXISTING STREET SECTION



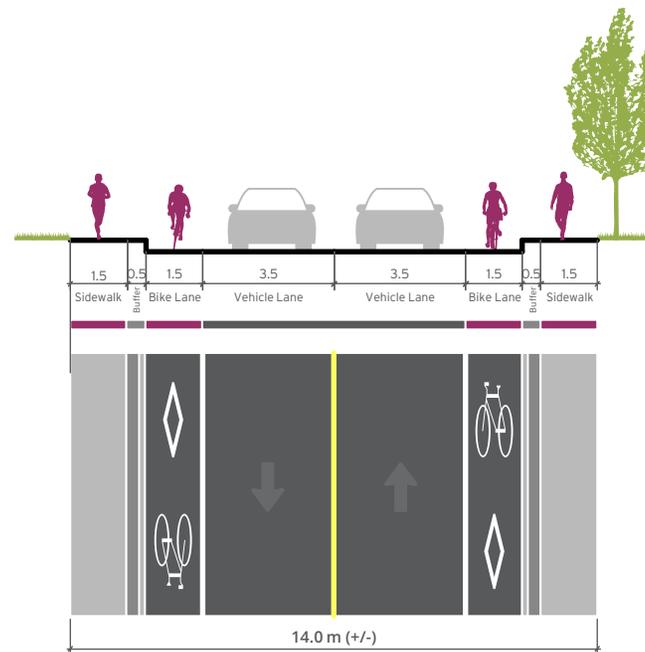
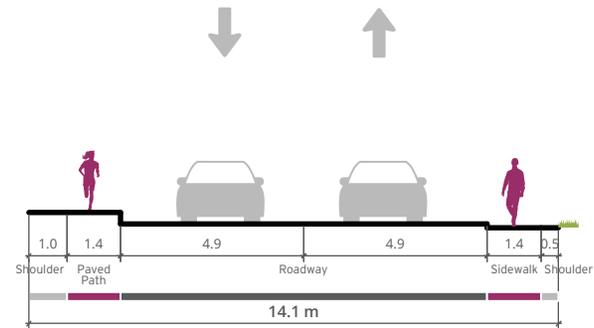
PROPOSED STREET SECTION

O'BRIEN STREET

This existing 14.1 meter-wide street section occupies a 21.4 meter right-of-way (R.O.W.). The proposed upgrade moves the street from existing to a corridor inclusive of a 0.5 meter setback strip, a 1.5 meter wide sidewalk, and a 1.5 meter-wide bike lane on both sides of the street, and two 3.5 meter-wide traffic lanes. Vehicle surfaces and AT infrastructure move the street to a 14.0 meter wide street section within the existing R.O.W.



EXISTING STREET SECTION



PROPOSED STREET SECTION

ACTIVE TRANSPORTATION COLLECTORS

These streets provide important linkages in the city-wide network; however, do not require the same level of amenity due to lower traffic counts within these corridors. The following streets are classified as AT Collectors.

BIRCHS ROAD

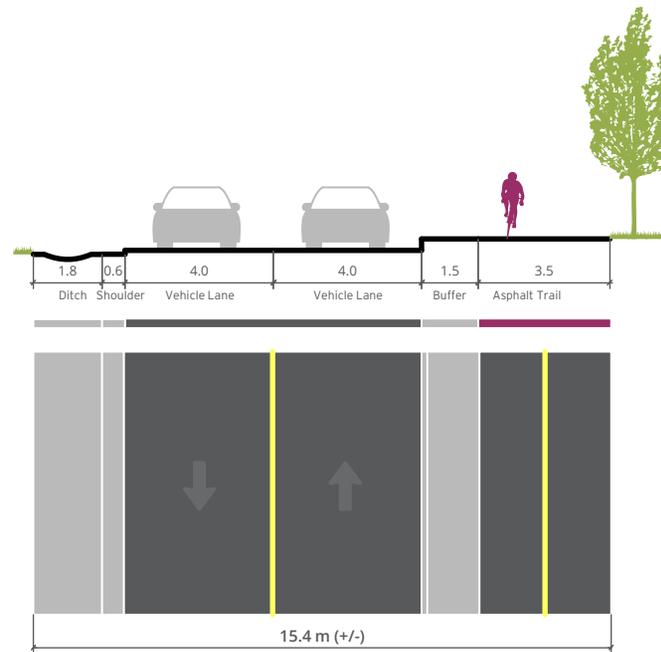
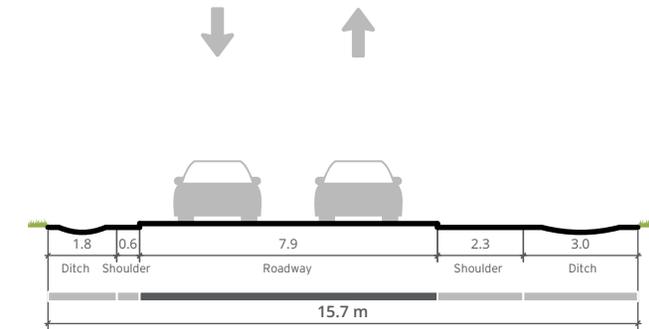
This is an important east-west corridor that links Lakeshore Drive to the Kate Pace Way. The existing corridor includes the two-lane asphalt street, wide shoulders and ditch. Due to the importance of this corridor, this master plan proposes the replacement of a shoulder and ditch with a curb, 1.5 meter-wide turf buffer and a 3.5 meter-wide multi-use asphalt trail.

This is a significant change to the street section due to the replacement of the ditch with a hardened landscape. The upgrade will require structural drainage where the ditch is replaced.



Image capture: Nov 2016 © 2019 Google

EXISTING STREET SECTION



PROPOSED STREET SECTION

BOOTH ROAD

This street corridor is a component of the Kate Pace Way Trail; however, the presence of the trail is not easily apparent. Therefore, this section of the trail is not considered visible or safe (by consulted residents).

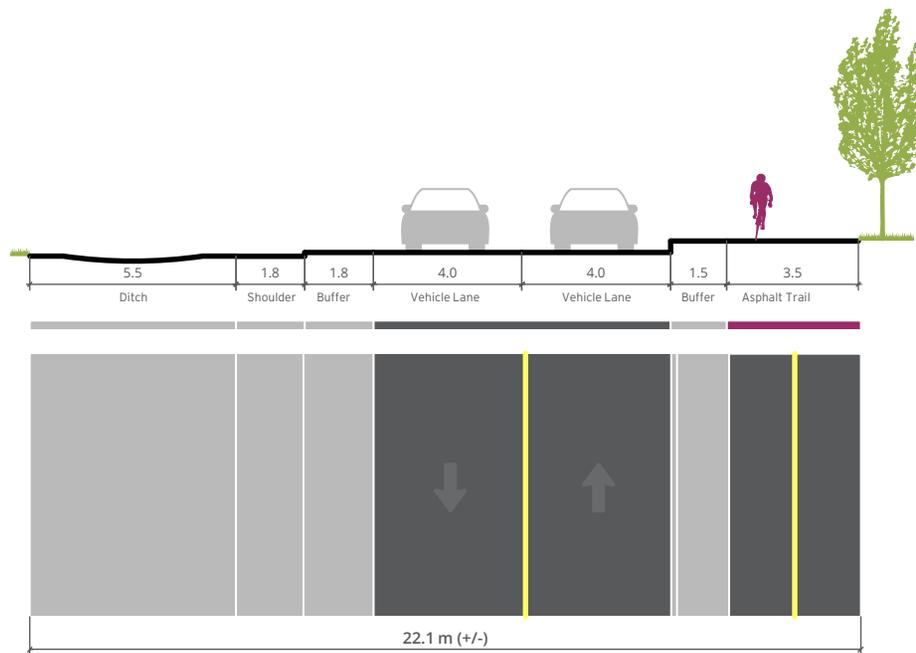
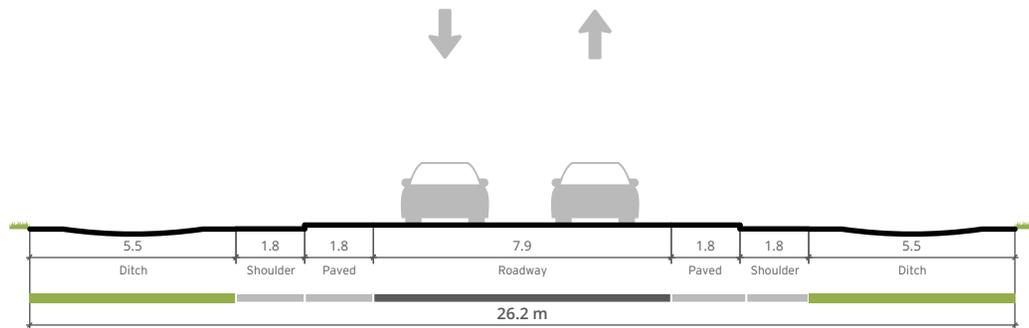
The existing corridor includes the two-lane asphalt street, wide shoulders and ditch. Due to the Kate Pace Way designation of this corridor, this master plan proposes the replacement of a shoulder and ditch with a curb, 1.5 meter-wide turf buffer and a 3.5 meter-wide multi-use asphalt trail.

This is a significant change to the street section due to the replacement of the ditch with a hardened landscape. The upgrade will require structural drainage where the ditch is replaced; however, the importance of this modification is paramount.



Image capture: Sep 2015 © 2019 Google

EXISTING STREET SECTION



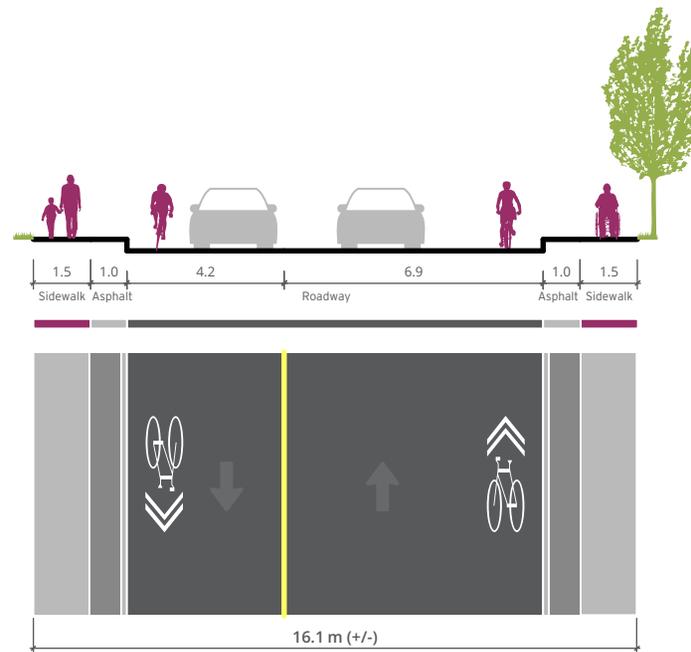
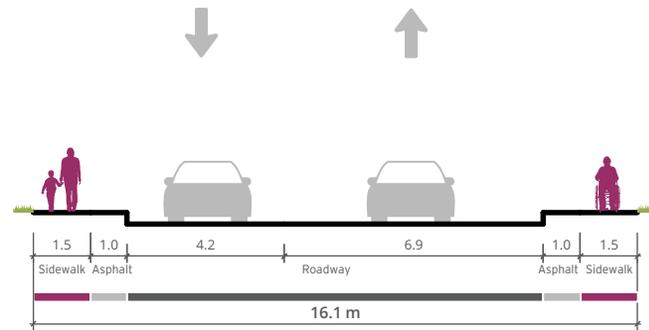
PROPOSED STREET SECTION

FERGUSON STREET

This existing 16.1 meter-wide street section occupies an 18.5 meter R.O.W. The proposed upgrade only adds painted sharrow on both sides; otherwise, the street remains as-is.



