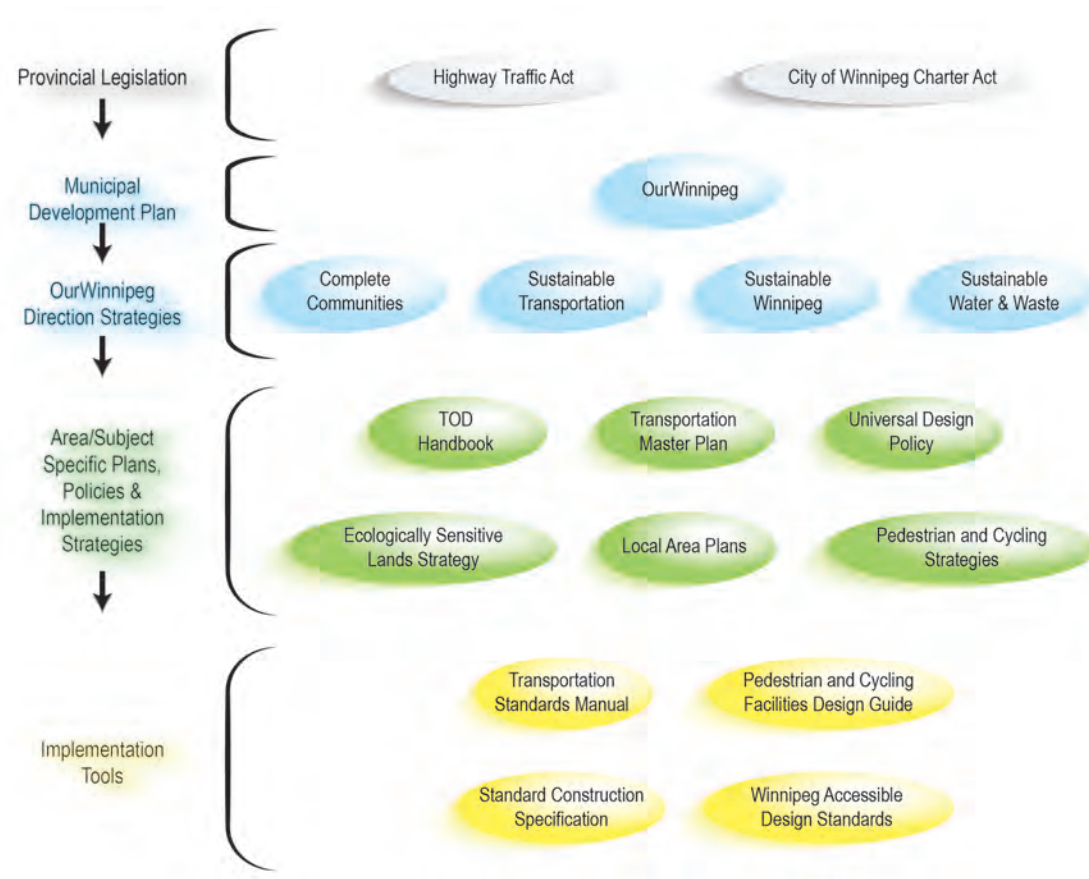


2.1 Connections to Other Plans

The Pedestrian and Cycling Strategies are explicitly linked to and informed by many of the City of Winnipeg’s key planning documents that contain pedestrian and cycling-related policies and objectives, as well as broader aspirations that strongly influence transportation movements within the City. These documents provide directions on the integration of walking and cycling within the transportation landscape.

In particular, the Pedestrian and Cycling Strategies are guided by a number of key shaping influences including the City’s **OurWinnipeg**, **Complete Communities Direction Strategy (CCDS)** and the **Transportation Master Plan**, which also help to support a number of other documents, as shown in **Figure 2.1** and described in further detail on the following pages.

Figure 2.1:
Connections to Other Plans



2.1.1 Shaping Influences

The Pedestrian and Cycling Strategies are ultimately intended to support and build on the direction of several overarching documents: OurWinnipeg, Direction Strategies (including CCDS), and the City's Universal Design Policy, as well as the Transportation Master Plan, as described below.

- ▶ **OurWinnipeg** is Winnipeg's municipal development plan, and provides the comprehensive community vision that will guide the development of Winnipeg over the next 25 years. The document provides the highest level policy context for land use and development in Winnipeg, and emphasizes the



importance of increased densities and mixing of land uses in ways that are sensitive to area context for achieving Complete Communities. OurWinnipeg recognizes that current social, economic, and environmental decisions will impact present and future generations in the City, and identifies three focus areas that can contribute to increasing levels of walking and cycling:

- **A city that works** supports a variety of lifestyles and a multi-modal transportation system with mobility options for all residents.
- **Asustainable city** links the social, economic and environmental goals throughout OurWinnipeg which includes identifying the role of transportation mode choice in supporting sustainable development.
- **Quality of life** acknowledges the need for healthy, vibrant neighbourhoods that provide equitable access for all people.

OurWinnipeg clearly outlines the importance of enabling walking and cycling for all Winnipeg residents as a direct way to improve social, environmental and economic sustainability. To do this, OurWinnipeg identifies the importance of land use decisions and developing complete communities to ensure that destinations and



daily needs are accessible and within walking and/or cycling distance. This can be done by focusing on providing walking and cycling friendly communities, centres and corridors as well as facilitating walking and cycling for recreation. OurWinnipeg's underlying focus is to plan and develop a safe, enjoyable, active

and healthy community for all residents. Both OurWinnipeg and the CCDS have been approved as By-laws. Section 235 of the City of Winnipeg Charter specifically states that any public works or development in the city must be consistent with OurWinnipeg or the CCDS. These policy documents recognize the importance of an integrated approach to land use, transportation, and infrastructure planning, and the Pedestrian and Cycling Strategies will focus on building on this direction.

► **Direction Strategies.** As part of OurWinnipeg, the City also developed four more detailed Direction Strategies that add additional detail in key planning areas:



Complete Communities is the City's land use and development guide which outlines a number of tools and approaches that provide unique, sustainable and complete communities throughout Winnipeg. Complete Communities is based around two pillars of focus: 1) the creation of complete communities; and 2) the guiding urban structure framework. In regards to transportation, the strategies and tools for Winnipeg's urban structure support the concept of a complete community that supports numerous transportation options, where sustainable transportation options are provided as realistic travel choices. In many instances, this means enabling pedestrian, cycling, and transit-friendly environments through the integration of land use and transportation efforts.



Sustainable Transportation specifically outlines the vision for the Transportation Master Plan and addresses how multi-modal transportation will be provided in Winnipeg over the next 25 years. This Direction Strategy outlines five key goals to achieving a balanced and sustainable transportation system for Winnipeg:

- A transportation system that is dynamically integrated with land use;
- A transportation system that supports active, accessible and healthy lifestyle options;
- A safe, efficient and equitable transportation system for people, goods and services;
- Transportation infrastructure that is well maintained; and
- A transportation system that is financially sustainable.

This Direction Strategy also includes five strategies that are specific to walking and cycling and have a direct impact on the direction of the Pedestrian and Cycling Strategies:

- Continuing to expand on-street and off-street cycling infrastructure;
- Investigating the implementation of a Complete Streets policy;
- Consider and research the feasibility of the establishment of a bike sharing program for the Downtown;
- Develop guidelines ensuring that new development contributes to the pedestrian environment; and
- Increase bicycle parking throughout the Downtown and other commercial/employment centres.

The development of the Transportation Master Plan and the Pedestrian and Cycling Strategies both emerge out of the Sustainable Transportation Direction Strategy.





**SUSTAINABLE
WATER AND WASTE**

Winnipeg

An **OurWinnipeg** Direction Strategy

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Sustainable Water and Waste is the primary vision for promoting water and waste directions, addressing how to protect and maintain the infrastructure advantages the City of Winnipeg already has and how to enhance the quality of air, water and energy resources and the built and natural environment.



**A SUSTAINABLE
WINNIPEG**

Winnipeg

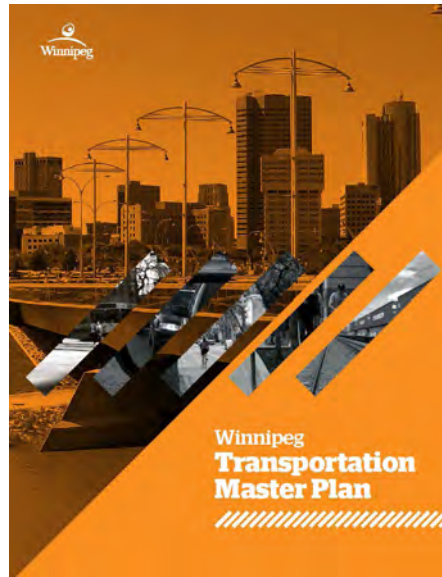
An **OurWinnipeg** Direction Strategy

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A Sustainable Winnipeg sets out key directions and tools to mobilize the commitment to a sustainable City, focusing on complete communities, sustainable transportation, and water and waste water. To support the implementation of a sustainable transportation system, the direction strategy calls for key actions related to public transit, major streets, and active transportation, including the development of a Transportation Master Plan. Active transportation is supported through the implementation of a complete streets policy, guidelines for pedestrian-oriented development, increased bicycle parking, and evaluation and performance measures.



- ▶ **Transportation Master Plan (TMP)**, approved by Council in November 2011, directly calls for the development of the Pedestrian and Cycling Strategies. The TMP sets out a strategic vision for transportation in Winnipeg over the next two decades, ensuring that future transportation planning includes an integrated network of highways, roads, rapid and conventional transit, cycling and pedestrian facilities.



Six strategic goals provide the basis for the TMP with an emphasis on the integration of land use and transportation planning.

The Six “Strategic Goals” from the TMP are:

1. A transportation system that is dynamically integrated with land use
2. A transportation system that supports active, accessible and healthy lifestyle options

3. A safe, efficient and equitable transportation system for people, goods and services
4. Transportation infrastructure that is well maintained
5. A transportation system that is financially sustainable
6. A transportation system that reduces its greenhouse gas emissions footprint and meets or supasses climate change and emissions reductions goals set by the city and the province

The TMP identifies that providing more mobility choices is key to reducing reliance on automobile travel, with added benefits related to quality of life, economic vitality, and system efficiency. The TMP highlights the importance of increasing transportation options for residents of all ages and abilities with considerations for accessibility, transportation demand management, and complete streets. An important part of this is enabling active modes, and the TMP guides the development of the active transportation network in a way that facilitates year-round access and reflects the needs of many user types. In particular, the TMP enabling strategies identify the need



to ensure sound network planning for both walking and cycling to provide safe, convenient, comfortable and efficient connections for users. The TMP enabling strategies also emphasize the need to develop city-wide Pedestrian and Cycling Strategies to provide integrated guidance for City efforts to enable cyclist and pedestrian activity and connectivity.

The Transportation Master Plan supports OurWinnipeg and the Complete Communities Direction Strategy through recognizing the importance of integrated planning in reducing travel demand and through emphasizing the importance of providing meaningful options for travel.

- ▶ The City's **Universal Design Policy (2001)** guides new construction and major renovations to buildings, exterior environments, as well as purchases and new developments in services, products, or systems that are funded in whole or part by the City of Winnipeg to follow universal Design Criteria. Building on the emphasis of the universal design policy on accessibility and inclusive design, the Pedestrian and Cycling Strategies supports many directions and actions that support walking and cycling for all ages and abilities.

2.1.2 Implementation Tools


In addition to the key influencing directions for the Pedestrian and Cycling Strategies described above, the City has developed other key policies, strategies, and studies that shape future initiatives towards walking and cycling in Winnipeg. Below is a brief summary of the policies, guidelines, standards, and strategic documents, that support the plans described above. The Pedestrian and Cycling Strategies will identify required changes in these implementation tools in order to effectively implement the policy direction adopted by OurWinnipeg and the CCDS.




Development Agreement Parameters (2002)

are guidelines for the City's Administration and developers to formulate development conditions for consideration by Council and its relevant committees. The parameters ensure that all parties pay their equitable share of the costs of development, and that development occurs in accordance with current City of Winnipeg construction specifications. The development agreement parameters are important as they can significantly influence infrastructure provision for walking and cycling, including walkways, sidewalks, landscaped boulevards, lighting, and access roads.







Transportation Standards Manual (Draft 2012) serves as an implementation design tool for designers and planners involved in work related to the City's transportation network. The document provides guidelines on road design, sidewalk and curb provision, and guidance on additional right-of-way widths to accommodate cycling treatments. This includes additional right-of-way requirements for shared lanes, multi-use pathways, protected bicycle lanes, bicycle lanes, and buffered bicycle lanes.




Accessibility Design Standards (2010) provide accessibility requirements for the design and construction of new pedestrian facilities, as well as the retrofit, alteration or addition to existing pedestrian facilities, owned, leased or operated by the City of Winnipeg.




Downtown Winnipeg Urban Design Guidelines (2005) focus on urban design, the public realm, and architectural design, and are intended to ensure that development proposals in Downtown Winnipeg are integrated with the local context and are consistent with standards articulated in the CentrePlan and Plan Winnipeg (the predecessor of OurWinnipeg).



Snow Clearing Policy (2011) provides Policy on maintaining the City's roadways, back lanes, sidewalks, multi-use trails, and designated park pathways in such a manner so as to provide safe and accessible operating conditions for motorists, cyclists, and pedestrians.



Active Transportation Study (2005) provided strategic direction for improving active transportation policy, infrastructure and programming in the City of Winnipeg. The primary goal of the Active Transportation Study was to update and expand the 1993 Bicycle Facilities Study.



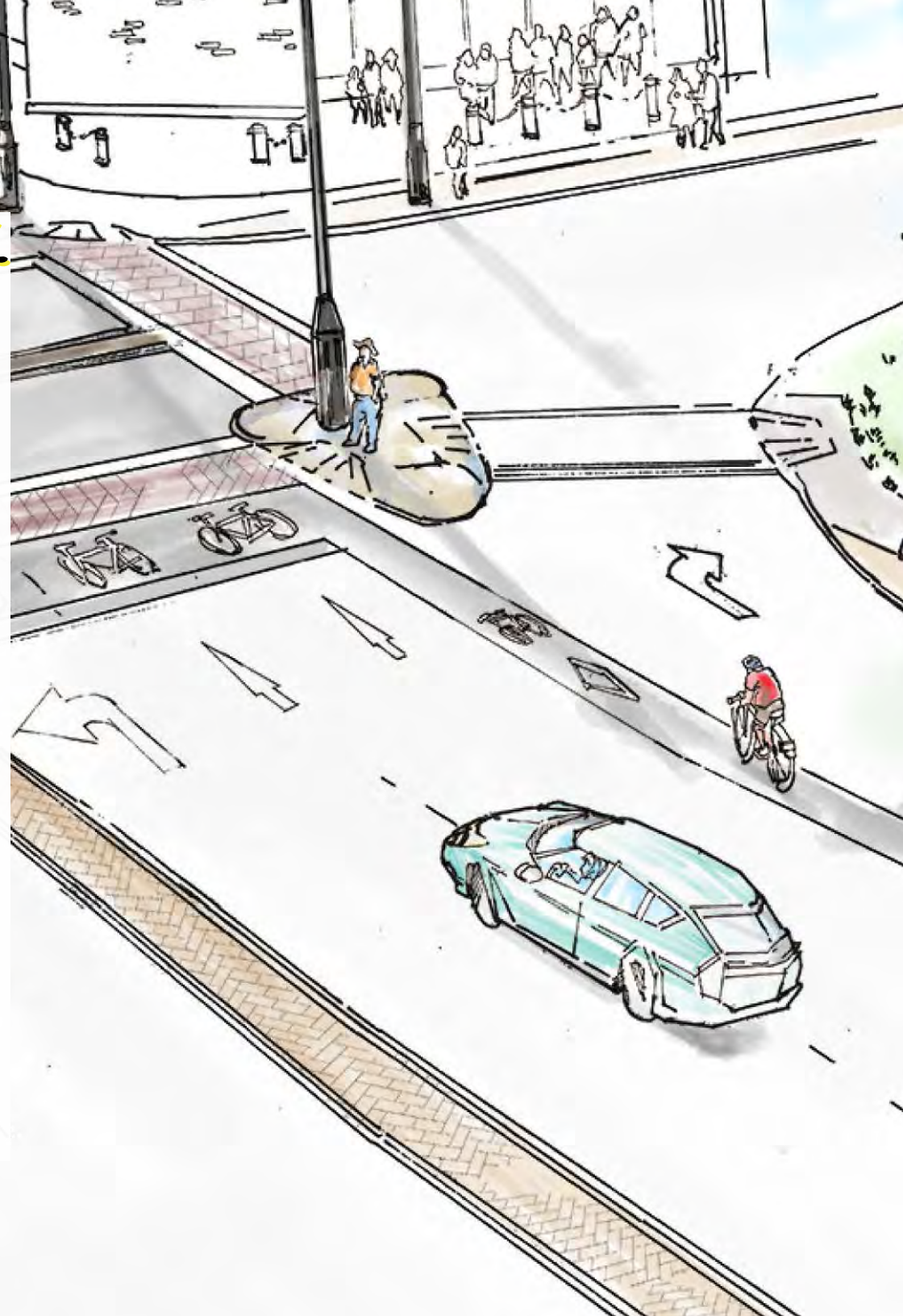
Active Transportation Action Plans (2007 - 2009) represented annual programs of active transportation projects undertaken or supported by the City of Winnipeg. The Action Plans provided a list of projects and the proposed active transportation network, including facilities for both pedestrians and cyclists, such as multi-use pathways, sidewalks, trails, signage, bicycle lanes, sharrows, bikeways, and bicycle parking.