EXISTING STREET SECTION



PROPOSED STREET SECTION

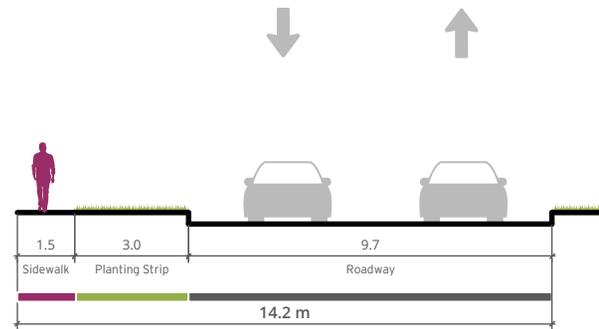
GERTRUDE STREET EAST

This is an important neighbourhood link to both the Kate Pace Way and Lakeshore Drive. The street section requires no physical modification to fulfill its role; however, wayfinding signage and painted sharrows are proposed to communicate the important multi-modal nature of the street corridor.



Image capture: Nov 2016 © 2019 Google

EXISTING STREET SECTION



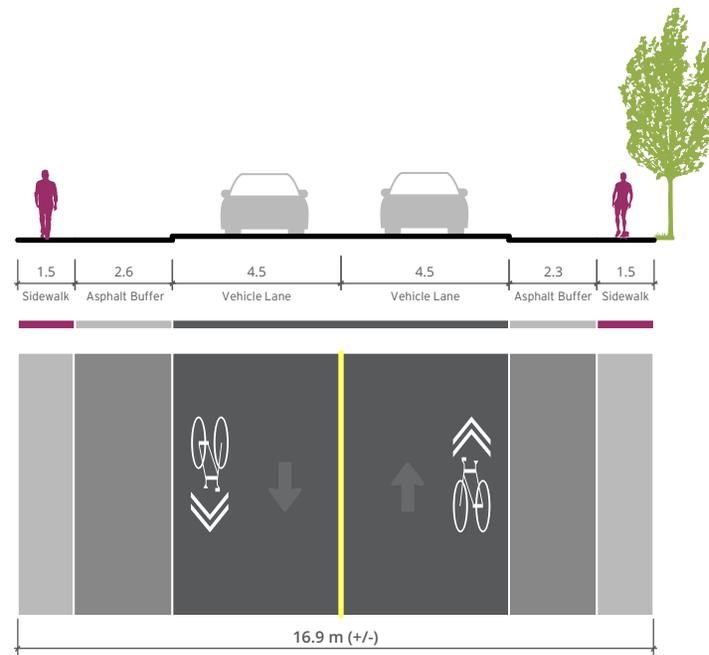
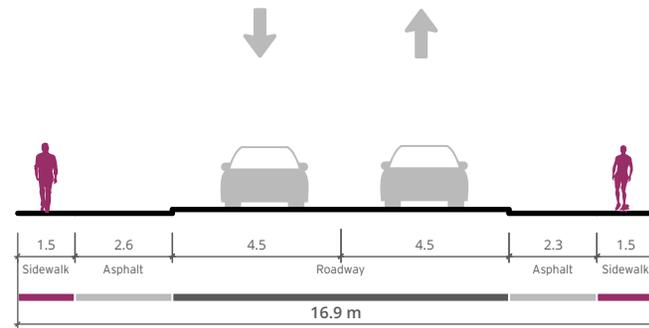
PROPOSED STREET SECTION

HIGH STREET AND OLIVE STREET

This existing 16.9 meter-wide street section occupies a 20.1 meter R.O.W. The proposed upgrade slightly adjusts the asphalt buffers to 2.5 meters-wide on both sides, and adds painted sharrows on both sides; otherwise, the street remains as-is.



EXISTING STREET SECTION



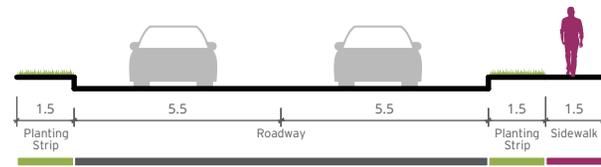
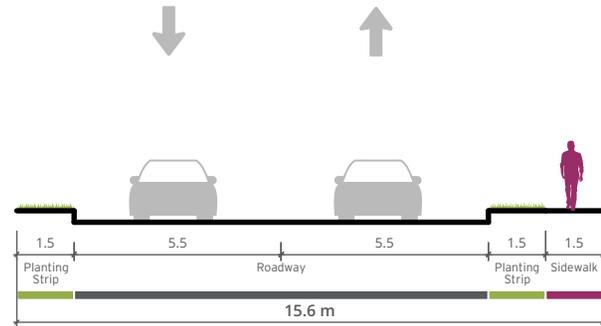
PROPOSED STREET SECTION

JANE STREET

This existing 15.5 meter-wide street section occupies a 20.2 meter-wide R.O.W. The proposed upgrade reduces the 1.5 meter-wide planting strips on both sides of the street to 0.5 meter-wide buffers, and adds painted sharrows on both sides; otherwise, the street remains as-is.



EXISTING STREET SECTION



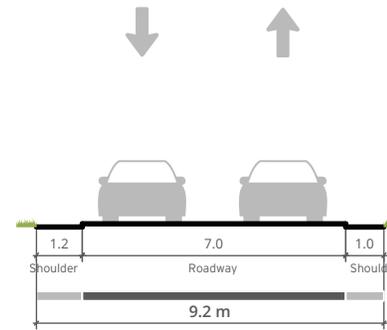
PROPOSED STREET SECTION

LAKESIDE DRIVE

This existing 9.3 meter-wide street section occupies a 22.5 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of the existing 1.5 meter-wide shoulder on one side, two 3.5 meter-wide traffic lanes complete with sharrows on both sides, and a 3.5 meter-wide asphalt trail complete with 0.5 meter setback strip on one side. Vehicle surfaces and AT infrastructure move the street to a 12.5 meter wide street section within the existing R.O.W. (3.2 meters wider section than existing).



EXISTING STREET SECTION



PROPOSED STREET SECTION

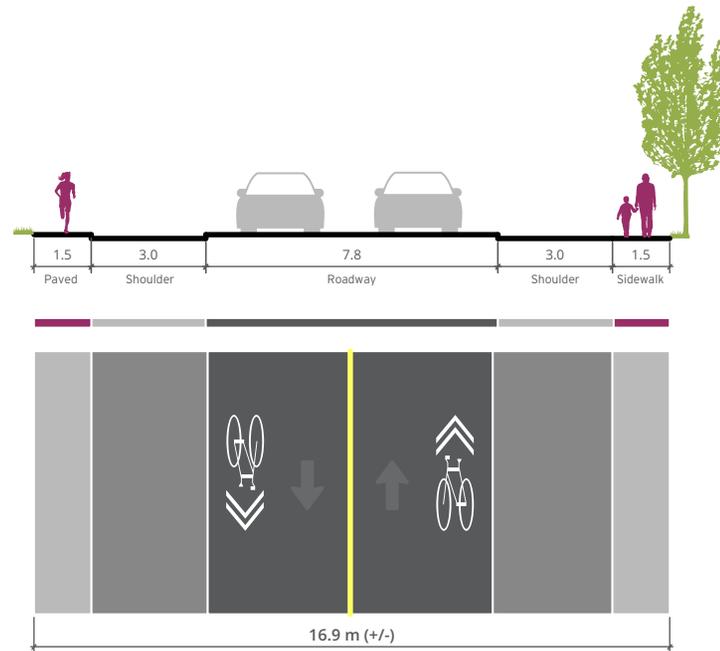
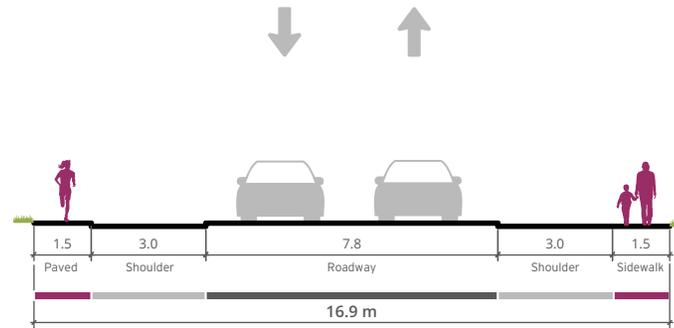
LAURIER AVENUE

This is an important intra-neighbourhood connection that, due to an extended edge buffer, is perceived as a safe sidewalk environment. The street section requires no physical modification to fulfill its role as an important cycling route; however, wayfinding signage and painted sharrows are proposed to communicate the importance of the cycling environment.



Image capture: Nov 2016 © 2019 Google

EXISTING STREET SECTION



PROPOSED STREET SECTION

MARSHALL AVENUE EAST

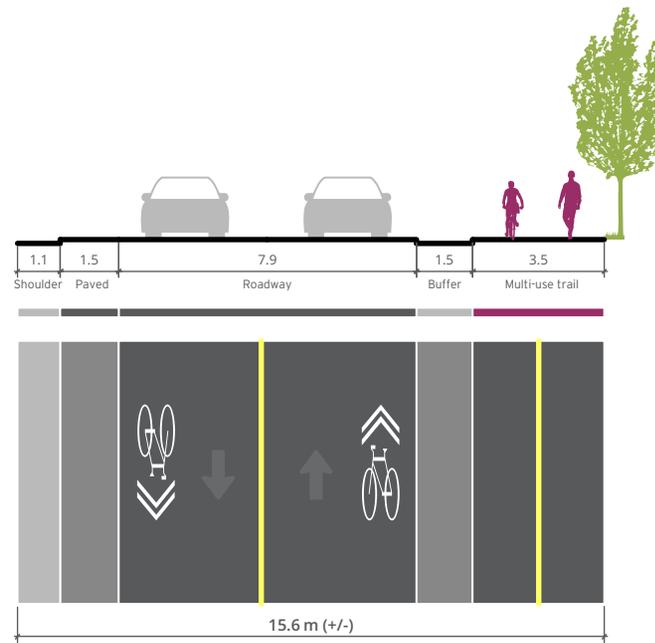
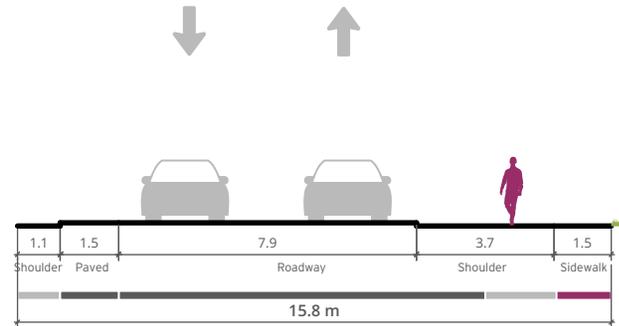
This is an important connection between Lakeshore Drive and the Kate Pace Way Trail. The density of the housing within this area, accompanied by heightened traffic volumes, suggests that a multi-use asphalt trail be added to the corridor.

The trail can be added within the existing corridor; however, it will require the replacement of the shoulder and ditch with a 1.5 meter-wide buffer and 3.5 meter-wide asphalt trail.



Image capture: Nov 2016 © 2019 Google

EXISTING STREET SECTION



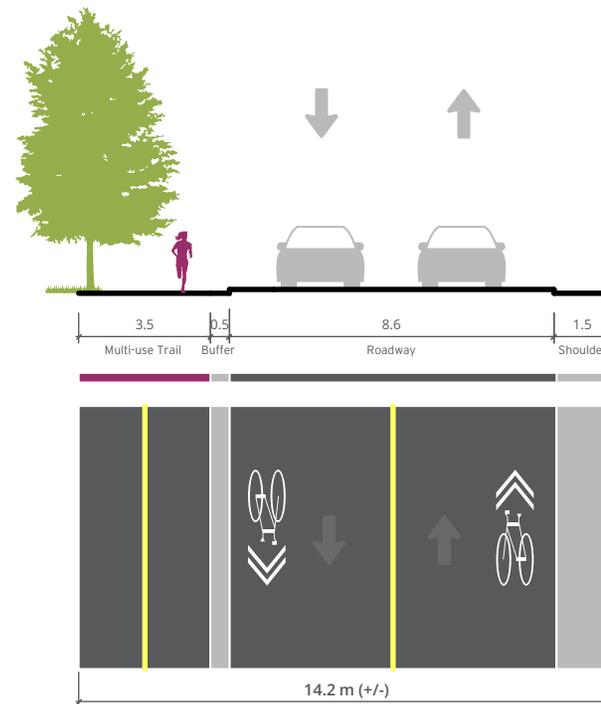
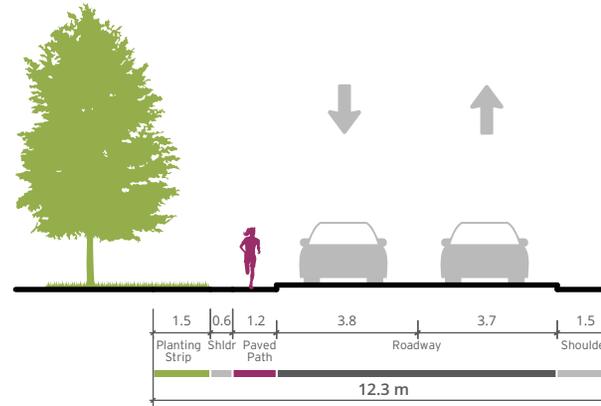
PROPOSED STREET SECTION

SAGE ROAD

This existing 12.3 meter-wide street section occupies a 19.7 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of the existing 1.5 meter-wide shoulder on one side, two 3.5 meter-wide traffic lanes, and a 3.5 meter-wide asphalt trail on one side complete with 0.5 meter setback strip from the street. Vehicle surfaces and AT infrastructure move the street to a 12.5 meter wide street section within the existing R.O.W. (0.2 meters wider section than existing).



EXISTING STREET SECTION



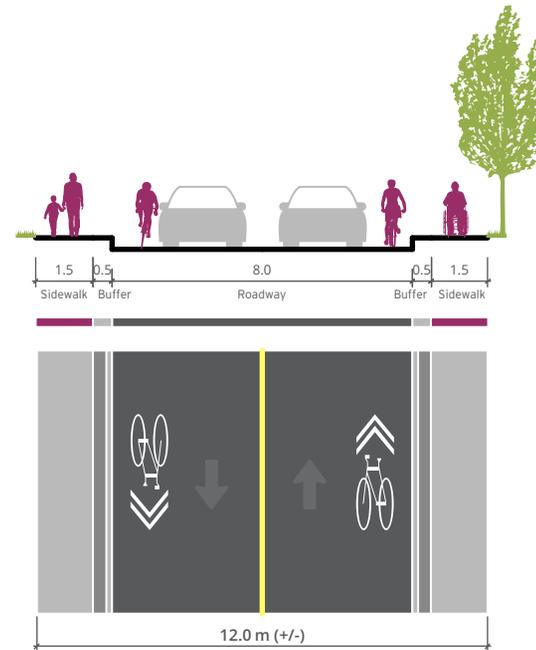
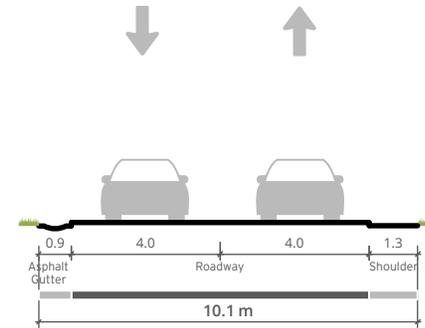
PROPOSED STREET SECTION

SKI CLUB ROAD

This is a very important AT collector street within an active residential area. This existing 10.2 meter-wide street section occupies a 20.1 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of a 1.5 meter-wide sidewalk with a 0.5 meter-wide buffer on each side of the street, painted sharrows on both sides and two 4.0 meter-wide traffic lanes. Vehicle surfaces and AT infrastructure move the street to a 12.0 meter wide street section within the existing R.O.W. (1.8 meters wider section than existing).



EXISTING STREET SECTION



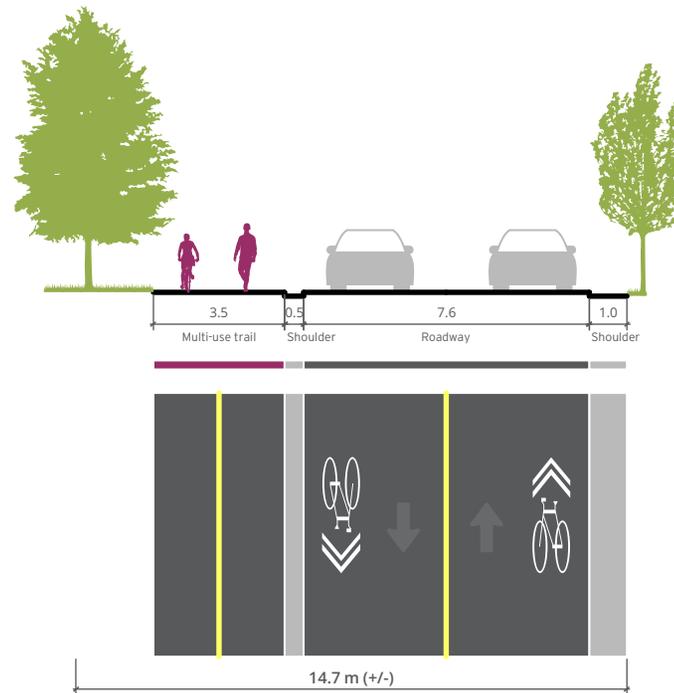
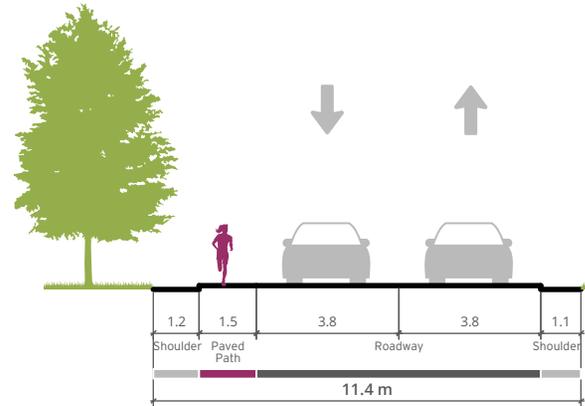
PROPOSED STREET SECTION

WALLACE ROAD AND WICKSTEAD AVENUE

This existing 11.4 meter-wide street section occupies a 21.9 meter R.O.W. The proposed upgrade moves the street from existing to a corridor inclusive of the existing 1.1 meter-wide shoulder on one side, two 3.8 meter-wide traffic lanes complete with sharrows on both sides, and a 3.5 meter-wide asphalt trail on one side. Vehicle surfaces and AT infrastructure move the street to a 12.2 meter wide street section within the existing R.O.W. (0.8 meters wider section than existing).