2.2 Benefits of Walking and Cycling



There are many advantages to creating a city that supports and encourages walking and cycling, with benefits that positively affect both individuals and the community. Cities throughout the world, including the City of Winnipeg, are increasingly recognizing that promoting walking and cycling can result in a more balanced transportation system that is equitable, sustainable, and more cost-effective and efficient in terms of infrastructure investments. The City also recognizes the significant quality of life and health benefits that are associated with promoting active modes of transportation, as well as the positive economic development advantages that the City can enjoy through a walking- and cycling-supportive environment

With an extensive network of sidewalks and bicycle routes, as well as parks and natural attractions and flat topography, the City of Winnipeg already offers attractive conditions for residents and visitors to walk or cycle for transportation or recreation purposes. However, the case exists for making further improvements to facilitate and enable people of all ages and abilities to walk and cycle, and to ensure that walking and cycling are safe, convenient and competitive travel options. In particular, the benefits to enabling an active walking and cycling culture in Winnipeg include the following:





2.2.1 Economic Benefits

Enabling walking and cycling can contribute to the development of a healthy and diverse local economy in Winnipeg in the following ways:

- ▶ **Investing in walking and cycling infrastructure and programs can stimulate the local economy** by generating tourism revenue and supporting local business. Pedestrian and bicycle-supportive design can enable residents to take short trips to local businesses by walking or cycling, instead of driving to services further away in adjacent communities. Bicycle and walk-friendly environments can attract more visitors to neighbourhoods, who will in turn be patrons of local services and amenities. A walkable and bikeable community can encourage more livable and enjoyable places to be, with a stronger sense of place and freedom of mobility. This can attract businesses, residents and visitors (and spending dollars) to certain areas. Walking and cycling tourism in Ontario's Bruce Trail attracts an estimated \$5 million annually to the local economy.
- ▶ Better opportunities for walking and cycling may allow **residents to spend less on transportation costs**, leaving them with more disposable income for purchasing other goods and services – which in turn can stimulate

the local economy. Transportation costs are second only to housing costs as a percentage of household spending in North America. Spending on transportation is disproportionately high among low and moderate-income families, and walking and biking present affordable transportation options. Using walking and cycling for transportation reduces household spending on transportation and, in some cases, can eliminate the need for an extra vehicle. Various studies have examined the 'operating costs' of walking and cycling, in relation to other more cost-intensive modes such as transit and driving. For example, a study by the Sierra Club estimates that walking costs approximately \$70 per year, while regular cycling incurs an annual operating cost of \$350. The Canadian Automobile Association estimates that driving costs owners about \$9,000 annually in operating costs, cycling costs \$150 and walking costs almost zero dollars. Costs for walking and cycling can be attributed to walking and cycling gear/clothing, bicycle maintenance and equipment, while car ownership costs can include fuel, maintenance, and insurance. In comparison, a transit pass in Winnipeg averages about \$1,000 per year. While these numbers may vary city to city, and depend on personal use of different transportation modes, there is clear evidence that there are great personal savings available through engaging



in more walking and cycling activity. These cost savings can result in people having larger disposable incomes, and some studies have found that cyclists are “competitive consumers” who tend to spend their money more locally than motorists, while shopping with greater frequency. These personal economic benefits thus also extend to wider socio-economic benefits.

- ▶ **Increased property values have been associated with properties located near desirable active transportation facilities** such as trail networks, and bicycle routes. For example, the presence of amenities such as neighbourhood trails, sidewalks, and bicycle routes can be highly valued by prospective homeowners, and walkable communities provide intangible benefits through healthier and active populations.

- ▶ **Walking and cycling infrastructure is affordable for cities to build and maintain.**

The investment in pedestrian and cycling infrastructure and facilities are typically less expensive per kilometre than the cost of constructing many road infrastructure projects. With more residents choosing to use these facilities, roads experience less wear and tear and municipal capital budgets can benefit from a financially sustainable transportation solution that incorporates a variety of modes.

- ▶ **Space Efficiency.** Pedestrians and cyclists need less space than motor vehicles; more walking and cycling means less congestion and better overall transportation system performance. Parking becomes more efficient – ten bicycles can be stored in a single motor vehicle parking space. Each of these efficiencies helps maximize the value Winnipeg gets from its transportation system

- ▶ **Walking and cycling can incur travel time savings.** Often walking or cycling can be faster and more affordable than travelling by car or bus particularly for short local trips in congested urban environments. In particular, walking and cycling offer greater travel time savings of door-to-door trips, in comparison to transit and some driving trips, due to the additional time needed to walk to/from a bus stop and wait for the bus,



locate a parking space, or to walk to and from a parking lot, and then the final destination.

- ▶ **Competitive market for walkable and bikeable cities.** Cities that invest in pleasant and efficient pedestrian and cycling facilities attract young people who are choosing active transportation over automobile ownership. A competitive city is one that invests in active transportation to meet the market demand of the millennial generation that want sustainable transportation options and vibrant city living in urban centres.

Many of the benefits described are accrued by the individual pedestrian or cyclist. Yet most of the individual benefits of active transportation also have societal elements. For instance, more walking and cycling can lead to decreased personal health care costs (in the form of fewer prescriptions, reduced emergency room visits, fewer sick days, etc.) and can help to ease the burden on the health care system as a whole. This results in a cost savings to society in the form of reduced taxes and/or premiums for health care.



2.2.2 Health

Walking and cycling are effective ways to support mental and physical health and build a healthier and happier community. The World Health Organization has identified physical inactivity as one of the main leading risk factors for global mortality, and as an underlying factor for many chronic diseases. Walking and cycling for daily activities, such as trips to work or to grocery stores, can increase physical activity levels, which can reduce the risk of cardiovascular disease, Type 2 diabetes, some cancers and improve mental illness and mood. Improved strength and bone density can also lead to an enhanced ability to do daily activities and avoid falls. With many families living in Winnipeg, the health benefits of walking and cycling can be experienced by residents of all ages and abilities. Regular physical activity even at a moderate intensity, which includes walking briskly or cycling for 30 minutes five or more days per week, reduces the risk of early death and numerous chronic diseases. Physical activity has been proven to improve psychological well-being, and prevents weight gain and obesity. Walking and cycling are some of the most affordable and accessible ways to add exercise to a daily routine.





2.2.3 Safety

Streets that support high levels of walking and cycling are slower and safer. Walkable and bikeable environments contribute to a safer transportation system by making walking and cycling more visible and viable modes of travel, resulting in reduced risk of collisions. Streets that are designed for slower vehicle speeds feel safer for both pedestrians and cyclists. Studies have shown that slower motor vehicle speeds exponentially increase survival rates for both pedestrians and people riding bicycles involved in collisions with vehicles. When walking and cycling rates increase, rates of collisions with motor vehicles decrease. This is known as the “safety-in-numbers” principle. Places with the highest levels of pedestrians and cyclists are also the safest places to walk and cycle.



2.2.4 Environment

Walking and cycling are considered a sustainable form of transportation and an alternative to the personal vehicle as they generate no greenhouse gas emissions, create no air or water pollution, cause minimal noise and/or light pollution, and reduce the demand for streets and parking lots by making more efficient use of existing road space. As walking and cycling reduce vehicle trips, the reduced congestion, and air pollution can help to reduce greenhouse gas emissions. Promoting walking and cycling can also help in the City’s efforts towards climate change mitigation. Supporting sustainability is a priority of the City and supporting walking and cycling can protect and improve Winnipeg’s natural environment.





2.2.5 Societal Benefits

A pedestrian- and bicycle-friendly community can encourage a more livable and enjoyable place to be, with a stronger sense of place and freedom of mobility. Communities that support walking and cycling can also contribute to safer streets and improved social interactions. All these qualities can enhance the high quality of life that Winnipeg residents enjoy today and hope to into the future.

▶ **The younger generation of ‘millennials’ prefer walkable and bikeable communities.**

A major societal shift is taking place among individuals born between 1981 and 2001, which finds this demographic increasingly choosing walking and cycling over driving. Peak vehicle ownership coincided with the baby boomers, and studies have found that millennials are not purchasing motor vehicles at the same rates as previous generations. Other factors contributing to this trend are significant growth in women employment rates, rising wages, higher fuel prices, and concerns for climate change.

▶ **Creating active communities for both the young and old in society.**

Building safe and comfortable bicycle and pedestrian facilities for all ages and abilities provides affordable and accessible transportation choices for all residents. Youth and seniors require transportation alternatives as they may not have access to an automobile and are more reliant on walking, cycling and transit. Additionally, enabling sustainable travel patterns at an early age can continue later in life.

▶ **Gender considerations are important in planning our communities.**

Lower levels of female cyclists have been linked to greater safety concerns. Women are often responsible for transporting children to and from school, therefore building safe and comfortable facilities for all ages and abilities can create more equitable transportation options for both children and adults. The level of female cyclists has recently emerged as an important indicator of how safe local conditions are for cycling in a community. Well-designed bicycle facilities can lead to an increase in female ridership, which is considered a sign of a bicycle-friendly city.





2.3 Land Use and Demographic Trends

Demographics and land use play a significant role in influencing transportation choices and travel patterns in Winnipeg. This section provides a snapshot of key demographic and land use characteristics of the City of Winnipeg that were used as a basis to inform the directions of the Pedestrian and Cycling Strategies.

Notice:
Please do not introduce fish into
this pond. They cannot survive in this
environment and will be removed.

2.3.1 Demographics

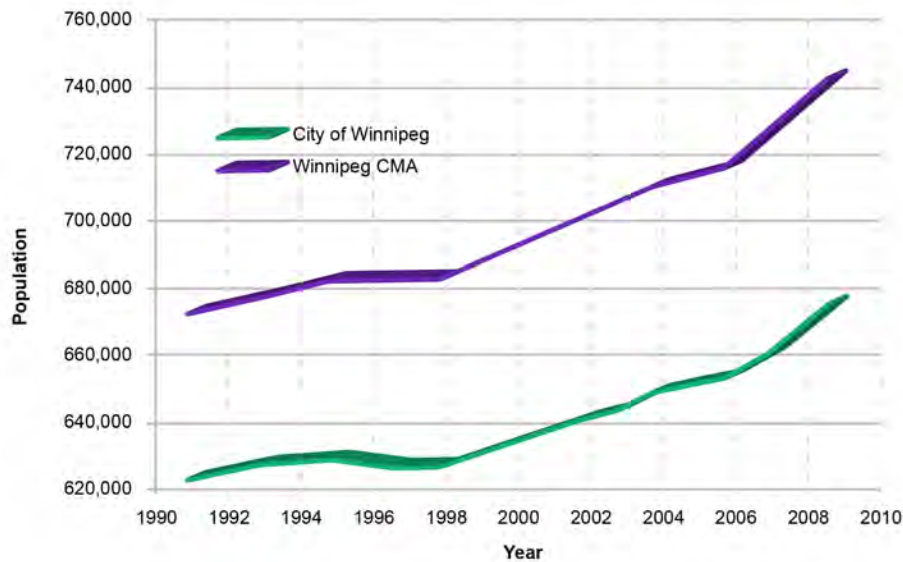
- ▶ **The City is rapidly growing, and this is expected to continue in the future.** In 2011, Winnipeg's population was approximately 660,000 residents. This had increased from 630,000 in 2006 – an increase of 4.8% over this period. Over the next 20 years, the City's population is expected to grow by an additional 180,000 residents and 67,000 jobs. This growth is driven primarily by increased levels of immigration and a combination of fewer people leaving and more people coming from other parts of the country. This is an important opportunity to direct development patterns towards the goals identified by the CCDS.

In 2011, the broader Winnipeg metropolitan area's population was 730,000, an increase of 5.1% from 2006. Close to 90% of the region's population resides in Winnipeg.

- ▶ **The City has relatively low population density but this is increasing with the recent levels of population growth.** Currently, Winnipeg has a population density of approximately 1,430 persons per square kilometre, or approximately 14.6 persons per hectare. This figure is low compared to other Canadian cities, although neighbourhood density varies throughout the city. Higher population density is linked to higher rates of walking and cycling as destinations are closer together. With a projected increase in population growth, population density in Winnipeg is projected to increase to approximately 1,800 persons per square kilometre, or 20 people per hectare. This increase in density represents the ability to have more people in walking and cycling proximity to services and amenities.



Figure 2.2:
City of Winnipeg Historic Population Trends
Source: City of Winnipeg Transportation Master Plan, 2011



- ▶ **Winnipeg has a higher than average youth population and this balances the future increase in the aging population.** The age distribution in the City of Winnipeg is similar to many Canadian cities. Young people aged 15-24, make up 17.1% of Winnipeg's population, which is slightly higher than the national average for this age group (16.7%). Young people predominantly rely on transit, walking and cycling to access school and services. Winnipeg's population is aging and residents over the age of 65 make up 14.1% of the population. The needs and travel patterns of older Winnipeggers are unique and a range of mobility options is important to ensure that an aging population can participate meaningfully in work and in their communities at all stages of their lives regardless of ability. This is best achieved by providing complete, walkable communities with multiple housing options, communities where people can be close to various employment opportunities and remain as connected and independent as possible.





- ▶ **Winnipeg is historically a city of immigrants, which remains true today.** The City is home to a significant population of new immigrants, as the newcomer population has doubled in the last fifteen years with an average 9,000 new immigrants per year moving to the City. New comers often rely on public transit, walking and cycling more as they get settled in a new city.
- ▶ **Winnipeg has one of the largest Aboriginal populations in Canada.** According to the 2011 Census, 10% of Winnipeg's urban population is reported as Aboriginal. The median age of the Aboriginal population in Winnipeg is 26 years old compared to 40 years of age for the non-aboriginal population, indicating a strong youth population among this demographic. As previously noted, young people, pre- and post-driving age, increasingly use transit, walking and cycling to travel across the city.



▶ **The City maintains a robust employment rate through large local employers in the agriculture and manufacturing industry.** In 2006, there were approximately 350,000 jobs in Winnipeg, which represented approximately 96% of total employment in the Winnipeg metropolitan area. As Manitoba's capital, Winnipeg is also home to a high proportion of civil service jobs, in addition to major health care centres and post-secondary education facilities. Key industries in the City include manufacturing, trade, health care and transportation. Winnipeg is a key intermodal and freight hub with major transportation employers including Canadian National Railway, Canadian Pacific railway, Burlington Northern Santa Fe Railway and three of the largest trucking industry companies in Canada. Winnipeg is also home to major aerospace and transportation-related manufacturers including Boeing and New Flyer. With a rich employment base across the city, it is important from a Transportation Demand Management perspective to understand the travel patterns, travel demand and trip generation for major employers or industry in order to offer multi-modal transportation options to their employees.

▶ **The City is made up of a collection of neighbourhoods with distinct character, needs and challenges.** The City of Winnipeg is made up of a collection of unique residential areas divided into 23 "neighbourhood clusters". Population and employment density varies across the neighbourhoods based on geographic location, development patterns and amenities. Knowing the population characteristics for Winnipeg's neighbourhoods can help shape investments in these "neighbourhood clusters" and present opportunities to improve the pedestrian and cycling environments in the neighbourhoods with the highest potential for more active trips. For example, the neighbourhood profile of Fort Gary South reveals that young people age 15 to 25 make up 19% of the population, yet only 4.7% of the total population walks (and 2.2 % cycles). This may indicate an opportunity to increase walking and cycling levels in this area.



2.3.2 Land Use

The City's land use and development patterns are shaped by its major road and rail transportation networks which are critical to supporting the local and regional economy. Other factors such as the Assiniboine and Red Rivers and land availability have also had an impact on how the City of Winnipeg has developed. An abundance of affordable land outside of the downtown has led to predominantly low density single-family residential, commercial and industrial developments. In the past, the manufacturing and industrial sectors were in the heart of the City and residents lived close to these employment districts. Winnipeg, like other Canadian cities, experienced the post-industrial trend of manufacturing and industrial sectors moving out of the inner city to the periphery as urbanization demanded prime industrial land for residential and commercial development. The original drivers of urban growth – manufacturing and industry – relocated to the edges, and as a result travel patterns within the City changed significantly. The streetcar and trolley bus transportation system, which met the needs of the central city population, were soon superseded by the private motor vehicle.

Generally, the city's land use and development pattern has been partially influenced by automobile-oriented design. Suburban land development is characterised by large lot, single family residential





development. Today in the City of Winnipeg, there is a renewed focus on higher density mixed land-use developments that enable multi-modal transportation, walking, cycling and transit use. While currently the majority of Winnipeggers use a vehicle to travel around the City, the City recognizes the importance of developing a multi-modal and sustainable transportation system and has committed to finding improvement opportunities for active modes of transit, including walking and cycling, as well as public transit.

There are opportunities and challenges associated with promoting and encouraging walking and cycling in Winnipeg. The City's flat topography, the compact and vibrant Downtown, large educational institutions, and scenic and well-developed pathway system all present exceptional opportunities for promoting and supporting walking and cycling in many areas of the community. Some challenges to increasing trips made by walking and cycling are the historical development patterns of outward growth. This has created many neighbourhoods and destinations that favour automobile use. There are also notable gaps in the walking and cycling networks that make active modes less attractive to connect to certain areas of Winnipeg. In addition, the Red and Assiniboine Rivers, as well as, regional streets and the rail corridors present significant barriers to walking and cycling within Winnipeg.

Land development and community design has a significant direct and indirect impact on transportation behaviours. In terms of the pedestrian and cycling environment within a neighbourhood, the layout of the street network varies significantly, which in turn influences where sidewalks and bicycle facilities are located. The land-use and design of a community also helps to determine if walking and cycling is possible. Well-known factors that contribute to a walkable and bikeable community are design, density, diversity, destinations, and distance, also known as the 5 D's. The siting or location of buildings and streets, the density and mix of uses in an area, and lastly how far or how much time it takes to access the destinations all influence the decision to walk. Land use and transportation are interconnected, and creating a multi-modal transportation system relies on thoughtfully planned and well-connected built environments.

There are key destinations throughout Winnipeg that attract and generate pedestrian and cycling trips (as well as transit and driving trips). Key land uses and destinations that act as significant trip generators for pedestrians and cyclists are described in further detail below.

▶ **Downtown as a major destination.**

Winnipeg's compact urban core is a major trip generator, as high residential and employment densities and land use mixtures are found in the Downtown, Osborne Village, South Osborne, Point Douglas, River Heights, and the Burrows / Inkster neighbourhoods. Within Downtown, most residents are in close proximity to services, amenities and transit connections, with the close distances making walking and cycling a competitive mode with driving and transit.

▶ **Commercial and Industrial Areas.**

Employment is distributed across the City within key commercial areas and corridors, and major employers are significant trip generators – largely influencing travel patterns and characteristics across the City. Pockets of employment include the Downtown, Health Sciences Centres, University of Manitoba, University of Winnipeg, Red River College, St. James industrial area and the airport industrial lands. Examining travel demand by sector or areas enables the City to improve conditions for walking and cycling through planning, policy and programming. Appropriate Travel Demand Management strategies can be employed to reduce vehicle trips.