EXISTING STREET SECTION



PROPOSED STREET SECTION

6.0

NEIGHBOURHOOD STRUCTURE



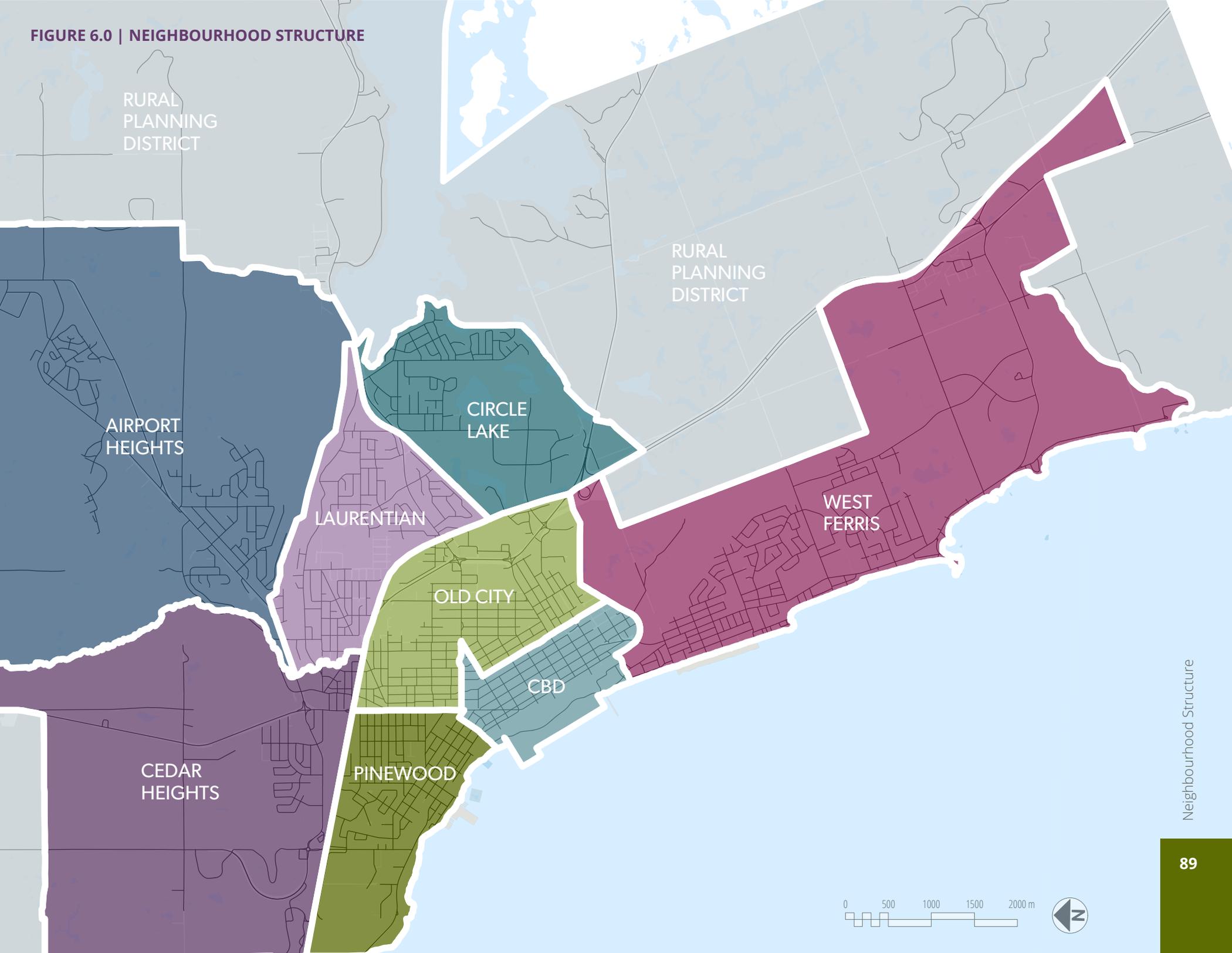
6.0 NEIGHBOURHOOD STRUCTURE

The City of North Bay is assembled from eight neighbourhood units that are, relative to AT, connected by the Chapter 5.0 arterial network. This chapter focuses on the intra-neighbourhood networks that connect important localized assets. Therefore, the neighbourhood systems work the same as the citywide system; however, the neighbourhood system delivers at the local scale.

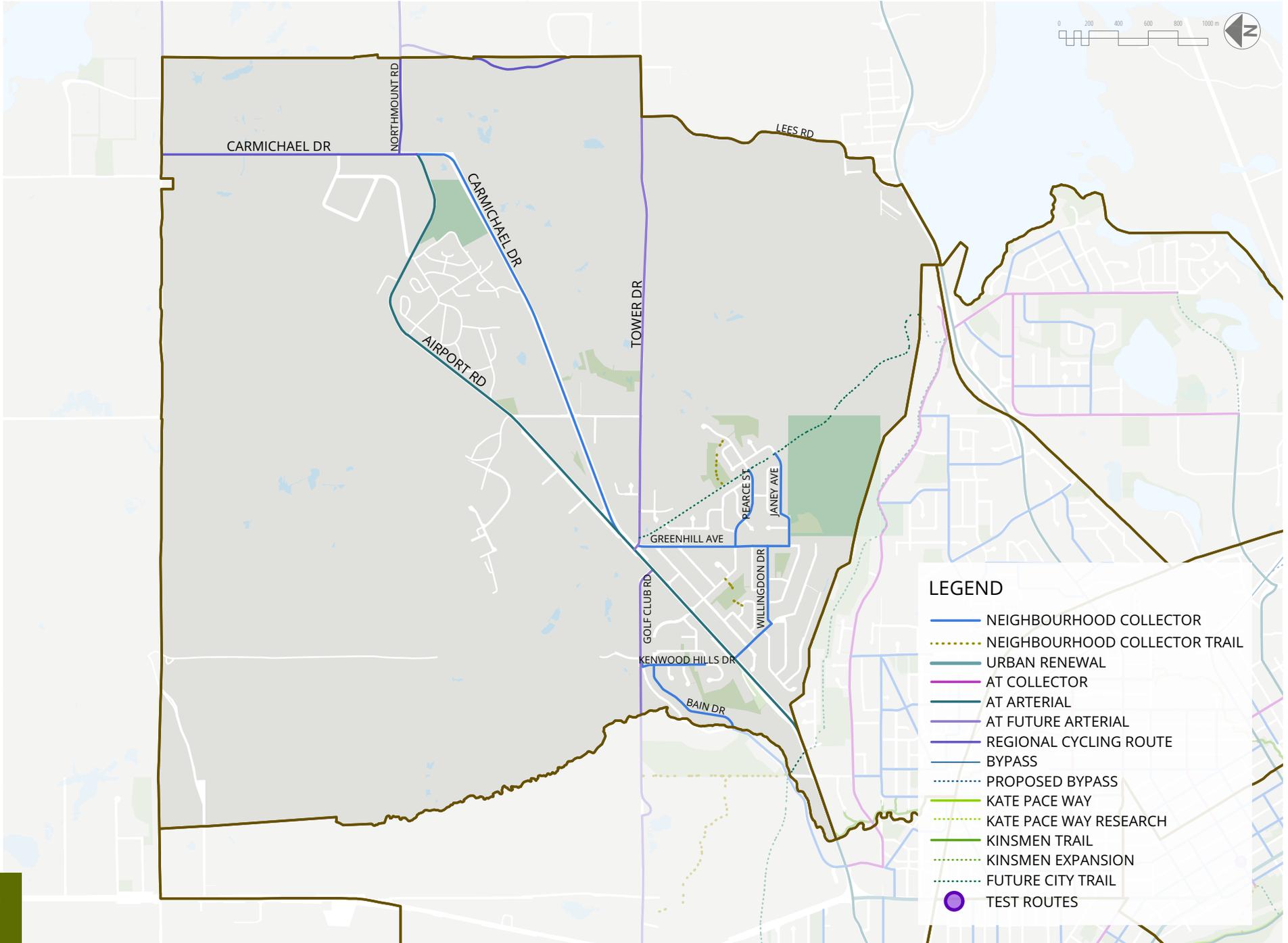
It is important to note that this plan utilizes both physical and programmatic projects to get residents on their streets, sidewalks and trails for recreation and commuter purposes. Over time, neighbourhoods should feel like residential parks where people meet, talk, laugh, recreate and shop. This approach supports the notion of building AT from the ground up. Encouraging residents to move freely and safely around their neighbourhoods will create a body of interest in a city-wide network as people wish to move beyond their neighbourhoods for recreation, shopping and work reasons. Thus, creating walkable and bikeable neighbourhoods can build demand for a greater system by strengthening the neighbourhood systems.

This chapter reviews network plans on a neighbourhood-by-neighbourhood basis for the purpose of identifying the streets. All of the neighbourhood collector streets identified on these pages receive exactly the same treatment, regulatory signage to TAC specification.