▶ **Community Facilities.** Many of Winnipeg's important cultural and civic facilities are located in Downtown, including City Hall, the Art Gallery and the Forks National Historic Site which all attract significant walking and cycling activity year round. Many other key civic spaces and recreational facilities across Winnipeg generate many walking and cycling trips in Winnipeg's neighbourhoods. These key civic destinations present easy opportunities for the City to enable non-motorized transportation when visiting these locations. A short term strategy is to pay attention to the amenities at these facilities, such as benches, water fountains and bicycle racks. These are indicators of the City's encouragement for walking and cycling. Long term strategies can be land use and transportation improvements and transit scheduling. An example of linking a major civic destination with active transportation is the bicycle valet at Winnipeg Blue Bombers football games at the new Investors Group Field.

▶ **Schools.** Winnipeg has 6 school divisions and sub-districts. The Winnipeg School Division alone has a total of 56 elementary schools and 28 secondary schools. Winnipeg has numerous post-secondary institutions including the University of Manitoba, University of Winnipeg, Canadian Mennonite University, Université de Saint-Boniface, and Red River College, which has four campuses in the city. A variety of strategies support active trips to school, such as student transit passes, school travel planning and active and safe routes to school initiatives. Enabling walking and cycling at schools is an important strategy as young people develop lifestyle habits of walking and cycling that can carry on into adult life. Challenges exist between the municipal and provincial jurisdictions around schools, and opportunities to improve the safety and comfort at the neighbourhood scale can conflict with local traffic operations. For example, the Province of Manitoba recently changed the Highway Traffic Act to enable lower speed limits around school zones.



- ▶ **Major Transit Nodes.** Public transit ridership in Winnipeg makes up roughly 8.3% of daily trips. Winnipeg Transit operates 89 bus routes with a fleet of 505 low-floor accessible buses throughout the city. The major transit centres are located at regional commercial shopping centres, rapid transit stations; and at the post-secondary campuses. These transit nodes are major trip generators, and integration with the active transportation network is key to maintaining these as key destinations for pedestrians and cyclists. Every transit rider is a pedestrian as each transit trip starts and ends on foot. Ensuring a high quality pedestrian environment along frequent transit corridors and at transit interchanges facilitates transit ridership. Providing bus shelters, benches for resting, good lighting, and safe crossings is important. In addition, bicycle racks at transit centres can combine a bicycle and bus trip for longer distances. A multi-modal transportation system incorporates planning for walking, cycling, driving and transit.
- ▶ **Parks.** Parks are key neighbourhood-level trip generators, and Winnipeg boasts an impressive number of public parks and open spaces including large parks, community gardens, scenic trails and pathways. There are over 500 green spaces and recreational park facilities in Winnipeg and they are highly valued by residents. Many of Winnipeg's parks and green spaces are used by residents and visitors for recreational walking and cycling trips. Active transportation network maps and wayfinding help connect residents to local neighbourhood multi-use paths and green spaces. Many multi-use trails are designed based on natural settings on the periphery of the city centre. However, off-street trails and pathways can be used for utilitarian trips and incorporated into pedestrian and cycling networks.





2.4 The Market for Walking and Cycling

A telephone survey was conducted in the fall of 2013 to provide a statistical representation of Winnipeg's total population. The telephone survey included responses from approximately 600 Winnipeggers and is accurate +/- 4.0%, 19 times out of 20. This was important because there has been much debate in recent years in Winnipeg regarding what the position of the average resident was in respect to walking and cycling. It is common to hear perceptions that the increased demand for improved walkability and bikeability is because of a small number of vocal special interest groups and may not represent the ideals of Winnipeg residents in general. The telephone surveys shed light on this issue.

There is a significant strategic opportunity to encourage more Winnipeggers to walk and cycle throughout the year. The telephone survey conducted for the Pedestrian and Cycling Strategies helped to understand the overall market for cycling. The telephone survey found that many Winnipeggers already walk and cycle throughout the year, including in the winter months, and that a large number of Winnipeggers want to walk or cycle more. The survey also helped to understand some of the barriers to walking and cycling, and actions the City could take to encourage them to walk or cycle even more. By helping to address these

barriers and strategically improving pedestrian and cycling facilities, the City can “tap into” a significant market for walking and cycling.

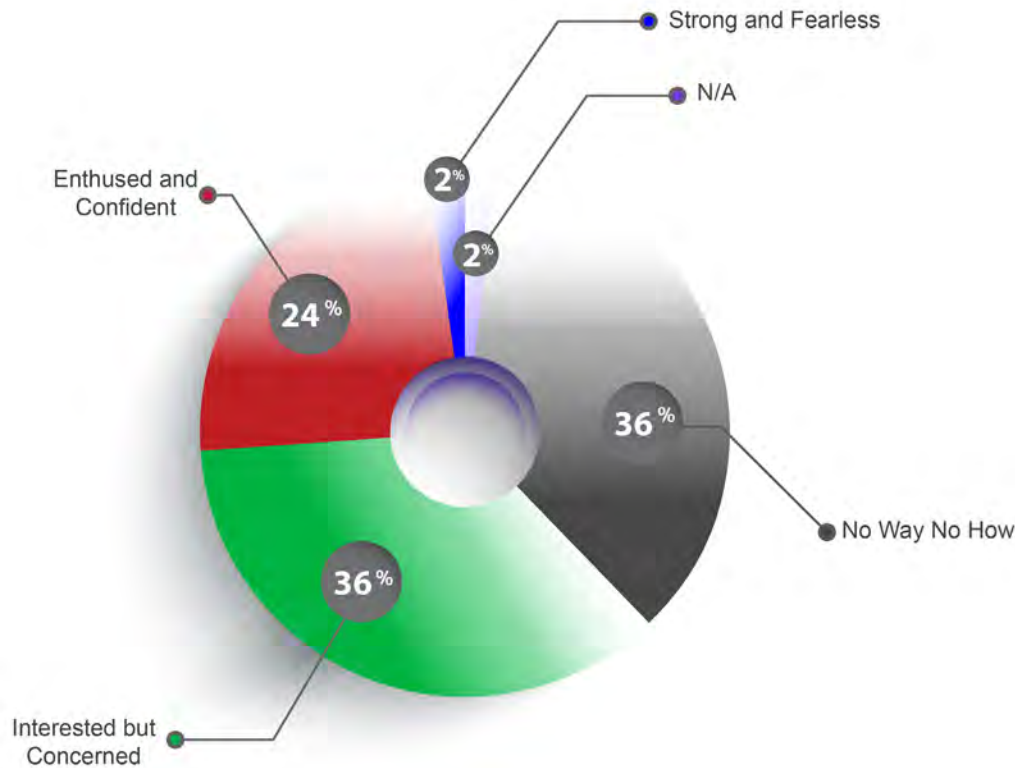
2.4.1 Types of Pedestrians and Cyclists

There are a wide range of different types of cyclists, in Winnipeg, ranging from those who currently cycle regularly for commuting purposes, to others who may not be comfortable cycling on bicycle routes on busy roadways. The City of Portland first categorized the cycling market based on people's willingness to use bicycles for transportation and classified the population into four groups – “strong and fearless”, “enthused and confident”, “interested but concerned”, and “no way no how”.

The telephone survey (see **Figure 2.3**) developed a similar classification and found that the first group, “**Strong and Fearless**” cyclists, are a small group of very regular cyclists, representing about 2% of the population who would cycle regardless of road conditions and throughout the year. The “**Enthused and Confident**” group is made up of 24% of Winnipeggers, and includes people who cycle occasionally in non-snow months. This group is comfortable on busy roads and transit routes without bicycle lanes, but is more comfortable if bicycle lanes are provided. The “**No Way No How**” group makes up 36% of the population in Winnipeg and would be unwilling to use a bicycle for transportation, regardless of conditions.



Figure 2.3:
Types of Cyclists in Winnipeg



What remains is the key untapped market, the “**Interested but Concerned**” group, which makes up over one-third (36%) of Winnipeggers. This group is interested in cycling more, but has concerns about safety, and is not comfortable riding on any type of busy roadway without bicycle facilities. Currently, although nearly two-thirds (63%) of Winnipeggers indicate they are interested in cycling as one of the first three types of cyclists, only approximately 2% of trips to work in Winnipeg are made by bicycle, suggesting that most current cyclists are the “strong and fearless” group. The City has not significantly tapped in to the “interested but concerned” market but could see significant benefits if cycling improvements target that group and are able to shift even a modest proportion of trips made by that group towards cycling.

Similarly, the telephone survey allowed for a classification of Winnipeggers based on their interest in walking. The survey found 31% of Winnipeggers are “**Enthusiastic Walkers**”, who already walk a lot but want to walk more. These individuals walk at least once a week or more to or from work or school, or to a neighbourhood destination. “**Enthusiastic Non-Walkers**” make up 16% of the population and include individuals who do not currently walk a lot, but would like to walk more, followed by “**Unenthusiastic Walkers**”, who made up 28% of the population and include people who walk several times a week but are not interested in walking more. Similar to cycling, the “**No Way No How**” group (25%) includes Winnipeggers who do not walk often, and are not interested in walking more.



These findings suggest that there is a significant untapped market for walking and cycling in Winnipeg, and that a significant number of people would be interested in walking and cycling more in conditions that made them feel more comfortable.

2.4.2 Trip Purpose

Winnipeggers are very active pedestrians and cyclists year round. In non-snow months, 93% of Winnipeggers walk and 45% cycle at least once a month to get to work, school, neighbourhood destinations, or for exercise or pleasure.

Walking and cycling are not just for getting from A to B. These modes form an important part of Winnipeggers' recreation and leisure activities. In fact, the most common reason Winnipeggers 'choose to walk and cycle is for **exercise or pleasure**. The telephone survey found that, in non-snow months, more than 8 out of 10 Winnipeggers walk for exercise at least once a month, and 4 out of 10 Winnipeggers cycle for exercise at least once a month.

Many people are walking or pedalling to **neighbourhood destinations**. The telephone survey found grocery stores are the most common destination for walking and cycling trips, followed closely by restaurants, parks, playgrounds, and community centres. Most walking and cycling trips are primarily short distance, locally based trips.

Many Winnipeggers also **commute to work** by walking or cycling in non-snow months, although this was the lower proportion of walking and cycling trips.

Figure 2.4:
Number of People Who Walk or Cycle for Different Trip Purposes in Non-Snow Months

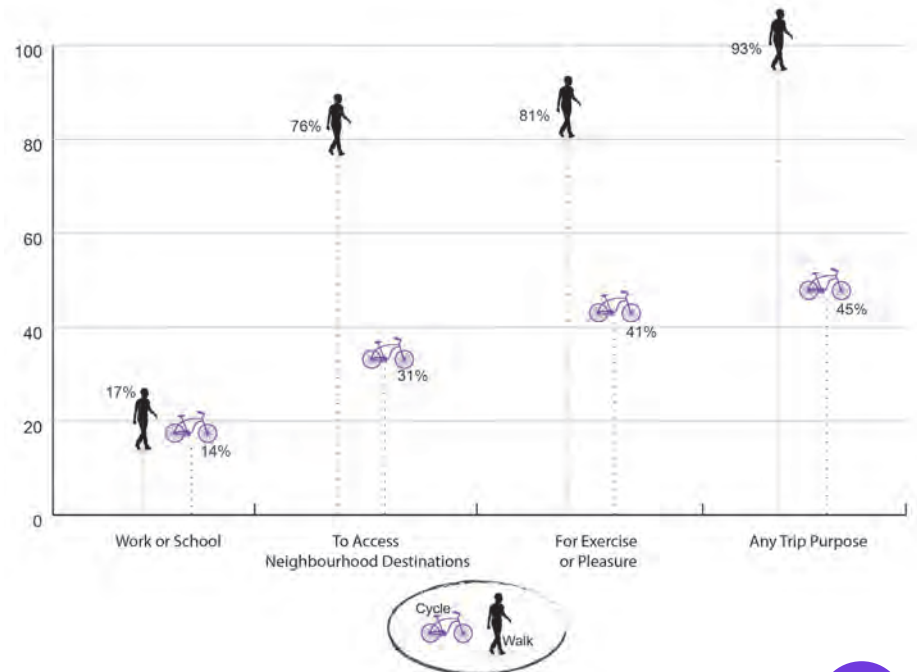
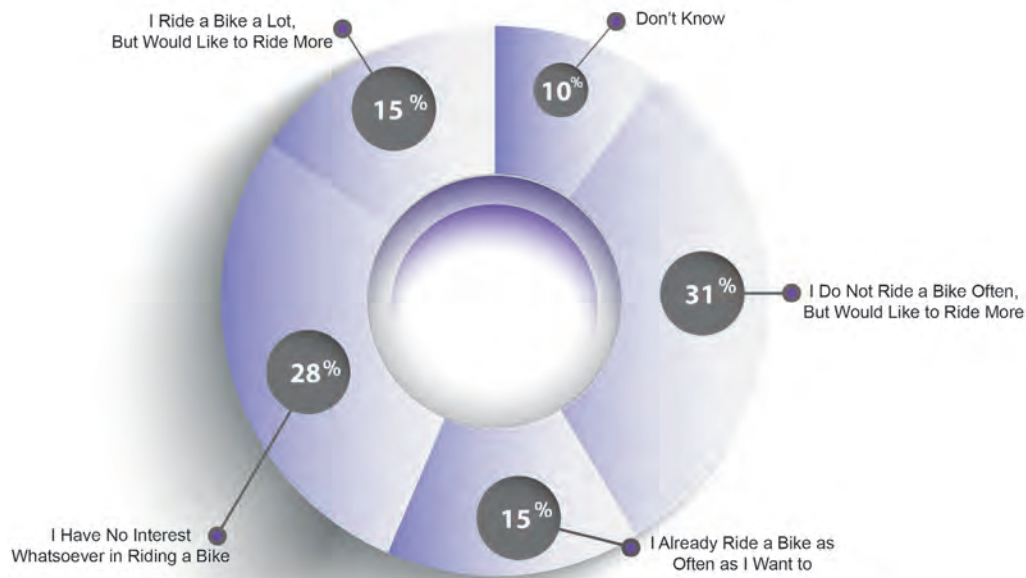


Figure 2.5:
Winnipeg's Interest in Cycling



2.4.3 Interest in Walking and Cycling

As noted above, many Winnipeggers already walk and cycle throughout the year, even in winter months. In fact, **6%** of respondents say they cycle to work or school at least once a month in the winter, while **17%** of respondents say they walk to work or school at least once a month in the winter. Even though some Winnipeggers are already active pedestrians and cyclists, many have an interest in walking and cycling even more than they already do.

Nearly half (48%) of Winnipeggers stated that want to walk more, including 23% of Winnipeggers who do not walk often but want to walk more, and 25% who already walk a lot, but would like to walk more. Less than a tenth (8%) have no interest in walking. Altogether, the majority of Winnipegges (84%) have an interest in walking as much as they currently do or want to walk even more.

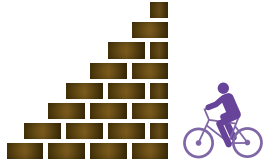
Similarly, nearly half (46%) of Winnipeggers want to cycle more, including 31% of Winnipeggers who do not ride a bicycle often but want to ride more, and 15% who already ride a bicycle a lot, but would like to ride more as shown in **Figure 2.5**. Less than a third (28%) have no interest in riding a bicycle. Altogether, over six in ten Winnipeggers (61%) have an interest in riding their bicycle as much as they currently do or want to ride even more.



2.4.4 Barriers to Walking and Cycling

In order to make walking and cycling a more convenient and attractive option, particularly to the Interested but Concerned population, it is important to understand what deters people from walking and cycling. Strategies to enable walking and cycling can then focus on addressing the key barriers to walking and cycling among different types of people. While many people said that long distances, personal abilities, and time limitations can be deterrents to walking and cycling, most say **the absence of dedicated or well-connected facilities** are primarily what discourages Winnipeggers from walking and cycling more.



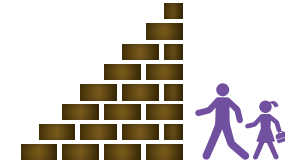


Many Winnipeggers noted they are most uncomfortable on busy streets without bicycle facilities, and said that the lack of dedicated bicycle infrastructure is one of the biggest barriers to cycling. Through the telephone survey, the most common reasons why people don't cycle more in Winnipeg include:

- ▶ Lack of bicycle lanes / don't like riding on busy street (32% of respondents identified this as a barrier)
- ▶ Don't have a bicycle (20%)
- ▶ Impractical (16%)
- ▶ Fear / don't feel safe (16%)
- ▶ Busy lifestyle / lack of time / other commitments (11%)
- ▶ Health – balance / vision / mobility issues (7%)
- ▶ Weather (7%)
- ▶ Age (5%)

For walking, many Winnipeggers pointed out the lack of sidewalks or sidewalks in poor condition, poor snow clearing, as well as safety and security concerns as key current barriers to walking. The top priority identified among workshop and survey participants was more snow removal to allow for clear sidewalks in the winter. Through the telephone survey, some of the top barriers for walking included:

- ▶ Impractical (30% of respondents identified this as a barrier)
- ▶ Busy lifestyle / lack of time / other commitments (19%)
- ▶ Health – balance / vision / mobility issues (8%)
- ▶ Prefer other modes (7%)
- ▶ Weather (7%)
- ▶ Lack of motivation (6%)
- ▶ Fear / don't feel safe (4%)



2.4.5 Improvement Opportunities for Walking and Cycling

Through the public consultation process, Winnipeggers provided many suggestions for improvements to walking and cycling that would encourage them to walk and cycle more. For pedestrians, filling in gaps in the sidewalk network and improved sidewalk maintenance were identified as critical to facilitate more people to walk more often. Safer crossings were also highlighted as needed to get more Winnipeggers to walk.

For cycling, several clear themes and priorities emerged from residents and stakeholders about how to enable cycling in Winnipeg, including developing a more complete and connected bicycle network, providing separated bicycle lanes on major streets, offering more secure bicycle parking, creating more painted bicycle lanes, and developing more bicycle routes or low volume, low speed streets. The telephone survey also asked what improvements would most encourage respondents to cycle more. The telephone survey found that the most important opportunity to make people cycle more would be adding separated bicycle lanes on

Figure 2.6:
What would make you walk more?