FIGURE 6.0 | NEIGHBOURHOOD STRUCTURE



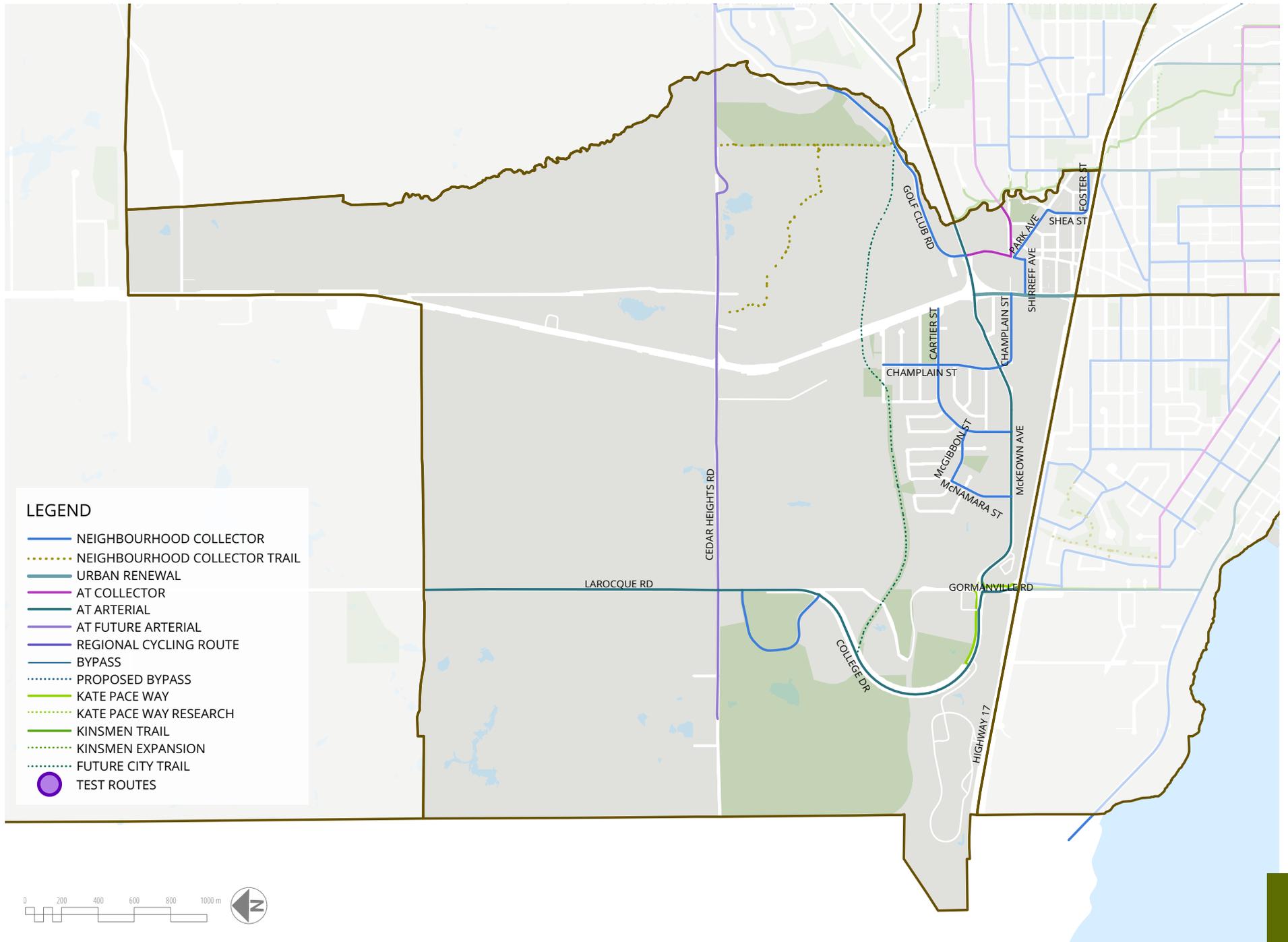
6.1 THE AIRPORT HEIGHTS NEIGHBOURHOOD



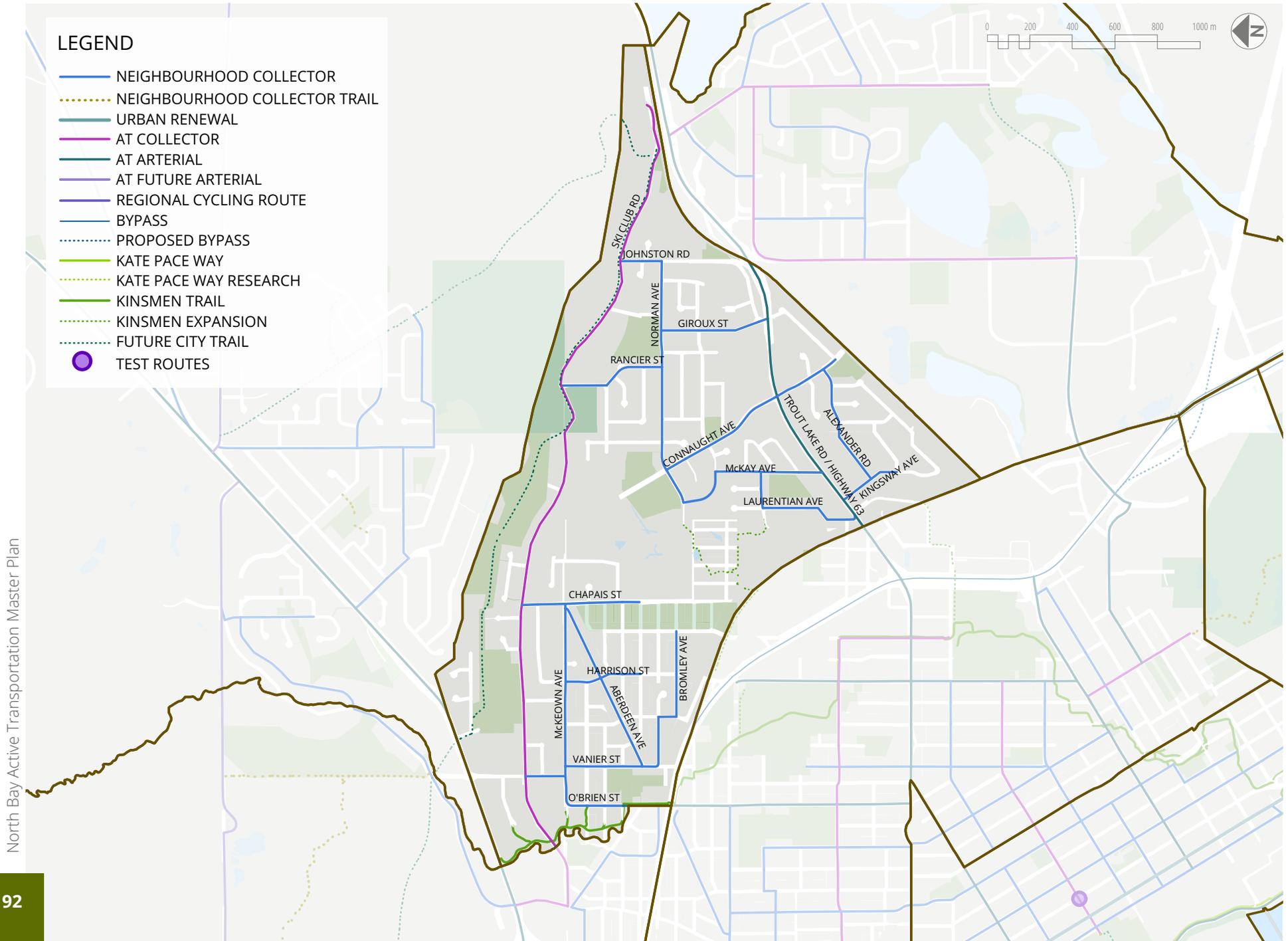
LEGEND

- NEIGHBOURHOOD COLLECTOR
- NEIGHBOURHOOD COLLECTOR TRAIL
- URBAN RENEWAL
- AT COLLECTOR
- AT ARTERIAL
- AT FUTURE ARTERIAL
- REGIONAL CYCLING ROUTE
- BYPASS
- PROPOSED BYPASS
- KATE PACE WAY
- KATE PACE WAY RESEARCH
- KINSMEN TRAIL
- KINSMEN EXPANSION
- FUTURE CITY TRAIL
- TEST ROUTES