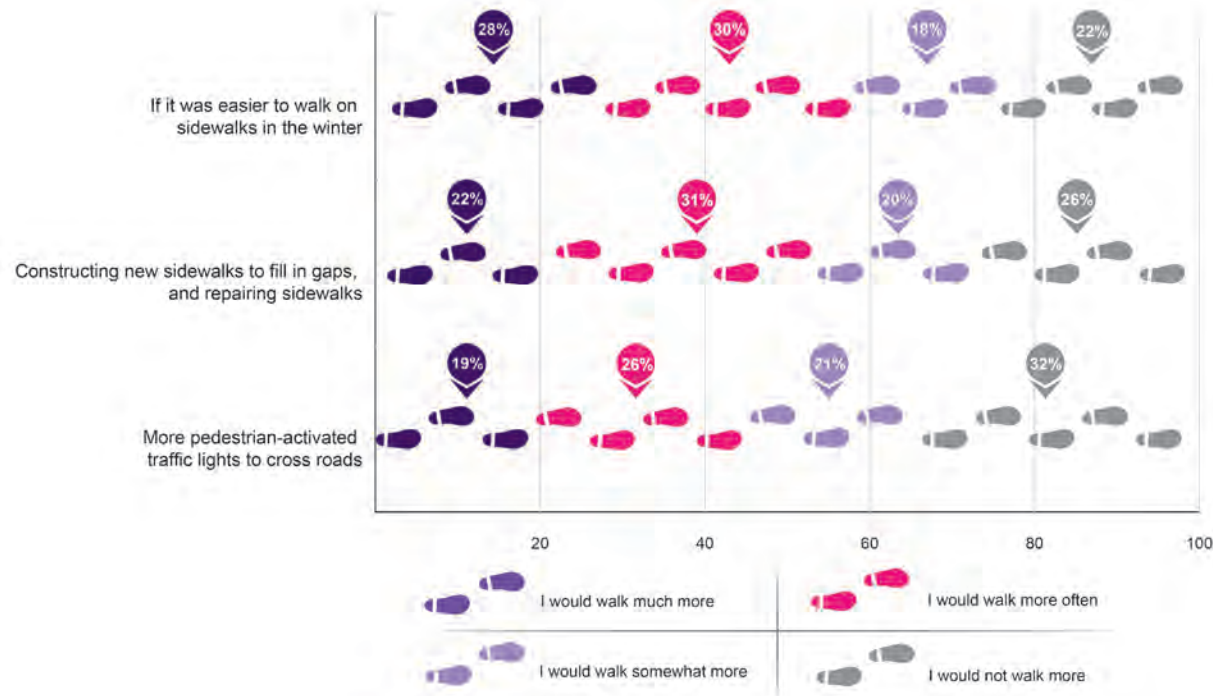


Figure 2.7:
What would make you cycle more?



major streets, with nearly half (47%) of respondents saying they would cycle more or much more if separated bicycle lanes were provided. This was followed by providing more secure bicycle parking (46% of respondents saying they would cycle more), followed by providing more bicycle routes on local street (34% of respondents saying they would cycle more).

2.5 Walking and Cycling Facts and Trends

According to the 2011 National Household Survey conducted by Statistics Canada, almost 8% of all trips to work are made by walking and cycling in Winnipeg. In fact, Winnipeg has the highest level of walking and cycling commute trips among all Canadian prairie cities, and one of the highest cycling mode shares among all major Canadian cities.



In particular, 6% of trips to work are made on foot in Winnipeg, equal to nearly 20,000 daily walks taken for commuting. Winnipeggers walk more than citizens of any other major Canadian prairie City. However, walking in Winnipeg has remained relatively stable over the past decade, with a slight decline in recent years. With more infrastructure and programming, more people will walk more.

More than 2% of Winnipeggers get to and from work by bicycle, which is one of the highest percentages in Canada, and is second only to Saskatoon among Canadian prairie cities. Cycling is also the fastest growing mode of transportation in Winnipeg. In the past ten years, bicycle use has grown faster here than in any other major city in Canada, except Toronto. Most other prairie cities have seen bicycle use decline over the past decade.

Figure 2.8:
Mode Share of Commute Trips in Winnipeg
2011 National Household Survey (Statistics Canada)

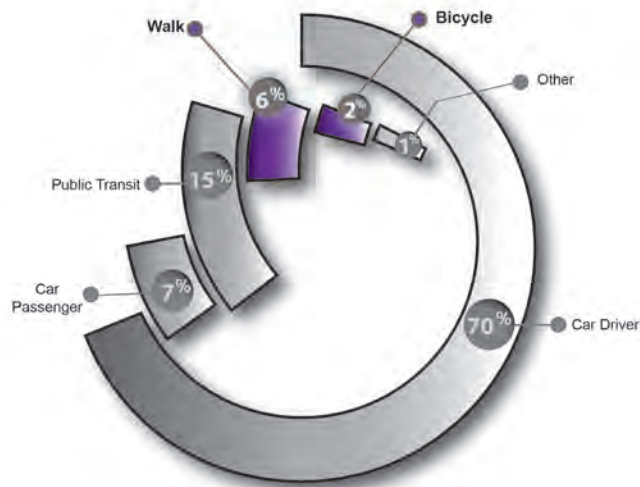


Figure 2.9:
Walking and Cycling in Winnipeg
Compared to Other Canadian Prairie Cities
2011 National Household Survey (Statistics Canada)



The following sections summarize the existing conditions, challenges and opportunities for walking and cycling in Winnipeg in further detail. The sections focus on who, why, when and where people are walking and cycling in Winnipeg.

2.5.1 Walking Facts and Trends

Walking is the simplest and most common form of transportation. Every trip begins and ends on foot, whether that trip is made by car, transit, or bicycle. If suitable conditions exist within a community – such as having a complete, connected sidewalk network, safe crossings and major destinations nearby to where people live – walking can also be a convenient alternative to the automobile for almost all short trips. Walking is a year round activity and is possible during the winter season with appropriate support. The City of Winnipeg is committed to improving pedestrian safety, creating walkable neighbourhoods, and enabling a culture of walking.

The City of Winnipeg currently has an extensive pedestrian network that facilitates walking. The City has approximately 2,500 kilometres of sidewalks, as well as numerous pedestrian/bicycle only bridges, pedestrian corridors, countdown timers, and accessible infrastructure at many major intersections.

As noted above, approximately 6% of trips to work in Winnipeg are made by pedestrians, accounting for nearly 20,000 daily trips. However, there are a number of different reasons people choose to walk other than commuting, including those that walk for recreation, utilitarian, or practical reasons including walking to the store.

The variety of types of pedestrians range from individuals who walk for recreation or utilitarian purposes, and includes joggers, individuals that depend on a guide dog, a cane, a walker or a stroller or small wheels to travel. To accommodate all types of pedestrians, it is important to recognize and enable the breadth of pedestrian needs and trip purposes.

The needs of pedestrians vary depending on age group. Young pedestrians often require adult supervision and education to increase their awareness of the dangers of the road and safety measures in place to help them. Older pedestrians have different needs based on their physical abilities. For example, some older pedestrians may require physical aids, such as hand rails and ramps.

The following section summarizes key facts and trends for walking in Winnipeg and identifies areas where the City should concentrate its efforts to facilitate pedestrian activity.





WHERE

- ▶ **Downtown attracts a higher than average portion of walking trips.** There is a high volume of walking trips among the full-time employed population. This corresponds to the downtown core area, a central employment centre which attracts 16% of daily morning peak trips. There is also a high volume of walking trips among students and retirees, which suggests that a significant number of trips will be made in the vicinity of schools, post-secondary education centers, and retirement buildings.
- ▶ **Many neighbourhoods in Winnipeg are very walkable.** Neighbourhoods with good walkability near downtown include Fort Rouge (Osborne and South Osborne) with 11,360 daily trips on foot; St. Boniface across from downtown, with 8,480 daily pedestrian trips; and the West-End Wolseley area with 7,390 daily pedestrian trips. These neighbourhoods have high residential density, sidewalks, and are employment centres attracting more travel by foot.
- ▶ **Schools and Post-secondary schools in the central city are major destinations.** Many young people live in the downtown area between Corydon Avenue and Notre Dame Avenue. The Osborne Village, Wolseley, and West Broadway neighbourhoods have many young families and a number of elementary and high schools. Depending on the local condition, such as traffic volume and safe crossings, schools generate a number of daily pedestrian trips. In addition, the University of Winnipeg and Red River College are located downtown, popular areas for post-secondary students to live, leading to a higher concentration of pedestrians.
- ▶ **Concentrations of seniors housing correlate to more walking trips.** Osborne Village and Central Park, along with River East, have the largest density of people 65 years of age or older. The older adult population pockets correlates to high levels of walking due to the high-rise residential buildings, proximity to services, and community centres. A diverse mixture of land uses is important in any neighbourhood as it creates more services and destinations. For example, the River East neighbourhood has nine senior housing sites within a six block radius. Pedestrian design for the older adult population is a priority as their physical mobility is reduced; they drive less or stop driving altogether and are more reliant on walking or transit.
- ▶ **Most walking trips are relatively short.** The average walking trip length in Winnipeg is 1.1 kilometres which is about a 15 to 20 minute walk based on average walking speeds.



CHATEAU JOO

Notice
Please do not litter in the park
and please keep your dog on a leash
at all times.



REGISTRATION
Please Open!

EIRI

No parking

STOP

NO PARKING

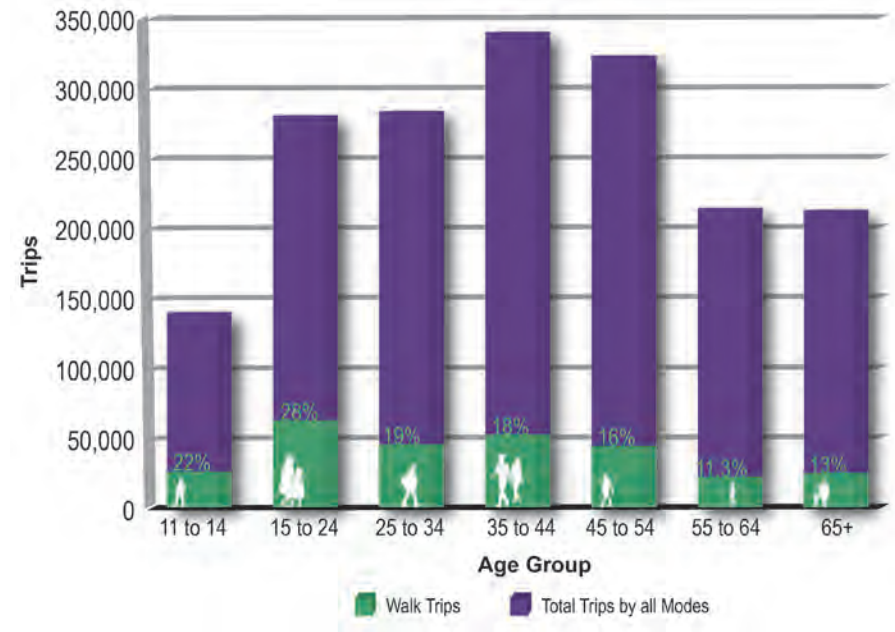
D



WHO

- ▶ **Children and younger adults account for half of all walking trips in Winnipeg.** Youth and young adults aged 15 to 24 account for approximately 28% of all walking trips in the City, followed by 22% of walking trips made by people aged 11 to 14. School aged children and young adults are a very important segment of the population as they often do not have access to automobiles and rely on transit, walking, cycling and carpooling. Attracting youth to sustainable modes of transportation early in their lives increase the opportunity to continue these trends into adulthood.
- ▶ **Older adults represent a significant proportion of daily walking trips.** 13% of walking trips are made by people 65 years of age and older, as well as 11% made by those in their pre-retirement years (55-64). The fastest growing population group over the next twenty years is older adults and the travel behaviour of seniors often switches from driving to more walking or transit trips at a certain age.

Figure 2.10:
Walking Trips vs Trips by Other Modes

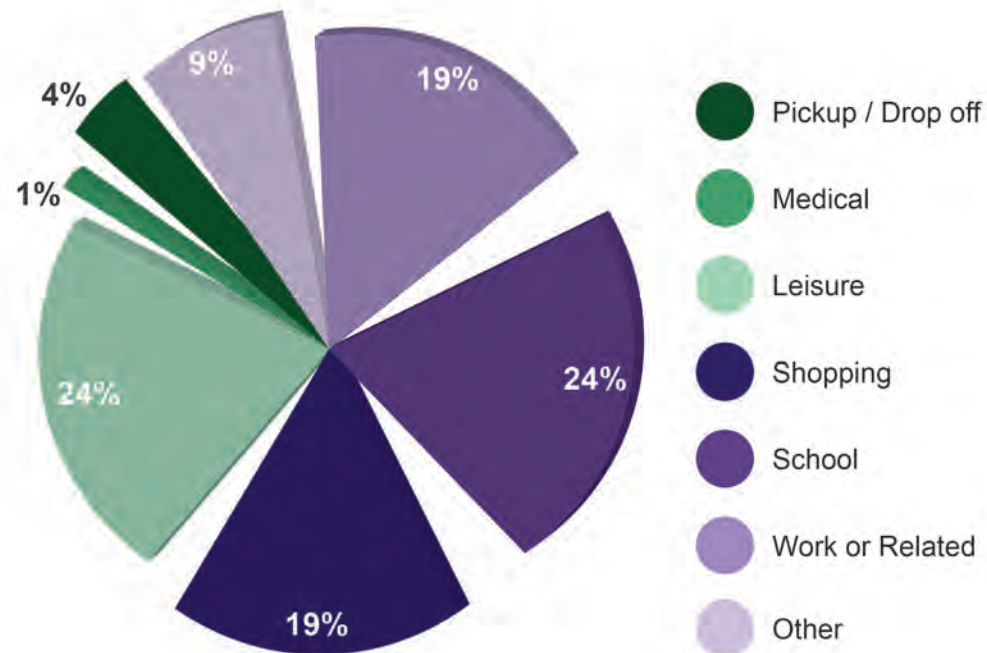




WHY

- ▶ **The most common walking trip purpose is walking for leisure (24%) or school (24%),** followed by work (19%) and shopping (19%). When destinations are closer together, which is achieved through high density mixed-use planning, walking is possible for daily transportation.

Figure 2.11:
Common Walking Trip Purpose



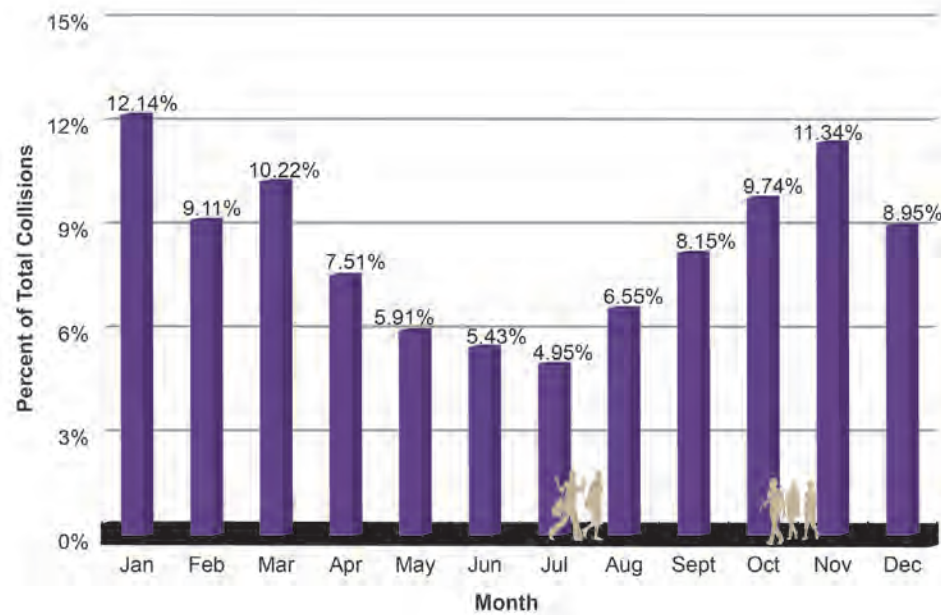


SAFETY

- ▶ **Pedestrians face greater exposure to traffic collisions.** Pedestrians of all ages and abilities are disproportionately impacted by traffic collisions, which most commonly occur at intersections. As found in Winnipeg from 2006 to 2010, one quarter of fatalities involving pedestrians happen at signalized intersections, with the majority of which occurred in either

Downtown or the North End. The frequency of pedestrian collisions is highest during the months of November to March. Winter driving conditions are constrained by snow and freezing temperatures which further exposes vulnerable road users to risk of a traffic collision at this time of year.

Figure 2.12:
Percent of Total Collisions Involving Pedestrians



- ▶ **Well-designed infrastructure and facilities provide a comfortable, functional and safe support for walking.** Good urban design of pedestrian facilities and sidewalks plays a key role in encouraging and discouraging walking. Implementing design standards for new developments will ensure a comprehensive network of sidewalks connect residents to pedestrian destinations. Pedestrian facilities serve many different non-motorized users, such as runners, strollers, and small wheels. Overhead street lights, sidewalks, and signalized crosswalks are a few traffic engineering measures to create hospitable spaces for walking.
- ▶ **Signalized intersections are the most common site for traffic collisions.** Local police services collect data and statistics associated with reported traffic collisions and fatalities. This information can be used to make facility improvements to the road and street network to reduce traffic collisions in places noted as 'hot spots'.
- ▶ **Pedestrian safety and security is inhibited by fear of crime and greater risk can occur in areas that have low pedestrian traffic.** Fear of crime is another aspect that has an impact on pedestrian safety and security. Some of the pedestrian access deterrents in Winnipeg include pedestrian underground walkways that are often poorly lit and have limited access points, which result in pedestrians feeling vulnerable to attack or robbery. Incorporating principles of Crime Prevention through Environmental Design (CPTED) in facility design increases security in public areas and will in turn promote walking as a transportation mode choice.





2.5.2 Cycling Facts and Trends

Cycling can be an attractive transportation option, as it is convenient, low cost and for shorter trips it is a reasonable alternative to the motor vehicle. Over the last six years, cycling has grown in popularity in Winnipeg. The city's relatively flat terrain makes the city well suited to cycling as the topography is not a major barrier as it is in many other cities. The City of Winnipeg has made investments in bicycle facilities and infrastructure, and increase in safety training and education have contributed to higher rates of cycling.

Capital investments on cycling-related infrastructure and programs has increased in Winnipeg in recent years following the adoption of the 2005 Active Transportation Study, with annual investments increasing from \$300,000 in 2006 to \$3 million in 2009. Much of this increase was due to stimulus funding received by the City for active transportation-related projects.

As a result of the above mentioned funding received from the Federal and Provincial Governments, currently 8% of Winnipeg streets have bicycle facilities of some form with a total of 400 kilometres of bicycle facilities and routes. The bicycle network also consists of dedicated pedestrian and bicycle bridges, a number of intersections with dedicated bicycle pushbuttons, and numerous locations with bicycle parking. The City of Winnipeg has a number of different types of bicycle facilities which are discussed in detail in Part 4.

A variety of factors influence an individuals' decision to cycle, such as neighbourhood characteristics, the quality of the bicycle facilities, distance between destinations, and personal preference. The bikeability of a neighbourhood is influenced by a variety of built environment features such as network facilities, transportation infrastructure, land-use mix, connectivity, and traffic volume. Identifying areas of the city with a high mode share of cycling can help the City understand how to prioritize investments in planning and design to support cycling activity. Commonly used descriptive terms used to distinguish between different types of cyclists and the types of trip are utilitarian (purpose based/ work commute) and recreation (leisure, pleasure).





WHERE

- ▶ **The majority of cycling trips in Winnipeg are short, local trips.** According to Winnipeg's 2009 OttoCYCLE survey, the average distance traveled by bicycle in Winnipeg's central neighbourhoods is 2.5 to 3.5 kilometres, which averages between 10-15 minutes long. The trip distance varies among Winnipeg's neighbourhoods as central neighbourhoods with closer proximity to key origins and destinations are associated with shorter bicycle trip distances.
- ▶ **A high concentration of cycling activity correlates to more compact and densely populated neighbourhoods.** There is great variation in cycling levels among Winnipeg's neighbourhoods. Cycling levels are higher in central neighbourhoods, in close proximity to downtown businesses, post-secondary campuses and other key destinations where short bicycle trips are a preferred and convenient mode of transportation. Key destinations in the downtown area that attract bicycle trips include entertainment and retail districts, as well as the Forks.



WHO

- ▶ **The majority of cyclists in Winnipeg are men (72%),** while women make up 28% of the cyclists in the City. However, these numbers vary between neighbourhoods. In River Heights East and Assiniboine South, women represent up to 43% of cyclists. In contrast in some of Winnipeg's more northern neighbourhoods, women represent less than 20% of cyclists.
- ▶ **The highest level of cycling activity among Winnipeggers is between the ages of 25 and 54.** This age group makes up 71% of all cycling trips. There is a steady decline among cycling trips among people aged 55 and over.
- ▶ **An individual's income appears to have a relationship with how often Winnipeggers cycle.** The largest group of cyclists in Winnipeg are those with incomes less than \$40,000 (31% of cyclists), followed by 22% between \$40,000 and \$60,000, 9% between \$60,000 and \$80,000, 10% between \$80,000 and \$100,000, and 11% above \$100,000.

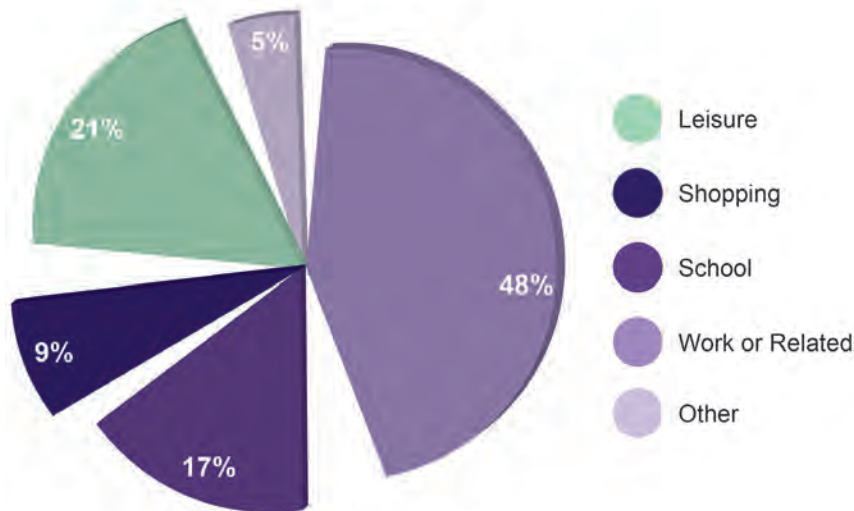




WHY

- ▶ **The most common cycling trip purpose is travelling to work, which accounts for nearly half (48%) of all cycling trips.** This is followed by 21% of trips by bicycle made for leisure, 17% made to go to school, and 9% to go shopping.

Figure 2.13:
Common Cycling Trip Purpose



SAFETY

- ▶ Like pedestrians, **cyclists are vulnerable** and are subject to greater exposure to traffic collisions. Over the last five years, Winnipeg has averaged two fatalities and more than 200 injuries involving cyclists per year. Across Manitoba, reported claims totaled over \$34 million between 2005 and 2009, with the average cost of each claim approximately \$18,800.

- ▶ **The majority of collisions occur in downtown Winnipeg and are on roadways without designated bicycle facilities.** Some of the top collision locations within Winnipeg include Portage Avenue, Notre Dame Avenue, Osborne Street, and Main Street. These routes show strong desire lines for cyclists along several of the City's major arterial streets and provide direct routes into the downtown, indicating that cyclists are using direct routes to get to their destinations.



- ▶ **There are ‘softer’ measures that can be adopted such as education and awareness** to help improve safety. Safety training and education are critical to increasing an individual’s confidence and skill level. Within Winnipeg, local organizations such as WRENCH and Bike Winnipeg teach road safety and rules of the road to individuals of all ages. In recent years, Manitoba Public Insurance has invested in safe cycling training and education through a workplace program. The Green Action Centre plays a leadership role in Winnipeg, and across the province, coordinating Active Safe Routes to School (ASRTS) programs and school travel planning. The ASRTS program components include neighbourhood walkabouts, transportation surveys, walking clubs, walking/cycling school buses for children with adult supervision, no-idling zones, and active transportation events. It is recommended that the City increase partnerships with these organizations for this purpose.
- ▶ **Bicycle Infrastructure.** The provision of comfortable bicycle infrastructure and end-of-trip facilities is crucial to increase the safety (and safety perceptions) of cycling. In particular, recent research from the Cycling in Cities Program at the University of British Columbia and other sources has found that bicycle infrastructure that provides a greater degree of separation between cyclists and vehicles

is more likely to increase bicycle ridership. Separated bicycle lanes, or protected bicycle lanes (such as on Assiniboine Avenue) are often identified as a bicycle facility type with high potential to attract new cyclists, especially in high volume and speed road environments. Protected bicycle lanes provide complete segregation from motor vehicle traffic, limiting the conflict between cyclists and automobiles.



2.6 Walking and Cycling Network Analysis

This section provides an analysis of the existing pedestrian and cycling networks in Winnipeg to help understand existing conditions, issues, and opportunities for walking and cycling in Winnipeg.



2.6.1 Walking

Expanding and enhancing the sidewalk network is a fundamental part of making walking a convenient and attractive transportation choice in Winnipeg. The City of Winnipeg has an extensive sidewalk network, particularly in the Downtown core and mature neighbourhoods throughout the City. According to the City's sidewalk inventory, there are approximately 2,550 linear kilometres of sidewalks in Winnipeg. However, there are many gaps in the City's sidewalk network, as well as several large areas of the City that do not have sidewalks, particularly in many of the newer neighbourhoods throughout the City. The lack of sidewalks in these areas can discourage people from walking for more of their short trips within these neighbourhoods, as this forces pedestrians to walk on the street and makes walking a less desirable mode of transportation in these neighbourhoods. It is recommended that the City update its existing practices regarding new sidewalk requirements, with recommended criteria for prioritizing sidewalk construction and maintenance in Winnipeg.

Sidewalks in Winnipeg today

The City of Winnipeg's 2012 Transportation Standards Manual sets out the City's sidewalk requirements for new developments based on

land use and road classification as shown in **Table 2.1**. Sidewalks are not currently required on local streets, unless certain volume, safety, or connectivity conditions are met. Sidewalks are required on both sides of residential collectors and arterials, and are required on at least one side for industrial and commercial collectors.

The Development Agreement Parameters (DAP) express the general policy of the City. The DAP state that they are guidelines for the Winnipeg Public Service and Developers in formulating development conditions for consideration by City Council and its relevant Committees. Each development will be governed by its respective development agreement, not these guidelines although experience indicates the Development Agreement parameters will be followed with few exceptions. The purpose of the DAP are to ensure that all parties pay their equitable share of the costs of development, that development agreement obligations are consistent for all developments and that development occurs in accordance with current City of Winnipeg construction specifications.

According to this agreement, developers may be required to construct and install sidewalks along street rights-of-way as specified and designated by the City outlined in **Table 2.1**. As a general rule, sidewalks are not required on bays, crescents,



and cul-de-sacs. Further, this agreement may require the developer to register a caveat against all parcels of property which will have frontage or flankage along a sidewalk. This caveat serves to inform future potential property purchasers that a sidewalk will be constructed abutting the property.

The City's existing sidewalk coverage is shown in **Map 2.1**, showing streets with no sidewalk on either side of the street, sidewalks on one side of the street, or sidewalks on both sides of the street. **Map 2.2** summarizes existing sidewalk coverage by Census Tract, and shows that the majority of streets within the Downtown core and many mature neighbourhoods within the inner city have sidewalks on one or both sides of the street, whereas the majority of streets within many of the newer neighbourhoods in the City do not have sidewalks on either side of the street.

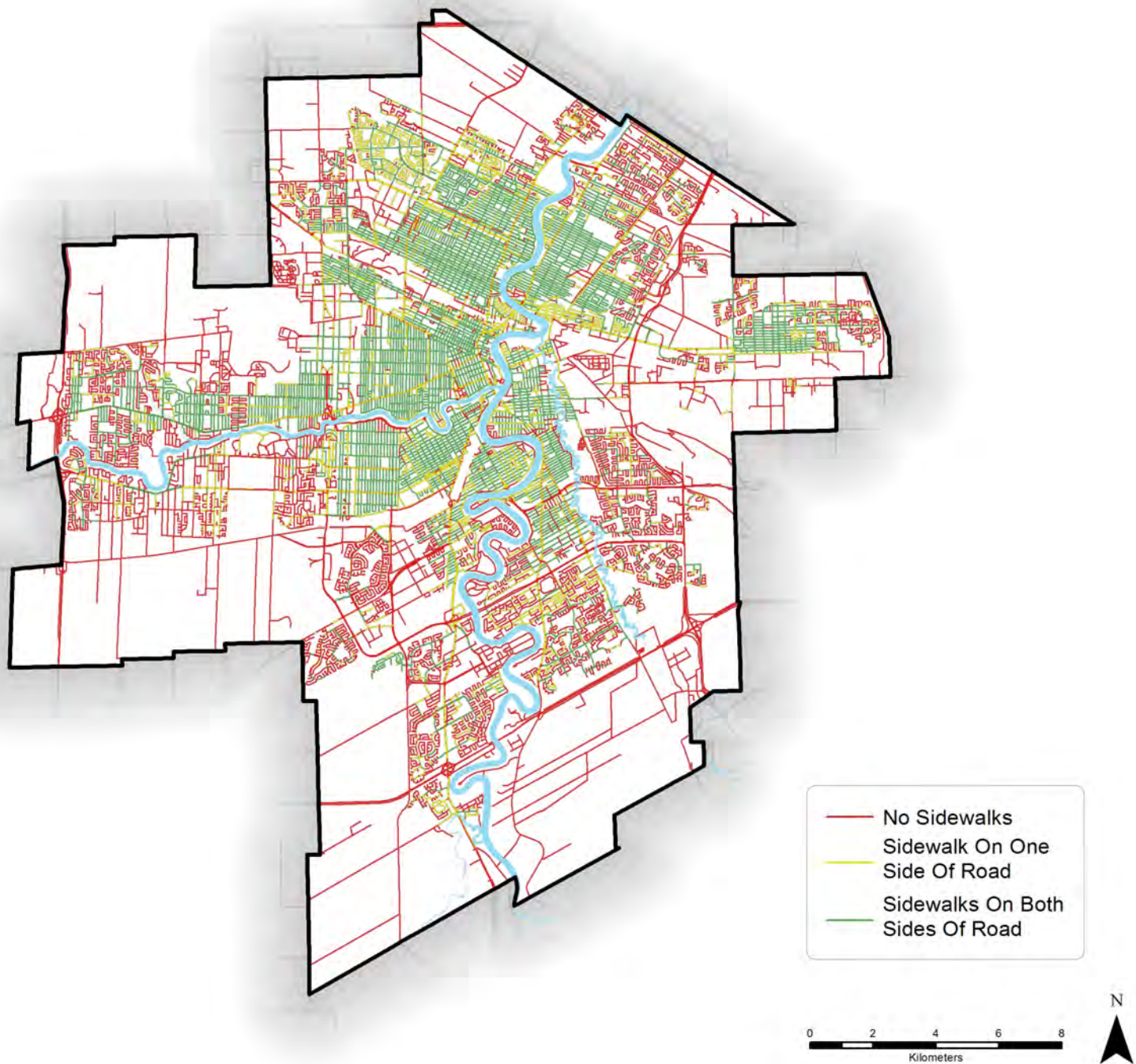
In addition, the City of Winnipeg's 2010 Accessibility Design Standards state that sidewalks shall have a minimum clear width of 1.5 metres. The majority (93%) of the total sidewalk kilometres in the City meet this minimum required width of 1.5 metres. However, approximately 7% of sidewalks (or approximately 175 linear kilometres) are narrower than the 1.5 metre minimum requirement. As shown in **Map 2.3**, most of these sidewalks are located in Winnipeg's older neighbourhoods such as East Fort Garry (Wildwood and Crescent Park), Old St. Vital, Central St. Boniface, East Kildonan and North Kildonan. It should also be noted that just over 20% of Winnipeg's older population (people over 65 years of age) also live in these neighborhoods.

Table 2.1:
Current Sidewalk Requirements in Winnipeg

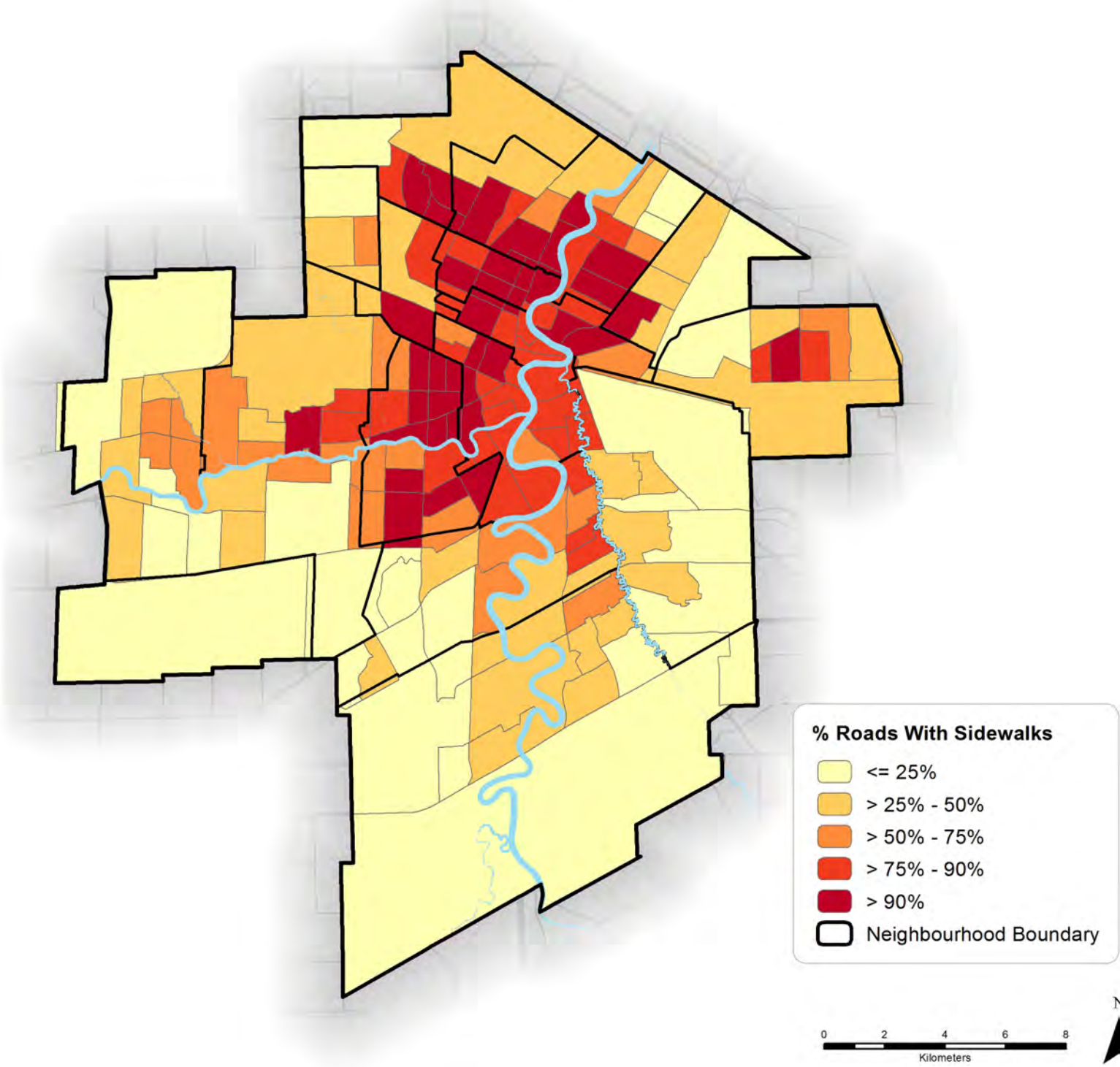
Road Classification	Sidewalk Requirement	Number of Sidewalks
Public Lane	No	None
Residential Local	No, unless:	As required
Industrial/Commercial Local	<ul style="list-style-type: none"> Land uses adjacent to the street are expected to generate high pedestrian and vehicular volumes: for example, schools, commercial areas, multiple family dwellings, recreational areas. There is a potential safety problem related to pedestrians. There is a need for sidewalk(s) to provide sidewalk continuity, safe routes to schools, commercial areas, transit routes, etc. 	1 (at least)
Residential Minor Collector	Yes	2
Residential Major Collector	Yes	2
Industrial/Commercial Collector	Yes	1 (at least)
Minor Arterial	Yes	2
Major Arterial	Yes	2
Expressway	No	As required