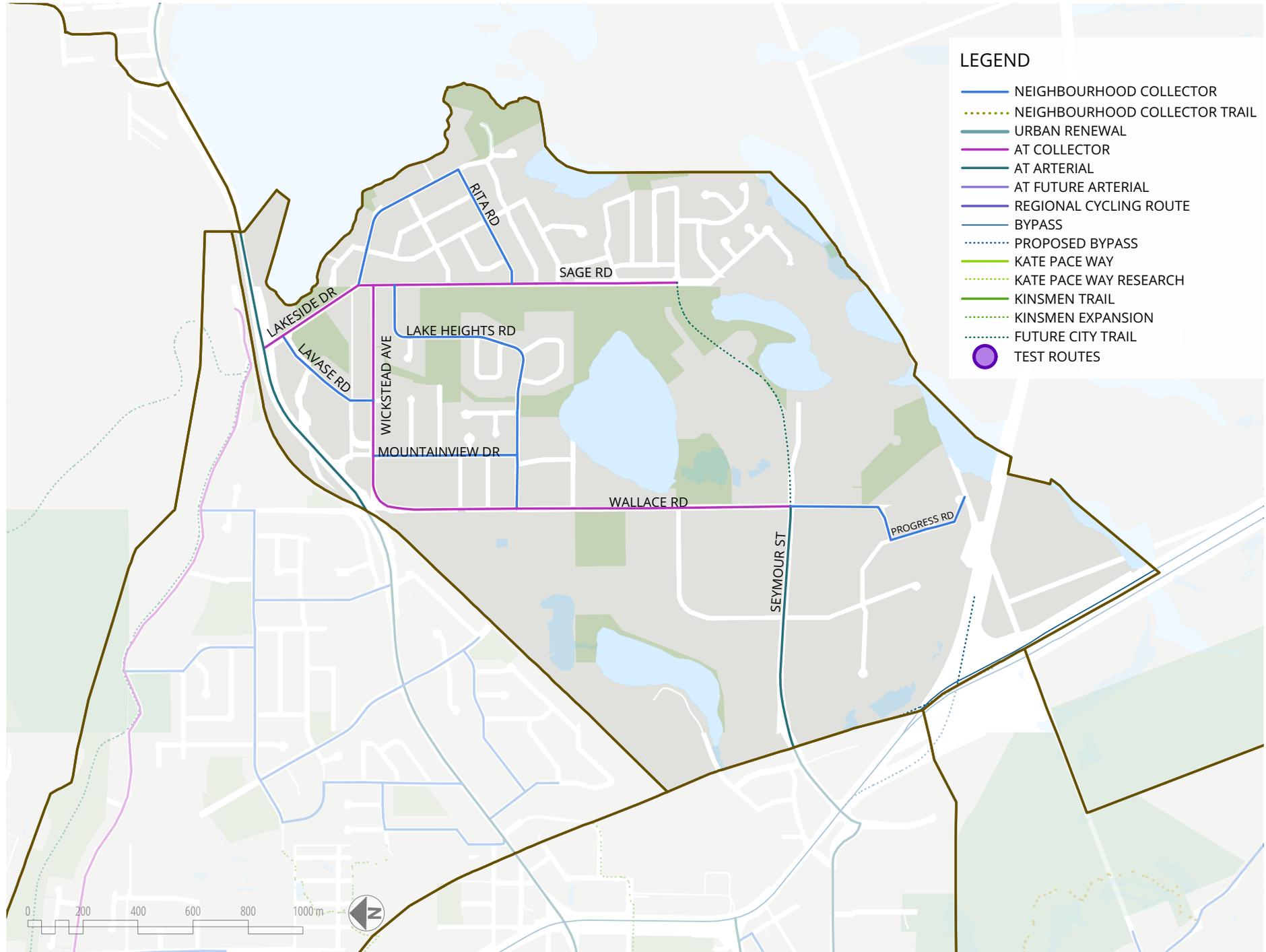
6.2 THE CEDAR HEIGHTS NEIGHBOURHOOD



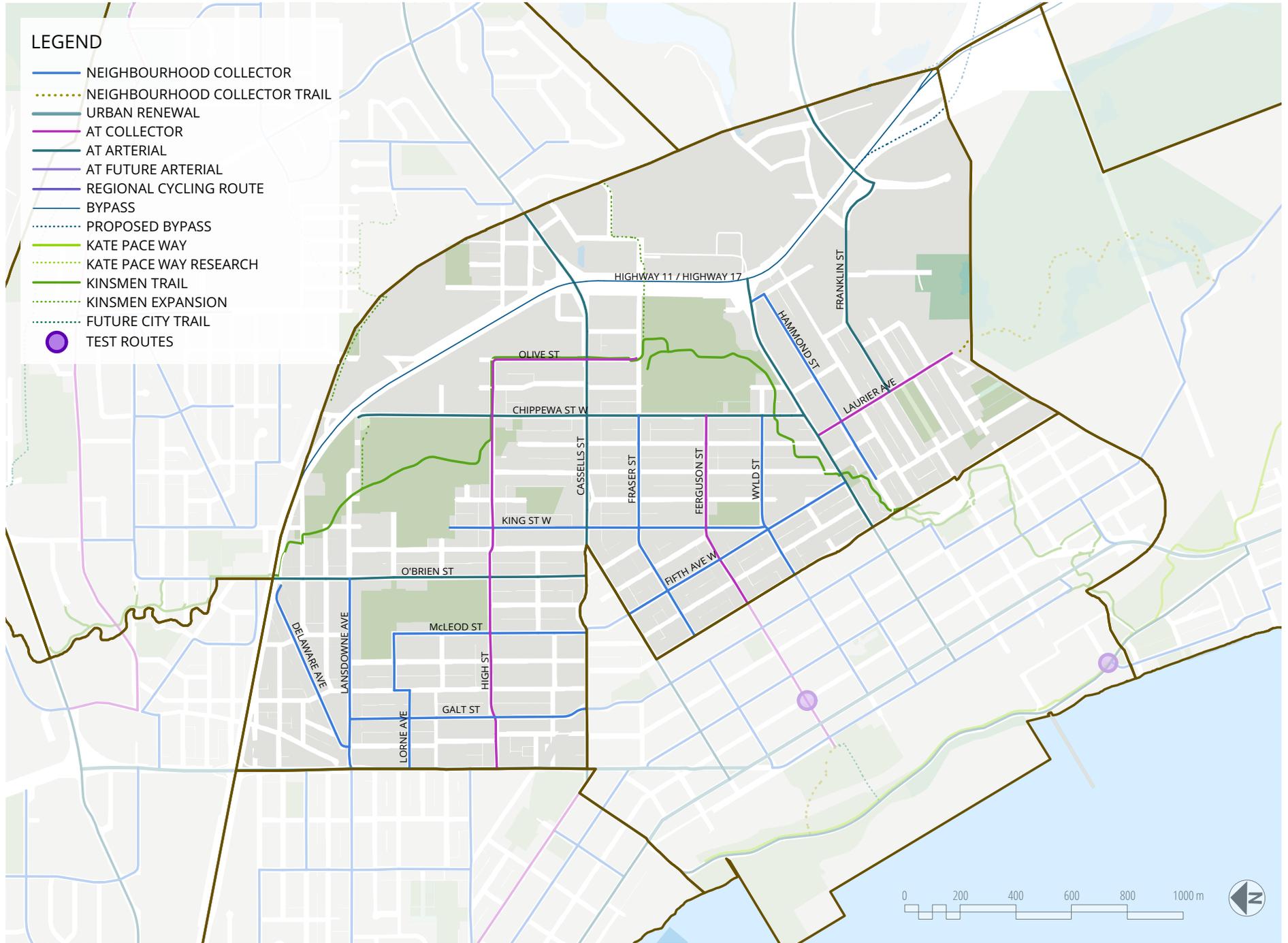
6.3 THE LAURENTIAN NEIGHBOURHOOD



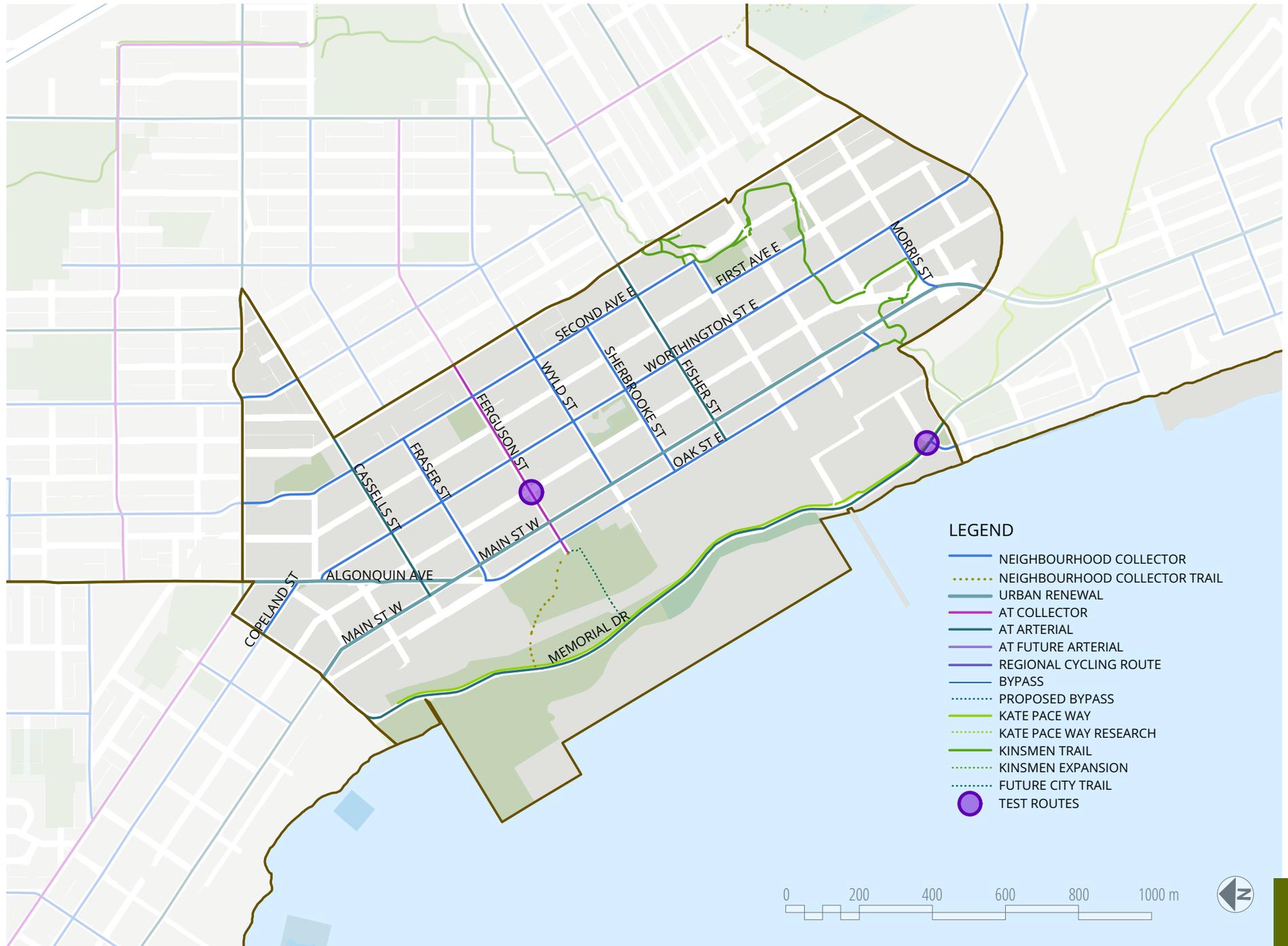
6.4 THE CIRCLE LAKE NEIGHBOURHOOD



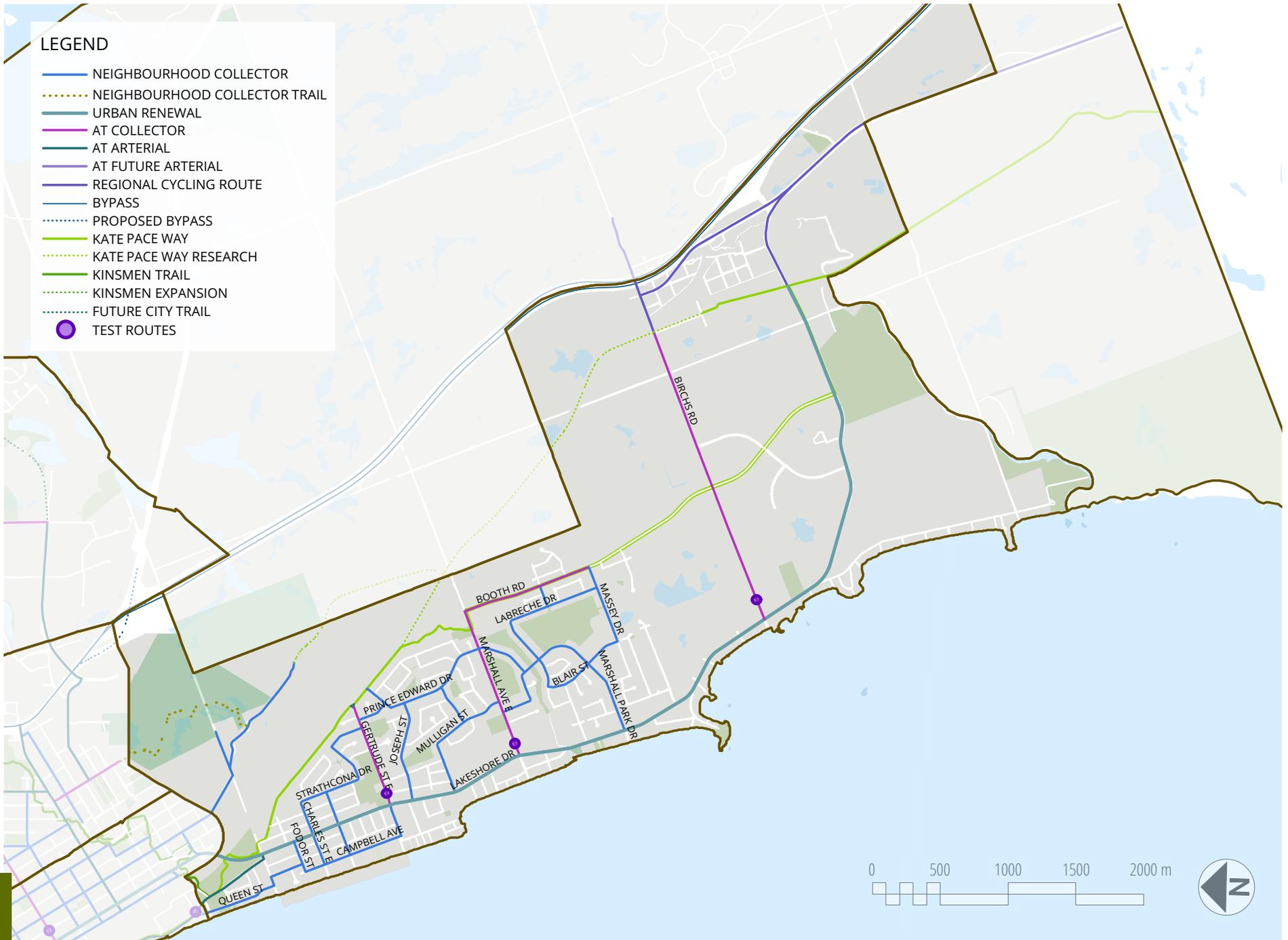
6.5 THE OLD CITY NEIGHBOURHOOD



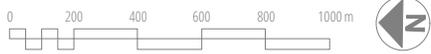
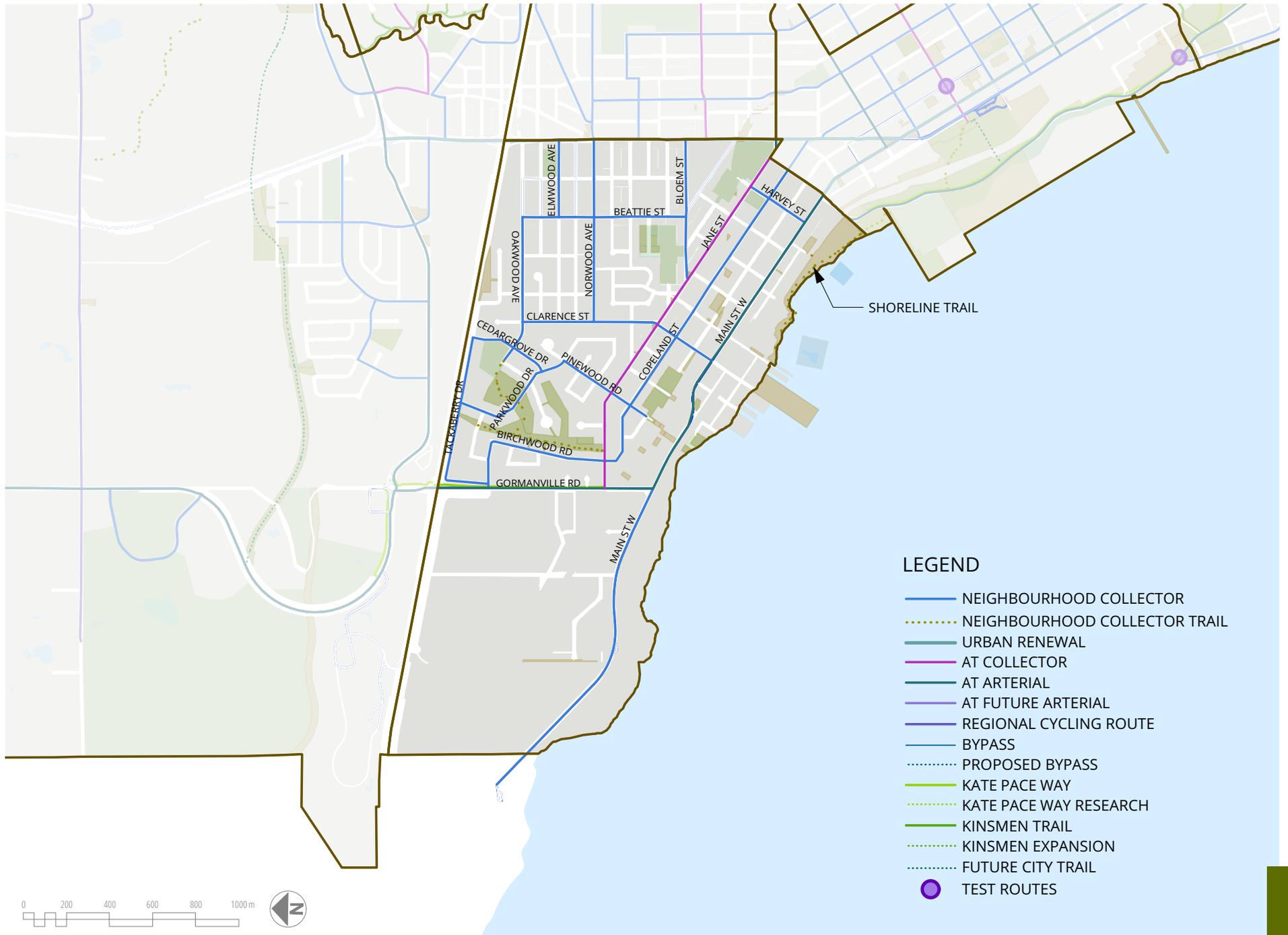
6.6 THE CBD NEIGHBOURHOOD



6.7 THE WEST FERRIS NEIGHBOURHOOD



6.8 THE PINewood NEIGHBOURHOOD



7.0

IMPLEMENTATION
PLAN



7.0 IMPLEMENTATION PLAN

The City of North Bay commissioned this master plan to identify a vision, concept and projects that can be undertaken to improve human-powered mobility over the next 25 years. It is important to note that the tasks described in this chapter are presented in linear format; however, linear implementation is unlikely. Implementation will be highly iterative relative to available staffing, funding, council priority, etc. Moving tasks forward, and reverse, is not a failure to meet resident desires if the plan's vision and development themes are adhered to. In fact, real success is the result of adapting to the 'reality of the day' within the context of the vision and themes.

Through its enactment of the policies listed below, the City of North Bay establishes the mandate for which the North Bay Active Transportation Master Plan's implementation will be achieved. The strategy for moving this master plan forward involves embarking on a five-phase implementation plan that commences with administrative tasks prior to moving into working projects. Although this document was developed under the direction of those consulted throughout plan development, further consultation and partnership-forming are required for implementation. These relationships are forged in the first phase. Thus, the administrative context required to implement this implementation plan is developed immediately for procedural ease.

POLICY AT-1 The Corporation of the City of North Bay shall incorporate this Active Transportation Master Plan's policies and projects into the future Parks and Open Space Master Plan development process to ensure the seamless integration of North Bay's human-powered mobility and recreation assets.

Policy AT-2 The Corporation of the City of North Bay shall promote the use of self-propelled, active transportation modes (i.e., bicycles, pedestrian movement), by maintaining and expanding upon its active transportation network, through the implementation of the network as identified in the North Bay Active Transportation Master Plan.

Policy AT-3 Council shall amend Official Plan Schedule 5 - Transportation Plan to include active transportation corridors identified in Figure 5.0 of the North Bay Active Transportation Master Plan.

Policy AT-4 Council shall amend Official Plan Appendices B1 - B8 to include the active transportation corridors identified in Active Transportation Master Plan Figures 6.1 - 6.8.

Policy AT-5 Active Transportation facilities and components as outlined in North Bay Active Transportation Master Plan Figures 5.0 and 6.1 - 6.8, as well as the cross sections illustrated and described in Section 5.2, will be incorporated to the maximum extent practical, in all planning, design, and construction of new roads, maintenance of existing roads, and/or reconstruction of existing roads.

Policy AT-6 Council shall use Chapter 7.0 Implementation Plan as a guide to implement the North Bay Active Transportation Master Plan.

Policy AT-7 Council shall use the North Bay Active Transportation Master Plan as a guide for expanding active mobility within existing or developing city neighbourhoods, and when connecting to existing or proposed adjacent active transportation infrastructure.

Policy AT-8 Council shall update Official Plan Policy 5.2.1.2 to include the North Bay Active Transportation Master Plan 2019 in the list of relevant documents referenced.



7.1 PHASE ONE - PLAN ADMINISTRATION AND COMMUNICATIONS

Task One - Building Partnerships

This is a very important and transformative plan that has an opportunity to bring North Bay's built form in-line with its cultural form. Plan implementation will require the participation of varied local, provincial and federal departments, groups and individuals to ensure this occurs. Therefore, this plan should be formally presented to, at a minimum, the following groups (alone and in group settings):

LOCAL:

- » Discovery Routes Trails Organization (and Cycling Advocates of Nipissing)
- » The North Bay-Mattawa Conservation Authority (and Laurentian Escarpment Advisory Committee)
- » Friends of Laurier Woods
- » Laurentian Ski Hill Snowboard Club
- » North Bay Nordic Ski Club
- » Vision Zero
- » Nipissing University
- » Canadore College
- » School Boards
- » North Bay District Chamber of Commerce
- » Invest North Bay
- » Creative Industries

PROVINCIAL:

- » Ministry of Environment, Conservation and Parks
- » Ministry of Infrastructure
- » Ministry of Tourism, Culture and Sport
- » Ministry of Transportation
- » North Bay Representative MLA's
- » North Bay Parry Sound District Health Unit

NATIONAL:

- » The Department of Canadian Heritage
- » The Department of National Defence
- » The Great Trail (through Discovery Routes)
- » Health Canada
- » North Bay Representative MP's



Task Two - Comprehensive Education and Activity Program

The City of North Bay, in association with Discovery Routes and the North Bay Parry Sound District Health Unit, should apply for funding and develop a comprehensive education plan (as described in Chapter Four of this master plan). The plan must start with the notion of getting families to treat their neighbourhoods like parks, and have drivers understand and respect this initiative. Seeding this idea at the neighbourhood level will create a platform that can grow to city-wide and regional levels.