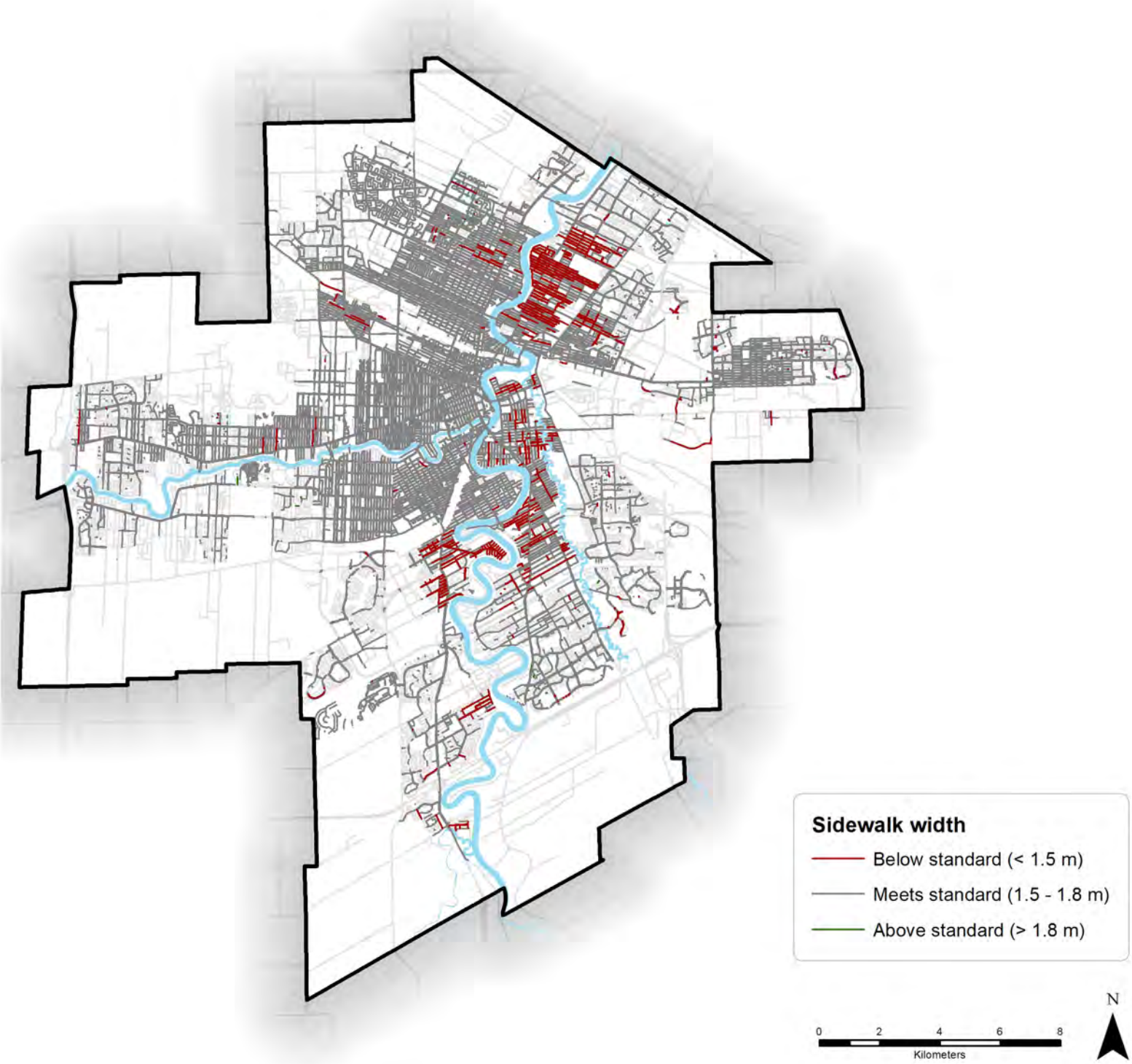
Map 2.1:
Current Sidewalk Coverage in Winnipeg



Map 2.2:
Current Sidewalk Coverage by Census Tract



Map 2.3:
Current Sidewalk Width





2.6.2 Cycling

Cities throughout North America have been investing in bicycle networks as one of the primary ways to increase cycling levels. In some ways, the City of Winnipeg has been ahead of this curve, constructing a comprehensive city-wide path network over the course of several decades. In 2010, Winnipeg became one of the first cities in North America to build a protected on-street facility with its Assiniboine Avenue protected bicycle lane. There are approximately 400 kilometres of bicycle facilities in Winnipeg. This represents roughly eight percent of the length of Winnipeg's 3,100 km of streets and roads. The distribution of bikeway facilities, by facility type, is shown in **Map 2.4** and **Table 2.2**. Winnipeg's bicycle network is characterized by a large system of off-street pathways along with bicycle lanes, neighbourhood greenways and innovative facilities such as protected bicycle lanes and buffered bicycle lanes.

Map 2.4:
Existing Bicycle Network

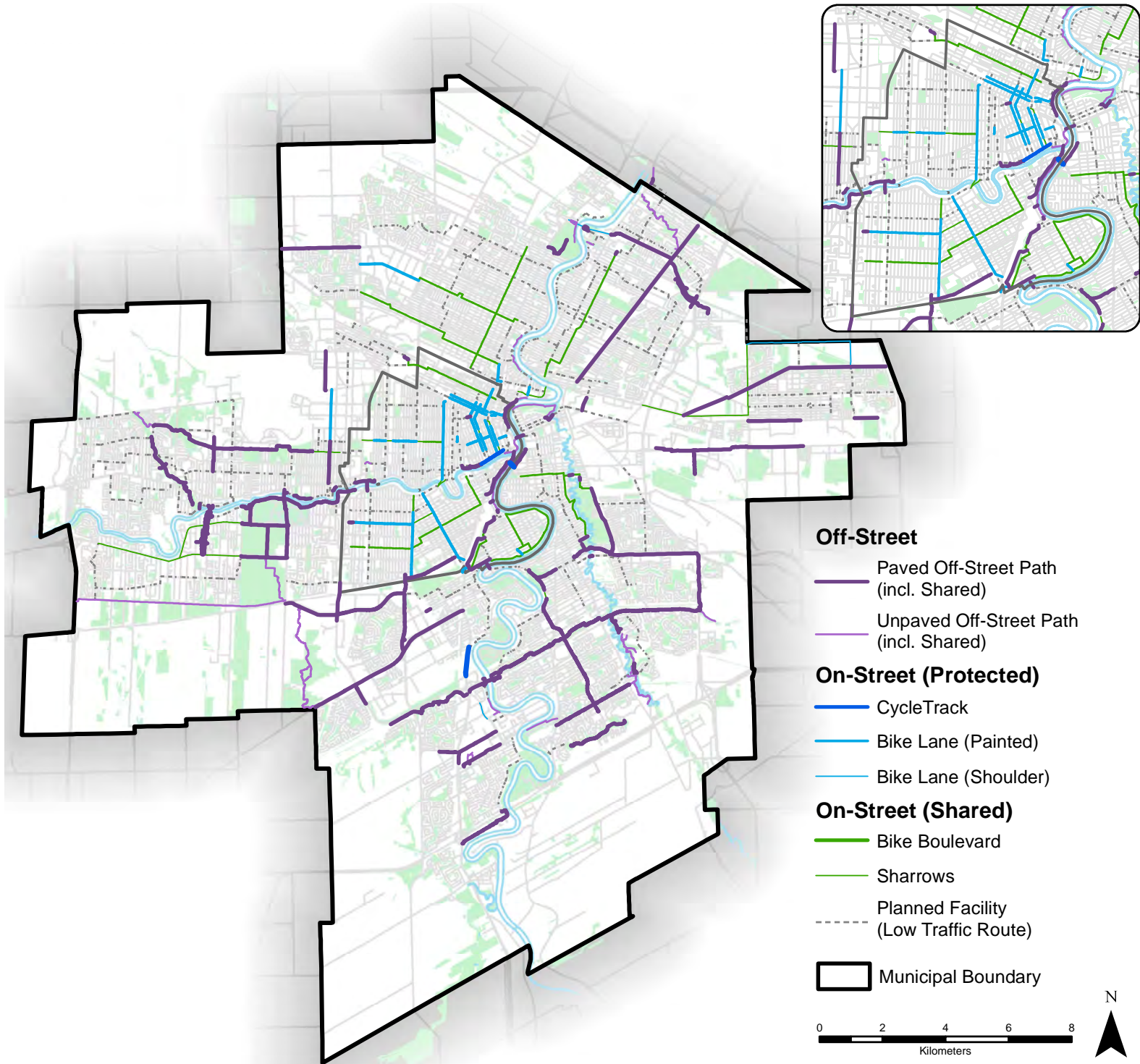


Table 2.2:
Extent of Existing Bikeway Facilities by Facility Type

Bicycle Facility Type	Percent of Network (%)
Multi-User Path (Paved)	41
Neighbourhood Greenway	14
Multi-User Path (Unpaved)	11
Shared Bus-Bicycle Lanes	10
Bicycle Lane	9
Shared-Use Lane	8
Sunday Street Closure	3
Shoulder Bikeway	3
Protected Bicycle Lane	1
Bicycle Only Path	1
All Bikeways	100

Creating a cycling network that attracts cyclists of all ages and abilities requires a variety of tools and bicycle facilities. In a similar way that a road network is comprised of different types of roads, a bicycle network is comprised of many different varieties of bikeways, as shown in **Table 2.2**.

Generally speaking, existing bicycle facilities in Winnipeg comprise the full range of available facilities, from neighbourhood greenways to protected bicycle lanes. However, in some cases these facilities are limited by geographic coverage (such as the Assiniboine Ave protected bicycle lane) or by a lack of consistent design treatments (such as neighbourhood greenway crossings of arterials).



To help inform the development of improvements to Winnipeg's pedestrian and bicycle networks, several different types of analyses were conducted. Together, these analyses help to answer the questions of where the current network falls short and where future network improvements should be targeted. The results of these analyses directly influenced the proposed network plan outlined in Strategic Direction 1. Three types of analyses were conducted:

- ▶ **Gap Analysis** – Exposes gaps and weak points in the existing bicycle network.
- ▶ **Walking and Cycling Potential** – Highlights areas of Winnipeg where walking and cycling has the potential to be the most convenient.
- ▶ **Equity Analysis** – Considers communities in Winnipeg that would especially benefit from increased transportation options, including access to a safer pedestrian and cycling network.

A. GAP ANALYSIS

Gaps in the cycling and walking network have a similar impact on cyclists and pedestrians as road closures have on motorists travelling the road network. A traveller encountering an unexpected gap in the network is forced to either detour to a safer route which often requires local knowledge, or to continue through substandard or potentially hazardous conditions. To the extent that traffic hazards are a major deterrent for potential cyclists, examining gaps in the bikeway network is a logical first step in developing a plan for future bikeway upgrades.

A gap analysis was conducted specifically for existing bicycle facilities. The purpose of bikeway network gap analysis is to catalogue and classify gaps in the existing bikeway system. **Table 2.3** summarizes the three types of Spot Gaps and one type of Area Gap.



**Table 2.3:
Bikeway Gap Types**

Gap Type	Gap Sub-Type	Description	Rationale & Notes
Spot Gap	Network Gap	Where a bicycle facility is discontinuous (“dropped”)	Facilities that terminate unexpectedly are potentially hazardous and make navigation by bicycle challenging and unpredictable
Spot Gap	Crossing Gap	Where a neighbourhood screening meets a major road without a signalized crossing	Busy arterials can represent significant barriers to movement when bicycle and pedestrian crossing treatments are not present. Cyclist-actuated signals, in addition to floating refuge islands, are a best practice at these locations
Spot Gap	Quality Gap	Where a bikeway transitions to a lower-order facility (i.e. reduction in surface quality, grade separation and/or comfort)	A cycling route is only as attractive as its “weakest link.” An unexpected reduction in facility quality (e.g. where mixing with motor vehicles occurs or where a concrete path transitions to gravel) is a disincentive to bike.
Area Gap	Area Gap	Where no bicycle facility is present in a given area, based on an analysis of network coverage using buffers	This gap type is best identified through buffer analysis of the existing network



The bikeway gap analysis considers both the on-street and off-street network, and includes facilities ranging from fully protected bikeways (e.g. on-street protected bicycle lanes or off-street paths) to shared spaces with full mixing of road users (e.g. sharrows and neighbourhood greenways). A wide range of surface types is also evaluated, ranging from smooth, paved concrete to gravel trails.

Map 2.5 illustrates Spot Gaps across the Winnipeg biking network and highlights several patterns:

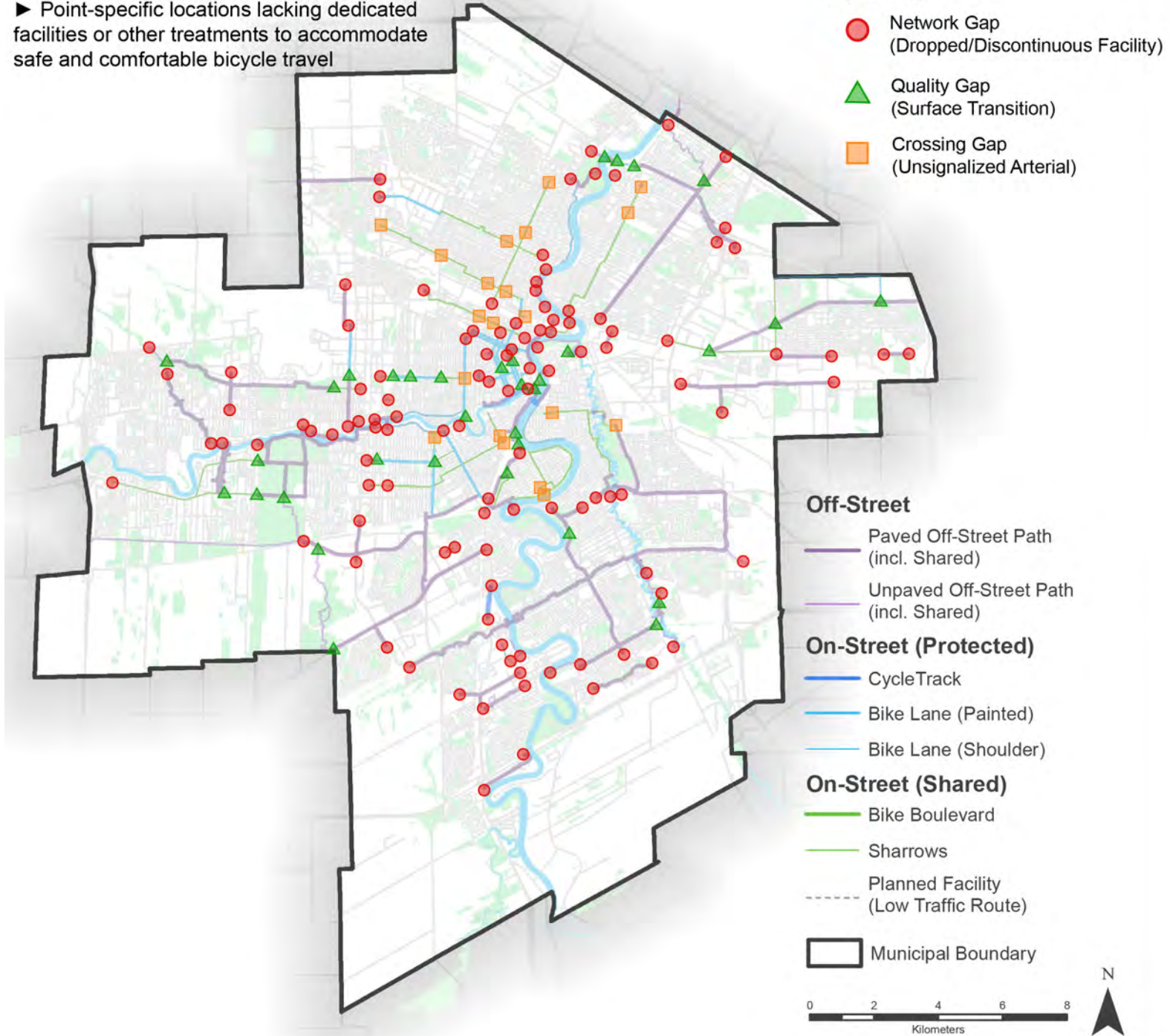
- ▶ **Quality gaps** (where a bikeway transitions to a lower-order facility) are particularly common in Downtown West and River Heights (West and East). Facilities in these neighbourhoods can benefit from greater consistency.
- ▶ **Crossing gaps** (where a neighbourhood greenway meets a major road without a signalized crossing) are concentrated in Point Douglas (North and South) along several key neighbourhood greenways (e.g. Burrows Ave and Arlington St). These routes can benefit from improved intersection crossing treatments.
- ▶ **Network gaps** (where a bikeway is “dropped”) are present throughout Winnipeg, roughly in proportion to the amount of facilities in each neighbourhood. However, Downtown and Point Douglas (South and North) are hotspots for network gaps. Facilities in these parts of the city can benefit from greater continuity.