Task Three - Communications and Branding Strategy

In association with the above-mentioned partners, the City of North Bay should develop a staged promotional strategy that articulates marketing-related actions required to implement this plan. This programmatic and physical communications strategy will include the materials required to inform residents about the AT plan and AT in general, a brand that can be applied to all distributed printed materials, signage as well as thematically integrated with architectural components such as transit stops, bike racks and site furnishings.

As part of this work, the strategy should speak to immediately implementable strategies, staffing, funding and actions that commence safety and shared route programs. These should be immediately implemented.

Task Four - The Great Bike Rack Design Challenge

This task is a great way to engage residents in the initial steps of plan implementation by engaging their creative spirit and imagination. The City of North Bay, in association with Creative Industries, Discovery Routes and the North Bay-Mattawa Conservation Authority, should design and deliver a broad-participation design challenge program for the conceptual design of a North Bay AT Bike Rack System. This process should be delivered in the following stages:

- » Make a public invitation to all residents (specifically students) to provide design ideas for a bike rack system over a 60-day period.
- » Develop a short list of 20 (+/-) responses to provide a finer detailed concept for public viewing.

- » Create a public opening to review responses where visitors vote to select a winner (who receives a cash prize).
- » Provide the final selection to a landscape architect for detailed design and costing based on the concept.

5. Publicly issue the final design for public review and inclusion in the next task.

Task Five - Detailed Materials Palette

The City of North Bay should commission a landscape architect, in association with structural engineering support, to create a detailed standard materials manual for all the AT components required in the first two phases of implementation. This will include gateway map panels, TAC related signs and specifications for trail and street signage, themed wayfinding signage, the selected bike rack system as well as the various parks and trails specifications presently utilized by the city. This will also include locations, quantities as well as fabrication and installation budgets for the various palette components.

It is important to note that the Kate Pace Way and Kinsmen Trails presently host themed signage. Final sign design must bring existing thematic elements into an umbrella package that articulate AT in North Bay as well as these existing trails.

Task Six - Design, Tender, Purchase and Install the Neighbourhood and Trail Wayfinding Packages

The Kate Pace Way, Kinsmen Trails and the designated in-neighbourhood routes, in present form, provide an ideal platform to place the first physical components of plan implementation. From the Materials Palette, gateway mapping, bike racks, directional signage as well as relevant TAC signage can be applied to the trails and streets at locations illustrated in the palette and confirmed by the various relevant transportation authorities.





This requires that the City of North Bay package and release a tender for the signage and bike rack components requiring fabrication and installation that relate to the existing neighbourhood street and trail components of the AT Master Plan.

Task Seven - Operational Memorandum of Understanding

The City of North Bay and the North Bay-Mattawa Conservation Authority presently operate under a Memorandum of Understanding (MOU) to maintain park and trail spaces within the city. Under this agreement, great personalities within both entities result in a great working relationship that 'sees stuff get done'.

This master plan proposes to bring these personalities together into a room to expand the MOU relative to this master plan and associated capital costing. The MOU should consider long-term capital construction, capital upgrades and operational costs associated with maintaining and expanding the trail system relative to the master plan. The City and Authority should evolve the present MOU to a long-term agreement that institutionalizes capital and operational roles and costs over the life of master plan implementation. This discussion and understanding can speak to funding, staffing, fundraising, communications as well as the line between capital investment and operational expense for shared systems.



Task Eight - The Memorial Drive Bike Lane Test Project

This master plan proposes, as a test project, the installation of painted bike lanes and associated regulatory signage on Memorial Drive to create awareness and serve as an education tool. Also, this will ease tension between training and recreational cyclists on the Kate Pace Way.

The City of North Bay can request Public Works staff to place painted lines, icons and signage in accordance with the Task Five Materials Palette Standards.



Task Nine - Shoreline Trail Development

The present shoreline trail that extends from Marathon Beach to Timmins Street requires evaluation and detailed design relative to its shoreline context and the Materials Palette. The City of North Bay

should commission a detailed design process complete with contract documents for the revitalization of this trail. Also, the context of this trail should expand from its present length to a trail that extends into the University Trails.