Map 2.5:
Spot Gaps

Spot Gaps (All)

► Point-specific locations lacking dedicated facilities or other treatments to accommodate safe and comfortable bicycle travel





Map 2.6 identifies Area Gaps in the existing bicycle network. The map shows the existing bicycle network buffered by 200 metre zones around every route in the Downtown, and 400 metres elsewhere in the City. These buffers represent network coverage, in the sense that any location not within the buffer is more than 200 metres away from the nearest bikeway in the Downtown, and more than 400 metres elsewhere in the City. For a mature, built-out bikeway network, these buffers would overlap to cover the entire City of Winnipeg, leaving no area out of reach by bicycle. In reality, drawing these buffers reveals gaps in network coverage by highlighting the negative space between bikeway routes. These gaps in the current bikeway network are highlighted in red in **Map 2.6**.

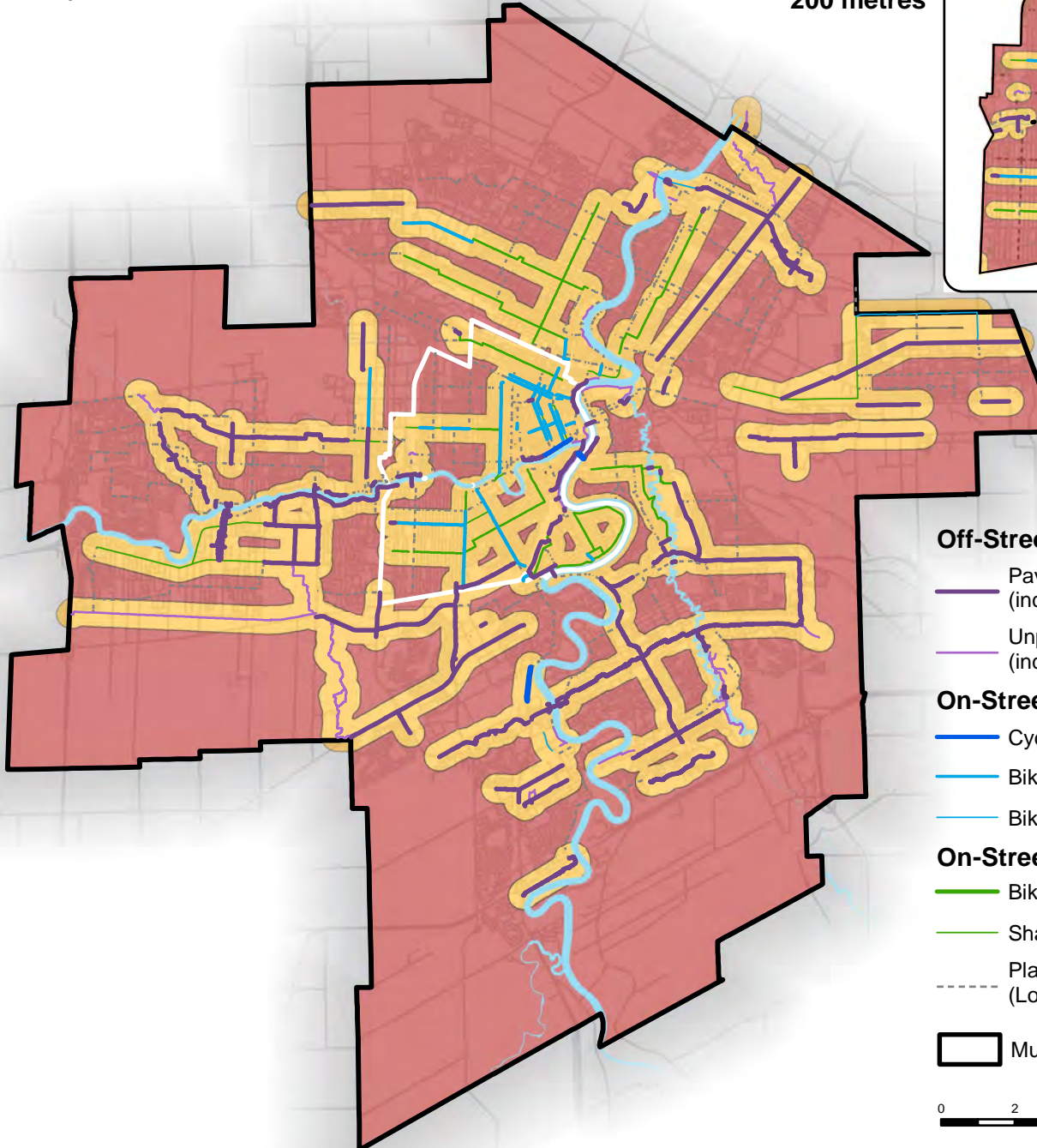
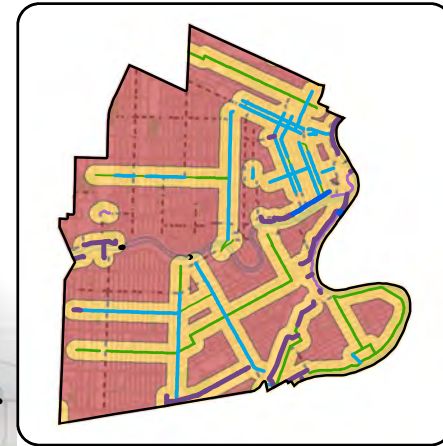


Map 2.6:
Area Gaps

Area Gaps

► Citywide Network Buffer: 400 metres

► Downtown
Network Buffer:
200 metres



Area Gaps

- Inside Buffer (High Coverage)
- Outside Buffer (Low Coverage)

Off-Street

- Paved Off-Street Path (incl. Shared)
- Unpaved Off-Street Path (incl. Shared)

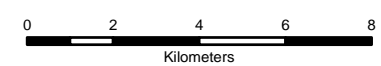
On-Street (Protected)

- CycleTrack
- Bike Lane (Painted)
- Bike Lane (Shoulder)

On-Street (Shared)

- Bike Boulevard
- Sharrows
- Planned Facility (Low Traffic Route)

Municipal Boundary



Several patterns are evident from **Map 2.6**:

- ▶ Most of the area gaps in Winnipeg are located on the outskirts of the city, where population densities are relatively low.
- ▶ There are significant areas in central Winnipeg that are not accessible by bicycle. These include pockets of the older street grid within the Downtown area.
- ▶ When a tighter coverage definition of 200 metres buffer is used for Downtown, a number of area gaps are evident. This is especially true of Downtown West.

Coverage statistics are provided in **Table 2.4** to help assess and quantify future improvements. Currently, downtown bikeways have an area coverage rate of 28% (given the 200-metre accessibility criteria). Bikeways outside of Downtown have a lower area coverage rate of 20% (given the 400 m accessibility criteria), due to this area's geographic size and relatively low development density.

Table 2.4:
Existing Bikeway Network Coverage Statistics

Location	Accessibility Criteria	Facility Coverage (km ²)	Neighbourhood Area (km ²)	Area Coverage (%)
Downtown	Within 200m	4.6	16.3	28
Outside of Downtown	Within 400m	87.1	430.7	20
Citywide	Within 200m or 400m	91.7	447.0	21



cibo
WATERFRONT CAFÉ
339 Waterfront Drive



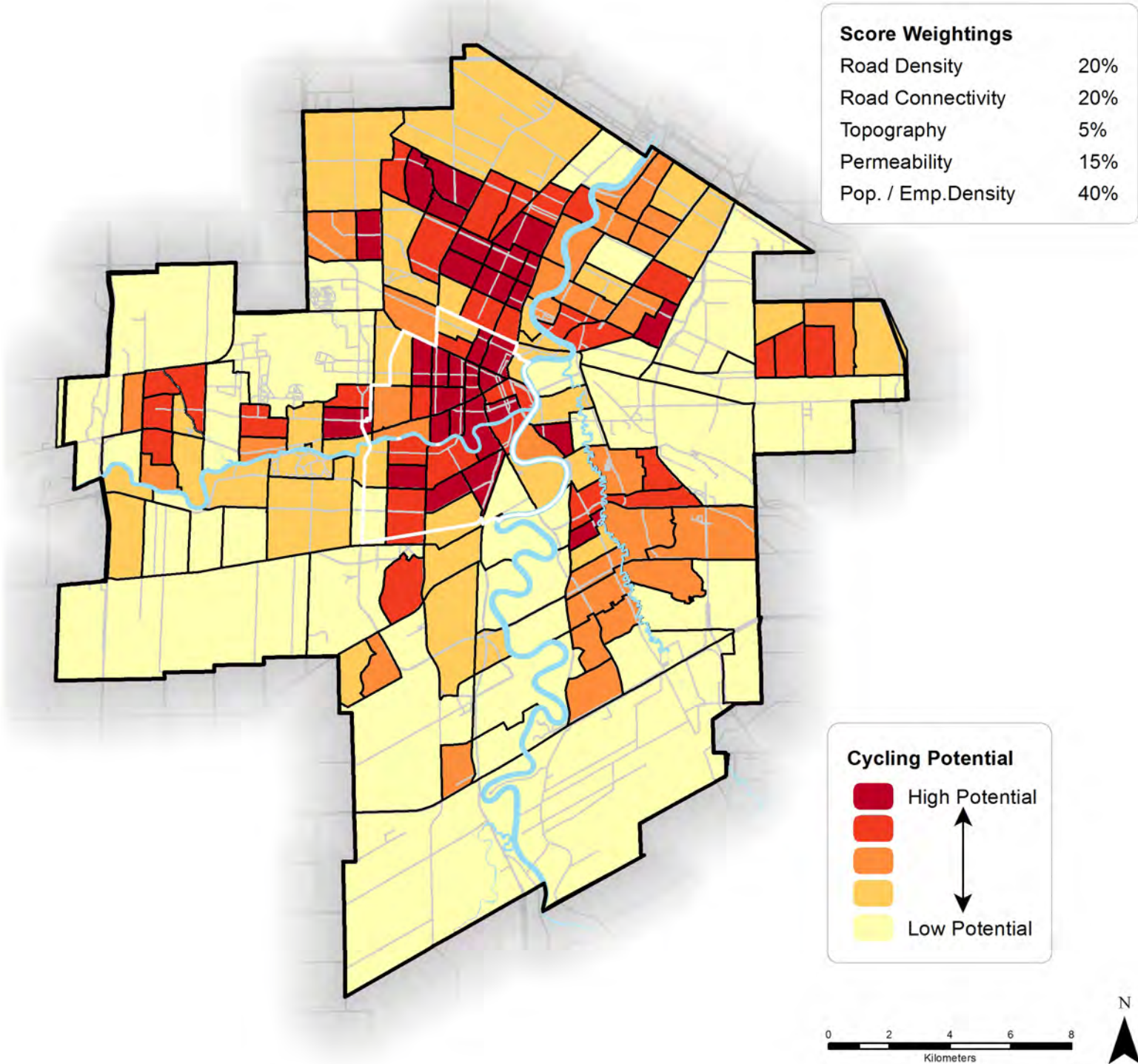
B. WALKING AND CYCLING POTENTIAL

The City of Winnipeg is a diverse community comprising a range of different environments, ranging from the Downtown Core to major activity areas throughout the City including Regional Mixed Use Centres and Corridors and post-secondary institutions, through to residential neighbourhoods. To help understand the unique conditions for walking and cycling throughout Winnipeg and which areas of the City are most walkable and bikeable, an analysis was conducted of the walking and cycling potential throughout the City. This analysis examined a variety of factors that can help make walking and cycling more attractive, such as road network density, road network connectivity, land use mix, permeability, and topography. This analysis helped to identify unique walking and cycling issues and opportunities throughout Winnipeg, and the areas with the highest potential to increase walking and bicycle use. The findings of this analysis, known as the Walking and Cycle Zone Analysis, indicate that the area with the highest potential is the downtown core due to the dense, well-connected grid street network, high population and employment densities, mixed land uses, and flat topography.

The downtown core of Winnipeg is surrounded by several other neighbourhoods in and around the Downtown Core which also have relatively high cycling potential, including St. Boniface and River Heights, each of which also has well-connected, dense grid street networks with relatively high levels of density. Moving further away from these neighbourhoods, walking and cycling potential decreases somewhat, often due to lower residential and employment densities and disconnected road networks.



Map 2.7:
Walking and Cycling Potential



C. EQUITY ANALYSIS

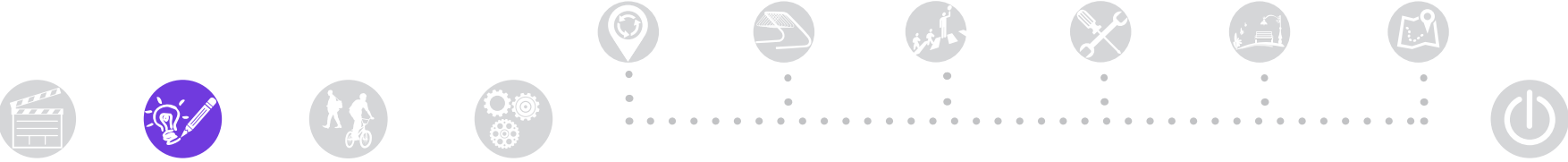
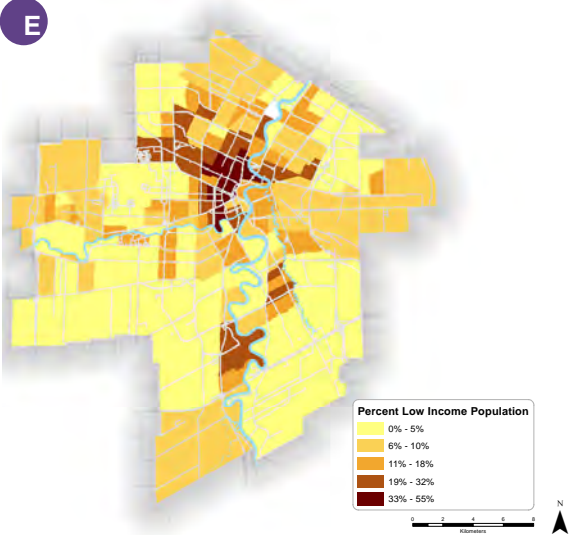
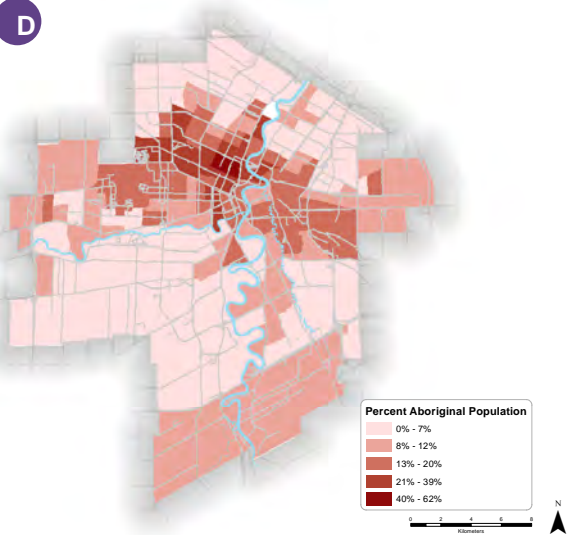
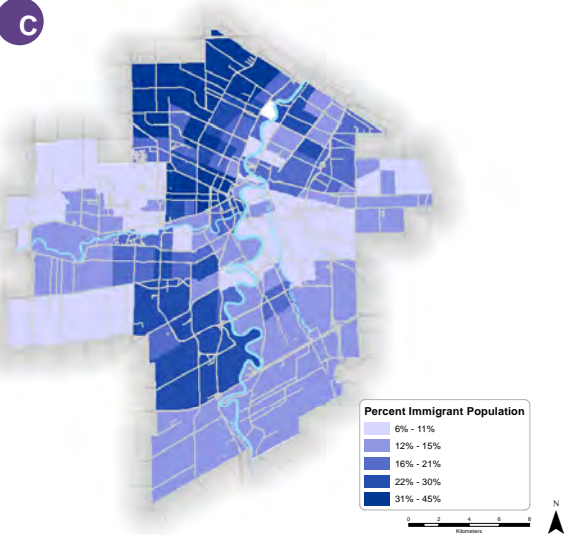
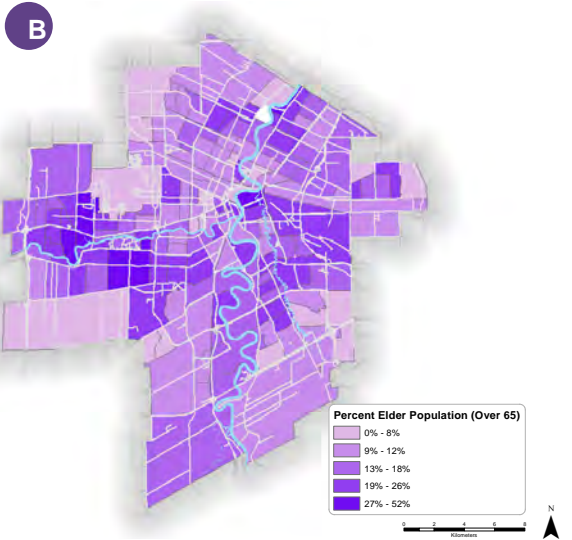
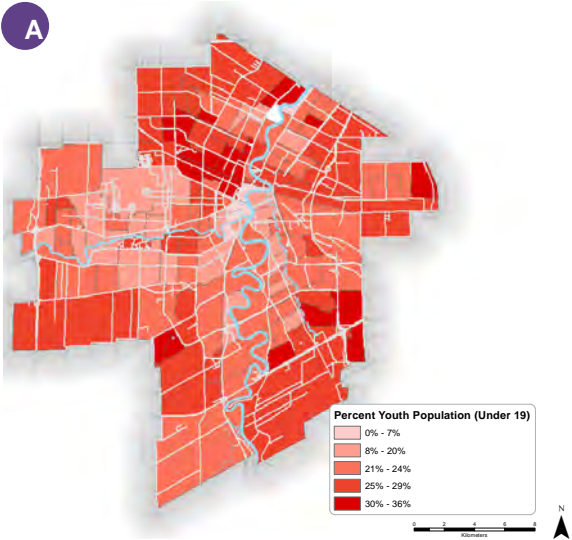
The Pedestrian and Cycling Strategies aim to develop well-connected bicycle and pedestrian networks that serve all areas of the City, including areas that have a high density of historically underserved populations and relatively low levels of existing facilities. An equity analysis was conducted to examine the distribution of pedestrian and bicycle facilities in relation to historically underserved populations. The equity analysis helped to identify those areas of Winnipeg where limited access to walking or bicycle facilities is compounded by socio-economic challenges. Promoting equitable transportation options and harnessing latent demand for walking and cycling are two important reasons to prioritize improvements to bicycle facilities in these communities.

A first step in equity analysis is the selection of equity indicators. Five indicators of equity in Winnipeg were selected, as shown in **Table 2.5**. These equity factors are based on experience elsewhere in North America, yet are customized to Winnipeg's historical context. These indicators were synthesized into an overall index of equity, which is mapped in **Map 2.8**.

Table 2.5:
Equity Factors

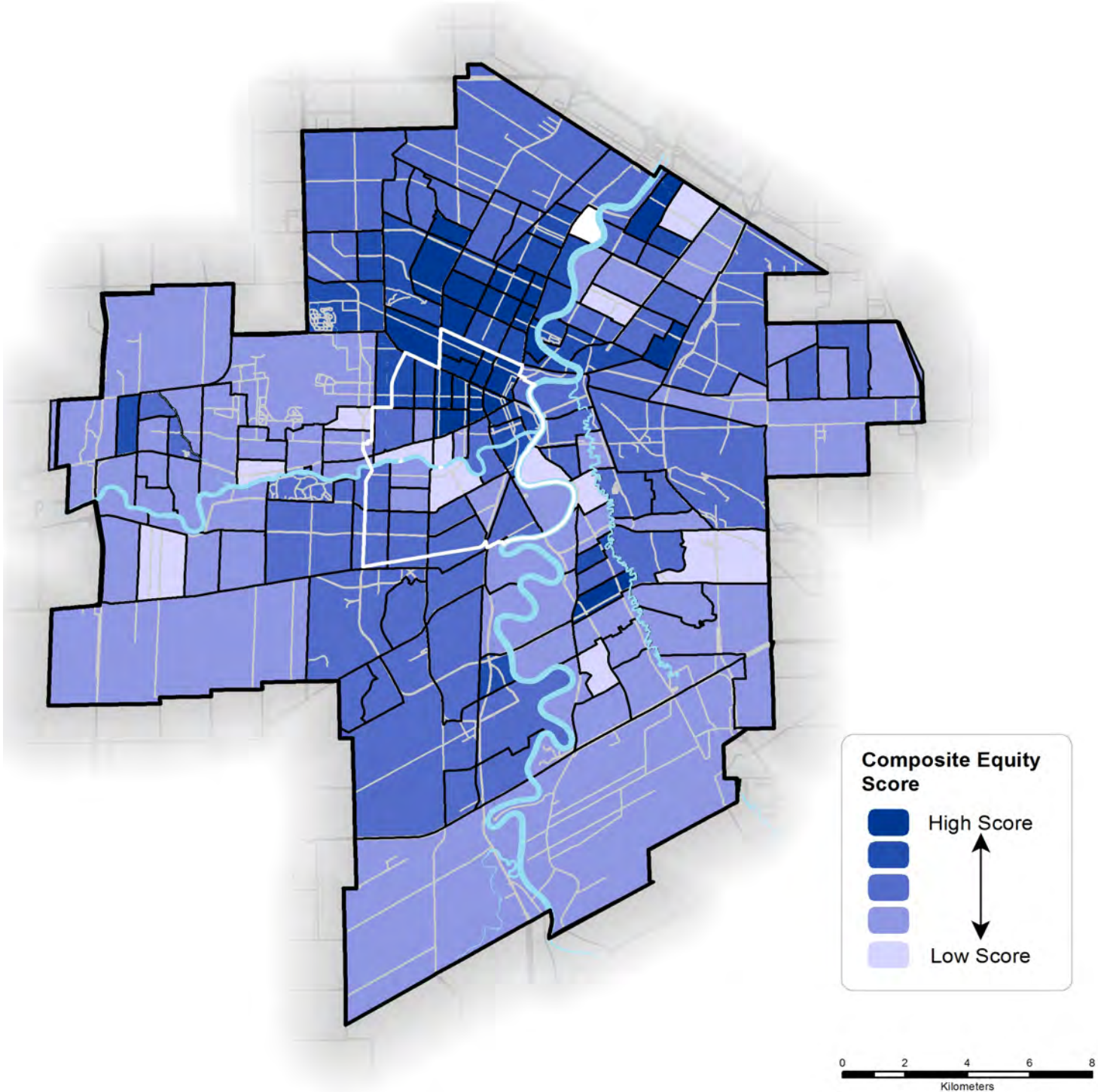
Equity Factor	Description	Data Source
A Youth Population	The population aged 19 years or under, as a percentage of total neighborhood population	National Household Survey (NHS), 2011
B Seniors Population	The population aged 65 years or over, as a percentage of total neighborhood population	National Household Survey (NHS), 2011
C Immigrant Population	The number of immigrants (i.e. born outside Canada) as a percentage of total neighborhood population	Census of Canada, 2006
D Aboriginal Identity Population	The population identifying as Aboriginal, as a percentage of total neighborhood population	Census of Canada, 2006
E Low Income Population	The incidence of Low Income (i.e. below LICO threshold) among total neighbourhood households	







Map 2.8:
Equity Analysis



Several trends become apparent when analyzing the equity of the pedestrian and bicycle network. In particular it becomes apparent that Downtown West, Point Douglas North and Point Douglas South are identified as having a high equity score. In general, the northern part of Winnipeg has higher equity scores than the southern part, and central neighbourhoods have higher equity scores than outlying neighbourhoods.

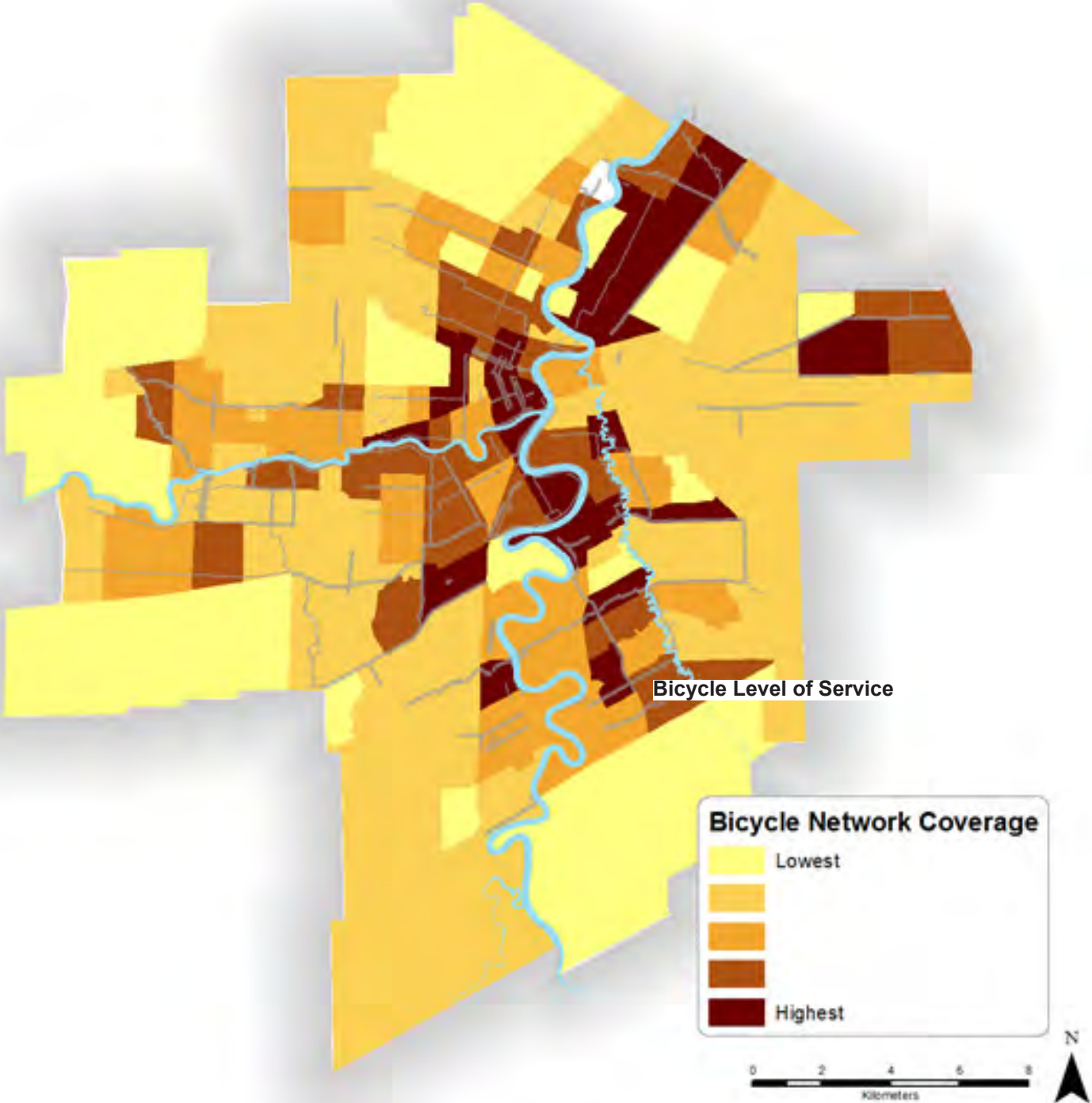
D. LEVEL OF SERVICE ANALYSIS

One way to compare the amount of facilities in different neighbourhoods is to take a simple measurement of bikeway-kilometres and divide this result by the area of the Census Tract (bicycle facility-km per km²), which resulted in a measure of the “level of bicycle service” shown in **Map 2.9**. This analysis identified Census Tracts in the lowest quartile (bottom 25 percent) that can be considered to be low coverage (low service) areas. Census Tracts with low coverage are outlined in yellow, while Census Tracts that have both low coverage and score highest in the equity analysis are outlined in red.

The combination of low bicycle network coverage and a high equity score indicates a vulnerable community with limited access to safe bicycle facilities. This is a strong justification to connect these areas into the Winnipeg bicycle network with future infrastructure improvements.



Map 2.9:
Bicycle Level of Service



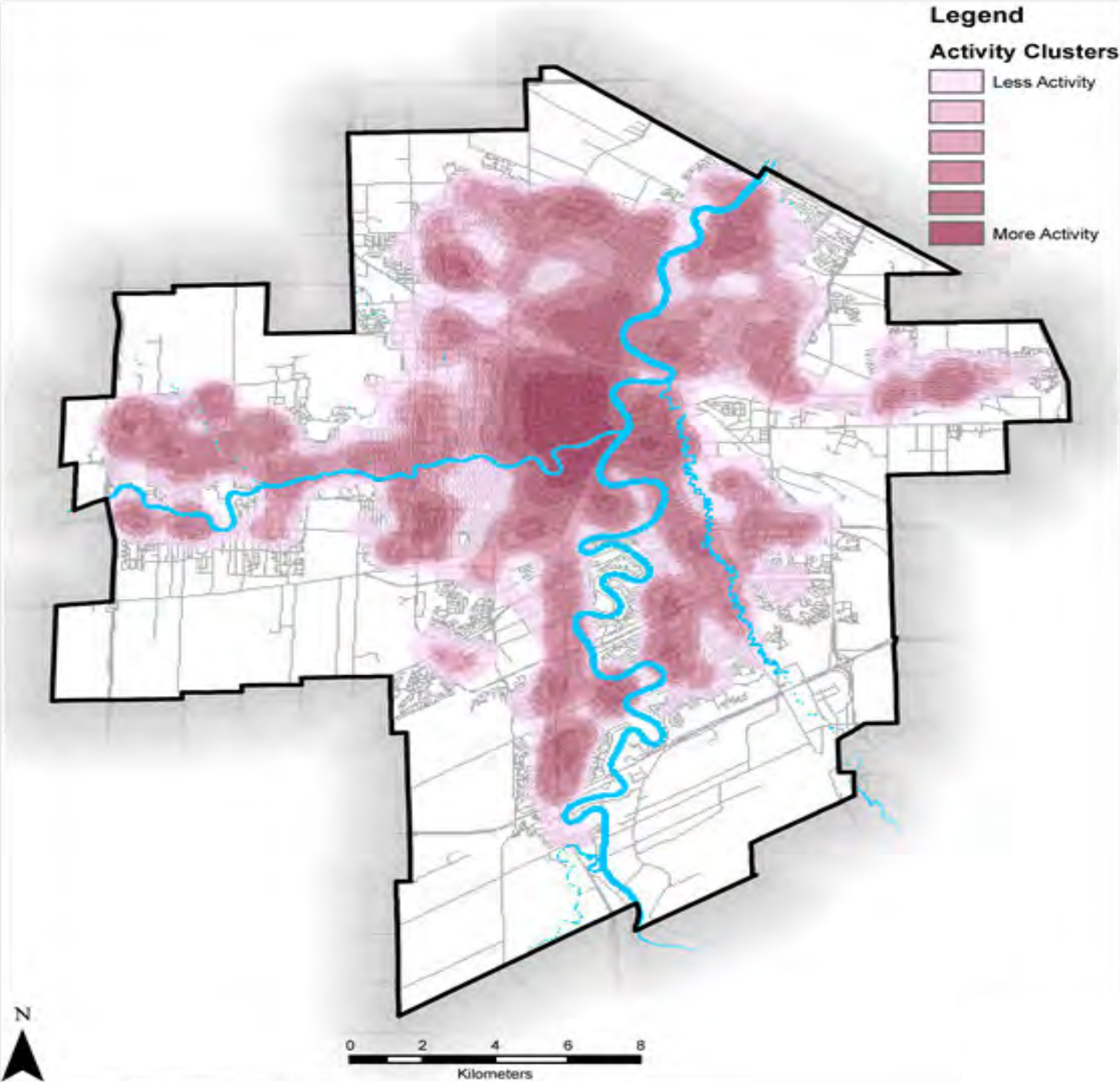


E. DESTINATION ANALYSIS

Destinations are an important aspect of pedestrian and bicycle network design. Using a dataset of all destinations in the City of Winnipeg, and weighting these destinations by demand, **Map 2.10** shows the general distribution of destinations in Winnipeg. These destinations can be thought of as “Activity Clusters”—areas that are attractive to all transportation users. A future pedestrian and bicycle network that serves Winnipeg’s activity clusters in a direct and convenient manner is a central theme of the proposed pedestrian and bicycle network.



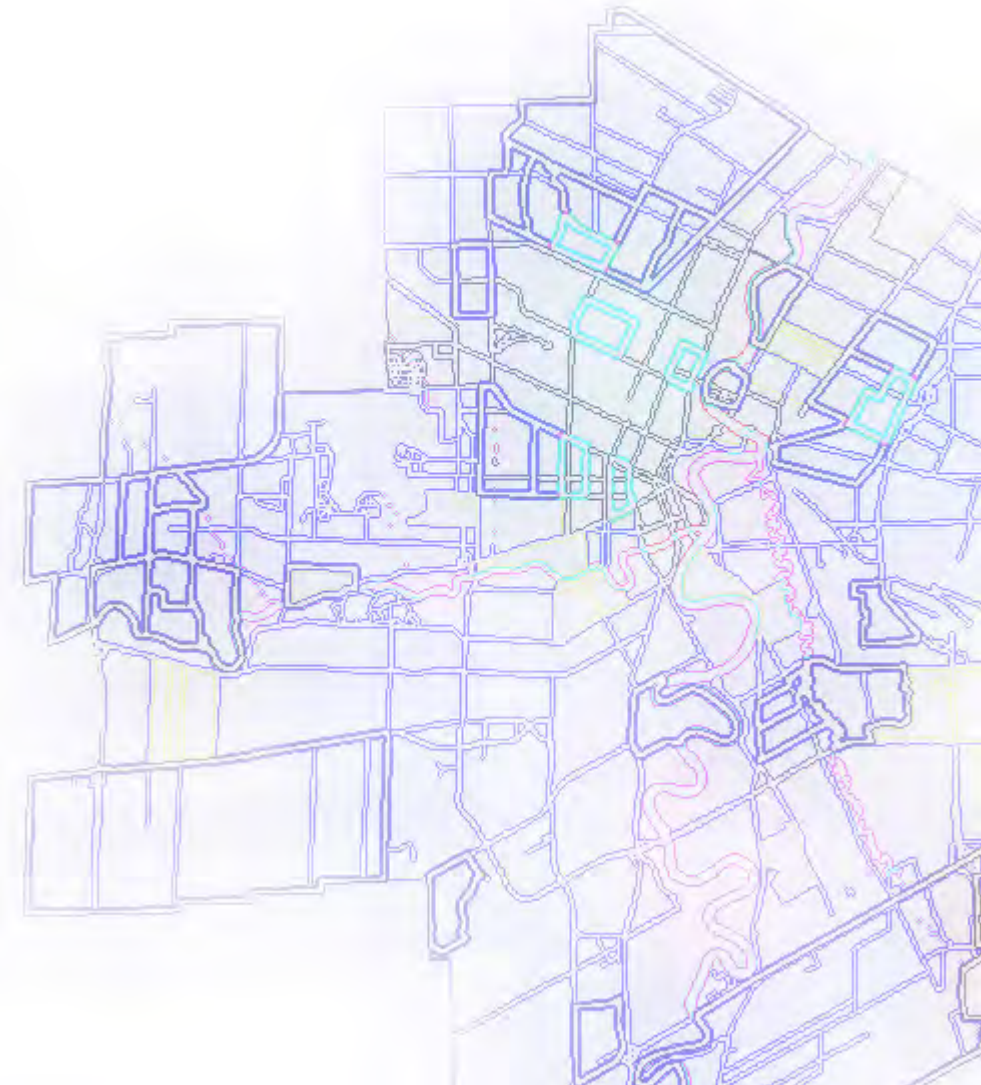
Map 2.10:
Activity Clusters



Several of the datasets were combined to see how these elements relate to one another. Several trends are noticeable in **Map 2.11**:

- ▶ Several of the communities with both high equity need and low bikeway coverage are located to the north of downtown
- ▶ Downtown West and East are in need of bikeway improvements
- ▶ Communities on the outskirts of Winnipeg—to the north, south, east and west—have low bikeway coverage but less immediate need in terms of equitable access

Each of the analyses conducted in this section is a key input into the proposed walking and bicycle network. By identifying current network gaps, communities of high walking and cycling potential and neighbourhoods of high equity need, this section has highlighted areas of opportunity and need.



Map 2.11:
Equity Scores with Bicycle Coverage