It is important to note that this trail section is within a nature-dominant setting and requires consideration within this context.

Task Ten - Begin Suburban Street Renewal Discussion

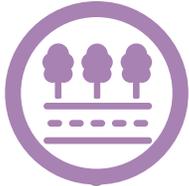
Phase three of this project calls for suburban street renewal projects in keeping with the street sections proposed in this master plan. Although the implementation of this work is two phases away, discussions and detailed review should begin in this phase.

7.2 PHASE TWO - NEIGHBOURHOOD AND INNER CITY CONNECTIVITY

Several projects serve to support the short-term off-street commuter system proposed in this master plan. These projects complete important trail connections from existing trail networks as well as the exploration of more complex projects that can be implemented in later phases. Together, these projects create the platform for future street revitalization and renewal projects that extend AT into the city-wide network.

Task One - Kinsmen Trail Expansion at the Existing Bypass Overpass

This is a critical project that connects several residential neighbourhoods, schools and parks to each other and the greater city through the existing overpass (adjacent to the Chippewa Secondary School field and track). The connection is not a difficult physical trail; however, discussion with landowners and detailed design that satisfies regulatory bodies must occur prior to tendering and construction. A new trail will extend from the overpass to L'école secondaire publique Odyssee and to Minto Road along existing pathways.





The City of North Bay should commence this task by meeting with landowners to determine where purchases and/or swaps make the required trail corridor available for construction. As this occurs, detailed design and approval review processes can proceed. This process will terminate with the tendering and construction of the important Kinsmen Trail extension as a Commuter Asphalt Trail.

Task Two - Oak Street Bridge

The Oak Street extension bridge is presently closed for safety reasons. This is an essential link between the downtown and the Kinsmen Trail and Kate Pace Way that requires reopening. An integrated feasibility/design study is required to identify an appropriate solution for stream crossing at this location in order to re-establish this connection.



Task Three - Lee Park Gateway Project

This master plan proposes a repositioning of the primary Lee Park elements based on AT integrations and celebration of these elements as significant North Bay heritage assets. To do this, the City of North Bay should commission a landscape architect to develop a detailed concept plan and costing relative to this master plan that prepares the site for future AT connectivity between Memorial and Lakeshore Drives. The cost of this study should be established with all relevant departments based on recreation, transportation and other interdepartmental study requirements.



Task Four - Thompson Park-Northgate Shopping Centre Crossing Feasibility Study

The Park, Memorial Gardens, YMCA, mall and adjacent residential neighbourhoods are important nodes in the AT Master Plan; however, the nodes are severed by the bypass. Tackling this issue requires research into feasibility and suitability prior to developing detailed plans.

The City of North Bay should commission an engineering/landscape architectural team to develop concepts for creating a crossing and extending a multi-modal corridor through the mall to the adjacent neighbourhoods. The corridor should integrate with transit systems through a transit stop which will create an AT node within the mall grounds. The cost of this study should be established with the



OMT and the City of North Bay's relevant departments, and should consider the estimated life span of Highway 11/17.

Task Five - Transit Stops

The Kate Pace Way and Kinsmen Trails connect with transit routes at several locations along their corridors. The City of North Bay, in association with North Bay Transit, should design, tender and construct one transit stop on each trail where the trail intersects with a transit route. This plan contemplates a stop at the O'Brien Street/bypass intersection (for the Kinsmen Trail) and another at the Marshall/Kate Pace Way intersection; however, a more detailed analysis is required to identify appropriate and effective locations.

The City of North Bay should commission the design of an integrated transit stop that includes shelter, seating, AT network signage and mapping, trash receptacles, lighting and bike racks. The system should be identical for both locations and should be evaluated as a test project to determine use.

It is important to note that buses on these routes will require bike rack systems that form part of the test. As the AT network grows, and more stops are added, additional racks can be purchased.

7.3 PHASE THREE - SUBURBAN STREET RENEWAL

At this point in implementation, demand for the integration of AT infrastructure on the existing street network will support the City's execution of this master plan. Thus, this phase of the project commences city-wide network renewal for the purpose of improving existing streets, and for integrating AT as part of this renewal. All proposed tasks in this section must align with street renewal scheduling to ensure AT is not a stand-alone initiative.



The City of North Bay Planning and Building Services; Parks, Recreation and Leisure Services; as well as the Engineering, Environment and Works Department should work together to develop a long-term street renewal plan within the context of the street sections described in this master plan. This will require capital and operational expense consideration in addition to land-base and other administrative/physical challenges.

At this point, the street-based components of the AT Master Plan become the property of the Engineering, Environment and Works Department and will receive detailed design, approvals, tendering and construction under the department's capital projects leadership.

7.4 PHASE FOUR - URBAN RENEWAL

This master plan proposes two significant urban renewal projects that result in better human environments inclusive of AT infrastructure.

Task One - Main Street - Urban Core

Main Street, in the heart of the downtown, was renovated under the 1980's Main Street Revitalization Programs. This area of the city is due for urban renewal and requires a detailed design related to the concept developed in the 2017 North Bay Downtown Waterfront Master Plan. Detailed design work should evaluate the existing and evolving downtown environment and addresses the following:

- » A detailed analysis of the existing and required retail, commercial, cultural and recreational resources that sustain visitation to the downtown.
- » A detailed analysis of the existing and required residential infill needed to sustain the local character of the downtown.
- » A detailed analysis of the existing and required public realm elements that ensure user comfort, accessibility and interest within the downtown inclusive of the AT components described in the Materials Palette.
- » A detailed urban design plan that places all elements of downtown within a single document inclusive of the master plan, urban form and design guidelines as well as actions required for implementation.



Task Two - Lakeshore Drive Secondary Planning Study

Lakeshore Drive is an evolving corridor that carries great potential for expanded and integrated residential and local retail and entertainment development relative to the shoreline and adjacent neighbourhoods. This thinking requires a planning study that incorporates the proposed street-side asphalt trail, setback strip and planting within the context of a re-imagined Lakeshore Drive corridor. This is a very exciting project that can redefine an interesting area of the city for lifestyle purposes. The cost of this study should be established under the direction of city planning and engineering representatives.

7.5 LONG-TERM PROJECTS

As the AT network evolves and integrates into the daily lives of residents, additional projects are required to ensure network connectivity. The AT Master Plan proposes the following projects that are required within this context.



Task One - Kate Pace Way Trail Expansion

As previously described, residents would like to see the exploration of a Kate Pace Way expansion that avoids street connectivity on southern trail areas (between Marshall Avenue and Birchs Road). This will involve feasibility and environment suitability work to ensure costs and impacts do not exceed usability. The City of North Bay should commission this study to develop detailed concepts, impact analysis and costing.



Task Two - Local Trail Connectivity

Several trail connections require further analysis as downtown and residential neighbourhoods evolve to ensure connectivity. This includes the North Escarpment Trail, the Escarpment Trail Expansion, Underpass Trail between Oak Street and Memorial Drive and the trail linkage between Seymour Street and McLean Road. These, as well as many minor linkages, must also be evaluated within the context of a parks and open space master plan; however, the City of North Bay should be prepared to work with its partners to move these projects forward relative to this master plan.

7.6 BUDGET

In addition to the implementation tasks and projects outlined in the previous sections, this plan provides pre-design budget estimates divided into four, 5-year development phases. The focus of years 0 - 5 is plan administration, years 5 - 10 is neighbourhood and inner city connectivity, years 10 - 15 is suburban street renewal, and years 15 - 20 is urban renewal. It is important to note that though these budget estimates are presented in a linear format, like the implementation tasks and projects outlined in this Chapter, linear implementation is unlikely. The adjacent chart illustrates the estimated costs of the plan's administrative and infrastructure projects to be completed over the next twenty years.

FIGURE 7.0 | BUDGET ESTIMATES

PHASE PERIOD		0-5 YEAR IMPLEMENTATION			5-10 YEAR IMPLEMENTATION			10-15 YEAR IMPLEMENTATION			15-20 YEAR IMPLEMENTATION		
Development Phase		Phase No.1 - Plan Administration & Communications			Phase No.2 - Neighbourhood & Inner City Connectivity			Phase No.3 - Suburban Street Renewal			Phase No.4 - Urban Renewal		
plan elements	Unit cost	units	value	notes	units	value	notes	units	value	notes	units	value	notes
Administrative Projects													
Comprehensive Education & Activity Program	\$25,000	1	\$25,000	Develop customized program		\$0			\$0			\$0	
Communications & Branding Strategy	\$25,000	1	\$25,000	Develop plan component roll-out materials		\$0			\$0			\$0	
The Great Bike Rack Challenge	\$10,000	1	\$10,000	Develop and deliver community program		\$0			\$0			\$0	
Detailed Materials Palette Design Package Development	\$15,000	1	\$15,000	Detailed physical tools package		\$0			\$0			\$0	
Detailed Wayfinding Design Package	\$12,000	1	\$12,000	Expand master plan to art package		\$0			\$0			\$0	
			\$87,000			\$0			\$0			\$0	
Infrastructure Projects		Units	Cost		Units	Cost		Units	Cost		Units	Cost	
2.5 meter-wide nature based trail (lin.m. with restoration)	\$160	1,500.0	\$240,000	Shoreline Trail Project		\$0			\$0			\$0	
3.5 meter-wide nature based trail (lin.m. with wayfinding)	\$150		\$0			\$0		6,700	\$1,005,000	Various Neighbourhood Trail Connections		\$0	
3.5 meter wide asphalt trail (lin.m. with wayfinding)	\$250		\$0		3,500	\$875,000	Kinsmen Trail North Expansion		\$0		6,500	\$1,625,000	Street's Edge Asphalt Trail
Shared Route ID (km. of signage & street marking)	\$15,000		\$0			\$0		40	\$600,000	Various Neighbourhood Secondaries	13	\$195,000	Various City Collectors
Bike Lane Route ID (km. of signage & street marking)	\$20,000	2.5	\$50,000	Memorial Drive Pilot Project		\$0		15	\$300,000	Various Neighbourhood Primaries	35	\$700,000	Various City Arterials
Bike Rack Installations (per installation)	\$2,500		\$0		20	\$50,000	Bike Rack Installations	66	\$165,000	Bike Rack Installations	20	\$50,000	Bike Rack Installations
General Amenities (bike racks, trees, trash, etc./lin.m.)	\$25	1,500.0	\$37,500	Shoreline Trail Amenity		\$0			\$0			\$0	
			\$327,500			\$925,000			\$2,070,000			\$2,570,000	
			\$49,125			\$138,750			\$310,500			\$385,500	
			\$56,494			\$159,563			\$357,075			\$443,325	
Infrastructure Cost Totals			\$433,119			\$1,223,313			\$2,737,575			\$3,398,825	
	Sub Total												
	Contingencies		15%										
	Design & Contract Management		15%										

